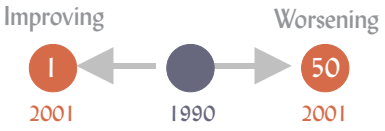
the state of Oklahoma

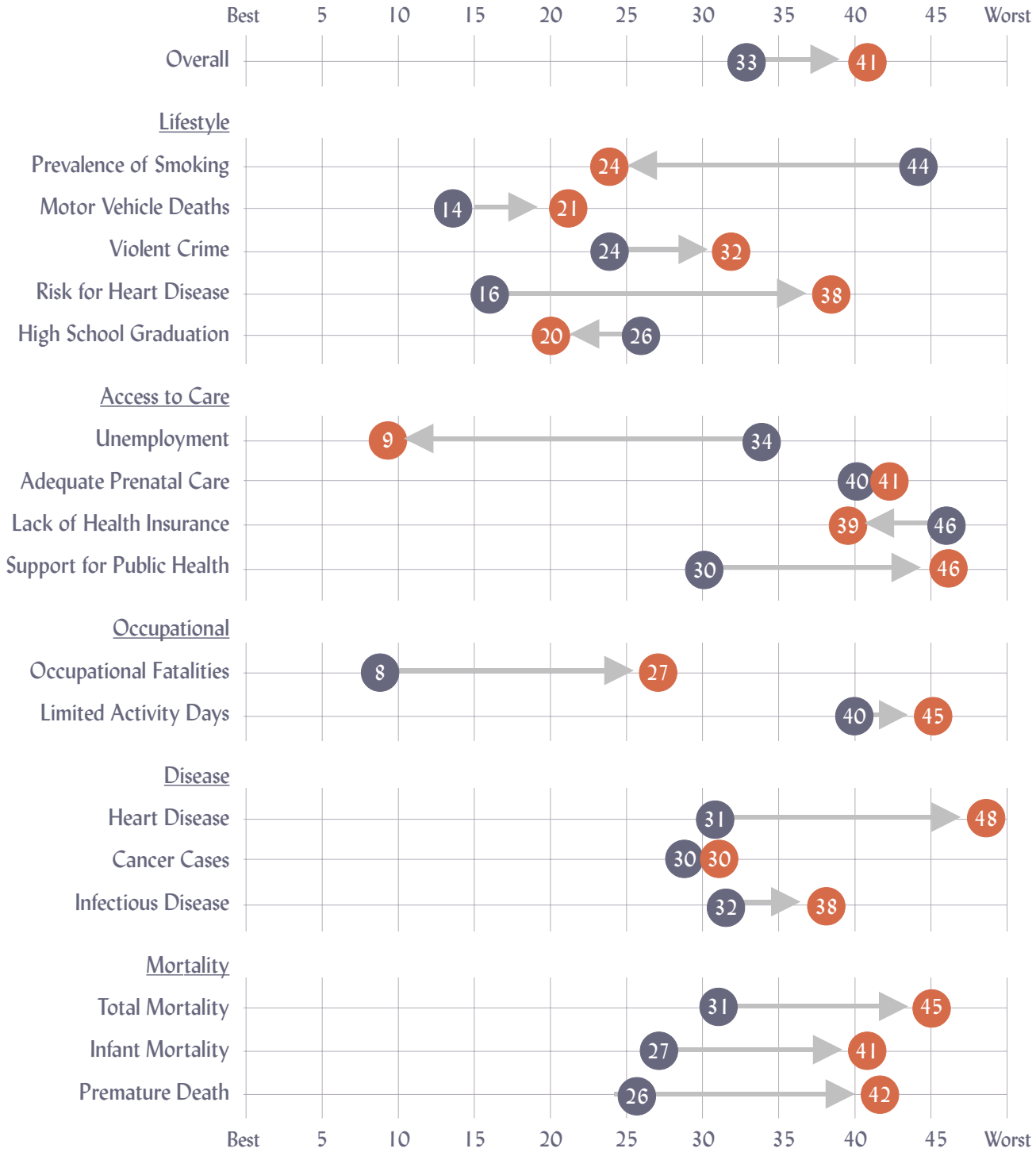
HEALTH

The Oklahoma Academy 2002 Town Hall • October 27-30 at Quartz Mountain

State Health Rankings
Oklahoma 1990 - 2001

United Health Foundation (www.unitedhealthfoundation.org)





Interpretation:
The United Health Foundation has been ranking the health status of states since 1990. This chart depicts the changes in Oklahoma categories from 1990 to 2001. A rank of 1 means the "best" state in the country; 50th is the "worst" state. In 1990, Oklahoma ranked 44th for smoking prevalence. We have improved to 24th in 2001. Conversely, Oklahoma ranked 26th for premature death; but we have worsened to 42nd in 2001.

Read Me First ... Please

Julie Knutson, President and CEO, The Oklahoma Academy

October 27-30, 2002

Dear Town Hall Member:

Here's some practical advice concerning this document. Please excuse the brevity and bluntness.

1. **You probably cannot read this document in one sitting**. I couldn't. It is too comprehensive. If you do read it straight through, you probably need some counselling or medication. It will likely take a few shorter sittings.

2. And ... **this document is not REALLY as big as it looks**. There are only about 100+ pages of true content for you to read, and most of that is broken into small and easily digestible sub-sections. The rest includes appendices of charts, tables and other reference addenda that you may find illuminating, interesting and useful.

3. **You may not like some chapters ... you will love some others**. It depends on your interests and your mood. No one will like everything. Everyone should like a lot.

4. A chapter or two may be more difficult than others. Others will be easier. Do not be fooled by either. The "harder" chapters have some good stuff you need to find. The "easier" chapters have equally good stuff. **Scan the harder ones ... enjoy the easier ones.**

5. **You will have to MAKE NOTES** ... use stickies, highlighters etc. If you do not ... you will get lost. We have provided note pages throughout the document. Use the margins.

6. **Each chapter is a "stand-alone."** They are arranged in a logical sequence ... but do not feel bound to that sequence. Jump around if you want. Chapter 7 has 16 two-page sections. Read those 2-page sections in any order you want. Chapter 3 has 9 small sub-sections. Also read those in any order.

7. We did not set out to write good or bad things about Oklahoma. Our goal was to describe "what is." **Frankly, we found that Oklahoma is not very "healthy."**

8. **There were more than 50 people who contributed to this project**. We had no "group-think" meetings; people were not told what to say; and Chapter authors did not collaborate with others for themes. This is an honest and consensus look at who we are ... and our collective HEALTH.

9. Some of this material can be depressing. You may ask "if things are this bad, what are we supposed to do?" First ... **don't get depressed ... get mad.** Then channel your passion into great ideas on how to improve things. Little ideas won't do. And pay attention to the things that are good.

10. One thing that is **good about Oklahoma** is the leadership, talent and knowledge of the 50 people who assembled this document for you.

Oklahoma's

HEALTH

Oklahoma's

HEALTH

Chapter 7

Thoughts About ...

Chapter 8

A Sooner State Forecast

Stanley Hupfeld, FACHE, President & CEO, INTEGRIS Health, Inc.

Chapter 9

The Future

Blue Cross and Blue Shield of Oklahoma, Tulsa
Mike Rhoads, Executive Vice-President; Linda Sponsler, Vice President, Advertising/Public Relations; Karen Langdon, Assistant General Counsel

Summary & Challenge

Michael Lapolla, Director, Center for Health Policy Research, Oklahoma State University Center for Health Sciences, Tulsa

Appendices

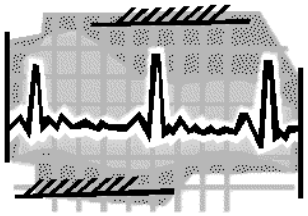
Credits: Cover photo is per purchased license from Corbis Corporation; images of Will Rogers with permission of the Will Rogers Museum, Claremore, OK; photos in Chapter 5 provided by the Oklahoma Medical Research Foundation; all other images are per clip art license agreement with Microsoft Corporation or in the public domain. Pre-publication assistance by Marsha Kennedy, OSU Center for Health Policy Research, Center for Health Sciences.

This Research

Michael Lapolla, Research Committee Chairman, Oklahoma Academy

Genetics • Research • Behaviors • Services • Insurance • Environment • Economics • Policy

This is the first year that the Oklahoma Academy has addressed Health as a major policy focus. We have purposely chosen to address Health ... as opposed to health insurance, health services, healthcare facilities and the other myriad of related topics.



The Academy recognizes that the nation and the state are becoming aware that health is the result of many factors and influences, many of which are totally controlled by individuals.

This research report is the product of 50 thoughtful Oklahomans. They worked independently; but most are saying the same things in different ways.

It is not purely a policy research piece ... nor is it merely a collection of informed opinions. It is a blend of both. The purpose is not to arrive at a specific conclusion. The purpose is to provide you the information necessary to be an informed and committed Town Hall participant.

Dr. Ed Brandt provides the Introduction to this document and sets an overview for the subject. We have included two "slice of life" perspectives that set a tone for this Town Hall. In Chapter 1, Dr. George Foster examines Oklahoman's attitudes and behaviors toward health.

In Chapter 2, Dr. Michael Metzger provides a primer on the determinants and measurements of what we call "health." Chapter 3 is very unique in that it is coauthored by the Oklahoma Commissioners of Health and Mental Health. They both recognize the interdependence of physical and mental health. The intent was to cogently present data concerning the health of Oklahomans.

Chapter 4 was prepared by Kim Holland and Gail Malone. It examines the uniquely American quest to spend more money to buy better health ... or to spend more of someone else's money. Kim will examine the consumer dynamics involved in purchasing health care services in the pursuit of better health. And you will be introduced to "Ask The Insurance Guru".

Chapter 5 was prepared by Dr. Don and the staff of the Oklahoma Medical Research Foundation. This Chapter will examine the effects upon health that are produced by quality biomedical research. They have highlighted Oklahoma-based researchers and have projected the effects of their research on Oklahoma and the nation.

In Chapter 6, Dr. Metzger offers a second chapter about the requisite roles of markets and governments in achieving a balanced and appropriate health care system.

Chapter 7 is a unique and helpful look at Health in Oklahoma through many lenses. We have selected a variety of often-overlooked perspectives ranging from alternative medicine to school nursing. You will find these short perspectives to be invaluable in understanding the breadth and depth of our subject.

Chapter 8 is an experiential essay by Stan Hupfeld that looks at the past, present and future of Oklahoma's health care institutions with an emphasis upon hospitals.

Chapter 9, The Future of Health Care is the final chapter. Previous Academy conferences have taught us that tomorrow will be very much like today ... but the future is likely to be quite different. The staff of Blue Cross and Blue Shield of Oklahoma will provide this futuristic look. They will blend findings from a major effort by the California-based Institute for the Future.

This document concludes with a Summary & Challenge authored by Michael Lapolla, Director of the Center for Health Policy Research at the Oklahoma State University Center for Health Sciences.

The 2002 Research Team

"It is not what we don't know that gets us into trouble; it is what we know that ain't so."— Will Rogers

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Introduction

The Good, Bad and Ugly … and Future

Edward N. Brandt, Jr., M.D., Ph.D.
Regents Professor, University of Oklahoma Health Sciences Center

"Even if you're on the right track, you'll get run over if you just sit there" — Will Rogers

The Good, The Bad, and The Ugly ... and the Future

Edward N. Brandt, Jr., M.D., Ph.D., Regents Professor, University of Oklahoma Health Sciences Center

Dr. Brandt was born, raised and educated in Oklahoma. He has been the Assistant Secretary for Health in the Reagan Administration; a university chancellor and a medical school dean. He is likely the most experienced and perceptive health professional in Oklahoma to speak authoritatively to these issues.

Good? Post-WWII scientific advances are impressive, and the pace of new understand ings continues at a phenomenal rate. This is "good." Consider organ transplants, new imaging techniques, open heart surgery, and a variety of effective treatments for cancer. It is important not to forget genetic studies, and the Human Genome Project. The ability to discover genes that pose a future health risk or a protective factor is being enhanced everyday. We still do not fully understand the influence of multiple genes on our health, but that knowledge is on the horizon.

These advances (and many more) have raised three big issues: cost ... access ... and ethics. Most major advances have increased health care cost due to technology expense, the additional training of health care professionals, and the large number of people that will use them. Because of the costs, not all of these procedures will be widely available, especially in non-urban areas. This leads to access issues. Finally, given an available donor organ with a large number of people needing it, who should receive it? What about the possibility of manipulating genes for non-health reasons? These are ethical issues of ethics. There are many more, but all are being addressed.

"We have met the enemy and he is us."*— *Pogo

The Bad: Because of medical progress, most of us do not protect our health because we expect that the health care system will "fix" any problems that we develop. Too many Oklahomans (especially women) smoke, are obese, do not exercise, do not wear seat belts, and abuse alcohol. All of these are significant risk factors for heart disease, stroke, cancer, and significant injuries with resultant disabilities. I would argue that much of health care cost is due to our own behaviors. As Pogo the possum said: "We have met the enemy and he is us." It is true that many people who do practice good health habits will become ill or injured. But changing behavior could lessen much of the illness burden borne by Oklahomans.

The Ugly: Between 15 and 20% of Americans have no health insurance. Nearly 75% of those without insurance are working full-time. Our health insurance system is largely employment-based rather than individual-based like life, auto, and household coverages. If the cost of health insurance increases, as it is, and the profit margins of employers fall, some employers will choose to either drop health insurance coverage, reduce the benefit package or shift an increasing share of the cost to employees. It is their prerogative.

All of these choices will drive up the costs of health care since most, but not all, uninsured people will receive care for acute illnesses or emergencies. However, they may not receive the comprehensive, continuing care that could have prevented or ameliorated the condition.

We must recognize that our system of employer-based insurance was not the product of a well-developed plan, but rather a regulatory decision made in 1943. What was then considered a "privilege" is now becoming a cultural "right."

The Future: Advances in medical science have certainly resulted in more people being helped and consequently higher costs. But many improvements lead to decreased costs and an improved quality of life. Vaccines are not only more effective but also have almost nonexistent complications; new drugs keep people out of hospitals and prevent significant complications of disease; and the ability of people to prevent injuries is increasing due to safer cars, better road signs, etc.

In my view, we are moving towards a health care system that can do even more to both treat and prevent illness. But can we convince ourselves, our families and our friends to do all that we can and should do?

I would hope that the Oklahoma Academy's 2002 Town Hall can convince Oklahoma and Oklahomans to take big and important steps in that direction.

A Personal Perspective

My Story: One of 44 Million

By Irma Godoy Uninsured American Legislative Testimony. Source: www.rwjf.org/publications/
Reprinted with the written permission of the Robert Wood Johnson Foundation

I don't know anyone who has health insurance. At least, no adults in my family, nor any of my neighbors, have insurance. It's not that they don't work. All of my brothers, my father, and my husband work in construction, but they don't get health benefits.

They wouldn't go to a doctor, anyway. If they ever miss a day of work, they'd risk not having a job to come back to. I, on the other hand, have visited so many clinics that I've lost count. I sought prenatal care at a medical mobile unit that I saw parked in front of the local school. I climbed in and it felt like a boat. The nurse practitioner was very concerned about me, not because of the pregnancy but because of my thyroid.

She referred me to the public hospital.

I don't know anyone who has health insurance.

That's when I got caught up in a tangle of clinics. They did so many tests, but I could never get a definitive answer. After the delivery, the baby had to stay in the hospital for a week. I would go every day and spend the day there. After a week, they released him. Then I had to have gallbladder surgery, which I didn't want.

But that wasn't the real problem. Apparently, there was something wrong with my thyroid. Scans, biopsies, and blood tests didn't show anything definite. We got so worried. You know it was bad, because I won't tell you what a sacrifice it was to scrape up the money for a private doctor. Every time that he could, my husband would give me money to put away. I used a coffee can on a shelf, in the closet, which coincidentally was next to a figurine of La Virgen de la Guadalupe.

Once, my mother saw the coffee can and asked me about it. I told her it was for the medical tests. During the hurricane, I needed to borrow money out of the pot. When I put my hand in, there was a clove of garlic and a twig of yerba buena peppermint. I laughed and cried at the same time. My mother had thought the can was an offering to the Virgin for a cure!

Not to say I didn't pray. I did.

I desperately needed to know what was going on in my body. No doctor or nurse would ever explain what it was all about. I was embarrassed to take too much time, they seemed so busy. I don't know what was worse: the sickness in my body or the worrying about it. I was so upset that I became strange, not myself, arguing and crying without reason. I think it was the feeling of impotence and powerlessness. I would be so worried about dying and leaving my two children. This made my head pound, my heart ache, and my stomach feel like I had swallowed lead marbles. Thank God for my family. I don't know what would have happened if I were alone. I feel for those old people who are so lonely.

When we finally saved enough to go to a private doctor, he told me that I needed an operation, but, of course, we couldn't afford it. We tried an indigent care fund, but I didn't meet the requirements.

I fell through the cracks. I went back to the mobile van not knowing what else to do. They then referred me to a free clinic, a trailer on the grounds of a church. I needed to bring the necessary paperwork to be accepted. I knew it would take a long time for an appointment there. But, really, I didn't have a choice, and I am so glad I found them. The doctor and her staff were angels.

She said that we would start again and redo the studies and the blood work. They had a volunteer doctor who was a specialist, who cared for me for free. The whole ordeal took about two years. It was a sinister web and I felt like I was walking a tightrope. At 23 years old, uninsured, and with two babies, I finally got a diagnosis: thyroid cancer ...

... A neighborhood boy recently died of a burst appendix. I don't blame his parents. They had taken him to the hospital before and he had been released. They just hesitated a bit too long, thinking of the interminable debt. I know another woman who is diabetic but can't pay for her insulin, so she injects half the amount ... all of this seems strange in a great country where everything is in such abundance, so orderly and neatly planned.

A Personal Perspective

That Patient Is Not Diabetes Case #115491. She's Me.

By Molly Mettler, Senior Vice President, Healthwise, Incorporated. Source: www.rwjf.org/publications/

According to the cultural dictates of the time, fortune smiled on those who lived and prospered in periods of stability, predictability, and calm. "Interesting times" implied just the opposite. Alas, the Institute for the Future forecasts "interesting times" in health and health care over the next decade. Perhaps, though ... we might see the emergence of a sane, centered, and effective system that will balance cost and quality by shifting power to the consumer.

Welcome to the world of consumer-centered care and to the most dramatic and fundamental shift of all: the consumer management of chronic disease ... these trends, all documented by the forecast, point to a future in which the majority of chronic illness care will be custom designed for and by each individual patient.

"May you live in interesting times," was intoned by the ancient Chinese as a curse.

The Juggernaut of Chronic Illness

Why pick on disease management and chronic illness as ground zero for change? Because it's huge, it's costly, and it's accelerating. Consider this—by the year 2010:

- Some 120 million Americans, about 40 percent of the total population, will be living with a chronic illness. Of those, 40 percent will have at least two such conditions.
- The direct medical costs of chronic conditions in the United States will total $600 billion per year.
- The leading edge of the baby boomers will be hitting age 65, heralding a relentless influx of new chronic-care patients with each passing year.

This has all the makings of a crisis in care of enormous proportions. If we try to extend today's approach to chronic care, which is fragmented, system-centric, and non-empowering, the system simply will collapse. We can't train enough providers to meet the need. There is a widening gap, made even more apparent with the aging of the population, between the health care needs of the people and the medical remedies of the health care system.

Shortcomings of the Current System

The trend toward population management is helpful, but mass interventions for chronic disease will miss the mark. While myriad disease management pro grams are being introduced into the health arena, and providers and payers are jousting over who gets to develop the protocols and guidelines, the daily burden of the illness is borne by the patients and their families.

Current disease management materials and programs do not always meet the needs of the individual patients ... simply preaching to a person with diabetes that he must lose weight, exercise, change his diet, take his medicine, and prick his finger once a day will most likely bring on nothing but depression and ennui. For payers and providers, it is an illness to be managed; for patients, it is part of the fabric of everyday life... Finding a way to actively involve the patient as a member of the provider team will produce far more positive results.

What's a Health Care System to Do?

The consistent application of best practices for disease management is not a matter to be left to systems-thinkers, statisticians, and clinical teams alone. Effective disease management will require full patient involvement and a strong, vital doctor-patient partnership.

More and more of us baby boomers will expect and demand a formative role in so personal an issue. We'll want and expect highly personalized treatment interventions and support. We'll demand to see not the XYZ Guidelines for Asthma Management, but the Liz Jones Program for Asthma Management, the Bob Smith Plan for Living with Diabetes, and more. Luckily, the tools are there to support mass personalization ...

... health is such a profoundly personal thing: we, the consumers of health care, do not think of Diabetes Case #115491, we think of Mom, Dad, spouse, us. It makes sense for us to think through how we ourselves can become the ultimate managers of our own health. In order for all of us to survive and flourish, the health system needs to help us do that.

Chapter 1

Uniquely Oklahoma

George E. Foster, O.D.
Dean, College of Optometry
Northeastern State University, Tahlequah, Oklahoma

"Personally, I have always felt the best doctor in the world is the Veterinarian. He can't ask his patients what's the matter. He's just got to know."— Will Rogers

Chapter 1

Uniquely Oklahoma

George Foster, O.D., Dean, School of Optometry, Northeastern State University

Preface —
We cannot ignore the history and culture of Oklahoma when examining health beliefs, behaviors and attitudes of the population. Dr. Foster is an Academy board member, and is an experienced observer of Oklahoma sociology and health behaviors. He has a lifetime of professional and personal experience in Bristow; and he is engaged in university, tribal and community health care in Tahlequah. Few people are as well versed in this subject.

Oklahoma's Health is the theme for our 2002 Town Hall. Our collective attitudes about health are certainly products of our culture; and our culture is heavily influenced by our historical legacy.

Before Statehood
The Louisiana Purchase prompted the removal of many Indian tribes east of the Mississippi River to new lands in the Indian Territory. This was a government measure to "easily" solve one of the most vexing problems of our young nation. But tearing people from the land of their ancestors' graves was neither easy nor without consequence.

cul·ture Pronunciation Key (klchr) n. 1. The totality of socially transmitted behavior patterns, arts, beliefs, institutions, and all other products of human work and thought.

The forced removals of the 1830s and 1840s, known collectively as the "Trail of Tears," demonstrated the danger implicit in simple solutions to complex problems. The treaties that promised Indian ownership of the land for "as long as the wind blows, the water flows and the grass grows" were hollow.

The Territory was to become "home" for the thirty-four relocated tribes. They joined the five indigenous tribes of the region (the Osage, Caddo, Kiowa, Comanche, and Wichita).

This tribal proximity led to inevitable conflict. That problem was made worse when the annexation and allotment of Indian Lands created an opportunity for "free land" for non-Indians.

This land offered a new start for America's downtrodden. Just over one hundred years ago, people left the cities of New York, farms of Illinois, and the hills of Tennessee to make the Land Runs of Oklahoma for "free" land. People saw their dreams in the land: they saw a fresh start in a place without history or complexity.

But as the experience of the Indians who preceded them demonstrates, the land was not "free," and it was hardly unencumbered.

Early Oklahoma
Years of drought followed the Land Runs of the 1890s. Most of those who left Oklahoma went west. Those who stayed became Oklahomans. Through sweat and tears they created a state that offers opportunity. Very few remember that the land had to be lived on, worked and made producing in order for the "free land" title to be obtained.

The automobile created a new land rush. Where farming shanties once stood, new oil derricks filled the Oklahoma sky. For the people "out East", Oklahoma was synonymous with easy and fabulous wealth, milked effortlessly from the soil. People flocked for these "easy something for nothing" riches.

Unlike the gold rushes of California and Alaska, where the booms were quickly followed by busts, the oil flowed through the decades, creating in its wake a full-blown industry. However, the labor of extraction, transportation and refinement continues to demand sweat and hard work in this industry. The oil industry is a difficult and demanding one.

Those who came here looking for "something for nothing" ... never found it.

Health in Oklahoma
A territorial Board of Health was appointed in 1890. Its broad mandate included sanitation and fly vector control. Sewers and window screens were but a few of the efforts to address those mandates.

From then until the end of World War II, most of the action in Oklahoma health care was in public health. Oklahomans worked to provide clean water and food, combat infectious disease, and other efforts for the common good.

The evolution of government's involvement with health care policies was changed dramatically in the 1960s. The creation of Medicare ushered in a paradigm shift from the idea of health care as a privilege to one of health care as a universal right.

Medicaid broadened this mission with new attention to the poor and to minorities and the infirm. But as other federal programs became available, the state was required to provide matching funds. Some of these programs have so many restrictions that they have been difficult to administer and to be effective.

Oklahomans were forced to confront the specter of "free dollars" ... that is "free" federal dollars if the state would provide matching funds. In other words ... "something for nothing" wasn't.


The Oklahoma Land Run, 1889

Many Oklahomans worked hard and took advantage of open lands, oil leases and other seemingly "free" opportunities. They knew the results achieved were due to their work, not because they were given a gift. However, those who stood for and benefited ... it all seemed too easy. Free land, lucky oil, matching money ... it was all there without sacrifice.

The same lessons hold with our Oklahoma health and health behaviors. We are now to the point where nothing is "free" and individuals must assume more responsibility.

Oklahoma's Health Today
In the State Board of Health's 6th Annual State of the State's Health report to the citizens of Oklahoma, it is reported that the state's health is poor. (Also see Chapter 3 of this report).

We must ask why Oklahoma death rates for cardiovascular disease, stroke, pulmonary disease, injuries, infant mortality, and suicide are so relatively high.

Are the causes of these high rates ...

- Simply a random occurrence?
- Due to genetic predisposition?
- Because of the higher percent of nicotine addiction, which contributes to pulmonary disease, cancer, and macular degeneration?
- Because of obesity that contributes to heart disease, stroke, diabetes, arthritis and certain cancers?
- Due to lack of exercise and obesity that contribute to diabetes?
- Because Oklahomans do not have access to necessary health care services?

We as individuals must look first at our behavior and attitudes.

One Community's Efforts
People can make a difference. People can change things ... if they work together. Here's an example.

The Cherokee County Health Services Council (CCHSC) was formed in 1997 as a new county health authority. The CCHSC received funding along with the state Turning Point grant as one of three community based programs in the state.

The authority's functions include short- and long-term health planning, allocation of funds, and operation of programs and services where needed.

The Authority members are:

- A tribal sovereign nation (Cherokee Nation)
- County government (Cherokee County)
- City government (Tahlequah City Hospital), and
- A public university (Northeastern State University).

A comprehensive community health assessment was the first order of business. In the assessment process, local focus groups addressed the local health indica-

tors. As bad as Oklahoma's health indicators were, Cherokee County's were worse. These focus groups, Authority members and the Cherokee County Health Department have attempted to gain and share the knowledge of the cause and outcomes of poor health practices. Initial community efforts included:

- Removal of soft drink and candy vending machines from Tahlequah public schools.
- Planning for a public walking trail.
- Dietitians from the schools, county, and Cherokee Nation continually put on demonstrations for low fat diet and portions counseling.
- Health services access for the under-served and uninsured by the opening of a FQHC (Federally Qualified Health Center) in Hulbert.
- The creation of the Center of Rural Development at Northeastern State University by the Oklahoma Legislature. This Center will facilitate economic development agencies dealing with small communities. It will also sponsor specialized Institutes to address specific community needs. One example is a Rural Health Institute.

With local people addressing the effects of health risks with knowledge, the community's attitude is slowly changing. The actual changing of behavior by individuals remains to be seen. But local folks are beginning to learn that nothing is free and you cannot improve your health without working at it; that is they can't get something for nothing.

Uniquely Oklahoma

Lifestyles and traditions must change in order for health behavior to be altered. The first step is to overcome the "psychological inertia" of feeling trapped by circumstance. People must be convinced that they can control their own health to a large degree, and that they are not powerless because of low income or where they live.

We see the societal cost of health care rapidly rising for all these past and present health care behaviors. Individuals are now realizing the ramifications of these life style choices. Enforcement of automobile seat belt laws has facilitated behavior changes, altered attitudes and reduced deaths.

If we remember what makes Oklahomans unique, we must remember that the people who came to this early Oklahoma valued the human traits of self-reliance, freedom from government interference and believed in a "don't tread on me" philosophy.

Human nature thrives in its comfort zone. Advertisers tell us that we can be beautiful, handsome, skinny, young, potent, healthy, popular, and independent by buying their product. (see Chapter 4, Is Health for Sale?)

These "something for nothing" quick fixes are not too much different than the "free" opportunities that induced people to come to Oklahoma. Changing our genetics with stem cells, organ transplants, magic pills for each disease, and elixirs to feel and look young are the easiest cures for health risk behaviors but they are the most expensive and inefficient. We must turn the focus away from miracle cures and operations and towards greater discipline with our lifestyle choices as they affect our bodies and minds.

Modern Oklahomans have a choice. If we think of those Oklahomans who preceded us, which group will we emulate? We can follow the speculators and hope for the big strike but live in misery; or we can follow those who created their own opportunity with hard work and intelligence. Which Oklahoma have we become? Which Oklahoma will be the role model for the next generations?

Our Town Hall

If this Town Hall is to be successful, we must ask why are the state of Oklahoma's health indicators worse than the other states, and what can be done to improve this condition? Is it because there is a lack of responsibility by the state to mandate corrective solutions; because individuals do not take personal responsibility for themselves and their family's health; because there is not a mechanism through which local people can address local health issues; or is there a pervasive "SOMETHING FOR NOTHING" attitude in our culture?

It is easy for all of the state's stakeholders to blame each other. Some people think state government should mandate individual health behaviors. Others think such individuals would be better served through local initiatives to induce voluntary health behavior change. Perhaps this call for local health promotion efforts could encourage people to actively participate in their own well-being instead of depending upon governmental caretakers.

Perhaps we need to move away from the "something for nothing" mentality and towards the creation of local cooperative groups with an attitude of making "something out of nothing." We are being called to demonstrate that we can be the "anti-something for nothing generation."

Chapter 2

What Is Health?

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University of Central Oklahoma

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What Is Health?

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Preface —
This chapter will define health, identify commonly used measurements, and summarize empirical research as to its determinants. Dr. Metzger is an Academy research committee member, and one of Oklahoma's foremost economists who specializes in health economics. This section is necessary for those who must consider the policy implications, and net social costs, of any health policy suggestion or recommendation.

Unlike most goods and services demanded by consumers, there is no ready definition or measurement of "health." While it may be measured in terms of expected life span, improvement in health is more typically defined negatively in terms of a decrease in loss of life, sickness, reduced quality of life, or diminished productivity or income. The health care professionals and policymakers have become increasingly willing to include aspects of mortality and morbidity that previously were ignored. These include suicide, acts of violence, criminal activity, accidents, and life style choices.

Similarly, measurement can take the form of mortality, morbidity, quality of life, lost productivity or income, or some aggregation. One such aggregation is quality-adjusted life years [QALY]. Whatever the unit of measure, health can also be expressed in terms of cause (disease, condition, accident, anti-social behavior, etc.), or all causes, for the average or median individual, or by all individuals or groups.

While these distinctions may appear self-evident, it is essential in using statistics and citing research to realize that the chosen unit of measure can greatly influence the significance and even conclusions of a particular argument or study.

Production of Health

Unlike most consumer goods or services, the individual (and so, society) does not "enjoy" or value health care inputs, but rather their contribution to overall health. Economists refer to this as "derived demand" for health care inputs.

Health care inputs can take a wide range of forms:

- Individual: "health capital", incentives, attitudes, behavior, knowledge, and abilities;
- Physical inputs: facilities (hospitals, clinics), services (physicians, nurses, other labor inputs, diagnostic tests), pharmaceuticals, prevention measures and education;
- Environment: exposure to harmful or beneficial substances, diet, or lifestyles;
- Access to Health Care: income, financial, geographic. and technological limitations;
- Research & Development: technology and its commercialization;
- Government Interventions: subsidies, public provision, public education, regulations, etc.

Health is often conceptualized as the output of a production function, where technology determines the relationship between the quantities of inputs and the resulting level of health. Since inputs are generally diverse or non-homogeneous, they are often measured in dollar terms. By modeling health as a production function, two important types of efficiency can be identified: productive and allocative.

Productive efficiency refers to whether the maximum level of health is in fact produced from the available inputs. If not, then there is productive inefficiency. Such inefficiency can arise in a number of ways in health. Some examples include the following: Market failures or inappropriate government interventions can reduce the incentive of firms to minimize cost and maximize profit. Also, whenever the government plays a large role in an industry, firms may devote resources to influencing government policy; such nonproductive use of resources is referred to as "rent-seeking."

Allocative inefficiency occurs whenever inputs are under-applied or over-applied as would occur whenever the marginal benefit is, respectively, less or greater than marginal cost. Such allocative inefficiency is common in every case of market failure and

inappropriate government intervention. One example is the case with "small area variations," imperfect information can cause practitioners to over- or under-utilize a particular treatment or procedure. Another example occurs when a tax artificially increases the marginal cost of an input above its marginal benefit, causing it to be under-utilized. The opposite occurs more commonly in health care markets, where the government tax shelters employer-provided health care benefits (relative to other benefits or money income), artificially reducing the marginal cost of health care inputs relative to their marginal benefits, causing health care inputs to be overutilized.

In addressing healthcare efficiency in discussions, policy analysis and policymaking, whether productive or allocative efficiency, it is essential that a distinction be made between the intensive and extensive margin. Put simply:

- **Intensive margin** reflects the impact of applying more input to an individual or group, i.e., the efficient use of resources for an individual/group

- **Extensive margin** reflects the impact of applying more input to an additional individual or group, i.e., efficient use of resources across individuals/groups. For example, it is very possible for overuse of resources on one margin, but under-use on the other. For example, if two experts disagree in stating that too much or too little is being spent on health care in the U.S., both can be correct. The marginal product may be negative for one (e.g., intensive margin), but positive for the other (extensive margin). Credible evidence exists that in the U.S. and Oklahoma health care may overconsumed by those with (tax sheltered) employer-provided health benefits, but may be under-consumed by those without such benefits.

Determinants of Health: Empirical Research
While anecdotal evidence should always be suspect, it is interesting to lead off this discussion with a bit of history:

"During the "medical malpractice crisis" in the 1970's . . . doctors in the Los Angeles area undertook a systematic "slowdown" of care to try to force changes in the state's legal system. During this slowdown, they treated only "emergency" cases, so as a result, the rate of elective surgery fell sharply. Surprisingly, so did the county's death rate, and at least one analysis attributes the decline in mortality to the slowdown, and particularly to the reduced elective surgery... While this does not say that medical care has a negative marginal product (because the surgery likely has some benefits that may be worth the risks), it does cause some reason to wonder how much benefit that might be." [1]

Access & Expenditures
One of the best controlled and documented experiments on the demand for and productivity of health care inputs is found in the Rand Health Insurance Study [H.I.S.]. There, families were randomly assigned to several different health insurance plans. These plans ranged from a family deductible as high as 95% of cost to individual deductibles of 50% and 25% to essentially free care.

Understandably, the incentives of the families across plans varied dramatically. What was perhaps most astounding was that even though the average expenditures on health inputs increased by about 40% from the low benefit to the free care plan, there was little or no effect on the health status of the average adult or child, however measured. [2]

Other studies that were designed to capture the long terms effects of health care expenditures have found similar results to that of the Rand HIS. The elasticity expressed in terms of the percentage change in health outcomes (however measured) arising from a 1 percent increase in expenditures has been estimated to be either insignificant or significant but small.

Three of the four studies summarized by Folland (2001) found statistical significance, with the median study's estimated elasticity ranging from .12 to .17. These values are generally recognized by health care economists as being very small, i.e., not far from zero and hence, of minimal influence, since a 10% increase in expenditures would yield only one or two percent increase in health.

One caveat is in order. Any hypothetical 10% increase in expenditures presumes that it would be applied to the general population in proportion to how it was spent in the data set, i.e., applied to the intensive margin. This need not be the case, with greater responses possible if additional expenditures were applied to the extensive margin.

For example, as cited by Folland (2001), a study of Medicare recipients found the elasticity of health care expenditures varied significantly across groups, from a low of .12 for white males to .17 for black females.

The estimated impact of an additional dollar would therefore be 40% greater if spent on black females than white males. Since these recipients were over 65 years age, even more pronounced differences in the impact of expenditures may be found by looking at other age groups.

The sheer number of empirical studies precludes any comprehensive presentation of results. Consequently, a very brief overview of some of the more important points follows.

Price

With respect to price, demand is found to be relatively unresponsive, i.e., inelastic, for critical, high-price and unanticipated care such as hospital stays and physician care. A 10 percent increase in price generally leads to less than a 10% decrease in quantity demanded. On the other hand, demand is more elastic for elective noncritical care (e.g., dental, optical, cosmetic, normally recurring care), often with values above one; a 10 percent increase in price generally leads to more than a 10% decrease in quantity demanded.

Income

With respect to income, demand is approximately unitary for aggregate expenditures. Clearly, it can be expected to be less than one for critical care and greater than one for elective care. Importantly, most studies find income to be a very significant determinant of health. From a public policy perspective, to the extent that investment in human capital (education) increases income, it also will positively impact health.

Education

Another very significant determinant of health is education. There are three theoretical rationales for this strong empirical result, with potentially different public policy implications.

First, education may permit individuals to be more effective in seeking out and combining the various health care inputs – a production efficiency explanation.

Second, the same individuals who choose to invest in more education can be expected to invest in their health; since this is a mere correlation, education does not increase health outcome.

Third, education may increase the income and hence of attractiveness of an individual's future; by extending the relevant time horizon of the individual, education causes her to take measures to improve health. Since all three of these explanations are likely to be operative in explaining the strong relationship between education and health, any public policy that increases the educational attainment of its citizens is likely to also lead to improved health outcomes.

Medical Breakthroughs & Public Health

The historical role of medicine in mortality rate declines is often cited by the medical community. Indeed, while world population saw only negligible rates of increase in the 17 centuries since the times of Christ, it exploded in the last three centuries.

Although mortality rates fell and life expectancy rose, it was not apparently due to the advent of medicines and therapies to treat such diseases as cholera, dysentery, measles, scarlet fever, tuberculosis, pneumonia, influenza and typhoid.

Major declines in associated mortalities have been documented to have occurred before such medical interventions. Many, if not the majority of health economic historians attribute most of the gain to factors such as rising living standards (income), spread of literacy and education, public health education and measures, declines in birth rates, and improved nutrition.

Nutrition

Considerable controversy surrounds the role of nutrition. On the one hand, some economists find little impact, citing among other things the comparable death rates of 18th century English aristocrats and peasants.

On the other hand, some economic historians such as Robert Fogel disagree, arguing that neither a high calorie diet nor the ability to afford one necessarily represented good nutrition.

He attributed about 40% of the decline in mortality rates since 1700 to nutrition, which he described as "neither inconsequential nor everything." He goes on to argue that improved nutrition benefited infants disproportionately, and that American farmers were healthier than the English due to the better protein in their diet. [3]

Prevention

Any discussion of health policy should include a discussion of the optimal mix of prevention and treatment. A recurring axiom that deserves mention is: a dollar of prevention is worth three of treatment. Its origin undoubtedly lies in some empirical research many years ago.

Whether true for every health condition is less relevant than its importance in raising the potential that prevention is an investment that often can be recouped handsomely in terms of treatment, morbidity and mortality costs.

Too often health care policies are shortsighted, attempting to minimize public expenditures today at an even greater cost in the future. However, prevention measures can at times be unproductive, especially if poorly conceived and implemented. Often political, social and/or religious constraints can hobble potentially cost-effective prevention policies.

Prenatal Care and Abortions

Combining elements of the previous points concerning nutrition and prevention, one study identified and quantified the determinants of observed reductions in neonate mortality rates 1964-1977. Six factors accounted for 25% and 56% of the observed declines in rates for Whites and Blacks, respectively.

Prenatal care and the WIC program (a government program providing improved nutrition for women and infants) together represented almost half of the explained reduction for both groups. Access to abortions represented 30% to 40%.[4]

Life Style & Individual Liberty

There has been a growing realization over the last couple decades that most significant public health issues involve a behavioral or life-style component. The contribution of course varies depending on the issue. Potential public health policies range from laissez-faire, to education and prevention, to a more activist "big brother" approach, to strictly enforced laws.

As public health policy becomes more interventionist, encroachment on individual liberties becomes a greater issue. The correct balance is one that can only be decided with informed debate and a representative political system.

Demand vs. Supply Subsidies

No economic discussion of the impact of public policy is complete without a discussion of demand and supply subsidies. Demand subsidies are given to consumers to be able to afford health care, while supply subsidies are given to providers (clinics, hospitals, schools, practitioners, etc.) in order to increase the quantities supplied.

Supply subsidies are politically popular, but not generally cost effective. Demand subsidies are more likely to be cost effective, especially in affecting the extensive margin. They also have the attractive characteristic of being more market-oriented.

Supply subsidies, on the other hand, establish a constituency that is often effective in preserving if not expanding the beneficial treatment enjoyed at the hands of the government – and at the expense of taxpayers.

Most economic analyses of supply subsidies find that their cost greatly exceeds their benefit, with the same outcome achievable at a much lower public cost using a demand subsidy. [5]

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ENDNOTES:

1. Phelps (1992), P. 65.
2. Folland, et. al., (2001), pp. 112-113, Newhouse, et. al., (1993).
3. Folland, et. al., (2001), p. 105.
4. Corman, et. al., (1987), Folland, et. al., (2001), p. 109.
5. For a discussion of the merits of using demand and supply subsidies in rural health care markets, see Metzger (1996).

Chapter 3

Our State of Health

Oklahoma State Department of Health

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Oklahoma Department of Mental Health and Substance Abuse Services

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Oklahoma's Health Indicators

Chapter 3

Our State of Health

Oklahoma State Department of Health and the Oklahoma Department of Mental Health and Substance Abuse Services

Healthy People is a federal public health effort that began in 1979. It is updated periodically. Healthy People 2010 is comprised of 2 overarching goals: (1) increase quality and years of healthy life and (2) eliminate health disparities.

HP2010 has 28 focus areas, 467 specific objectives, and 10 Leading Health Indicators. As a group, the Leading Health Indicators reflect the major health concerns in the United States [and Oklahoma] at the beginning of the 21st century. They will be used to measure the health of the Nation [and Oklahoma] over the next 10 years. These indicators were selected on the basis of their ability to motivate action, the availability of data to measure progress, and their importance as public health issues. (www.health.gov/healthypeople).

This section uses the indicators as a framework and outline to measure the Oklahoma health status, and identify areas requiring improvement.

These indicators are jointly and separately addressed in Oklahoma by two separate agencies: The Oklahoma State Department of Health (OSHD) and the Oklahoma State Department of Mental Health and Substance Abuse Services (DMHSAS). Parts of this section will be written by one department or blended per the schedule below:

Leading Health Indicators

Physical Activity	OSHD
Overweight and Obesity	OSHD
Tobacco Use	OSHD
Substance Abuse	DMHSAS
Responsible Sexual Behavior	OSHD
Mental Health	DMHSAS
Injury and Violence	Blended
Environmental Quality	Not Addressed
Immunization	OSHD
Access to Care	Blended

Creating Healthy People and Communities

At statehood, childbirth in Oklahoma was precarious, a glass of water deadly and instead of chronic disease we had shorter lives. The average lifespan was 47 years. In some communities one in three children died at birth or in the first year of life. Clean water, clean food and vaccines for common communicable diseases were novel experiences and much of our additional life span derived from these innovations in Public Health.

Public health advances reduced the premature mortality from infectious disease. In the latter part of the twentieth century, medical care advances helped extend life further. Expectations have changed. Death and its fears gave way to health and hope.

The profile of diseases contributing most heavily to death and illness among Americans has changed dramatically. Today, chronic disease, such as cardiovascular disease, cancer and diabetes are among the most prevalent, costly and preventable. Seven of every ten Oklahomans will die from chronic disease. Cardiovascular diseases, primarily heart disease, stroke and cancer, account for almost two-thirds of all deaths (see table on page 3-5).

While fewer in number, deaths due to injury are the principle cause of death for youngsters under the age of twenty-four. Most of these suicides, automobile wrecks and acts of violence are preventable and contribute a great deal to lost years of life (see table on page 3-5).

Health has a subjective meaning but it is universally recognized as the key to a good and productive life. And its meaning is constantly changing.

A “healthy” paraplegic would have been a self-contradiction 50 years ago. But with a little help from science and the Americans with Disabilities Act (sponsored by two severely injured war heroes, Bob Dole and Daniel Inouye), Greg Burns, the artist, can now cross the street to enrich us all.

The near doubling of our lifespan in the 20th century challenged all of us to accept responsibility for the health of our children and expanding population of elders. Our focus on health has succeeded largely through the "disease care model" and has caused fierce resource competition.

Thoughts from ...
Oklahoma's Commissioner of Mental Health

I am pleased to have this opportunity for the Department of Health, and Department of Mental Health and Substance Abuse Services, to collaborate in presenting information about the state of Oklahoma's health. Mental health and substance abuse are cited as two of the ten leading health indicators in the federally established Healthy People 2010 initiative.

Prevention of violence and abuse are also on this list, a concern shared by DMHSAS domestic violence and sexual assault services. Inclusion on this list speaks to the importance of these issues as critical components for a healthy individual, and healthy communities.

The data you are about to review will document some areas in which Oklahoma is meeting goals for good health and others in which we fall far below where we could be, if known prevention and intervention actions were taken. While Oklahomans have a heritage of independence and self-reliance, they also demonstrate a spirit of cooperation and willingness to help those in need-when a need is clearly identified.

But the following report will make clear there are economic, as well as humanitarian reasons for us to respond to the problems identified by the Nation's 10 Leading Health Indicators. Medications and other prevention and treatment strategies have been proven to help recipients become less dependent and more productive members of our society.

You can help by encouraging adoption of state and local laws and policies that promote healthy behavior, safe housing, meaningful job opportunities, prevention and treatment based on research, reduced stigma and bias, and more access to information for health care decisions.

These are worthy goals, not just for those with the fewest resources and severest illnesses amongst us, but for us all.

Terry Cline, PhD
Commissioner

This "disease control" progress has been accomplished at great cost. It has produced the most expensive medical system in the world. Some of the most common medical procedures treat conditions that could have been avoided if addictive, abusive, high-risk behaviors had been averted. The quality and length of life could improve with a greater emphasis on prevention.

One can survive a heart attack with a dramatic surgical and pharmacological intervention. But, without changes in nutrition and physical activity that could have prevented the foregoing heart attack, the patient simply begins a weak and disabled pursuit of the next attack.

It is tragic to see those preserved by medicine but condemned by their own behavior.

In contrast, consider some patients with congestive heart failure who qualifed as candidates for transplant. They have literally "walked" [exercised] themselves out of trouble while waiting for a donor heart. Consider the escalating health cost burden of an aging population. How can that cost be best minimized, and the quality of life increased? We would submit that it can best be done through behavioral intervention, exercise, nutrition and temperate risk-taking.

Primary Prevention
The disease treatment system has a powerful economic life of its own. It subtly offsets the successful functioning of "primary prevention."

The Health Care sector of our economy, including pharmaceutical industry, is becoming the single largest sector of our economy. It is $1.3 trillion dollars. Primary prevention is, in part, about disrupting that economic engine that has enjoyed almost unfettered growth for decades. This growth has exceeded the growth of our Gross Domestic Product between 1980 and 1997 and climbing back toward that position this year (see A-8, National Health Care Expenditures).

These contradictions now engage public health, whose practitioners struggle to address risk behaviors related to poor nutrition, drug use, and physical recklessness. They often compete against high powered marketing efforts that peddle these risk behaviors. They masquerade inside tobacco advertising and alcohol commercials: driving a fast car, getting appreciative glances from the opposite sex, then pulling in for a "Bud" or a Marlboro.

Thoughts from ...
Oklahoma's Commissioner of Health

We have witnessed remarkable advances in the success of medicine in extending our lifespan during the last fifty years. Scientific advances, aggressive public health systems, and skilled medical practitioners helped us double our life expectancy as prosperity was extended to a growing portion of our citizens.

Unfortunately this achievement is growing less sustainable as "disease care" competes with every other major element of our economy in cost. Do we want to fund only health care, to the exclusion of education, housing, defense, and social programs? We need to act aggressively to implement in our own behavior what we know about preventing diseases, particularly those which require expensive intervention like cardiovascular disease, pulmonary disease and certain cancers.

Physical activity, dietary sensibility and eliminating the use of tobacco could sustain our span of life and simultaneously improve its quality. Even a little sunscreen could be a life- saver for those at risk. These interventions are remarkably low cost, but they require a shift in our current paradigms of health thinking.

Unfortunately very few disease prevention services are provided in most of our health insurance benefit packages. There has been some limited progress made in screening for their early detection of disease, but not enough.

While doubts may remain about effectiveness of some behavioral interventions like "Tobacco Cessation Programs," we nonetheless continue to embrace medical procedures whose success rates are much less than 100% and whose cost is much greater than associated prevention services. In other words we have a double standard for our interventions, and we are willing to pay much more for so-called cures, rather than govern our own behaviors.

Human nature focuses first on survival. I optimistically believe our will to live will lead us to change our way of life. Let us work together to be catalysts for this fundamental change!

Leslie Beitsch, M.D., J.D.
Commissioner

These advertisements are not targeted at adults, they are aimed at engaging adolescents or younger. Joe Camel is more recognizable to children than Mickey Mouse.

> *Low-alcohol cocktails, bearing such familiar brand names as Jack Daniel's and mixed with fruit juice or soda, are one of the few hot segments in the stagnant spirits industry. New Drinks with syrupy-sweet taste, brightly colored labels and such cutesy names as Tahitian Tangerine and Dixie Jazzberry are flooding into grocery stores and liquor outlets. The new concoctions amount to a kind of kiddie cocktail, critics contend. Some are even sold in familiar, 12-ounce aluminum cans complete with poptops-just like Coke's and Pepsi's. -The Wall Street Journal, 8/4/93*

Our economy is the most robust in the world. But it cannot sustain the cost of disease care without achieving at least some success in implementing effective preventive interventions and policies.

The automobile industry provides an instructive example by changing car and road design. Cars and driving habits were made safer and more efficient. This reduced spiraling costs of injury care, mechanical repairs, petroleum products and tort claims. In the same manner, we must change ourselves and the health care system we abuse.

Two-thirds of premature deaths are preventable.

Choosing to be healthy contradicts many of the present financial incentives of medical, legal and insurance providers. Their bottom-lines would be significantly diminished if acute diseases declined given the heavy capital investment in the mechanics and manpower of disease care. As it stands, Oklahoma's national health ranking indicates that our health status is declining sharply despite those investments.

Worse, the economic engine that powers most of our optimism and good fortune has not adapted to the new efficiencies of prevention. The enterprise systems tolerate the expensive paradox of selling tobacco, instead of health, to children whose need for nicotine persists into adulthood. Tobacco becomes no longer a choice but an addiction. This addiction leads to 10 times greater health care utilization rates by smokers than non-smokers. Employers, both large and small, see the results of poor health related to tobacco. Insurance costs and absenteeism increases but no solution appears from the disease oriented "health care system."

Selected Oklahoma Vital Statistics

Source: Oklahoma State Department of Health

Oklahoma, 1999
Ten Leading Causes of Death, by Age

	Under 1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Congenital Anomalies	Unintentional Injury	Unintentional Injury	Unintentional Injury	Unintentional Injury	Unintentional Injury	Unintentional Injury	Cancers	Cancers	Heart Disease	Heart Disease
2	SIDS	Congenital Anomalies	Cancers	Cancers	Suicide	Suicide	Heart Disease	Heart Disease	Heart Disease	Cancers	Cancers
3	Short Gestation	Cancers	Congenital Anomalies	Suicide	Homicide	Cancers	Cancers	Unintentional Injury	Chronic Respiratory Disease	Cerebro-vascular	Cerebro-vascular
4	Placenta Cord Membranes	Homicide	Heart Disease	Homicide	Heart Disease	Heart Disease	Suicide	Liver Disease	Cerebro-vascular	Chronic Respiratory Disease	Chronic Respiratory Disease
5	Maternal Pregnancy Complication	Heart Disease	Homicide	Influenza & Pneumonia	Cancers	Homicide	HIV	Diabetes Mellitus	Diabetes Mellitus	Influenza & Pneumonia	Unintentional Injury
6	Unintentional Injury	Perinatal Period	Acute Bronchitis	Chronic Respiratory Disease	Congenital Anomalies	HIV	Liver Disease	Cerebro-vascular	Unintentional Injury	Diabetes Mellitus	Influenza & Pneumonia
7	Bacterial Sepsis	Acute Bronchitis	Cerebro-vascular	Congenital Anomalies	Chronic Respiratory Disease	Congenital Anomalies	Cerebro-vascular	Suicide	Liver Disease	Unintentional Injury	Diabetes Mellitus
8	Respiratory Distress	Cerebro-vascular		Heart Disease	Diabetes Mellitus Disease	Chronic Respiratory	Diabetes Mellitus Disease	Chronic Respiratory	Influenza & Pneumonia	Alzheimer's Disease	Alzheimer's Disease
9	Circulatory System Disease	Influenza & Pneumonia		Nephritis	HIV	Cerebro-vascular	Homicide	HIV	Suicide	Ahthero-	Suicide
10	Intrauterine Hypoxia	Meningitis			Nephritis	Diabetes Mellitus	Septicemia	Homicide	Septicemia	Nephritis	Ahthero-sclerosis

Selected Oklahoma Statistics

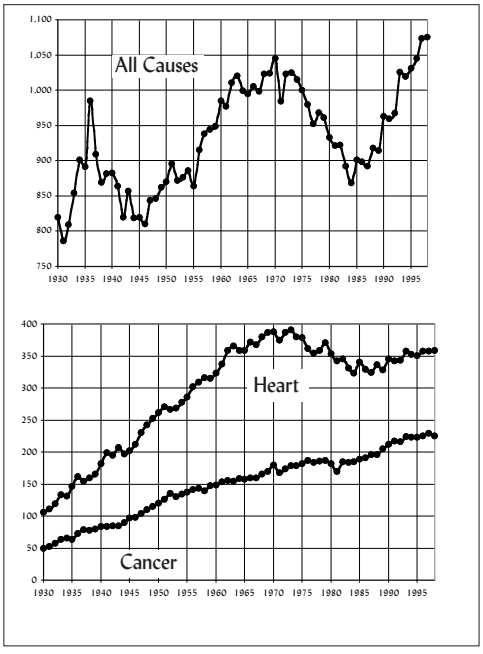
Source: Oklahoma State Health Department

	State of Oklahoma				
1999	White	Black	Other	State	USA
Teen Births *	52.0	82.9	-----	60.5	49.6
Infant Death **	8.0	15.6	-----	8.5	7.1
Low Birthweight	7%	12%	-----	7%	8%
Deaths ***					
Heart Disease	324.3	396.8	190.6	319.4	270.4
Cancer	209.4	270.1	139.4	207.8	202.7
Stroke	71.1	94.4	33.8	69.8	61.8
Diabetes	23.8	60.2	60.3	28.0	25.2
Firearms	14.8	29.7	6.9	15.4	10.6
Total Death Rate	989.9	1,249.3	697.8	985.0	881.9
Smoking	23%	22%	25%	23%	23%
Overweight/Obese	53%	63%	-----	53%	55%
Poor Mental Health	20%	20%	29%	21%	33%

* Per 1,000 women ages 15-19
** Per 1,000 live births
*** Per 100,000 population

Selected Oklahoma Death Rates

Source: Oklahoma State Health Department



How the System Works
In some medical "Twilight Zone" we awaken from a nightmare in which we've shot ourselves in the foot and, inexplicably, the doctor is sewing up our hand as we bleed to death. Now awake, we remember that we have recently had bypass surgery and still anxious from the nightmare, we join Rod Serling in reaching for a cigarette to soothe those jangled nerves.

If one insight seems apparent it is "choosing to be healthy is much more than just saying no" but impossible if you say yes.

We live in an enterprise culture: one that creates choice, distributes goods and services, and rewards competitive initiative. The essential freedom to animate these choices has theoretically been carefully balanced by fixing personal or corporate responsibility for that choice. Informed individuals making choices are the power behind our market place economy and our great democracy. In the context of choice and responsibility, lets examine the key players within the human scheme of being or becoming healthy.

Individuals
During the past 100 years, "incurable" disease has become rare. "Sick care" and science have overwhelmed disease and, to some extent, our individual sensibilities. Even with diseases that are curable, individuals seem increasingly devoted to high-risk behaviors that produce a disproportionate number of deaths and disability. Is this some perverse Malthusian balancing act?

Later sections will deal with health consequences of some of choices. But the individual is the fundamental beginning of the equation. Consider the "we're all in this together" level. One individual's choices impact on another's, but simply telling people the harm their choice may be causing others may initiate behavioral change. In how many homes has the "smoking spouse" moved the smoking outside in deference to the sensibility and health needs of the "non-smoking spouse?"

Translate such individual choices to public spaces by banning smoking within restaurants and the significance of individual choices multiplied could become public policy. However despite overwhelming evidence as to the harm of second-hand smoke and the support of a vast majority of citizens (in Oklahoma more than 70%), we still wait for clean indoor air.

Clearly other factors are at work.

Our collective will to change is not certain. As our society ages, how much will we be willing to individually and collectively change? Will risk-taking individuals from 50 to 70 years of age expect a "pill" cure for the consequences of their risky behavior? We need to make better choices.

The Payers
In our "sick care" system, some form of insurance such as Blue Cross, Aetna, Medicaid or Medicare covers about 80% of individuals. Regardless of the source of funds, most of these payers have two things in common:

- expensive, mind numbing paperwork and
- an almost non-existent interest in prevention.

In many instances, the volume of paperwork, which runs up the cost of the system, is all that feeds the "data processors" that drive it. In too many instances, the complexity of the paperwork is a function of manipulating the system for maximum reimbursement. These practices seem to simultaneously discourage prevention and efficiency while raising the cost of the system.

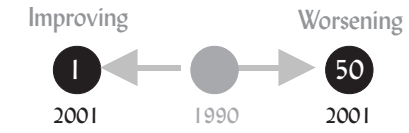
No homeowners insurance policy would pay to rebuild a home that an owner burned to the ground just to give a contractor some business. Yet, everyday, health insurance reimburses hospitals for cardiopulmonary surgical services for patients who are clearly victims of their own choices. These consequences have been exacerbated, if not caused by nicotine addiction and a sedentary lifestyle. At the same time, insurers do not pay for physical fitness or smoking cessation programs that might have prevented the problem.

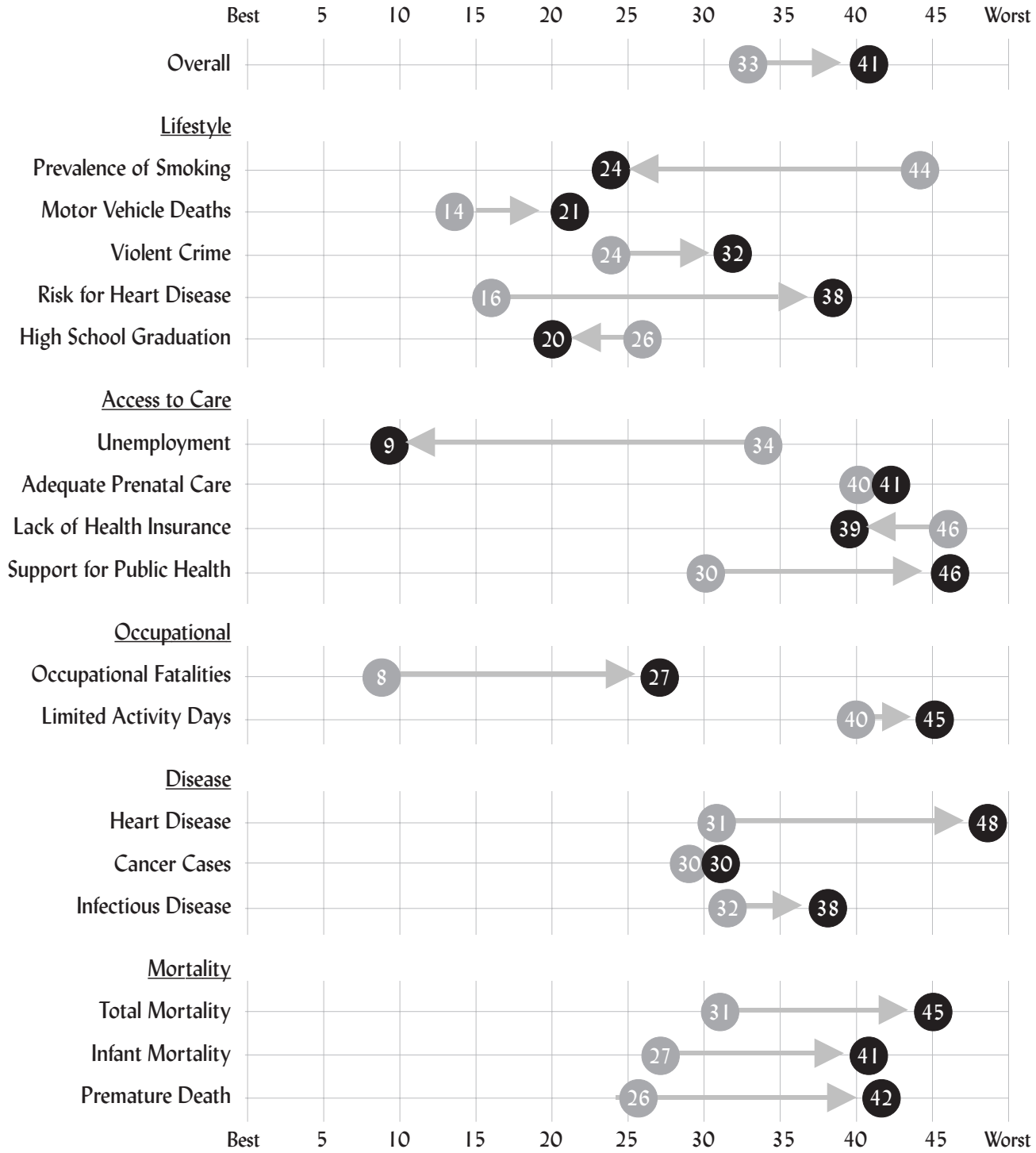
In contrast, life insurance companies routinely charge more for high-risk behavior. Three such companies with financial ties to the tobacco industry: CNA Life, Farmer's Insurance Group and Franklin, charge nearly double the premium for smokers than non-smokers of the same age.

People who fail to take advantage of covered prevention services should pay more to insurers for the cost of services that might have been avoided. While individuals may start the ball rolling in this peculiar food chain, it is easy to see how the simple decisions regarding whether to pay, or who pays for health (sick) services can influence the use of preventative services.

State Health Rankings
Oklahoma 1990 - 2001

United Health Foundation (www.unitedhealthfoundation.org)





Interpretation:
The United Health Foundation has been ranking the health status of states since 1990. This chart depicts the changes in Oklahoma categories from 1990 to 2001. A rank of 1 means the "best" state in the country; 50th is the "worst" state. In 1990, Oklahoma ranked 44th for smoking prevalence. We have improved to 24th in 2001. Conversely, Oklahoma ranked 26th for premature death; but we have worsened to 42nd in 2001.

The Purveyors

Consider the twin issues of car safety and clean, public indoor air. The objections are that the safety requirements would cause bankruptcy. The actual effect is to increase carmaker and restaurant profits by keeping their consuming customers alive. And the public is satisfied too. Win - Win.

Motivations are more complex than monetary greed with various interlocking economic interests invested in the sale of tobacco and high fat/sugar content foodstuffs. Advertising, commercial transport and shipping, petroleum, agriculture, packaging and paper products all facilitate the production and sale of high-risk products. Without a sympathetic, factual analysis, many of these industries continue to regard production of unhealthy goods as essential to their survival, unless provided an alternative.

Over the years, the tobacco industry has even managed to convince the hospitality industry that their economic interest would be affected negatively by limiting use of tobacco indoors, without a shred of evidence illustrating long-term economic losses.

This sense of interdependence leads to cross-marketing which creates a compelling attraction for all segments of an interdependent production chain with smoking and driving fast cars all carefully wrapped in a sixty-second plot featuring more than a hint of sexuality and a stop at the corner convenience store for a six-pack. Selling is an integral part of competition but as Marshall McLuhan once observed “the sizzle is the steak” and less cryptically “the media is the message.” When it comes to selling “high risk sizzle,” advertising unabashedly implies benefit that has nothing to do with the product while avoiding any implication of potential harm.

So at the point of sale, the individual literally buys risk in the form of tobacco or unhealthy food made attractive by deception. This should raise ethical issues similar to the Enron and WorldCom investigation ... a disregard for public welfare.

The Providers

Providers occupy perhaps the most untenable position. They must adjust their services toward those which are payable by insurers. They must manipulate the paperwork to the greatest payment advantage. Health insurance payors tend to indemnify against the results of individual behavior regardless of risk. This is an open invitation to unhealthy behavior.

Third-party payers negotiate coverage plans for employee groups based on management-labor political considerations. Employee attitudes towards prevention are colored by ineffective wellness newsletters. In their view, benefit reduction through risk rating is like accepting a salary reduction.

Hospital providers are under conflicting pressures. They are often an important employer in all communities and feel pressure to maintain that viability.

The critical component to develop "healthy communities" will be the commitment of clinical providers supported by a change of philosophy on the part of payors and payor regulators like CMS. Sadly, physicians, nurses and other medical providers receive little training in primary prevention and are ill prepared to lead.

Before this becomes pure polemic, one should hasten to clarify responsibility is not that simple nor are the methods that produce successful change. But from the hallowed halls of academic medicine to the boardroom of RJ Reynolds, it is certain that we have all been making some questionable choices.

It is equally certain that we must fundamentally change. Such change will affect the way we live and pursue our daily lives. A goal is to create an environment in which a non-pressured, informed choice can be pursued. It will take more than individual acts to alter our present health status. This must occur by altering community norms ... because like politics all health is local.

Altering the behavior of tobacco companies, insurance payors, medical schools or advertising firms may seem beyond the power of an individual or community. But as change aggregates in the direction of “good health,” we can become a better marketplace. California communities started this effort eleven years ago. Smoking rates have declined, second-hand smoke has declined and lung cancer rates went down last year! One person, one community can make a difference.

Over the next several pages you are invited to consider a variety of health conditions that, for the most part, were deadly at the turn of the century. Now, for the most part, they are completely preventable and, if not, highly survivable if recognized at early stages and treated properly.

Remember, in terms of health, there is so much to consider in terms of the difference between medical survival and being alive.

PHYSICAL ACTIVITY

Oklahoma State Department of Health

Health Impact of Physical Activity
Regular physical activity is associated with lower death rates for adults of any age, even when only moderate levels of physical activity are performed. Regular physical activity decreases the risk of death from heart disease, lowers the risk of developing diabetes, and is associated with a decreased risk of colon cancer. Regular physical activity helps prevent high blood pressure and helps reduce blood pressure in persons with elevated levels. (www.health.gov/healthypeople)

Oklahomans have the third most sedentary lifestyle in the nation.

The 1996, "Physical Activity and Health:" A Report of the Surgeon General, reflected on the health benefits of physical activity. The major findings were:

- People who are usually inactive can improve their health and well-being by becoming even moderately active on a regular basis.
- Physical activity need not be strenuous to achieve health benefits.
- Greater health benefits can be achieved by increasing the amount (duration, frequency, or intensity) of physical activity.
- Regular physical activity reduces the risk of:
  - Dying prematurely
  - Dying of heart disease
  - Developing diabetes
  - Developing high blood pressure
  - Developing colon cancer
  - Feelings of depression and anxiety
  - Gaining weight
- Builds and maintains healthy bones, muscles, and joints.
- Helps older adults move about and assists with independence.
- Helps reduce blood pressure levels in people who already have high blood pressure. Annually, physical inactivity and eating a poor diet contribute to 5,000 premature deaths among Oklahomans, second only to tobacco use. People who are sedentary are more likely to be overweight or obese, are at higher risk for heart disease, strokes, diabetes, arthritis related conditions, and some cancers.

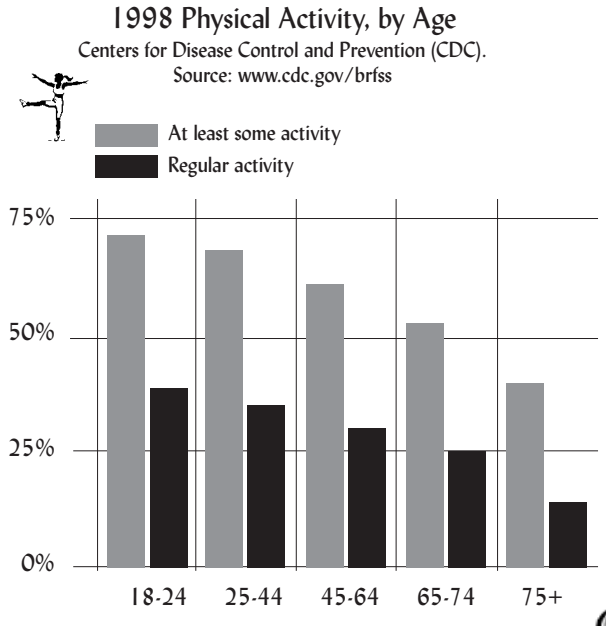
Physical inactivity is associated with needing more medication to control disease, visiting a physician more often, and being hospitalized more often. In 1987, the cost of physical activity was estimated to be $290 million for Oklahoma and for 2002 the estimate is $760 million.

Schools and Workplaces

In some public schools in Oklahoma, regular physical education and recess among students are becoming non-existent and daily enrollment in physical education classes has declined among high school students. Nearly one half of children and youth are not vigorously active on a regular basis. Children, youth, and adolescents reflect similar patterns of sedentary lifestyles as adults.

Research on promoting physical activity at an early stage through interventions at schools, worksites, and community settings are successful in maintaining a lifestyle of physical activity throughout the life span. Daily moderate physical activity for thirty minutes can reduce 35% of the excess heart disease in Oklahomans.

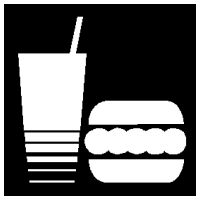
Worksites, parks and recreation, communities, and schools across the state can improve the walk-ability of its community by providing safe sidewalks, promoting walk to school, and walking trails or tracks at worksites. Employers should encourage employees to climb the stairs not take the elevator. Communities can create a variety of exercise types like community dances, yoga, kick boxing, and/or skateboarding.



OVERWEIGHT & OBESITY

Oklahoma State Department of Health

Health Impact of Overweight and Obesity
Overweight and obesity substantially raise the risk of illness from high blood pressure, high cholesterol, type 2 diabetes, heart disease and stroke, gallbladder disease, arthritis, sleep disturbances and problems breathing, and certain types of cancers. Obese individuals also may suffer from social stigmatization, discrimination, and lowered self-esteem. (www.health.gov/healthypeople)



More than 56% of Oklahomans are overweight or obese. This is right at the national average.

We have expanded our waistlines through value sizing. Over the past two decades as food portion sizes have doubled ... so has the obesity epidemic. Today over 50% of adults are overweight and obesity rates have doubled for children.

Obesity should not be trivialized.

An excess 10-20 pounds significantly increases health risks and premature death. For example a person with a weight gain of 11-18 pounds is twice as likely to develop type 2 diabetes as one whose weight remains the same.

Body weight for the individual is a combination of multiple factors: family history, body's utilization of food for energy, behavioral, cultural, environmental, and socio-economic factors. For most, overweight and obesity are caused by an energy imbalance. The imbalance is a combination of energy consumption (excess food calories) and unexpended energy (insufficient physical activity to burn off excess calories).

Obesity and overweight are measured by a ratio of one's height and weight called the Body Mass Index.

BMI is body mass index and is a practical measurement of the individual's height and weight expressed in a ratio. BMI is calculated as weight in pounds divided by square of height in inches, multiplied by 703. A person who weighs 140 pounds and is 5'4" tall has a calculated BMI of 24 (140/64x64x703=24). An expert panel convened by the National Institutes of Health established the BMI definitions. Overweight is defined as a BMI at or greater than 25 to 29. Obesity is defined as a BMI over 30.

Obesity is one of today's exciting challenges and should be approached as both preventable and treatable by public health working directly with communities, individuals, health care professionals, business and industry. Working together the public builds knowledge, skills, and behaviors of healthful nutrition built around eating more fruits and vegetables and less calories loaded with fat. The public can change the societal norm of sedentary lifestyle to an active lifestyle built around exercising 30 minutes daily in a safe environment.

Oklahoma Obesity Facts

- *56% of Oklahoma adults are overweight (BMI of 25 to 29).*
- *An additional 20% of Oklahoma adults are obese (BMI 30 and over)*
- *13% of children ages 6-11 are overweight and 15% of adolescents 12-19 years are overweight. Overweight in children has doubled over the past two decades similar to adults, and has tripled in adolescents.*
- *Obese children are likely to remain obese and become obese adults*
- *There are significant differences between obese and non-obese children as to social skills, health status, and academic performance*
- *60% of Oklahoma adults live sedentary lifestyles making Oklahoma the third most sedentary state in the nation*
- *Obesity contributes to 5,000 premature deaths in Oklahoma, taking productive people from the workforce.*

Through the food business and the farming industry we have created an over-abundance of the food supply for the United States. In order to reduce this overabundance, the food service industry has "value sized the portions and increased their profits." The value-marketing concept encourages the customer to spend a little extra money, consume a larger portion, and leaves the customer consuming large quantities of calories and feeling as if they received their money's worth.

For example: A small McDonalds fries has 210 calories and costs $1.03 and for just a tad more you can get a large fries and add 157% more calories.. Another aspect to value sizing is the bundling of products. Adding a drink and fries to a sandwich order is responsible for some of the largest increases in overall calories and fat calories.

Public health and healthy communities can intervene with the food industry by paying less for smaller, healthy portion sizes. In Oklahoma, we could create: "5-A-Day and Healthy Portions," a public awareness campaign about increasing consumption of fruits and vegetables and smaller portion sizes.

Consequences of Obesity

Economic
The costs of obesity include:

- *Obesity contributes to higher costs increases for health care services and medications than do smoking or problem drinking.*
- *Obesity is associated with a 36% increase in inpatient and outpatient expenditures.*
- *Obesity is associated with a 77% increase in medications over the person who is not obese.*
- *Smokers have a 21% increase in medical services and a 28% increase in medications when compared to non-smokers.*
- *In 1995 the combined direct and indirect cost of obesity was $99 billion for the US and $900 million for Oklahoma.*
- *In 2000 the total cost had risen to $117 billion US and $1.2 billion for Oklahoma.*
- *Obesity costs Oklahoma $600 million in direct medical care costs and another $600 million in indirect cost of absenteeism and non-productivity.*

Medical
Obesity is associated as an underlying cause of:

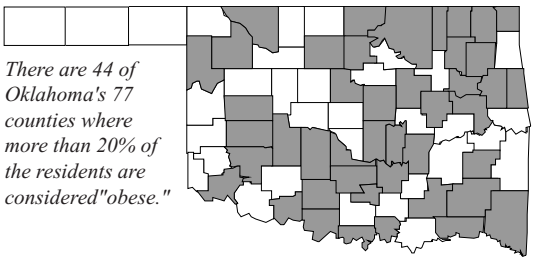
- *Diabetes.*
- *Heart disease, High blood pressure, High blood cholesterol, Stroke.*
- *Cancers: breast, colo-rectal, ovarian, and endometrial.*
- *Arthritis.*
- *Gallbladder conditions.*
- *Asthma, other breathing problems, and sleep apnea.*
- *Increased depression and anxiety.*

Medical - Children
Obesity affects children as follows:

- *Childhood obesity is an important health consequence as excess weight in children leads to overweight and obese adults.*
- *Childhood obesity is particularly alarming with the increased diagnosis of type 2 diabetes in children from ages 6 and older.*
- *Children with type 2 diabetes are subjected during the teens or early adulthood to the complications of diabetes: blindness, end-stage renal disease, heart disease, and lower amputations.*
- *Childhood obesity is associated with high blood lipids, high blood cholesterol, and orthopedic problems.*

1999-2000
Prevalence of Obesity in Oklahoma

Source: State Health Department
(shaded counties = obesity over 20%)



There are 44 of Oklahoma's 77 counties where more than 20% of the residents are considered"obese."

Prevalence Rates of Obesity & Diabetes

U.S. adults by selected characteristics
Source: Medical Benefits, October 30, 2001

	Obesity	***Diabetes***
National	*19.8%*	*7.3%*
Gender		
Male	*20.2%*	*6.5%*
Female	*19.4*	*8.2*
Age		
18-29	*13.5%*	*1.9%*
30-39	*20.2*	*3.8*
40-49	*22.9*	*5.8*
50-59	*25.6*	*10.9*
60-69	*22.9*	*14.5*
70 +	*15.5*	*14.9*
Race		
White	*18.5%*	*6.6%*
Black	*29.3*	*11.1*
Hispanic	*23.4*	*8.9*
Other	*12.0*	*6.7*
Education		
< High School	*26.1%*	*12.9%*
High School	*21.7*	*7.6*
Some College	*19.5*	*6.7*
College +	*15.2*	*5.2*
Smoking Status		
Never	*19.9%*	*6.6%*
Ex-smoker	*22.7*	*10.2*
Current smoker	*16.3*	*5.9*

Source: Mokdad et al, The Journal of the American Medical Association, September 12, 2001

TOBACCO USE

Oklahoma State Department of Health

Health Impact of Cigarette Smoking
Smoking is a major risk factor for heart disease, stroke, lung cancer, and chronic lung diseases—all leading causes of death. Smoking during pregnancy can result in miscarriages, premature delivery, and sudden infant death syndrome. Other health effects of smoking result from injuries and environmental damage caused by fires. Environmental tobacco smoke (ETS) increases the risk of heart disease and significant lung conditions, especially asthma and bronchitis in children. ETS is responsible for an estimated 3,000 lung cancer deaths each year among adult nonsmokers. (www.health.gov/healthypeople)

Oklahoma has the third highest tobacco consumption per capita in the nation. Tobacco use is the single most preventable cause of death and disease in our society.

Juvenile Smoking
Most people begin using tobacco in early adolescence, typically by age 16; almost all first use occurs before high school graduation.

In Oklahoma, 42% of children in high school ... and 21% of children in middle school ... used tobacco products in 1999, compared with 35 percent of high school students and 15 percent of middle school students nationally.

A November 2000 Centers for Disease Control and Prevention (CDC) report showed that Oklahoma has a particularly poor record of discouraging teen smoking. Researchers found that 15 percent of Oklahoma middle school students had first used tobacco before age 11.

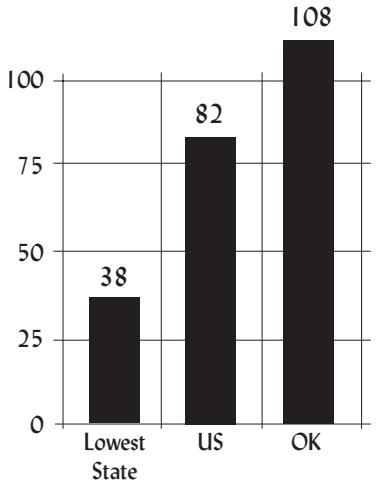
About one-half of Oklahoma youth smokers report they would like to quit, but indicate they have difficulty doing so. Rates of student use of spit tobacco in our state are significantly higher than the national average.

In the 1999 Oklahoma Youth Tobacco Survey,

- 18.4% of middle school students and 31.5% of high school students reported having used it.
- Among boys, 10.9 percent in middle school and 23.1 percent in high school reported current use.
- Thirteen percent of all boys reported first using spit tobacco before age eleven.

Per Capita Consumption
Oklahoma cigarette consumption exceeds 360 million packs per year or 108 packs per person annually. This compares to the national average of just 82 packs and other states with as few as 38 packs per person per year.

Cigarette Consumption
Packs Per Capita Per Year
Source: Oklahoma State Health Department



Smoking & Women
One-third of Oklahoma women smoke in the three months prior to pregnancy and two-thirds of those (22 percent) are still smoking in the third trimester.

More than half of the women who quit during pregnancy resume smoking within four to six months after giving birth.

About the same proportion of Oklahoma adults as adults nationally have ever used smokeless tobacco (16.9% vs 16.4%). However more Oklahomans currently are smokeless users (29.5% vs 22.1%).

Among Oklahoma adult males 32.7 percent have ever used use some form of smokeless tobacco and 30.8 percent are current smokeless users.

Health Effects
Smoking causes many serious diseases. It contributes to more than 400,000 premature deaths in the United States annually. In Oklahoma there are 6,000 such deaths each year, or 16 per day.

Oklahoma has the eleventh highest smoking-caused death rate in the nation.

The life expectancy of Oklahoma smokers is 14 years less than nonsmokers. Smoking causes 87 percent of lung cancer cases, 82 percent of deaths from chronic obstructive pulmonary disease, 21 percent of deaths from heart disease, and 18 percent of deaths from strokes.

As the state's leading preventable cause of death, smoking kills more people than alcohol, illegal drugs, car accidents, suicide, homicide, and AIDS combined!

The impact of smoking on maternal and child health is tremendous. Smoking during pregnancy nearly triples the risk of low birth weight babies, increases the risk of miscarriages, pre-term birth, and stillbirth and accounts for at least 10 percent of all infant deaths. In Oklahoma, over 550 low birth weight deliveries are directly attributable to maternal smoking, costing Oklahomans an excess of $14.4 million each year in hospital costs alone. Smoking during pregnancy and infant exposure to secondhand smoke both directly increase the risk of SIDS.

Smoking-Attributable Direct Medical Expenditures Oklahoma, 1998
(millions)

Ambulatory	$290 m
Hospital	$230 m
Nursing Home	$232 m
Prescription Drugs	$80 m
Other	$75 m
Annual Total	$907 m
Annual Per Capita	$272

Source: Centers for Disease Control and Prevention. Tobacco Control State Highlights 2002: Impact and Opportunity. Atlanta GA: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2002

Smokeless Tobacco

Many people believe smokeless or "spit" tobacco is a safe alternative to smoking. Yet smokeless tobacco causes a wide range of problems that include short term discoloration and abrasions of teeth, dental caries, receding gums, leukoplacia (a pre-cancerous lesion of the mouth), nicotine addiction, and a significantly increased risk of becoming a cigarette smoker. Prolonged use can lead to cancers of the mouth, a common result even among teens and young adults.

Secondhand Smoke

Smoking kills nonsmokers, too. Environmental tobacco smoke (ETS) has been identified as a cause of cancers, emphysema, heart disease, stroke and sudden infant death syndrome (SIDS). There is no level of exposure recognized as safe.

Though a federal court ruling annulled certain sections of the 1992 Environmental Protection Agency report identifying ETS as a Class A human carcinogen, much subsequently published research has supported the EPA's original conclusion. The federal government's inter-agency National Toxicology Program officially classified ETS as a human carcinogen for the first time in 2000 and the prestigious International Agency for Research on Cancer declared ETS a human carcinogen in June of this year.

Exposure to secondhand smoke kills an estimated 750 nonsmokers in Oklahoma each year. ETS also exacerbates many health problems and causes many cases of bronchitis, pneumonia, and other respiratory diseases. Secondhand smoke causes bronchitis or pneumonia in at least 1,800 Oklahoma infants each year. An estimated 216,000 Oklahoma children are exposed to secondhand smoke at home each day, including 40 percent of all 2-year-olds.

Persons with breathing disabilities, including an estimated 180,000 Oklahoma adults and children with asthma, are limited in the public places that they can enter because of the risk of acute reactions to secondhand smoke. ETS leaves hazardous traces in the air long after the smoke is no longer visible. It also includes dangerous components in particles so fine they cannot be filtered easily from the air.

Effective separation of smoking from nonsmoking spaces requires not just fully enclosed physical separation, but also negative air pressure so there is no escape of air from the smoking space, and separate ventilation systems with exhaust of smoke-contaminated air to the outside. Harmful ingredients of secondhand smoke can remain in the air for many hours, well beyond the time the smoke is visible or readily detectable to most people.

The provisions in Oklahoma law to separate smoking and nonsmoking areas using "existing barriers" or signage are ineffective.

Economic Costs of Smoking

In addition to the heavy toll of health damages from tobacco use, there are also considerable economic damages. Most obvious are the expenses of healthcare for illnesses caused by tobacco use. These were most recently calculated for Oklahoma in 1998 at $907 million per year, about half of which was

from taxpayer funding, including $170 million for Medicaid. Further, there are significant non-medical costs estimated at $1.3 billion for lost productivity. The total economic costs are well over $2 billion annually in Oklahoma, or an average of over $600 per person-smokers, nonsmokers and children alike.

In Oklahoma, over 550 low birth weight deliveries are directly attributable to maternal smoking, costing Oklahomans an excess of $14.4 million each year in hospital costs alone.

Source: Centers for Disease Control and Prevention. Tobacco Control State Highlights 2002: Impact and Opportunity. Atlanta GA: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2002

Other Considerations

Another part of the problem of tobacco use in Oklahoma is an obstacle faced by no other public health problem: the tobacco industry. The tobacco industry is dependent on new customers and continuing demand for its products. It has enormous resources and its products are the most heavily marketed in the world.

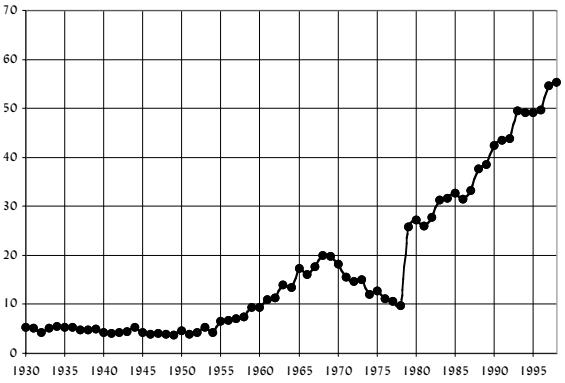
In large part thanks to the addictive characteristics of nicotine, the industry is able to pass along sizable costs-such as litigation settlements and extensive marketing-to its customers with relatively small reductions in sales.

The industry aggressively protects and pursues its sales, not only through direct marketing of its products but also through many other means, including strong lobbying efforts, political activity and sophisticated (and expensive) public relations. No other public health improvement effort faces this degree of relentless industrial opposition.

Tobacco is America's most heavily marketed product. It's estimated that the tobacco industry spends over $100 million annually on advertising and promotion in Oklahoma alone.

Despite the commendable restrictions in the 1998 Master Settlement Agreement (MSA) between Oklahoma and other states limiting certain practices of marketing tobacco to youth, it would be naive to believe the tobacco industry will not continue its sophisticated and well-funded marketing and promotional efforts.

Oklahoma Death Rate
Chronic Obstructive Pulmonary Disease
Source: Oklahoma State Health Department



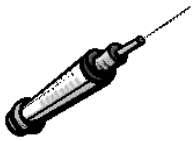
- *Chronic obstructive pulmonary disease (including chronic bronchitis and emphysema) is a progressively disabling disease. It includes several related diseases that limit the ability to exhale.*
- *COPD can cause prolonged suffering due to difficulty in breathing because of the obstruction or narrowing of the small airways in the lung and the destruction of the air sacs in the lung due to smoking.*
- *The disease is rarely reversible once established.*
- *Smoking is the main cause of COPD; it is very rare in non-smokers. Cigarette smoke contains irritants that inflame the air passages and set off biochemical events that damage cells in the lungs thus increasing the risk for both COPD and lung cancer.*
- *The risk of death due to COPD increases with the number of cigarettes smoked.*
- *Many persons with COPD have trouble walking upstairs or carrying even small packages.*
- *Although COPD is progressive, when patients stop smoking often levels off.*
- *Risk factors other than smoking are exposure for a long time to toxic fumes, industrial smoke, dusts from mines, sharing living space with a smoker, and other air pollutants.*
- *At the current rate of smoking as the Oklahoma population ages, the number of Oklahomans with COPD will increase.*

Sources: Sherman, Charles. The health consequences of smoking: Pulmonary disease. The Medical Clinics of North America, 1992, 76(2):355-375; www.airlogix.com/obAboutCOPD.htm

SUBSTANCE ABUSE

Oklahoma Department of Mental Health & Substance Abuse Services

Health Impact of Substance Abuse



Alcohol and illicit drug use are associated with child and spousal abuse; sexually transmitted diseases, including HIV infection; teen pregnancy; school failure; motor vehicle crashes; escalation of health care costs; low worker productivity; and homelessness. Alcohol and illicit drug use also can result in substantial disruptions in family, work, and personal life.

Alcohol abuse alone is associated with motor vehicle crashes, homicides, suicides, and drowning—leading causes of death among youth. Long-term heavy drinking can lead to heart disease, cancer, alcohol-related liver disease, and pancreatitis. Alcohol use during pregnancy is known to cause fetal alcohol syndrome, a leading cause of preventable mental retardation. (www.health.gov/healthypeople)

The Oklahoma substance abuse rate is less than the national average, but more than twice the HP2010 goals.

Substance abuse includes the misuse of otherwise legal drugs, such as alcohol, inhalants and prescription medications, as well as the use of illicit drugs, such as cocaine, heroin and marijuana. [MH1] It is impractical to directly measure these behaviors so indicators that impute this behavior are used. The table below summarizes the indicator values in Oklahoma, United States and the Healthy People 2010 goals.

Liver Cirrhosis Deaths

This is an indicator of alcohol abuse. Oklahoma is well below the national rate, and the HP2010 goal.

Drug Induced Deaths

This includes deaths from drug psychoses, dependence, abuse, withdrawals syndromes, and non-accidental poisonings. Oklahoma is well below the HP2010 goal.

Alcohol/Drug Vehicle Crash Deaths

This indicator is the rate of deaths and injuries caused by alcohol and drug-related motor vehicle crashes. Victims include not only the driver but passengers, bicyclists and pedestrians as well. Oklahoma is slightly above the HP2010 goal. [MH2]

This incidence of fatal alcohol-related motor vehicle crashes is even higher for young people. An indicator of reduction in risky behaviors is the reduction of adolescents who report that they rode, during the previous 30 days, with a driver who had been drinking alcohol. The Oklahoma 1999-2000 school year rate is slightly below the national average and close to the HP2010 goal. [MH3]

Prevention

As stated in the HP2010, "strengthening the ability of children and teenagers to reject all tobacco, illicit drugs and alcohol is an important and critical element in the prevention of substance abuse because the required skills and attitudes can carry over into adulthood, long after family constraints and other influences have lost their effectiveness." A target of 29 percent of high school seniors never using alcoholic beverages has been set by HP2010. The Oklahoma 1999-2000 school year rate is below the national average and the HP2010 goal. [MH3]

Intervention

Intervention strategies are needed to decrease current use of illegal drugs, marijuana and alcohol by those age 12-17. Oklahoma reports 1998 drug use that is less than the 1998 national average and below the HP2010 goal; reports marijuana use less than the national average but significantly above the HP2010 goal; and past month binge drinking slightly above the national average and well above HP2010 goal. [MH4]

Illegal Drug Use

In Oklahoma, the proportion of adults using illicit drugs in the past 30 days is a measure of drug use. The 1998 rate in Oklahoma is

Substance Abuse Indicators

Oklahoma (1998), U.S. (1998) and Healthy People 2010 Goals. (OK data age adjusted to 2000 Census)

Rates Per 100,000	US	OK*	2010	Oklahoma
Cirrhosis of Liver Deaths	9.5	1.18	3	Better Than 2010 Goal
Drug Induced Deaths		0.68	1	Better Than 2010 Goal
Alcohol/Drug Vehicle Deaths		4.35	4	Near 2010 Goal
Alcohol/Drug Vehicle Deaths (age 15-24)	5.9	13.5		Needs Improvement
Alcohol/Drug Vehicle Injuries		127	65	Needs Major Improvement
Substance Abuse	**US**	**OK**	**2010**	
Use Drugs (Adults)	5.7%	4.5%	2.0%	Needs Major Improvement
Binge Drinking (Adults)	16.6%	19.2%	6.0%	Needs Major Improvement
Adolescents	**US**	**OK**	**2010**	
Ride w/Drinking Driver (Grade 9-12)	33.0%	32.4%	30.0%	Near 2010 Goal
Have Used Alcohol (HS Srs)	81.0%	83.0%	71.0%	Needs Major Improvement
Past Month Drug Use (Age 12-17)	10.0%	9.0%	11.0%	Better Than 2010 Goal
Past Month Marijuana Use (Age 12-17)	8.3%	6.3%	0.7%	Needs Major Improvement
Past Month Alcohol Use (Age 12-17)	19.1%	11.0%	11.0%	At 2010 Goal

better than the national rate, but needs improvement to achieve the HP2010 goal. [MH4]

Binge Drinking

Binge drinking is a national problem with 16.6 percent of adults reporting binge drinking in the past 30 days. This is an indicator of alcohol abuse. The 1998 rate in Oklahoma is above the national rate, and well above the HP2010 goal. The Oklahoma rate is over three times the HP2010 goal of 6%. [MH4]

Adolescent (age 12-17) binge drinking is another measure. The Oklahoma rate is slightly above the national average but five times the HP2010 goal of 2%. [MH4]

Of the high school seniors in Oklahoma, over one-third (35.3%) reported past month binge drinking. This is slightly above the national average but three times the HP2010 goal. [MH3]

Arrestees Testing Positive

The relationship between substance abuse and criminal behavior is well documented.

The Bureau of Justice Statistics reports that "drug users report greater involvement in crime and are more likely than non-users to have criminal records; persons with criminal records are much more likely than ones without criminal records to report being drug users; and crimes rise in number as drug use increases" (1993). [MH5]

A strong indicator of substance abuse is the number of arrestees testing positive for illicit drugs at the time of arrest. In 2001, approximately two thirds of arrestees in both Tulsa County (66.7%) and Oklahoma County (64.2%) tested positive for illicit drugs at the time of arrest.

(Source: Arrestee Drug Abuse Monitoring (ADAM) program, funded through the National Institute of Justice, has been in place in Oklahoma County Jail for the last three years. ODMHSAS recently has initiated a second site in Tulsa County Jail funded through the federal Center for Substance Abuse Treatment).

Three fourths of persons arrested for property and drug offenses tested positive for illicit drugs and over half of persons arrested for other types of offenses tested positive for illicit drug use.

In the 1998-99 DMHSAS Prison Survey, 44% of Oklahoma Department of Corrections offenders were found to be in need of substance abuse treatment, and 89% reported using illicit drugs in their lifetime.

RESPONSIBLE SEXUAL BEHAVIOR

Oklahoma State Department of Health

Trends in Sexual Behavior

In the past 6 years there has been both an increase in abstinence among all youth and an increase in condom use among those young people who are sexually active. Research has shown clearly that the most effective school-based programs are comprehensive ones that include a focus on abstinence and condom use. Condom use in sexually active adults has remained steady at about 25 percent. (www.health.gov/healthypeople)

Unintended and Teen Pregnancy

Unintended pregnancy, especially unintended live birth, is a public health concern due to consequences associated with adverse outcomes impacting both infants and their families. Adverse outcomes include delayed entry into prenatal care, medical complications and low birth weight.

Negative behaviors associated with unintended pregnancy include poor maternal nutrition, and use of tobacco, alcohol and other legal and illicit drugs.

Future consequences include higher risk for domestic violence and child neglect and behavioral or learning disabilities. In Oklahoma, for example, women with births resulting from unintended pregnancies are nearly three times more likely to experience physical violence compared to women whose pregnancies are intended.

Unintended pregnancy resulting in a live birth is defined as mistimed (women who wanted to become pregnant later) or unwanted (women who did not want to become pregnant then or any time in the future).

PRAMS

The Pregnancy Risk Assessment Monitoring Surveillance System (PRAMS) measures Oklahoma's current prevalence of unintended live births.

In 1999 a total of 45.4 percent of Oklahoma births were reported as unintended at the time of conception, which translates to an estimated 21,812 unintended births of the 48,470 live births in Oklahoma in 1999.

Unintended pregnancy may be due, in part, to variations in contraceptive use, i.e., not using, inconsistent or improper use of contraceptives.

Thus, younger women (teens) and older women (over 35), who are more likely to follow these utilization

patterns, also are at increased risk for unintended pregnancies. Additional risk factors include being unmarried and having less than a high school education.

The economic impact of unintended births on Oklahoma's health care system is particularly acute. For example, PRAMS data indicates that 37.2% of the unintended live births are Medicaid-reimbursed.

At approximately $6,700 per uncomplicated Medicaid-reimbursed birth in 1999, this translates to a cost of at least $54,370,500 annually to the Medicaid Managed Care system.

In addition, infants from unintended births are more likely to need more costly Neonatal Intensive Care compared to infants from intended births.

Births in Oklahoma for 1989-1999

Unwanted

- *6% of births to teen women.*
- *17% of births to women over 35.*

Unintended

- *27% of births to women over 35 years.*
- *66% of births to African American women.*
- *78% of births to to teen women.*

As 77.7% of all teen pregnancies are unintended, teen pregnancy becomes a serious health and economic concern for Oklahomans.

In 1995, in a national survey of adults, 90% reported that the spread of teen pregnancy was the number one symptom of the erosion of family cohesiveness. Too-early childbearing has health, economic and educational consequences for our young people, their children, their families and the communities in which they live.

Oklahoma ranks 13th highest in the nation in teen birth rates to females age 15-19.

In 2000, 7,831 babies were born to Oklahoma females age 19 or younger, with two-thirds (66.2%) of these births were to 18-19 year olds. Since 1991, our state has had a 17.3% decrease in teen birth rates. In 2000, our rate was 59.2 in comparison to 71.6 in 1991. Obviously something is improving but our birth rates still are above the U.S. rate of 48.5.

Consequences of Early Childbearing

Health

- *Teens age 17 and under have a higher than average risk of pregnancy-related complications including, anemia, pregnancy-induced hypertension (toxemia), cervical trauma and premature delivery.*
- *The maternal mortality rate for mothers under age 15 is 60% greater than for women in their 20's.*
- *When compared to other women, pregnant teens are twice as likely to receive no prenatal care, or care initiated in the third trimester.*

Educational Implications

- *Mothers with recent births who had their first child at 17 or younger are at least ten times more likely to not finish high school by age 18 than women who wait until at least age 20 to have their first child.*
- *70% of teen moms drop out of high school compared to only 24% of women who delay childbearing until age 20 or 21.*
- *Among dropouts, teen women who have children are much less likely to return to school.*
- *39% of teen fathers receive their high school certification by age 20, compared to 86% who postpone parenting.*

Children of Adolescent Females

- *Children of adolescent females are more likely to be born prematurely and 50% more likely to be low-birthweight babies.*
- *Daughters of adolescent females are 83% more likely themselves to become mothers before age 18.*
- *Sons of adolescent females are 83% more likely to be incarcerated sometime during their lifetime than sons of mothers who delayed childbearing until their early twenties.*
- *Children of adolescent females are more than twice as likely to be the victims of abuse and neglect than are the offspring of 20-21 year old moms.*

Economic Impact

- *Mothers with recent births who had their first child at age 17 or younger are three times more likely to be living in poverty than women who waited until at least age 20 to have their first child (65% vs. 21%).*
- *Teen mothers earn about half the lifetime income of women who first gave birth in their 20's or later.*
- *During their first 13 years of parenthood, teen moms earn an average of about $5,600 annually, which is less than half the poverty level.*

MENTAL HEALTH

Oklahoma Department of Mental Health & Substance Abuse Services

Definition of Mental Health

Mental health is sometimes thought of as simply the absence of a mental illness but is actually much broader. Mental health is a state of successful mental functioning, resulting in productive activities, fulfilling relationships, and the ability to adapt to change and cope with adversity. Mental health is indispensable to personal well-being, family and interpersonal relationships, and one's contribution to society. (www.health.gov/healthypeople)

Serious Mental Illness

Serious mental illness is a term defined by federal regulations that generally applies to mental disorders that interfere with some area of social functioning. Persons with SMI are at increased risk for arrest, incarceration, homelessness, and unemployment. It is estimated that 5.4% of adults are considered to have a "serious" mental illness (SMI) (Source: Kessler et al., 1996). MH6

According to the National Alliance for the Mentally Ill (NAMI), over seven million adults in this country and over five million children and adolescents suffer from a serious chronic brain disorder. MH7

Four of the top ten leading causes of disability are mental illnesses including major depression, bipolar disorder, schizophrenia and obsessive-compulsive disorder.

If untreated, these mental illnesses have significant effects upon the lives of individuals and their loved ones. MH8

In 1991, only 47 percent of adults aged 18 to 54 years with serious mental illness received treatment. For adults with SMI who are indigent (at or below 200 percent of the federal poverty level), ODMHSAS is presently meeting the HP 2010 target by serving 55 percent.

Dual Diagnosis

A person who has both an alcohol or drug problem and an emotional/psychiatric problem is said to have a co-occurring disorder.

- It has been estimated that 37 percent of alcohol abusers and 53 percent of drug abusers also have at least one serious mental illness.
- Conversely, it has been estimated that 29 percent of all people diagnosed as mentally ill abuse either alcohol or drugs.
- People with a mental illness are three to six times more likely to abuse substances than people without a mental illness (Mental Health Association of Southeastern Pennsylvania). MH9

The range of health-related problems, treatment needs, disabilities, and cost are greater for people with co-occurring mental and addictive disorders than for people with only one of these illnesses (SAMHSA). To recover fully, the person needs treatment for both problems, with preliminary results indicating integrated approaches producing the best outcomes. MH10

As this is still a developmental indicator, the HP2010 does not have baseline data nor has it set a target rate. In 1999, only 11.8% of DMHSAS clients received both a mental health and substance abuse service.

Children

An important but challenging part of diminishing mental illness is the identification and treatment of mental illness in children. As pointed out in the Surgeon General's report on mental health, "the normally developing child hardly stays the same long enough to make stable measurements." MH11

Because it is difficult to determine what is a significant deviation from "normal development" the

Mental Health Indicators

Oklahoma (1998), U.S. (1998) and Healthy People 2010 Goals

Rates Per 100,000	US	OK	HP 2010	Oklahoma
Suicide (all people)	11.3	14.6	5.0	Needs Major Improvement
Suicide attempts (grades 9-12) MH3	2.6%	4.6%	1.0%	Needs Major Improvement
Employed People w/SMI	43%	43%	51%	Needs Major Improvement
Indigent SMI treated by DMHSAS		55%	55%	Meets HP2010 Goal

prevalence rates of mental illness in children vary greatly by age.

However, one study, the Methodology for Epidemiology of Mental Disorders in Children and Adolescents, estimated that almost 21 percent of children ages 9 to 17 in the U.S. had a diagnosable mental or addictive disorder associated with at least minimum impairment. This figure drops to 11 percent when the presence of significant functional impairment is required. MH11

In Oklahoma, 7 percent of children received mental health services funded by ODMHSAS or Medicaid in 1999 and 2000. This figure does not include children receiving services through other funding sources, thus is an underestimate of the children receiving treatment in the state. This is considered a developmental measure by HP2010 and no baseline or target rate has been determined.

Suicide

According to the Centers for Disease Control and Prevention, suicide is the eighth leading cause of death for all Americans; and the third leading cause of death for young people (age 15-24) behind unintentional injury and homicide.

- Every day approximately 86 Americans commit suicide, and 1,500 people attempt to commit suicide.
- While many factors contribute to suicide risk, at least 90 percent of all people who kill themselves have a mental or substance abuse disorder or a combination of disorders.
- Persons under age 25 accounted for 15 percent of all suicides in 1997.
- From 1980-1997, the rate of suicide among persons aged 15-19 years increased by 11 percent and among persons aged 10-14 years by 109 percent (CDC Suicide Fact Sheet). MH12

Oklahoma adolescent suicide percentage of 2.6% is better than the national rate, but almost three times the HP2010 goal of 1%.

Employment Factors

In 1994, only 43 percent of persons aged 18 years and older with SMI were employed nationwide and in Oklahoma, only 36 percent of persons with SMI treated in the DMHSAS system were found to have been employed during 2000. This rate is far below the HP2010 target rate of 51 percent of people with SMI employed. MH20

INJURY AND VIOLENCE

Oklahoma State Department of Health
Oklahoma Department of Mental Health & Substance Abuse Services

Impact of Injury and Violence
In 1995, the cost of injury and violence in the United States was estimated at more than $224 billion per year. These costs include direct medical care and rehabilitation as well as productivity losses to the Nation's workforce. The total societal cost of motor vehicle crashes alone exceeds $150 billion annually.

Injury

Oklahoma State Department of Health

Injuries in Oklahoma Are No Accident

Injuries from car crashes, falls, poisonings, fires, and violence (to name a few causes) are the third leading cause of death in Oklahoma following heart disease and cancer. They account for more than 2,300 deaths each year. **Injuries are the leading cause of death for Oklahomans under age 45.**

In fact, after the first year of life, more children die from injuries than all other causes of death combined, including 57 percent of all deaths to children 1-14 years of age and 82 percent of all deaths among adolescents 15-19 years of age. Former Surgeon General C. Everett Koop said, "If a disease were killing children in the proportion that accidents are, the public would be outraged and demand the killer be stopped."

The leading causes of injury that end in death are traffic crashes (34%), suicide (21%), homicide (13%), falls (9%), poisoning (4%), drowning and fire/burns (3% each), and other causes (13%). Five hundred persons per year die from a firearm injury and guns are used in 66% of the suicides and 57% of the homicides. Death rates are higher in Oklahoma for motor vehicle crashes, drownings, house fires, firearms, and homicides (see table next page). In addition, there are racial differences and disparities for most of these causes of injury (see table next page). Costs associated with fatal and nonfatal injuries in Oklahoma are estimated at $2.6 billion annually.

Many, if not most, of these injuries are preventable. While some of the circumstances that potentially could result in injury may not be preventable (etc. vehicle hydroplane, electrical house fire), there are many strategies and behaviors that are proven effective in preventing or lessening the severity of the injury.

Injuries in Oklahoma

According to the Centers for Disease Control:

- *The death rate for all injuries in Oklahoma is 26 percent higher than the U.S. rate.*
- *The traffic death rate for Oklahoma is 44 percent higher than the U.S. rate.*
- *The fire/burn death rate for Oklahoma is 43 percent higher than the U.S. rate.*
- *The suicide death rate for Oklahoma is 25 percent higher than the U.S. rate.*
- *The drowning death rate for Oklahoma is 22 percent higher than the U.S. rate.*
- *The homicide death rate for Oklahoma is 10 percent higher than the U.S. rate.*

Perhaps even more important, many more children and young adults survive with lasting physical or cognitive disabilities. In fact, the lifetime costs associated with care of an adolescent or young adult surviving a severe brain injury has been estimated to exceed $6 million. In 1999, injuries resulted in 55,514 hospitalizations and an estimated 791,907 emergency department visits. Injury hospitalization charges in 1998 were over $900 million.

What are some of the reasons Oklahoma has such high injury rates? One of the principal reasons is risk-taking behaviors among our citizens:

- *Seat belt use is 68% overall in the state. Seat belt use is lower in rural areas of Oklahoma than in urban areas, which contributes to the fact that traffic fatality rates in rural Oklahoma are 65% higher among rural residents.*
- *Over one-quarter of Oklahoma infants under one year of age and 1/3 of Oklahoma children 1-5 years of age are not restrained in a child safety seat.*
- *Over 30% of high school students report they have ridden in a vehicle in the past 30 days with someone who has been drinking.*
- *While over 90% of households report they have a working smoke alarm, 20%-25% of those reported to be working have been shown to not be functioning.*
- *Unlocked firearms are present in over 50% of Oklahoma homes.*

Death Rates by Race
Leading Causes of Injury Death
Oklahoma 1994-1998

	White	Black	NAm
Traffic	24.0	20.0	24.0
Suicide	15.0	7.0	8.0
Homicide	7.0	30.0	10 .0
Falls	2.0	1.5	1.5
Poisonings	3.0	2.0	3.0
Fires/Burns	1.5	4.0	3.0
Drowning	2.5	2.6	2.4

- Seat Belts are over 50% effective in preventing death or serious injury.
- Car Seats are 67%-71% effective in preventing death or serious injury. *Every $1 spent on car seats saves $32.*
- Bicycle Helmets are 90% effective in preventing brain injury. *Every $1 spent on bike helmets saves $29.*
- Smoke Detectors decrease the risk of dying in a house fire by 50% and are more effective when occupants are sleeping. *Every $1 spent on smoke alarms saves $69.*
- Poison Control Centers *Every $1 spent on pc services saves $7 in medical expenses.*
- Pool Fencing
- Elementary School Curriculums
- Home Visitation to Promote Parenting and Prevent Child Abuse

Violence Abuse and Prevention

Oklahoma Department of Mental Health & Substance Abuse Services

Domestic Violence

Intimate partner (domestic) violence is a serious criminal justice and public health concern. Nearly 25% of surveyed women and 7.5% of surveyed men said they were raped and/or physically assaulted by a current or former spouse, cohabiting partner, or date at some time in their lifetime. MH21

- According to these estimates, approximately 1.5 million women and 834,732 men are raped and/or physically assaulted by an intimate partner annually in the United States.
- Approximately 4.9 million intimate partner rapes and physical assaults are perpetrated against U.S. women annually, and approximately 2.9 million intimate partner physical assaults are committed against U.S. men annually.
- A study conducted by the ODMHSAS in 1998 estimated that 24 percent of the females 18 years or older in Oklahoma had suffered a physical injury perpetrated by their male partners in the previous year.
- Of the estimated 30,754 victims of physical abuse in 1999, 34.32 percent were served by a DMHSAS-funded domestic violence agency.

A report of the national Violence Policy Center showed that Oklahoma ranked 8th among all states in 1999 in the number of women murdered by men in single victim-single offender incidents.

Oklahoma physical assaults per 1,000 persons aged 12 and older was 6.4% in 1999. This is worse than the national rate and twice the HP2010 goal of 3%. MH13

In Oklahoma, 19% of students (grades 9-12) surveyed reported being physically hurt by a boyfriend or girlfriend on purpose compared with 8.8% of students surveyed nationwide.

Rape

According to the U.S. Department of Justice, a woman is raped every two minutes in America. In 1996, 307,000 women were the victim of rape, attempted rape or sexual assault. The incidence of reported rape in Oklahoma is below both the national average and Healthy People 2010 goal. MH14

Homicide

The U.S. Department of Justice reports that in 1999, homicides in the United States had decreased to the lowest rate (5.7 per 100,000) since the 1960's.

The incidence of homicide in Oklahoma is far below both the national average and Healthy People 2010 goal. MH15

Injury Indicators

Oklahoma, U.S. and Healthy People 2010 Goals

Rates Per 100,000	US	OK	2010	
Drownings	1.6	2.6	0.9	Needs Major Improvement
Residential Fire Burns	1.2	1.5	0.2	Needs Major Improvement
Poisonings	6.8	5.4	1.5	Needs Major Improvement
Falls	4.7	4.6	3.0	Near 2010 Goal
Homicide	7.1	7.4	3.0	Needs Major Improvement
Motor Vehicle Crashes	15.6	23.5	9.2	Needs Major Improvement
Firearms	11.3	13.8	4.1	Needs Major Improvement

Violence and Abuse Indicators

Rates Per 100,000	US	OK	2010	
Assault (per 1,000 persons > age 12)	4.4	6.4	3.3	Needs Much Improvement
Rape (per 1,000 persons > age 12)	1.7	.55	.7	Better Than 2010 Goal
Homicide (per 100,000 persons)	5.7	.83	3.0	Much Better Than 2010 Goal

IMMUNIZATIONS

Oklahoma State Department of Health

Impact of Immunization

Many once-common vaccine-preventable diseases now are controlled. Smallpox has been eradicated, poliomyelitis has been eliminated from the Western Hemisphere, and measles cases in the United States are at a record low.

Immunizations against influenza and pneumococcal disease can prevent serious illness and death. Pneumonia and influenza deaths together constitute the sixth leading cause of death in the United States. Influenza causes an average of 110,000 hospitalizations and 20,000 deaths annually; pneumococcal disease causes 10,000 to 14,000 deaths annually. (www.health.gov/healthypeople)

Immunization services are key in protecting citizens from diseases that once ravaged humanity, maiming and killing countless people throughout history.

Vaccine protection is now offered against at least 20 diseases making the development of vaccines one of the greatest achievements of the 20th century. The future of vaccine looks equally promising as advances in science and technology and particularly genome research creates wider avenues to the prevention of other illnesses.

While there is much good to say about immunization efforts, there is also concern. A combination of factors including reduced federal support, changes in health care administration, and acceleration in vaccine cost and development have created strain on immunization infrastructure both nationally and within Oklahoma. Adding to Oklahoma's burden is a near total reliance on federal funds to support public immunization programs. Oklahoma already ranks near the bottom in childhood immunization levels with one-in-four young children without full protection against base diseases (DTP, Polio & MMR) defined by the Centers for Disease Control. State rates for adult immunization are also very low and financial resources supporting adult immunization efforts lag well behind that of children.

At this juncture, critical pathways must be determined to enhance the state's immunization infrastructure in order to meet current demands and keep pace with future changes. Undoubtedly, our path will be significantly influenced nationally as 96% of the state's public health immunization program is federally funded. Yet, resources for vaccine administration are largely influenced by policies and practices of the state's system of care in both public and private sector. Like other states, Oklahoma's system of care began transitioning away from public care in 1995 into a managed care environment. Yet, even with declining proportions of individuals being served through local health departments, the number of vaccines given since 1995 has doubled as result of an expanded immunization schedule. To sustain and improve levels, our health delivery system must assure missed opportunities to immunize are reduced. Our challenge is how we reduce these in a changing health environment.

National Issues

The Institute of Medicine (IOM), at the request of the U.S. Senate, concluded the following after studying federal, state and private sector immunization efforts:

- The repetitive ebb and flow cycles in the distribution of public resources for immunization programs have created instability and uncertainty that impeded project planning at the state and local levels in the late 1990s and delayed the public benefit of advances in the development of new vaccines for both children and adults. This instability now erodes the continued success of immunization activities.
- Immunization policy needs to be national in scope. At the same time, the implementation of immunization policy must be flexible enough to respond to special circumstances that occur at the state and local levels.
- Federal and state governments each have important roles in supporting not only vaccine purchase, but also infrastructure efforts that can achieve and sustain national immunization goals.
- Private health care plans and providers have the capacity to do more in implementing immunization surveillance and preventive programs within their health practices, but such efforts require additional assistance, oversight, and incentives. At the same time, comprehensive insurance and high-quality primary care services do not replace the need for public health infrastructure.

As result of these conclusions, the IOM provided the following recommendations:

1. The annual federal and state budgets for the public purchase of childhood vaccines for health care providers appear to be adequate, but additions to the vaccine schedule are likely to increase the burden of effort within each state.
2. Additional funds are needed to purchase vaccines for uninsured and underinsured adult populations within the states. The committee recommends that Congress increase the annual Section 317 vaccine budget by $50 million per year to meet residual needs for high-risk adolescents and adults under age 65 who do not qualify for other federal assistance. The committee further recommends that state governments likewise increase their spending for adult vaccines by $11 million per year.
3. State immunization infrastructure programs require increased financial and administrative support to strengthen immunization capacity and reduce disparities in child and adult coverage rates. The committee recommends that states increase their immunization budgets by adding $100 million over current spending levels, supplemented by an annual federal budget of $200 million to support state infrastructure efforts.
4. Congress should improve the targeting and stability of Section 317 immunization grant awards to the states by replacing the current discretionary grant award mechanism with formula grant legislation.

5. CDC should initiate a dialogue with federal and state health agencies, state legislatures, state governors, and Congress immediately so that legislative and budgetary reforms can be proposed promptly when Section 317 is up for reauthorization in FY 2002.

6. Federal and state agencies should develop a set of consistent and comparable immunization measures for use in monitoring the status of children and adults enrolled in private and public health plans.

Oklahoma Immunization Coverage Levels

Between 1993 and 1999, the immunization status of 24-month old children in Oklahoma showed gradual improvement. Most recent coverage levels, however, have leveled off and fall well below the Healthy People 2010 goal of 90%.

State Specific and National Immunization Survey (NIS) Trends in Two Year Old Immunization Rates for Oklahoma

Overall state rate for 1999 shows that 78% of Oklahoma children are up-to-date at age 24 months. Among children who were subsequently enrolled in Medicaid, 76% received the basic immunization series (4:3:1) by 24 months of age.

These results show previous gaps in immunization coverage between Medicaid and Non-Medicaid participants are closing. By 1999, nearly all antigens approximated 90 percent coverage with the specific exception to DTP/DTaP. Expected improvements in overall coverage levels can be achieved with specific focus on the fourth DTaP. At the same time the NIS Survey shows a drop in 1999 to 74%. This decline in national ranking for Oklahoma may be associated with the elimination of funds from CDC for outreach activities incurred from 1997 - 1999.

Statewide immunization services, however, continue to make a transition away from public health and toward private care.

In 1994, 50 percent of two-year-old children received immunization services through county health department clinics while 25 percent received these services from private physician clinics.

In 1999, the percentage accessing health department services declined to 33 percent compared to an increase to 42 percent among private physician settings.

A substantial proportion of children (12%) continue to access both public and private settings. The remainder of children receive services through the Indian Health Service/Tribal clinics, military facilities, or other public-based clinics. While in 1998, the majority of Medicaid recipients (54%) received their immunization services from county health departments, the proportion of Medicaid children seen by county health departments in 1999 was reduced to just over one-third (36%)

Oklahoma Specific Issues

Public health immunization services in Oklahoma have historically been more predominant as opposed to private immunization services.

However, since 1995, immunization services in the private sector have increased and now account for 50 percent of all vaccines administered.

Indications from Oklahoma survey data suggest the trend in the increase of private sector immunizations will continue. Other issues include:

- Addition of four new vaccines to the recommended immunization schedule since 1995. Other new vaccines can be expected in the future or near future.
- The Centers for Disease Control has cut nearly half of the financial assistance for operations and outreach of the Oklahoma immunization program since 1996. This amounts to a loss of nearly $2 million. From 1997 to 1999, funding for the Immunization Action Corp was eliminated resulting in the loss of 26 local outreach workers across the state. In 1999, funding for two central office positions providing support for the Oklahoma State Immunization Information System was not approved.
- The number of vaccines administered by county health departments since 1995 have doubled without any increase in staff.
- 96 percent of the Oklahoma Immunization Program is federally funded. Recognition of the disparities in federal and state support by Oklahoma and other states is expected to result in a formula based matched state/federal requirement with the 2002 CDC Immunization Grant.
- Institution of Medicaid managed care in 1995 and resulting disruption of provision of services by traditional providers and resulting fragmentation of services between private and public providers.
- Approximately 36% of Medicaid children receive most of their immunizations at county health departments. Conversely, only 10% of patients presenting at county health department for immunization services identify themselves as Medicaid eligible. It is widely believed that the number of Medicaid children seen in county health departments is seriously underreported.

At the core of discussion, public health has a basic responsibility to monitor conditions and assure that immunization practices are maintained according to accepted guidelines. The need exists for the continued development of population-based information systems that identify pockets in need of services and provide baseline data to develop intervention strategies that reduce coverage gaps.

ACCESS TO CARE

Oklahoma State Department of Health
Oklahoma Department of Mental Health & Substance Abuse Services

Barriers to Access

Financial, structural, and personal barriers can limit access to health care. Financial barriers include not having health insurance, not having enough health insurance to cover needed services, or not having the financial capacity to cover services outside a health plan or insurance program. Structural barriers include the lack of primary care providers, medical specialists, or other health care professionals to meet special needs or the lack of health care facilities.
Personal barriers include cultural or spiritual differences, language barriers, not knowing what to do or when to seek care, or concerns about confidentiality or discrimination. (www.health.gov/healthypeople)

Access to Behavioral Health Care

Oklahoma Department of Mental Health & Substance Abuse Services

This section examines access to care for three conditions: (1) substance abuse (2) domestic violence and (3) severe mental illness. The measurement is the "treatment gap" ... the percentage of eligible Oklahomans who have a need for the service but do not receive it.

The data is limited to Oklahomans who are at/below 200% of the federal poverty level, the eligibility threshold for DMHSAS services. There are obviously many more Oklahomans in both need and neglect than are being served (see adjacent Treatment Gap table).

There are many reasons for these "gaps" including a local lack of services, mistrust of public services, stigmatization, patient denial, associated costs and clinical biases. The very nature of the problems (drug abuse, domestic violence and severe mental illness) are likely the major contributors.

Some things are known. For example, it's important to give service recipients a voice in decisions about their services to help make them more sensitive to cultural, gender, spiritual or racial differences and preferences.

It's important to locate services in convenient places and have them available at convenient times.

It's important to ensure a safe and trustworthy therapeutic environment, physically, psychologically and in relation to maintaining the confidentiality of information that is shared.

Services must have value, that is, they must make a difference in the lives of recipients. And the stigma of seeking help must be overcome, in society and in the individual.

FY99
DMHSAS Treatment Gaps
SEE END NOTES

Condition	Need	Served	Gap
Substance Abuse	45,906	12,221	73%
Domestic Violence	30,754	10,556	66%
Severely Mentally Ill	38,157	20,726	46%

Data-based Decision-making

Effective planning and services require sound and timely outcomes data. The Healthy People 2000, now HP2010, project represents a significant step forward in standardizing data collection to permit valid comparisons and, thus, fruitful evaluations and planning for system and program improvements. But these important outcomes are impossible to detect without state agencies having the authority to share information confidentially to perform collaborative analyses.

Access to Medical Care

Oklahoma State Department of Health

Access to care in Oklahoma is affected by health care manpower maldistribution, the aging of rural communities, patchworking of emergency medical services, communication issues with 9-1-1, the lack of health insurance, educational issues, and social and cultural norms.

Emergency Services

Emergency medical services are available in all seventy-seven counties. They are delivered through a patchwork of overlapping political sub-units comprising 203 ambulance services, 150 certified first response agencies and approximately 700 non-certified first response agencies.

All licensed ambulances have Automatic External Defibrillators (AED) as part of their required equipment, and many first response agencies carry them as well. But the issue is who has and who does not have access to the appropriate equipment as first responders. Oklahoma has empowered non-EMS personnel to operate automatic external heart defibrillators through the Public Access to Defibrillation (PAD) Act of 1999, which extended the Good Samaritan protection.

Percentage of Adults Aged 18-64 Without Health Care Coverage Source: 2000 BRFSS

GENDER	
Male	*20.6%*
Female	*19.6*
RACE	
White	*18.6*
Black	*19.9*
Hispanic	*35.2*
American Indian	*28.7*
AGE	
18 to 24	*30.8*
25 to 34	*21.0*
35 to 44	*19.6*
45 to 54	*16.0*
55 to 64	*14.7*
65+	*2.8*
EDUCATION	
Less than High School	*28.2*
High School or GED	*20.3*
Post High School	*14.4*
College Graduate	*7.2*
Oklahoma	*20.1*
United States	*16.4*

Another issue for emergency services in rural Oklahoma is 9-1-1 access through the phone system. Oklahoma has numerous rural counties without 9-1-1 or 9-1-1 enhanced wireless access and rural phone exchanges are estimated over 1,000.

Response to emergency situations is comprised by the absence of reliable answering systems and location indicators for E911 operators. Although the person may know the signs and symptoms of a heart attack, without the access system, emergency responders are at a disadvantage.

Emergency Medical Dispatch trained personnel are absent in approximately 90% of statewide dispatch systems. Effective September 11, 2002, Federal Communications Commission has mandated that live dispatch operators answer E911 calls nationwide.

At the present time, no decisions have been made regarding what person or agency will be receiving calls in Oklahoma. Oklahoma Telephone Association is unable to mandate such a policy statewide. Although there may be a live operator after September 11, 2002 will the operator be informed and educated about Oklahoma's systems.

Emergency services in smaller communities in sparsely populated areas are hampered by poor economies of scale. This limits their capacity for rapid emergency medical responses by trained ACLS providers found in metropolitan areas. This geography is important for prompt care, survival, and the reduction of disability from heart attacks, strokes and injuries related to trauma.

Health Insurance

Of all states Oklahoma has the 12th highest rate of citizens without the security of medical insurance. The Oklahoma Behavioral Risk Factor Survey Surveillance System reflects that Oklahoma is fourth in the nation for adults 18-64 years of age without health insurance.

Income

Numerous studies show a strong association between income and poor health outcomes. Oklahoma ranks 10th lowest out of 50 states for personal income levels per capita (U.S. Bureau of Economic Analysis, 2000). Moreover, Oklahoma's rate of increase for personal income has not kept pace with the national rate of increase.

As the Oklahoma population distribution shifts from rural to urban, those remaining in rural counties are at risk for economic decline including hospital closings and lack of medical care. This is a growing concern. Travel or transportation to medical facilities in the urban areas for specialty care presents a barrier, particularly for those with limited or fixed incomes or the older adult.

The majority of Oklahomans access the medical care delivery system through 5,800 private allopathic and osteopathic physicians.

Although it may appear there are sufficient numbers, the location of physician and specialists primarily practice in the corridor of the majority of the population.

COSTS OF MENTAL HEALTH & SUBSTANCE ABUSE

Oklahoma Department of Mental Health & Substance Abuse Services

In his 1999 report to the nation on mental health, the Surgeon General emphasized the disabling nature of mental illness and substance abuse. Citing a study by the World Health Organization, World Bank and Harvard University on the global burden of disease, he pointed out "mental illness is the second leading cause of disability and premature mortality" in countries with established market economies. MH8

Over 15 percent of disability-adjusted life years (DALYs, a measure that expresses years of life lost to premature death and years lived with a disability) was attributed to mental illnesses. In addition, alcohol and drug use accounted for another 6.2 percent of total disease burden in the study (see tables below).

Disease burden by selected illness categories in established market economies, 1990

	***Pct of Total DALYs** *
All cardiovascular conditions	*18.6 %*
***ALL MENTAL ILLNESS ** **	***15.4***
All malignant diseases (cancer)	*15.0*
All respiratory conditions	*4.8*
ALL ALCOHOL USE	***4.7***
All infectious and parasitic diseases	*2.8*
ALL DRUG USE	***1.5***

* *Disability-adjusted life year (DALY) is a measure that expresses years of life lost to premature death and years lived with a disability of specified severity and duration.*

** *Disease burden associated with 'mental illness' includes suicide.*

Leading sources of disease burden in established market economies, 1990

	Total DALYS (millions)	***Percent***
All causes	*98.7*	*100.0*
1. Ischemic heart disease	*8.9*	*9.0*
2. MAJOR DEPRESSION	***6.7***	***6.8***
3. Cardiovascular disease	*5.0*	*5.0*
4 ALCOHOL USE	***4.7***	***4.7***
5. Road traffic accidents	*4.3*	*4.4*

In the mid-1950s, it was estimated about $1.14 billion were spent on mental health care in the U.S.; an estimate for 1996 was $66.7 billion.

In addition to treatment costs, a study funded through the National Institute of Mental Health estimated the total cost of mental illness to be $184.66 billion in 1995. The largest category being lost earnings ($102.5 billion); followed by treatment for mental illness ($63.5 billion); health support ($12.1 billion); social welfare, criminal justice and informal care ($5.6 billion); and medical consequences ($773 million). While no comprehensive study has been completed to determine the cost of mental illness within the State, ODMHSAS staff determined premature death due to mortality and suicide was almost $22 million in 1998. MH17

While the economic costs of mental illness have skyrocketed, the funding for treatment in Oklahoma has remained fairly stable. The total funding for mental health services funded through ODMHSAS was $133,733,101 in 2001, compared to $127,826,053 in 1997, a 4.5 percent increase.

The economic cost of alcohol and drug abuse in the United States was estimated at $276 billion for 1995, with about $167 billion attributed to alcohol abuse and $110 billion to drug abuse. Productivity losses accounted for $119 billion of the costs of alcohol abuse and $77 billion of the costs of drug abuse. Due to the high cost of loss productivity, the HP2010 is developing an indicator to measure the cost of lost productivity in the workplace due to alcohol and drug use.

In 1996, the Oklahoma Governor's Task Force on Substance Abuse estimated the cost of alcohol and drug abuse in the State to be $7.6 billion. Direct expenditure for things such as health care services, public safety and criminal justice costs, social services, costs to private businesses, and property loss were determined to be $1.8 billion while loss of productivity costs were estimated at $5.7 billion. MH18

While little is known about the long-term costs of domestic violence or sexual assaults, it is generally recognized that their consequences far exceed the cost of treatment. The National Public Services Research Institute estimates the lifetime cost for one rape with physical injuries will be $60,000 (1987 dollars). MH19

For the 122,800 rape victims who sustained a non-rape injury in 1996, the total lifetime cost of rape equals $7,368,000,000. In fiscal year 2001, total funding for all ODMHSAS-funded domestic violence and sexual assault programs was $4,623,422.

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26-3: National Vital Statistics System (NVSS), CDC, NCHS.; OSDH mortality records, age-adjusted to the US 2000 census using Drug Associated Fractions from the CSAT Social Indicator Protocol

26-8: Periodic estimates of economic costs of alcohol and drug use, NIH, NIAAA and NIDA.; 1998 Oklahoma Governor's Task Force on Substance Abuse.

Gap between Number in Need of Treatment during 1998 and Number of Admitted Clients Treated for Substance Abuse

NOTE: Substance Abuse Treatment Gap FY 1999
The following table displays a comparison between the adjusted estimation of treatment need and actual clients served in the Department of Mental Health and Substance Abuse Services (DMHSAS) system in FY95 through FY00. The comparison was derived by a two-step analysis. First, it was assumed the respondents of the Needs Assessment General Household Survey, under 200% of the Federal Poverty Level (FPL), would constitute the same population served in the DMHSAS system. Second, the clients served in the DMHSAS system were clients served under substance abuse contract or clients served from the Medicaid funding source with a substance abuse presenting problem.

NOTE: Physical Abuse Treatment Gap FY 1999
The following table displays a comparison between the estimated number of females in Oklahoma who have had some type of physical abuse by a male partner and actual adult female clients served in the Department of Mental Health and Substance Abuse Services (DMHSAS) system in FY99 for domestic violence. The comparison was derived by a two-step analysis. First, it was assumed the adult female respondents of the Needs Assessment General Household Survey, reporting any type of physical abuse, would constitute the same population served in the DMHSAS system. Second, the clients served in the DMHSAS system were female clients, 18 years of age or older, served under a domestic violence contract.

NOTE: Severely Mentally Ill Treatment Gap FY 1999
The following table displays a comparison between the estimated number of Oklahomans who have a Serious Mental Illness and actual clients served in the Department of Mental Health and Substance Abuse Services (DMHSAS) system in FY99 who were ever considered to have a Serious Mental Illness. The comparison was derived by a two-step analysis. First, it was assumed the respondents of the Needs Assessment General Household Survey, under 200% of the Federal Poverty Level (FPL), would constitute the same population served in the DMHSAS system. Second, the clients served in the DMHSAS system were clients, 18 years of age or older, served under a mental health, Medicaid, residential care or miscellaneous contract at a mental health agency.

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Chapter 3

Oklahoma Health Workforce

Oklahoma State Department of Health

Overall

- There were more than 140,600 people employed in the health sector in Oklahoma in 1998, 10% of Oklahoma's total workforce. However, this excludes health professionals working outside the health sector. Nationally, health sector employment represents 9% of the total US labor force; but the total US health workforce (health sector employment plus health professionals employed in other settings) comprises 10.5% of the total US labor force.

- More Oklahoma health service workers were employed by hospitals (43.5%) in 1998 than in any other health care setting. Nearly 21% of Oklahoma's health services workers were employed in nursing and personal care facilities and 9% were employed in home health care.
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Physicians

- There were 6,428 active patient care physicians in Oklahoma in August 2002. With 184 physicians per 100,000 population, Oklahoma was well below the national ratio of 198 physicians per 100,000 and ranked 42nd among states in physicians per capita.

- Oklahoma had 44 active primary care physicians per 100,000 population in 1998, compared to 59 per 100,000 for the entire country.

Physician Assistants

- There were 588 physician assistants practicing in Oklahoma in August 2002. This was equal to 17.04 physician assistants per 100,000 population, higher than the national average of 10.4.

Nursing

- There were 27,890 licensed registered nurses (RNs) in Oklahoma in August 2002; over 23,503 were employed in nursing. There were 681 RNs per 100,000 population, less than the national average of 798.

- Oklahoma ranked 5th highest among the states in the per capita employment of Licensed Practical/ Vocational Nurses (LPNs), with 373.1 LPNs per 100,000 population as compared to the national rate of 249.3 per 100,000. Oklahoma ranked 20th in the number of LPNs employed in 1998 with 12,460 workers.

- Oklahoma had 377 nurse practitioners in 1998, equal to 11.3 nurse practitioners per 100,000 population, less than half the national average of 26.3. Oklahoma had one of the lowest ratios of nurse practitioners per capita in the nation.

- With 23 certified nurse midwives in 2000, Oklahoma had 0.7 certified nurse midwife per 100,000 population, well below than the national average of 2.1. Oklahoma ranked 47th among states in certified nurse midwives per capita.

- With 225 certified registered nurse anesthetists in 1997, Oklahoma had 6.8 nurse anesthetists per 100,000 population, less than the national average of 8.6.

Dental

- There were 1,323 dentists, 970 dental hygienists, and 3,110 dental assistants practicing in Oklahoma in 1998. There were 39.6 dentists per 100,000 population in Oklahoma in 1998, well below the national average of 48.4/100,000. The per capita ratio of dental hygienists was also low.

- The number of dentists in Oklahoma declined 4% between 1991 and 1998, while the state's population grew 5%. The result was a 9% decline in dentists per capita, compared to a 12% decline nationwide.

Pharmacy

- There were 1,960 pharmacists and 2,080 pharmacy technicians and aides practicing in Oklahoma in 1998. Oklahoma had 58.7 pharmacists and 62.3 pharmacy technicians and aides per 100,000 population in 1998, which ranked them 40th and 26th, respectively, among the 50 states.

Mental Health

- There were 212 psychiatrists, 780 psychologists, and 5,350 social workers in Oklahoma in 1998. With 6.3 psychiatrists per 100,000 population in 1998, Oklahoma was lower than the national average of 11.1 and ranked 41st among states in psychiatrists per capita. With 23.4 psychologists per 100,000 population, Oklahoma was lower than the national average of 31.2 and ranked 35th among states in psychologists per capita. Oklahoma had 160.2 social workers per 100,000 population, well below the national average of 216 and ranked 46th among states in social workers per capita.

1. Individuals and families can take charge of their lives by making healthy personal choices that lead to healthy people and healthy communities.

- Engage in play, games, family sports, walking, gardening or other exercise as a family to increase physical activity for all members. Perform daily moderate physical activity for thirty minutes for a healthy and quality life.
- Engage and support youth in developing and implementing tobacco control interventions and developing partnerships with local organizations.
- Engage and support youth in developing and implementing programs that reduce unintended or teenage pregnancy.
- Read food labels, share restaurant entities for smaller portion size consumptions, choose non-value sized meals.
- Wear seat belts, use bicycle helmets, and install smoke detectors in their home to promote safety and prevent injuries.
- Ask your health care provider to give age appropriate vaccinations, preventive clinical services, and counseling on healthy lifestyle choices.
- Ask that your employer and your employee benefits group develop a benefit package that provides for primary and secondary prevention services.
- Send a letter, or email, or call your local house or senate member that you support state appropriated funding for supplies of vaccine for immunizations of children in Oklahoma, state appropriated funding for supplies of vaccine for pneumococcal and influenza immunizations of adults in Oklahoma., and required pneumococcal and influenza vaccination of nursing home residents

2. Bring about environmental and policy changes through community grassroots efforts.

- Create community health report cards that encompass issues like local injury rates, obesity, sedentary lifestyles, teen pregnancy, illegal drug use and tobacco use rates to make significant improvements in every category. Provide annual updates by charting progress reported in annual reports that contain both absolute and relative measures.
- Become an active working member of a local health partnership as a Turning Point coalition that is addressing and acting upon issues such as safety in recreation and parks to reduce sedentary lifestyles and obesity, smoke free public/private places, illegal drug use and violence free communities, teenage pregnancy and responsible sexual behaviors, as well as both physical and health education in the curriculums at your local school districts.
- Advocate and engage in injury prevention activities by passing local ordinances on bicycle and skating helmets for all citizens. Require K through 12th grade educational curriculums throughout the state promoting safety including the use of seatbelts, bicycle helmets and the need for smoke alarms in homes. Work through your local planning commission to require adequate smoke detectors in all new construction of private residents and requiring working smoke detectors in all rental properties, including apartments and houses. Enforce mandatory pool fencing around all private and public pools in your community. Encourage employers to implement policies requiring seat belt use in company vehicles. Build on the current use of seat belts by awareness programs in schools at all grades. Support promoting smoke detector distribution in neighborhoods with a high rate of house fires.
- Advocate and become involved in obesity prevention activities by working with school districts to adopt policies on physical education, vending machines, and food policies for cafeterias or other food sources. Work with local businesses and governments so that worksites, parks and recreation areas, and schools can improve the walk-ability of your community by providing safe sidewalks, walk to school initiatives, and worksites with walking trails or tracks. Have your community create a variety of exercise menus like community dances, yoga, kick boxing, skateboarding. Work with local businesses and employers to encourage employees to climb the stairs not take the elevator. Provide information to families on healthful dietary and physical activity choices, and have parents reinforce role-modeling for their children
- Ask the local business community especially food service vendors and restaurants to increase the share of healthy foods on menus and reduce portion sizes. Suggest to fast food vendors that they change their value sizing into offering salads or yogurt parfaits.
- Volunteer with local groups such as Big Brothers /Big Sisters for child abuse prevention by mentoring children and youth. Advocate and educate your local public policy markers on expanded funding for home visitation by trained health professionals with identified families to promote parenting and prevent child abuse.
- Become involved in teen groups to educate and create a higher awareness for responsible sexual behavior.
- Encourage adoption of passing city/municipal or county policies on clean indoor air and restricting access to tobacco products. Develop and use "Tobacco Use Prevention Countermarketing Programs." Countermarketing consists of a wide range of efforts, including paid television, radio, billboard, and print counter-advertising at the State and local level; media advocacy and other public relations techniques using such tactics as press releases, local events, and health promotion activities; and efforts to reduce or replace tobacco industry sponsorship and promotions. Establish and enforce tobacco control activities in your community that place restrictions on minors' access to tobacco and on smoking in public places

- Conduct educational programs for young people, parents, enforcement officials, community and business leaders, health care providers, school personnel, and others on violence and injury prevention.

- Promote provider education efforts to assure that multiple immunizations are provided at each visit according to the recommended childhood immunization schedule.

- Encourage the expansion of immunization outreach and education activities in your communities through linkages with churches, schools, worksites, and civic groups.

- Market health issues by linking school-based efforts with your local community coalition to develop media and awareness campaigns. Oklahoma must reduce instances of obesity, child abuse, injuries, unintended pregnancies, use of tobacco products, and violence.

- Increase educational efforts targeted at women over 35 years of age concerning risks of becoming pregnant in the perimenopausal period. Increase training of health care providers of the reproductive health needs of women over 35 years of age. Increasing the availability of cost-effective contraceptive services. Increased awareness by health care providers of the reproductive health needs of women over 35 years of age.

- Educate Oklahomans regarding access to care issues such as the majority of fellow citizens that are uninsured or underinsured are employed and free clinics and voluntary health agencies do not meet the their basic health needs.

- Develop and train health providers on youth suicide prevention, elderly fall prevention, youth violence prevention, and intimate partner violence prevention.

3. Stimulate a culture of partnering on community and/or state level programs to impact health system change and promote healthier life styles.

- Local physicians through their county medical societies can support efforts of the community, schools, hospitals, and businesses to promote systems change and serve as role models on appropriate personal choice.

- Community members can serve on health boards of hospitals to change systems from the acute care model to a health care system that addresses primary prevention, clinical preventive practices and chronic disease management.

- Community members can serve on the county board of health or the local Turning Point partnership to assist the public in addressing environmental and policy changes in the community to promote healthy people and healthy communities.

- Build or participate in public/private consortium of consumer advocates, medical and other health professional associations, state agencies, voluntary health agencies, business leaders, insurers, unions, and elected officials to recognize the health crises and adopt proposals for change and create awareness through consolidated marketing efforts.

- Develop or participate in local or state collaborative effort as a representative with the Oklahoma Health Care Authority, Department of Human Services, and other partners such as child care providers and school personnel to collectively identify immunization coverage levels among children enrolled in these programs.

- Partner with physicians, Medicaid and private insurance providers to develop clinic assessment of immunization coverage to improve protection rates and to require contraceptive services and supplies.

- Participate in a state wide taskforce of consumer advocates, medical and other health professional associations, state agencies, voluntary health agencies, business leaders, insurers, unions, elected officials recommending a uniform minimum package of prevention benefits, that is evidence-based, for all Oklahomans. The package should be available to all regardless of employment status.

- Partner with health professions groups for change in obesity management interventions to reduce the prevalence of chronic diseases and conditions by moving into a health care system mode adopting chronic care management and preventive care strategies. Educate all health care professionals on dietary choice and physical activity as healthy lifestyles across the lifespan. Educate all health care professionals on the health and economic burden of obesity. Health care providers should encourage breastfeeding. Primary care providers can counsel and influence families on dietary choice and physical activity.

4. Promote Oklahoma as a leader for citizens' health.

- Support a tax increase on cigarettes reflecting a desire to protect Oklahomans and to direct such amounts resulting from said increase to support increased percentage of Oklahomans eligible for Medicaid benefits.

- Encourage employers to create strong incentive prevention programs that promote success and reward employees who participate. Employees who participate in prevention programs could have monthly insurance premiums reduced, be provided with payment for unused sick leave, receive discounts at various health clubs when they participate, be provided time off during working hours to complete a exercise program.

- Adopt a "K through Senior " health education curriculum and guarantee every child and student physical education as means for learning

- Educate employers, employees and worksites on good health, lower absenteeism, and return on investment. Employers can adjust workflow patterns to create opportunities for physical activity. Provide protected time for lunch so that healthful nutrition can be consumed. Create incentives for healthful nutrition consumption and physical activity. Create benefit packages with benefit carriers that emphasize preventive practices, tobacco cessation packages, obesity management and other disease management programs not acute care methods.

- Encourage the Department of Education to develop and implement school program activities, to include implementing CDC's Guidelines for School Health Programs to Prevent Tobacco Use and Addiction. This calls for tobacco-free policies, evidence-based curricula, teacher training, parental involvement, and cessation services; implementing evidence-based curricula.

Chapter 4

Is Health For Sale?

Kim Holland, Executive Vice President
The Quarles Group Insurance Brokerage and Consulting Services ...
with an assist from Gail Malone Human Resources Consultant

World Premiere Opening
Appearing at Quartz Mountain in her international debut

Ask the Insurance Guru

Questions and Pretty Blunt Answers about
Health and Health Care Coverage in Oklahoma

Chapter 4

Is Health For Sale?

Kim Holland, Executive Vice President The Quarles Group Insurance Brokerage and Consulting Services, Tulsa
with an assist from Gail Malone Human Resources Consultant, Tulsa

Ask the Insurance Guru

The way we think about health care in America is defined by a myth, that is, where health care is concerned, there are no limits. In America we have the best health care in the world, the best doctors, the best hospitals, the best technology. Every American citizen deserves - indeed, has a right to - access to that best medical care ... this myth is entirely consistent with the cardinal American myth articulated by Jefferson, the self-evident right to life. **And since the rights to liberty and the pursuit of happiness are also given, self-indulgence that results in disease does not abrogate one's right to the very best health care.** (Emphasis added). [1]

> ***Dear Insurance Guru:*** *I've been hippy ever since the birth of my twins. I've tried everything - pills, drinks, lotions, fat burners, electrodes, you name it. Plus, diet after diet - all-protein, all-carb, boiled egg and buttermilk. Frankly, I think if I'd chewed up the diet books, it would have worked as well. I just feel awful about myself. I want to have liposuction but my insurance company says no way. What's the deal? Should I go get a lawyer? -* ***Hate My Thighs***
>
> ***Dear Thighs:*** *Hey, go for a walk instead. You might start by making round trips to the dumpster with all that diet crap. Seriously, liposuction is expensive and can be dangerous, and frankly, it's not what your insurance is for. And don't be so hard on yourself. Look at your thighs the way your twins do: a nice comfy lap!*
>
> ***Dear Insurance Guru:*** *Help! If one more patient asks me about The Purple Pill, I'm liable to lose it. I don't feel right giving in to them, but they just keep after me. What do they want from me? Aghhhhhhhhh! -* ***Doc in Distress***
>
> ***Dear Doc:*** *Hmm, want some cheese with that whine? Tell them if they needed it you would have prescribed it already. Tell them the side effects the TV commercial doesn't mention. Or try this, Doc: Just say no.*
>
> ***Dear Insurance Guru:*** *We want to know what's available in Oklahoma in the way of insurance and health care coverage, and will what we can buy make us healthy, or do we need something more? -* ***Town Hall 02***
>
> ***Dear TH:*** *Glad you asked. Here's the answer: Anything you want, no and yes.*

Any more questions? I don't want to get off on a rant here, but can we talk?

You want to know if we can buy health. Depends on what you mean by health. If you mean the absence of disease, or the risk of disease, [2] the answer is a definite NO! If we could buy it, Oklahomans would be in much better shape. [3]

What people can buy, preferably with a $10 copay, are health commodities. Scads of products from complete coverage to cosmetic toe cures. There's a veritable goodie-bag of plans and procedures, therapies and pills, whole lines of health care accessories that feed our desire for (let's have a drum roll) ... Access to Health Care.

Whatever the industry trots out, whatever the cost, we want it. Of course none of it has given us health. What it has given people in Oklahoma and much of the rest of the nation is just one more disease. I call it **Health Care HyperConsumption.**
PS: You didn't ask what is needed, but I'll tell you anyway: A revised definition of health that includes a hefty dose of personal responsibility and a whole lot less interest in health care as a consumer product.

You're welcome.

We'll be back with "Ask the Insurance Guru," but first a pause for an important message.

> *Popular perceptions about publicly funded health care - Medicare, Medicaid, veterans' health benefits programs - often color commonly held ideas about private-sector health care pricing, financing and delivery. Such notions feed people's increasing tendency to claim an inalienable right to health care on demand, and support the view that health care shouldn't cost so much, but whatever the cost, it should be subsidized by someone. The thinking seems to be that people work hard and pay taxes so that health care is free to poor people and the elderly, so why not give everyone else a break? [4] On behalf of the 72 percent of the U.S. population with private health insurance, and the employers who provide it, [5] this debunking of myths is presented.*

We now return to our program.

Face it: When it comes to health care, most of the time we're skewed, and the rest of the time, were schizophrenic.

We believe in our right to health care with fervor akin to our earlier belief in Manifest Destiny (i.e., we conquered the trans-Mississippi West and landed men on the moon, so we ought to be able to cure whatever ails us). Further, we are slaves to health care marketing, seduced to be consumers of the latest, easiest to swallow and flashiest in designer health care.

> *"Why wait for symptoms to occur? a radio ad wants to know. In one of many examples of how entrepreneurial America's medical care system has become, whole-body scans costing up to $1,000 are now advertised to healthy people along with the idea that finding disease early can be nothing but beneficial, forget false positives and too much radiation. The use of scanners to screen people for heart disease and cancer before the appearance of symptoms is relatively new. Until the last few years, such expensive, high-tech equipment*

was reserved solely as a last resort method of diagnosing people whose symptoms required further investigation. This has begun to change dramatically with a trend that started on the West Coast. Centers with names like AmeriScan and Imaging for Life have opened in large cities. Their popularity got a major boost when Oprah Winfrey enthusiastically described her own whole body scan experience on national TV last year. And we all know what Oprah did for books that otherwise might not have been a blip on the literary radar. [6]

A growing Oklahoma health-care practice recently moved into the black financially in part because of the thriving success of a costly apparatus that zaps unsightly red capillaries around noses, ankles, wherever age has taken its toll. Unlike many providers who specialize in the latest pills and gizmos to "control" obesity, the treatment does exactly what it claims - **it provides a safe procedure conducted by expressly trained technicians to achieve entirely cosmetic results.** If it makes people feel better, it's health, right? [7]

We've all seen it: A magazine cover touts the fastest way to lose ten pounds right next to a picture of Chocolate Seizure Layer Cake. The message is that we can have it all, eat anything we want and when it finally comes to rest, get the latest diet pill, liposuction or a stomach staple or two.

Granted, many such treatments are not covered by most health-care plans, but the reality is many people expect them to be, and feel resentful that their plan sponsors won't ante up, or they figure the insurance carriers are cheating them out of coverage they have paid for through regular payroll deduction. After all, the procedures or pharmaceuticals are proffered as health care options ("Ask your doctor if you need The Purple Pill.")

People are only asking to have what they are being sold. Countless protracted, destructive, struggles among plan sponsors, plan members and carriers occur over what will be covered. One typical confrontation: a woman whose doctor advised and performed radical stapling surgery as a treatment for her obesity. Despite the carrier's refusal to certify the surgery as necessary, the woman and her physician proceeded. Now everyone is in court arguing over who ought to pay. I would argue that the real issue is, who is responsible. It's a good question, but under the current health care paradigm, there is no good answer.

How Things Really Work: Indemnity to Managed Care

The ranks of the privately insured have at their fingertips a variety of coverage and treatment options that have all but replaced fee-for-service coverage coupled with the insurance policy of old designed to pay for catastrophic medical needs and prevent individual financial ruin.

Today's market - pummeled by attempts to streamline and contain the clamor for everything from head cold relief to allergy treatments to whiter teeth to multiple organ transplants - has evolved into insurance by Rubik's Cube. It is a game in which plan sponsors and brokers scour the carrier market in an attempt to click onto the right - read affordable - combination of core benefits, deductibles, out-of-pocket expenses, co-pay options, levels of freedom of choice and tiers of richness that will simultaneously satisfy plan members, provide necessary coverage, pass muster with carrier experience ratings and forestall fiscal suicide.

And just when everyone thinks they have all the squares aligned - rates rise another 15 to 50 percent. For all the reasons cited earlier - limited choice, uncertainty about quality of care, high prices, not to mention the periodic battle of going out to bid - no one wins.

Ask the Insurance Guru

Dear Insurance Guru: *So, what's a reasonable cost for health care? What should we be willing to pay?*
Rhetorical Al

Dear Al: *Think of insurance as an ice-cream cone. Both are products that we consume on the spot, so we shouldn't be willing to spend more than we are willing to pay ourselves. It's like this, Al: You wouldn't want to pass on the cost of your banana split to your grandkids, would you?* [8]

I want it and I deserve it. Do you take American Express?

Insurance professionals, yearning for the comparatively simple days of indemnity insurance, have been known to commiserate that managed care and the concept and appeal of the co-pay has forever insured (no pun intended) that individuals covered under group health plans will be incapable of understanding how much health care actually costs. Premium, deductible and out-of-pocket can be complex and confusing concepts for people to grasp, but co-pays are easily understood - the equivalent buying now and paying a little bit forever; the equivalent of a health-care credit card.

Copays have accustomed people to apparently inexpensive instant gratification in health care delivery, and consequently, they develop little discretion in spending. For example, people routinely will reject the option for a medical reimbursement plan in favor of a co-pay that offers a more restricted benefit (i.e., coverage for physician office visits but no drug, vision or dental benefits) and ultimately will be worth considerably less money, or even cost them more.

Medical reimbursement is not a no-brainer. It requires keeping track of charges and receipts, budgeting to pay for expenses when they are incurred, then obtaining reimbursement. It's too much like work. But purchasing care with copay is like plastic: Hand them your card and 15 bucks and you're done. If you have a copay and a drug card, all the sweeter. A person can get a three-month protocol and clear up that nasty toenail fungus. So what if it costs the health plan $5 per pill and entails periodic liver screens. If it's on the formulary, and the carrier hasn't caught on yet, what's the harm? Why, it is our right to have perfect toes, and damn the cost or risk.

Only one problem: Copays don't foot the bill. Not only don't we pay for our own health care, we don't even perceive the real expense.

Ask the Insurance Guru

Dear Insurance Guru: *I don't like my company's insurance plan, as it won't cover Viagra anymore. Do you know anywhere I can get a good plan for me, my wife and four kids? How much would it set me back?* ***Just Curious***

Dear Just Curious: *You're going to be Just Furious. Around $30,000 bucks a year. So you might want to stick with your employer's plan. And remember, before drugs, people had great success with candlelight, mood music and sweet nothings.*

We know costs are high. We just can't figure out precisely why.

In 1999, national health care expenditures in the United States totaled $1.2 trillion. [9] The increase in health care costs hasn't abated since. Rising at twice the rate of inflation, it is driving insurance rates right up the incline, because, obviously, carriers are in business to profit. And because employers don't want to go broke providing health care for their employees, they're looking for ways to shift the burden. Everyone agrees the high cost of providing medical insurance is the ultimate hot potato for U.S. employers. [10]

In an arena that routinely provokes nothing but discord, nobody disputes that costs and the rate of increase aren't about to slack off anytime soon. The Health Care Finance Administration reports that national health expenditures as a percent of our Gross Domestic Product will have risen from 7.1 percent in 1970 to a projected 16.6 percent in 2007. [11]

In the early 1990s, at about the time that 13% of the GDP was going toward health care, we were spending an average of $3,900 per year on health care for every man, woman and child in the U.S, roughly $15,600 per year for a family of four. **Today, in order to maintain the same level of health care would cost $6,000 - $7,000 per year per family member, [12] as much as $28,000 for a family of four.**

Costs are rising for all types of private-sector medical plans, an average of 13.6% for 2001-2002. [13] Even the cost of HMO plans, purportedly created to curb costs by eliminating waste, are rising again following a downward swing from 1991 to 1995. [14] Why costs are so high is less clear-cut. Explanations are as legion as people willing to weigh in on the topic. And although elements of truth weave through the arguments of every finger-pointer, their conclusions vary with a "whose ox is being gored" predictability.

Citations abound of the cost-drivers sharing the blame: waste and fraud; simple inefficiency; price gouging; increased unnecessary use of expensive technology; the plaintiffs' bar; frivolous law suits and runaway tort awards; the aging population; designer drugs peddled direct to the consumer; sweetheart deals among doctors and any other group in the industry, collusion by carriers and plan sponsors.

Unfortunately, it's no big surprise that very few sources make a connection between the high cost of the overall health care disaster and behavior-driven, health indicators of chronic disease.

These indicators - lack of physical activity, overweight and obesity, tobacco use and substance abuse [15] - demonstrably lie at the core of Oklahoma's health care dilemma, and likely the nation's as a whole.

The facts are: five chronic diseases - heart disease, cancers, stroke, chronic obstructive pulmonary diseases and diabetes - account for more than two-thirds of all deaths in the U.S. Furthermore, the costs of health care for people with chronic diseases account for 75% of the nation's total health care costs. [16]

Ask the Insurance Guru

Dear Insurance Guru: *I am thoroughly torqued! I paid the same thing for my insurance for five years until last year when my company started self-insuring and raised our premiums. NOW, this year, they raised our plan payments to 80/20 from 90/10, AND raised the deductible. I had to switch to generic beer and store brand smokes. Me and the guys at work think this is just a way for our boss to stiff us on our so-called pay raise. Is there anything we can do? - John Q.*

Dear JQ: *First, you can be glad your employer didn't raise premiums sooner, because the costs have been going up every year for the past several. And as for the 80/20 plan, that's been pretty much the norm in the industry for quite awhile. It looks like the cost just finally caught up with your boss. What can you do? Ask your boss if the company would consider giving a one-time bonus to everyone at work who gives up smoking for at least a year. It's worth a shot ... employers are trying all sorts of new things to promote health in the workplace. And, John, please... torque it easy. Smokers are more susceptible to strokes and heart attacks than non-smokers, you know.*

Emerging Solutions: The Way Things Might Be

Employers are pretty much numb to dissatisfaction with health benefit plans among those they provide benefits for, so nowadays, their strategy focuses on cutting the cost. While some simply try to absorb the increases, it is a generous but increasingly unrealistic answer. [17]

Other choices are emerging:

- Modifying funding arrangements by moving from insured to self-insured.
- Carving out certain benefits, e.g., pharmacy and mental health.
- Charging employees more: higher premium and/or out-of-pocket.
- Reducing services or making historically core benefits, such as dental and vision, voluntary.
- Forging partnerships with providers.

A new concept getting attention these days is the Personal Care Account, which is similar to a medical reimbursement plan, but without the standard use-it-or-lose it restriction. PCAs are combined with high-deductible health insurance coverage in an attempt to allow employees to experience personally the financial consequences - both positive and negative - of their health care consumption.

Employers are seeking entirely new plan designs that, through such features as flexible benefit offerings, more education and managing benefits online, increase an individual's economic stake in a plan. Such new approaches, it is hoped, will begin to move employees along a continuum of heightened awareness of and responsibility for their own health and health care purchases.

Outright health-care rationing often is ventured as a solution, but it's one no one really wants. Health care rationing at its extreme means to withhold at least some medical services from at least some individuals who quite likely would benefit from them, because we have decided not to buy those services for everybody who needs them because we just don't have the money to go around.

Some fear that health care rationing may be the unwelcome outcome if we don't fix the system. Already, it is a troubling reality to witness health care rationing by Congress, responding to the appeals of public interest groups fronted by the

celebrity du jour. Don't be surprised the day CSPAN airs a political scuffle for funds that pits a group of women with breast cancer testifying before a congressional committee about why they should get funding priority over a crowd of little children with leukemia sitting at the next table. Not so far-fetched and not a good option, emerging or otherwise. [17]

So, what's the final answer?

> *Health care in the United States is approaching 15 percent of the gross national product. A projected continued upward trend in the demand for health promotion and control of health care costs are sources of concern for most, but they are the sources of opportunities for the health care professional. Those who are prepared to enter the healthcare field can look forward to career opportunities well beyond those in many other sectors of the economy. (Emphasis added.) Online Academic Bulletin, The Center for Health Studies, Houston Baptist University, May 2002*

The Insurance Guru Asks You

OK, folks, now I've got a few questions:

When viewed as the lucrative business that it is, what motivation does the industry have to reduce the volume of health care delivered - why insist that people get diet and exercise? Obviously, given the item cited above, not much. But then, what real motivation do most people have to give up their triple-bacon cheeseburgers, biggie fries and slurpies, when they know they can slap down that magic drug card and get a tiny little pill to eat up all that bad cholesterol?

Can we fiddle endlessly with insurance products and health care delivery systems, turning knobs here and there, trying to stay ahead of the next huge rate increase? While we might prefer the big, sweeping fix, it won't happen, because of complacency, politics, big profits, all the usual suspects.

But there is good news out there, a budding awareness that we as individuals have gotten ourselves into this mess, and we're going to have to fix it: From the Tulsa employer who provides a yoga instructor to help her employees manage stress and gain physical well being [18] to an innovative partnership between a small business and a school that is starting early to form students' ideas about food and health and learning.

Read on ...

It's Elementary: Chez Panisse and the Edible Schoolyard [19]

In the three decades since Alice Waters opened Chez Panisse in Berkeley, California, she has gained widespread fame not only as the person who raised to the level of haute cuisine, natural, locally grown products, she has been instrumental in helping people see the link between what we eat and our health.

According to Francis Moore Lappe, author of Diet for a Small Planet, Waters has come to symbolize the possibility of reclaiming our food cultures from the now-planetary trend of processed, uniform fast food. [20]

In 1993, Principal Neil Smith of Martin Luther King, Jr. Middle School, just blocks from Chez Pannise, was not so complimentary of Waters, who had made a disparaging remark about the appearance of the school grounds that was published in a local paper. The principal wrote her a note, and Alice invited him to lunch. There a remarkable seed was planted.

Waters proposed to Smith an edible schoolyard, in which children would create the garden, grow the food, prepare it and serve it to each other. Further, students would incorporate their activity in the garden into their other lessons - whether it was English, math or science.

While Waters was way ahead of Smith in terms of ideas and enthusiasm, they took the project a step at a time. Today, in nearly a decade since a garden was created out of what Smith called "overgrown, infertile urban blight," that seed of what might be a revolutionary idea has grown and thrived.

Today the garden is fenced with twigs and vines laced together by students, who also regularly spread organic compost, up to 200 tons since the garden was begun. Hand-painted signs signal what is under cultivation: corn and amaranth, carrots and lettuce, Mashua, an almost extinct ancient Incan tuber, and artichoke, which will be picked and prepared with butter for dinner.

Teachers who guide the students from planting to food preparation say that the effect of the garden experience on the children may not be immediate, may not even be measurable, but they are sure it is real, and cite feedback from parents who assure them that the project has so transformed their children that video games have taken a back seat to excitement and interest in tending their garden classroom.

Lappe, who notes that her favorite foods during junior high were soggy French fries, doughnuts oozing with jelly centers, super cheesy quesadillas and chocolate-chip cookies the size of her hand, joined students in the kitchen at the Edible Schoolyard recently as they made fresh salsa and empanadas enfolding carrots, potatoes and onions they grew themselves.

The Edible Schoolyard has been joined in the area by the Berkeley Food Systems Project, which works to install salad bars with locally grown produce in every school cafeteria in the district. Of course, these initiatives face a huge challenge: fast-food companies tapping the vast market of hungry kids with corporate deals that put franchises in many of those same cafeterias - Domino's Pizza, McDonald's, Burger King, Taco Bell and Pizza Hut among them.

Yet how can something as simple and educationally profound as a school garden and kitchen not gain greater support? Waters, Lappe reports, says what gets in the way is fear. "Fear of change. We've been educated to think there can be a kind of permanence about the world, about one's life. We even deny we're going to die" no matter what we do.

But the Edible Schoolyard may be an idea whose time has come, for support is coming from an unexpected source. Lappe quotes Zenobia Barlow, co-founder of the Berkeley based Center for Ecoliteracy, which helps fund Edible Schoolyard and assists in integrating the garden into the curriculum.

"One of the biggest underwriters of schoolyard gardens is the solid waste industry. Schools are a huge part of the solid waste problem, and a lot of it comes from students throwing away food they don't eat. Each day, tons of uneaten school lunches go into landfill. Of course the industry backs recycling in schools, but it also wants schools to feed kids something they want to eat, so it doesn't end up in the landfill."
Barlow contends that while average people may feel powerless fighting decisions made by anonymous corporations far away, **"we can easily influence where our children go to school, and what they eat when they're there. That's within reach of all of us."** (Emphasis added).

A Few Proposals

Is a solution within our reach? Yes, but it doesn't come in easy-to-take pill form. Rather than attempting to forge broad industry reforms, a more incremental approach is in order: a concerted, long-term, effort focused on fundamentally converting the pervasive healthcare purchasing mania into elements of individual and community responsibility.

- Encourage corporate investment in community-based health-building initiatives that reach children AND adults at school and in neighborhoods, ala the Chez Panisse project.

- Conduct studies of people who have health care coverage, but don't often use it, on the off chance that good genetic makeup is not the sole underlying factor to wellness and long life.

- Work with employers and carriers to craft alternative benefits with lasting impact on employee health. Develop turnkey preventive health programs for the work-place, e.g., smoking cessation, nutrition guidance, exercise program stipends, along with incentive bonuses for program involvement and success.

- Call for employer investment in counter-claim advertising against health-care industry pandering, particularly regarding drug company claims. (In 1992, $50 million was spent on direct-to-consumer advertising by the pharmaceutical indus-try. By 1999 the expenditure had exceeded $1.85 billion and $2.5 billion by 2000, with approximately 15 million adult patients in the United States having requested an advertised drug).

- Enact more tax incentives for good health, or health improvement.

- Require all employers to provide basic health coverage. The current cost shift created by treating the uninsured and underinsured increases health insurance premiums as much as 30%.

Conclusion

It bears repeating:

Oklahomans can buy anything in the insurance/health care market we are willing for someone to pay for, but soon will come the day when there won't be enough money to go around.

Health care spending has become an independent variable in our economy, which means, it no longer is a predictable, fixed portion of the GDP, but is growing far out of proportion to the economy as a whole. In the meantime, the cost and consequences of continuing to make poor life choices while acquiring health care products hand-over-fist will simply be more poor health.

Without a fundamental change in the way we define and work to achieve health, we won't be any healthier and certainly no more solvent. Without making hard decisions we will just own more of the same health care mess - rampant dissatisfaction, iffy quality of care and ultimately even less freedom of choice.

We have asserted that these complaints recur and accrue because too many people occupying the health care system 1) have a skewed perception of what health is and how to get it, and 2) suffer real, serious, chronic health problems that could have been avoided, and could be better managed through changes in behavior.

It is a policy issue of critical importance that calls for determining ways to incent - or even better, to incite - responsibility for individual health through business involvement and public education in every quarter from the state house to the city council, from boardrooms to classrooms to living rooms.

Our best chance is to underwrite education that helps rewrite the 21st century definition of health from something we can buy to a state of wellness we can help achieve.

ENDNOTES

1 The American Healthcare Myth, YourDoctorintheFamily.com, June 2002.

2 Years ago, the diagnosis of osteoporosis was made only after a person experienced a fracture due to thinning bones. Now the definition of osteoporosis moved to a precautionary extreme to mean merely low bone mass. In other words, what was once a risk factor for fracture is now a disease. Dr. Susan M. Love, MD, author of Dr. Susan Love's Hormone book, writes that the panel of experts that changed the definition was funded in part by pharmaceutical companies." Maryann Napoli, Associate Director of the Center for Medical Consumers, New York City, Dec. 2001.

3 See Part 3, The State of the State's Health

4 According to a report to Congress using data from federal Social Security actuaries, paying for Medicare in the year 2045 will require more than 12% of the nation's taxable payroll. Adding Social Security taxes to the mix, more than 50% of every working person's paycheck may be needed to pay for federal entitlements for the elderly within the next four decades. National Center for Policy Analysis, Cato Institute, 1992.

5 More than 90% of private coverage is obtained through the workplace, a current or former employer or union. In 2000, private employers' health insurance costs per employee-hour worked increased to $1.09, up from $1.00 in 1998, after declining from $1.14 in 1994. Among private employers the share of total compensation devoted to health insurance was 5.5 percent in 2000, up from 5.4 percent the previous two years. U.S DHS data.

6 Maryann Napoli, associate director of the Center for Medical Consumers, New York City, 2001.

7 Authors' notes.

8 During the great health care debate of the first Clinton administration, it was generally held that the 13% of the GDP we were spending at the time was way more than enough.

9 United States Department of Health and Human Services health data, 2001.

10 In a survey report published in June 2002 by the Society for Human Resource Management (SHRM), health care costs topped a list of societal trends having the greatest affect on business, the HR profession and on society as a whole. With the exception of a tie with diversity issues as they can be expected to affect business and HR professionals over the next six months to a year, health care costs soundly trounced training, the aging workforce, flexible scheduling, workplace safety and security and the economy as a matter of concern to the 2,400 SHRM members polled. Demographic, societal trends expected to define HR's future agenda, HR News, July 2002.

11 According to the U.S. Department of Health and Human Services, the United States spends a larger share of the GDP on health than any other major industrialized country. In 1998, the U.S. devoted 13 percent of GDP compared with 10.4-10.6 percent each in Switzerland and Germany and 9.5-9.6 percent in Canada and France By 2010, the gap between the U.S. and countries with the next highest share will widen, with the following rates of health spending as a percentage of GDP: U.S. 16%-plus; Germany, 10%; Canada; 8%; Japan, 7.5% and the U.K., 6%. "The Next 10 years of Health Spending," Health Affairs, September-October 1998, reported by Rodger Doyle in Scientific American.

12 An estimate incorporating the current average cost of health care per person, plus a surcharge to cover individuals who cannot afford to pay for themselves. yourdoctorinthefamily.com

13 A Watson Wyatt Health Care Survey listed expected cost increases in these categories: As a net of plan sponsor benefit changes for 2001-2002, for active employees: all plans, 13.6 percent; indemnity, 14.4 percent; PPO, 13.7 percent; POS, 12.7 percent; HMO, 13.9 percent; medical only, 13 percent; prescription drug; 17 percent; dental, 6.7 percent. Increases were higher for post-65 retired plan participants, due in large measure to a jump in prescription drug prices, estimated to be anywhere from 15.5% to 17% during the period.

14 HMO cost trends reported by the Employee Benefits Council of Oklahoma tracked cost reduction through HMOs of more than 9% from 1991 through 1995. Since the 1995 low, HMOs have experienced cost increases of around 3% annually, and are now approaching 1991 levels.

15 To recap, Oklahoma's top ten killers, with the exception of road accidents, can be classified as outcomes of chronic conditions linked directly or indirectly to behavior choices, and even many traffic deaths are attributable to substance abuse. The poor choices: diet, smoking, lack of exercise, alcohol and substance abuse. The putative killers: chronic ischemic heart disease, heart attack, stroke, cancer of the larynx, trachea, bronchia and lung; other chronic obstructive pulmonary diseases; heart failure; other ischemic heart diseases; influenza and pneumonia; diabetes, traffic accidents. Top 10 Causes of Death for Oklahoma, www.health.state.ok.us and The Burden of Chronic Diseases as Causes of Death, National Center for Chronic Disease Prevention and Health Promotion, National and State Perspectives 2002, The Centers for Disease Control.

16 Ibid., CDC. Also, the Oklahoma Employee Benefits Council 1998 survey indicates that rising costs can be attributed to or engender other problems in the health benefits market:

- uneven quality of service
- provider consolidation leaving fewer choices
- dissatisfied employees - medical benefits not fully appreciated; plan information too complex, or often misinterpreted or misrepresented resulting in negative employee reaction.

The aging population is cited as a primary cost-driver, exacerbated by less group mobility, fewer job changes, increasing retirement age. In Oklahoma, the population over 65 will have increased 8.4% from 1995 to 2025. The workforce 18-64 will decrease 4.3% during the same period. In both cases, the state's percentage change in each category is greater than the U.S. averages at 5.7% and 3.7% respectively.

17 The American Healthcare Myth, YourDoctorintheFamily.com, June 2002.

18 Peace Corp., The Tulsa World, June13, 2002.

19 World Ark, Spring 2002 from Hope's Edge: The Next Diet for a Small Planet, Putnam, New York, N.Y. 2002.

20 Ibid. Lappe notes that in this, one of the wealthiest countries in the world, we now face an epidemic of malnutrition. Malnutrition that doesn't just mean people not getting enough calories, but the malnutrition of the millions who "fill their bodies with foods that don't healthfully nourish us." The malnutrition implied in the fact that almost half the calories an American consumes come in the form of fat and sugar, a diet that has triggered "whole new diseases" commonly known as eating disorders. "I've struggled to understand the meaning of this tragic and needless pattern of disease and death: Is the problem simply that because more of us can afford to eat too much, we do? Or do we humans perhaps just prefer foods that make us sick? No, I'm coming to see that to find an explanation we must perceive ways in which more and more aspects of our lives - food only one of them - are being stripped of wider meaning, reduced to a mere commodity for sale."

Chapter 5

Biomedical Research

Oklahoma Medical Research Foundation

J. Donald Capra, M.D., President
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In 2000, Oklahoma scientists at OMRF determined the three-dimensional crystal structure of memapsin 2 (above), one of the enzymes believed to be responsible for Alzheimer's disease.

Chapter 5

Biomedical Research

Don Capra, MD and Wade Williams, PhD, Oklahoma Medical Research Foundation

Preface —
World class biomedical research occurs in Oklahoma. But not as much as we would like. Nevertheless, research leaders can forsee circumstances where such research can both be a scientific boon and an economic stimulus. As oil, gas, agriculture and telecommunications industries ebb and flow ... there is a steadily growing core of scientific expertise growing in Oklahoma. Just not fast enough.

The 20th century legacy of basic biomedical research is a significantly increased quantity and quality of life. Average life expectancy in the United States rose from 47 years to more than 76 years in the 20th century. People now can live longer and more productive lives; they can anticipate a retirement; and parents can expect to watch children and grandchildren grow and mature.

This increase in longevity also has a direct economic impact. It creates a healthier and more productive workforce and a more robust economy. People are also living healthier as they are living longer. Though harder to quantify, it's certainly true that quality of life has improved along with increased longevity.

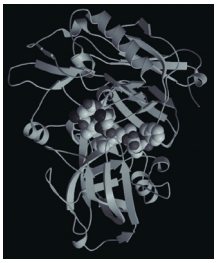
Basic research seeks to understand biological processes at the molecular, cellular and genetic levels.

Basic biomedical research investigates these processes to understand how and why human biological processes function and how and why they go awry and result in disease.

Together, these two fields are what drive the advancement of medicine that allows people to live longer, healthier lives.

The Future Promise of Research
The 21st century promises equally dramatic improvements in the human condition.

Scientists predict that biomedical science will allow someone born in the first generation of the 21st century to live to be 150. The average U.S. lifespan in a hundred years is expected to be well over 100 years.



With the recent decoding of the human genome, scientists now have a complete genetic blueprint of humanity. Over the next 25 years, scientists will use this blueprint to identify the location, structure, and function of all genes and proteins in the human body. With such information, researchers will be able to pioneer revolutionary new treatments for cancer, heart disease, autoimmune disease, Alzheimer's, AIDS, and a host of other diseases that plague humanity.

Scientists will be able to tailor new and powerful therapeutic drugs for each patient using that person's individual genetic information.

Research Support
Basic biomedical research is being conducted at all of Oklahoma's institutions of higher education and independent research institutes. As you will learn in the following sections, Oklahoma scientists have and will continue to be in the forefront of this scientific revolution.

The majority of basic biomedical research in the U.S. is supported by the National Institutes of Health (NIH). Good health is a priority for Americans. This political support has led to a doubling of the NIH budget in the last five years. It has grown from $13.6 billion in 1998 to an estimated $27.3 billion in 2003. Many "disease-specific" organizations like the American Heart Association and the American Cancer Society also support significant research.

Private foundations large and small are also important players. Major entities such as the Keck, Ford, Duke, and Kresge Foundations each give millions of dollars every year for biomedical research. Smaller regional foundations also play important roles. In Oklahoma, support for basic research has come from the Reynolds, Noble, Kerr, Sarkeys, Presbyterian Health, and other foundations. Finally, private individuals support basic research, whether through pennies in a March of Dimes jar or with an endowed chair or a major estate left to a university or a research institute.

Biomedical Research
OKLAHOMA'S INSTITUTIONS

Every day Oklahomans hear in the news of medical discoveries at institutions like Harvard, Stanford, Scripps or the Fred Hutchinson Cancer Center. We hear every year about a Nobel prize being awarded to a basic researcher at institutions of this caliber.

What Oklahomans might not know is that groundbreaking research has been going on for more than fifty years right here in Oklahoma.

Oklahoma has many public and private institutions that have areas of research excellence. Five such institutions are profiled below:

University of Oklahoma Health Sciences Center
At the turn of the twentieth century, the OU College of Medicine was founded as a two-year preclinical school. Ten years later it became a four-year degree-granting school. In 1911 the first degree in medicine was awarded. Over the years, the College of Medicine has evolved into a comprehensive Health Sciences Center that encompasses every facet of modern medicine.

The mission of the University of Oklahoma Health Sciences Center (OUHSC), as a comprehensive academic health center, is to educate students at the professional, graduate, and undergraduate levels to become highly qualified health services practitioners, educators and research scientists; to conduct research and creative activities for the advancement of knowledge through teaching and development of skills; and to provide continuing education, public service, and clinical care of exemplary quality.

Active research studies with great promise include those involving Alzheimer's disease, numerous types of cancer, cystic fibrosis, mental health issues and AIDS. Specific projects include studies on nutrition for people with AIDS, parenting skills for people with developmentally disabled children, and public education programs designed to help Indian tribes such as the Mvskokes (a non-English-speaking tribe) lower and control their incidence of diabetes.

The OUHSC also is host to a number of "centers of excellence" that support interdisciplinary and integrative research focusing on Native Americans, the Neurosciences, toxicology and molecular medicine.

University of Oklahoma
The University of Oklahoma was founded in 1890 and the first students accepted in the fall of 1892. The first two graduates of the University received the degree of Pharmaceutical Chemist in 1896.

Like their colleagues at the OUHSC, scientists at the University of Oklahoma are pursuing fundamentally important research. For example, the Norman labs of OU scientist Dr. Bruce Roe house one of the NIH designated Centers for the Human Genome Project, whose goal is to determine the complete sequence of the three billion base-pairs in the human genome by 2005.

During the past decade this Oklahoma lab has played a major role in developing many of the techniques needed to complete this goal, as well as trained many of the scientists actively involved in this project worldwide. They are also sequencing several bacterial genomes and actively discovering new and unique genes in both humans and bacteria. These studies provide an in-depth genetic based understanding of normal gene function and the alterations that occur in a myriad of genetic-based diseases.

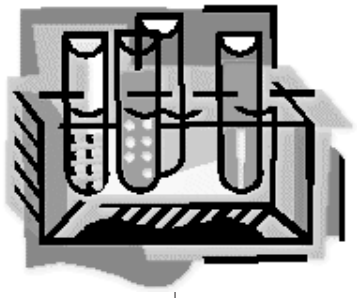
Oklahoma State University
Oklahoma State University (OSU) supports a successful and nationally competitive research program that features a talented, dedicated faculty with a critical mass in selected areas of research and creative activities; state-of-the-art equipment; modern facilities; and a supportive infrastructure. In addition to nationally recognized research in the Agricultural Sciences, OSU is particularly strong in the following areas: biotechnology, nanotechnology, information technology and materials science. OSU works with its research faculty to patent novel and creative inventions, form partnerships with the private sector, and work toward the creation of high-tech jobs for Oklahomans.

Long before the tragic events of September 11, OSU scientists were involved in efforts to prevent bioterrorism, ensure food safety and provide for homeland security. A multi-disciplinary group of researchers are devising technologies to "sense" chemical and bacterial biological warfare agents, allowing interception before damage is done. OSU is home to the Food and Agricultural Products Center, a unique facility with a specialized pilot processing area that provides a "living laboratory" to test the effectiveness of molecular sensors to detect pathogens in food and water. OSU scientists are also

developing devices that sense a variety of biological agents and doing research to improve the protective clothing worn by first-line responders in hazardous environments. All Oklahomans can take pride in the fact that this research, fundamental to America's homeland security, is occurring in the nation's heartland.

The Samuel Roberts Noble Foundation
The Noble Foundation was organized in 1945 by Lloyd Noble, a southern Oklahoma native and successful oilman. He named the organization after his father, Samuel Roberts Noble.

The Foundation ranks as one of the 60 largest private, charitable foundations in the United States. It has spent more than $500 million on charitable purposes since its founding.



The Noble Foundation began with the underlying goal of helping farmers and ranchers make wiser and more productive use of their land. That goal continues today through the research, education and consultation efforts of the Agricultural Division. The Plant Biology Division, established in 1987, performs basic and applied research on plant-microbe interactions and genetically-modified plants for improved disease resistance and production potential.

All of these divisions conduct basic research for the benefit of Oklahomans and people everywhere.

The Oklahoma Medical Research Foundation
OMRF is the only Oklahoma institution solely devoted to conducting basic biomedical research.

Yesterday
OMRF was founded over fifty years ago by members of the Alumni Association of the University of Oklahoma School of Medicine.

At the time, these OU alumni wanted a medical research facility where medical personnel could undertake original and creative research. They believed that such a facility would help Oklahoma recruit and retain topnotch scientists.

In 1946, OMRF was chartered as a charitable, not-for-profit research and training organization for medical science with the stated purpose to promote the improvement of human health and well-being.

In 1950, the first forty laboratories were ready for use, and the building was dedicated by Sir Alexander Fleming, the discoverer of penicillin and, at the time, the most famous biomedical researcher in the world.

Today
OMRF has ten major research programs and more than 500 employees, including 45 faculty-level scientists.

OMRF houses Oklahoma's only Howard Hughes Medical Institute Investigator and Oklahoma's only member of the National Academy of Sciences in the field of biomedicine. OMRF holds more than 500 U.S. and international patents. Because OMRF's administrative expenses are covered by a charitable trust, 100 percent of all donated funds are used to support medical research.

The discoveries made by OMRF scientists have had a truly significant impact on Oklahomans and, indeed, on society as a whole.

- Jordan Tang's discovery of gastricsin in 1959 and Petar Alaupovic's classification and naming system for lipoproteins in 1964 changed scientists' way of thinking worldwide.

- Charles Esmon's 1988 discovery of Protein C and its relationship to septic shock and

- Judith James and John Harley's identification of an association between Epstein-Barr virus and lupus in 1997 have shaped new horizons for the prevention and / or treatment of these diseases.

From Ute Hochgeschwender's genetic breakthrough in obesity research in 1999 to Jordan Tang's identification of the enzyme believed to be responsible for Alzheimer's disease in 2000, the findings continue to attract the attention of the scientific world and benefit our population in the process.

These are scientific discoveries that will enhance the quality of life for all Oklahomans either directly or indirectly.

Biomedical Research
IMPACTS UPON HEALTH

Heart Disease and Stroke
Perhaps the biggest success for medical research has come from the huge decline in the death rate from heart disease, which still results in over one-quarter of all U.S. deaths.

Since 1970, the death rate from heart disease has fallen 48 percent. Cardiovascular drugs such as anti-hypertensives, calcium channel blockers, and beta-blockers have played a key role in death rate declines. All of these drugs are the direct products of basic biomedical research. This research goes hand-in-hand with clinical research, which has conclusively established the benefits of changes in lifestyle. Information as simple as detecting high blood pressure, often a precursor to heart disease, and medicating when necessary, has been very effective in helping to reduce heart disease death rates.

Medical research has also shown that a person's age, family history, cholesterol level, diet, and tobacco intake, among other factors, can detect who is at risk for heart disease.

A parallel success story for medical research has been the huge drop in death rates from America's third largest killer, stroke. The stroke death rate has plummeted over 60 percent since 1970.

Again, basic and clinical research has played an instrumental role. Research has shown, for example, that rapid treatment can greatly reduce the effects of stroke on victims. If individuals receive new generation drugs that dissolve blood clots within hours of a stroke, their chance of full recovery in three months is 30 percent higher.

Proper treatment for hypertension and awareness of the signs of stroke, which include numbness of limbs and blurred vision, have helped reduce the death rate from stroke. Basic research was instrumental in developing anti-clotting medicines, which have cut by 80 percent the risk of stroke from a common heart condition known as arterial fibrillation.

In spite of all this good news, however, much remains to be done. Heart disease is still the number one killer of adults in the United States.

It claims the lives of more than 700,000 annually, and an astonishing 21 million new cases are reported

Dr. Charles Esmon

Oklahoma scientists have been in the forefront of the fight against heart disease. Stunning advances in preventing death due to blood clots have in preventing death due to blood clots have come from the OMRF laboratories of Charles Esmon, a world-renowned authority on the molecular mechanisms that trigger blood clotting.

The pioneering research of Drs. Charles Esmon and his OMRF colleague Fletcher Taylor on activated protein C came to fruition last year when the FDA approved the new drug Xigris, manufactured by Eli Lilly.

Xigris is the first drug that effectively treats septic shock, or infection in the blood. This disease, which is caused by bacteria in the blood stream, is the ninth leading cause of death in the U.S., claiming 250,000 lives each year. Xigris will save the lives of thousands of Oklahomans in the coming decade, and it is a treatment based on the activated protein C research done right here in Oklahoma.

In addition to their contributions to a fundamental understanding of these systems, studies in Charles Esmon's program have clinical relevance to heart attack, stroke, hemophilia, acute organ rejection in transplantation and miscarriages associated with SLE (lupus).

In recognition of this pioneering research, Charles Esmon was elected into the National Academy of Sciences in the 2002. He is the only Oklahoma biomedical scientist currently in the National Academy, and only one of four Oklahomans ever to be elected to this prestigious organization.

Dr. Esmon and his colleagues at OMRF and across Oklahoma will continue their research so that more Oklahomans and people everywhere may live longer, healthier lives.

each year. Its ravages are felt in countless ways in modern society, from the loss of life and impaired health of its victims to the enormous toll it takes on our economy.

Oklahoma's Center for Genetic Research
With the decoding of the genome, advances in biomedical research are now being made at a stunningly rapid rate, and Oklahoma scientists are keeping pace.

Last June, OMRF formally dedicated a $15 million genetic research facility for the production and storage of genetically engineered mice. This facility will be world class. The Donald W. Reynolds Center for Genetic Research will provide scientists with technologies to advance understanding of DNA, factors involved in the regulation of gene expression, and human disease. A lead gift of $5 million from the Donald W. Reynolds Foundation made possible the construction of the new facility.

Virtually every area of modern biomedical research requires genetically engineered animals, several of which have become "model organisms" for helping scientists to understand biological processes. These model organisms include specific species of yeast, fish, worms, flies and, most importantly, mice.

Mice are genetically very similar to humans. For every 100 human genes, 97 or more have counterparts in the mouse. These living test tubes are fundamental to current biomedical research and could yield potential cures for a myriad of health threats such as heart disease, cancer, genetic disorders or immune malfunctions.

Most basic genetic research involves the observation of how things function normally. Once the normal function of a system or organism is known, scientists begin to study various alterations in the process, which result in diseases or disorders. When these changes occur naturally, the resulting effect on the organism is a disease, defect or other malfunction.

Scientists cannot postpone their studies while waiting for these changes to occur in nature, so through technological advances, they now have the ability to design specific, desired changes in the laboratory though genetic engineering.

Dr. Jordan Tang

Dr. Jordan Tang is a noted OMRF scientist whose work on Alzheimer's disease was awarded a $1 million prize by the National Alzheimer's Association in 2001. Tang's recent discovery of memapsin 2, one of two enzymes responsible for starting the molecular reaction in the brain leading to Alzheimer's disease, has been hailed by scientists around the world.

Once the enzyme was isolated, Tang's laboratory went to work to find out more about it-how it works and whether interfering with its protein-cutting action could halt the progress of the disease. In milestone achievements, his team subsequently developed an inhibitor to disable the work of memapsin 2, and determined a crystal structure of the enzyme with the inhibitor attached.

A next step in the development of the inhibitor is testing in an animal model. Tang and his research team are now developing genetically engineered mice so that such testing can move forward. The sophisticated technology present in the Donald W. Reynolds Center for Genetic Research will aid Tang's work, as researchers race toward a cure for Alzheimer's disease.

Dr. Tang holds degrees from the University of Oklahoma and Oklahoma State University.

Because mice can easily be genetically manipulated, researchers can actually reproduce human diseases in these small creatures. Thus these mice play a powerful role in the study of human diseases and the future of biomedical research.

Because this genetic technology enables scientists to zero in on specific disease targets, it yields a much higher probability of finding cures for human diseases and disorders of all kinds. Ultimately though, it will be all Oklahomans who are the beneficiaries of the remarkable work being conducted by outstanding biomedical researchers in their home state.

Biomedical Research
ENRICHING OKLAHOMA EDUCATION

Another benefit of a thriving biomedical research scene in Oklahoma is the opportunities that it creates to enhance education throughout the state.

Oklahoma's institutions of higher education and independent research institutes that conduct basic research all sponsor innovative outreach programs for Oklahoma's college, high school and elementary school students.

Fleming Scholars at OMRF
The OMRF Sir Alexander Fleming Scholar Program initiated in 1956. It provides high school and college students "hands-on" experience in basic biomedical research. It is named for the famed British scientist who discovered penicillin. The same Dr. Fleming came to Oklahoma City in 1949 to dedicate the OMRF's first research building.

The Fleming Scholar Program attracts as many as 350 applicants each year. Students must be Oklahoma residents. High school juniors and seniors as well as college freshmen, sophomores, and juniors are eligible to apply.

Two of OMRF's current scientists, Drs. Judi James and Rod McEver, are former Fleming Scholars.

Scholars are selected based upon academic standing and aptitude in science and math, as well as recommendations received from teachers, principals and counselors and essays written as part of the application procedure.

The number of scholars selected depends upon the number of mentors available. The average number is 10-12. A record 14 Fleming Scholars were sponsored in 2002.

The scholars come to OMRF for eight weeks in the months of June and July and are paid a stipend of $2,500. They attend seminars and conferences throughout the summer and have weekly social events as a group. On the final day of the program, the scholars give formal scientific seminars for parents, teachers and colleagues, outlining the findings of their projects.

By summer's end, each scholar writes a paper about his/her laboratory project. Those papers are published in one volume each year and mailed to the scholars, their high schools/colleges and all OMRF Board members.

Without exception, students who complete the program call it a once-in-a-lifetime experience and one that cannot be duplicated in any high school or university classroom. Their participation in authentic research projects often cements their career plans-whether or not research becomes their ultimate goal. In many cases, it brings them back to Oklahoma for further science training or graduate school.

OMRF is proud that about 70 percent of its Fleming Scholars pursue careers in a health related field. Two of OMRF's current scientists, Drs. Judi James and Rod McEver, are former Fleming Scholars. This highly successful program has served as a prototype for similar educational programs established by groups, such as the National Institutes of Health, and other organizations nationwide.

Foundation Scholars at OMRF
The success of the Fleming Scholar Program led to the establishment of the Foundation Scholar Program for high school science teachers in 1988. The Foundation Scholar Program brings competitively selected high school teachers from throughout the state to work in OMRF's laboratories under the supervision of senior-level biomedical researchers. This summer course emphasizes experiments and information technology, as well as the development novel instruction tools suited to the science classroom. Teachers are encouraged to transform their perceptions of science, science education, and their place in the larger scientific community.

The Foundation Scholar Program assigns special importance to teachers from Oklahoma's rural school districts, which serve small communities lacking museums, universities, or other resources that elsewhere supplement science instruction offered in the school.

This program focuses on teachers because of their potential to amplify change. OMRF has a long-term commitment to mentor and encourage teachers to continue the process of change. Each teacher receives a personal computer for his/her classroom, which links them with the Internet and allows for direct communication with program Director, Dr. Philip Silverman, and a network of former Foundation Scholars.

SURE at OUHSC

The Summer Undergraduate Research Experience (SURE) Program at the OUHSC provides undergraduate students with a first-hand experience working in a biomedical research laboratory.

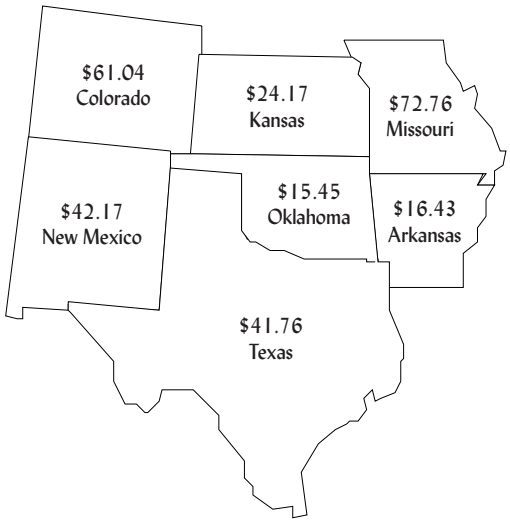
Students interact with faculty researchers and graduate students, providing unique insight into the real world of scientific research and all of its intricate components. Such insight is important in making career decisions, and SURE has a primary objective to encourage students to pursue a career in biomedical research.

During the nine weeks of the program, the participant spends the majority of the time in the laboratory. Each participant is paired with a faculty mentor and provided the opportunity to conduct a research project. Mentors, graduate students, and laboratory technicians work very closely with the participant, while allowing the participant to assume responsibility for the project.

The SURE Program concludes with a poster presentation of the research project. Weekly tours/seminars are provided in each of the participating departments to familiarize the participants with the areas of research at the OUHSC beyond of their assigned laboratory. The SURE Program has attracted students from numerous states across the U.S.

Economic Impacts

2001 Comparison OF NIH Per Capita Funding



Biomedical Research
ECONOMIC IMPACTS

Oklahoma researchers have made and will continue to make major contributions to biomedical research. This impacts the quality of life for all Oklahomans, in terms of both health and education. However, biomedical research has a direct and powerful economic impact on Oklahomans as well.

There has been an unprecedented increase in research funding in basic biomedical research over the past decade. The National Institutes of Health (NIH) budget (the largest research funding agency in the biomedical area) is on a path to double in a five-year period (1999-2003).

Similar, but less dramatic, increases have occurred in the major private funding agencies like the American Cancer Society and the American Heart Association. In both the public and private sectors, in the halls of Congress and on Wall Street (despite the current market), there is real confidence that investing in biomedical research today will yield positive returns many times over.

Lost Opportunity

The problem we face in Oklahoma is that we aren't capitalizing on this increase. In 2001, the "per capita" funding for Oklahoma from the NIH was $15.45. Compare that number to the national average of $58.39. Oklahoma is leaving $42.94 per person (or $140 million) "on the table" when it comes to federal funding.

Behind Arkansas

Now, compare Oklahoma's per capita average with that of surrounding states: in the same year the per capita average for Missouri was an astounding $72.76; Colorado was $61.04; Texas was $36.69; and New Mexico was $42.17. Even Kansas, which is similar to Oklahoma in many ways, was $24.17. But the surprise was Arkansas.

For years, Arkansas' per capita NIH funding had been the lowest in the region. Two years ago, however, Arkansas came in at $14.52, a 30% jump from the previous year. Last year it was $16.43. In short, having fallen behind Arkansas, Oklahoma's funding is the lowest in the region, and it suffers from the lowest rate of growth.

What could that revenue mean for Oklahoma?

Potential Impacts in Oklahoma
NIH funding for biomedical research brought $52 million to Oklahoma in 2001. Not bad, but had the state received the per capita average, that number would have been nearly $190 million. This steady stream of funding would mean salaries for thousands of Oklahomans who buy local products and support local services.

It would mean more tax revenue for the state.

Just as importantly, this funding would also create the kind of dynamic environment that yields new high-tech businesses, attracts commerce from outside the state, and creates more good jobs for the state's citizens. It's important for Oklahomans to appreciate how other states have benefited from the economics of this sector and what they are doing to bolster biomedical research.

Opportunity in California
California has recently begun a $300 million initiative that seeks to create new centers for biomedicine, nanotechnology, and telecommunications. Each will receive $100 million of state money over the next four years, and each is expected to raise twice this amount on its own, making the total potential investment worth $900 million.

California Gov. Gray Davis describes this investment as "the most ambitious scientific research initiative ever undertaken" by the state. But California, the home of so many successful high-tech industries, understands that the potential returns on the investment are well worth the initial costs.

Oklahoma is leaving $140 million a year "on the table" when it comes to federal funding.

Opportunity in North Carolina
North Carolina announced a "Genomics and Bioinformatics Consortium" made up of about forty state-based corporations (including Glaxo-SmithKline, Biogen, and IBM) universities (including Duke and UNC-Chapel Hill) and non-profit institutions.

This consortium will bring together key elements of R&D, commercialization, and support infrastructures that use or focus on genomics. North Carolina, not content to rest on the successes of its "Research Triangle," is positioning itself for the future.

Opportunity in Kansas City
Closer to home, leaders in Kansas City approved a ten-year plan to generate $500 million to put Kansas City at the forefront of biomedical research.

The plan, dubbed the "Life Sciences Business Plan," will focus on developing the infrastructure for genetic research, especially building state-of-the-art laboratories and hiring more research scientists (from fewer than 300 to more than 500).

The scientists, in turn, will bring more federal dollars into Kansas City's economy, which means more revenue and more jobs (an estimated 15,000 new biomedical jobs!) As they do in all booming biomedical research communities, some of these scientists will spin-off biotech companies, which will create jobs and contribute enormously to the local and state economy.

Opportunity in Texas (Dallas)
Last year, the legislature in Texas appropriated $9 million per year for a new biotech research institute in Dallas at UT-Southwestern. The new institute will include institutes for genetic, molecular and cellular biomedical technology, new drug and vaccine development, computational biology, and advanced medical devises and imaging technology.

The Texas funds are earmarked to allow UT Southwestern's Office of Technology Development to expand and accelerate its efforts to bring discoveries to the market. In addition to providing $9 million per year in support, the Legislature approved construction funding of $40 million to help finance a 760,000 square-foot research building in Dallas. The Texas Legislature has recognized that an exciting revolution is beginning in medical science and has wisely decided that Texas should be among those at its forefront.

Opportunity in Other Places
San Diego has more than 375 biomedical technology companies employing 35,000 people. Montgomery County Maryland has 200 companies involved in biomedical technology. In North Carolina in 2001 there were 114 biomedical technology-related companies, 63 contract research and testing companies and 121 businesses and organizations that support the industry. Other cities such as Boston and San Francisco have large and well-established biomedical technology industries.

Biomedical Research
PREPARING OKLAHOMA TO COMPETE

Attracting More Scientists

It's not that Oklahoma scientists can't compete with their colleagues nationally-they can. The problem is that Oklahoma simply doesn't have enough scientists.

Each scientist at OMRF brings into the state over $500,000 in grants and contracts. Collectively, that totals to $23 million in out-of-state dollars to Oklahoma from OMRF scientists in 2001. Each of these 45 scientists, in turn, employs (on average) another seven people.

Thus, the addition of more scientists will have a direct and powerful impact on the state's economy. In 1998, OMRF embarked on an ambitious growth plan to increase the size of its faculty by 50 percent (36 to 54 faculty scientists). Over the next decade, OMRF will continue to grow as new laboratory space is constructed.

It is critical that Oklahoma focus its efforts on this rapidly expanding field. Each of the previously cited states (and cities) used a different plan to execute the initiative, but the common elements are obvious: commitment and leadership; cooperation and coordination between federal, state, civic, and business entities; the development of infrastructure.

Several promising signs indicate that Oklahoma can successfully create a thriving biomedical research community. In 2002, OMRF and OUHSC were each awarded an NIH "Institutional Development" grant, together totaling nearly $23 million over a five-year period.

These funds will be used by research entities across the state to develop infrastructure and to recruit and train scientists who will, in turn, bring more money into the state.

Other promising news includes the $3.7 million in federal appropriations to OMRF over the last two years to support genetic research.

Major Biomedical Research Programs in Oklahoma

Research Parks

The Presbyterian Health Foundation had the vision to plan and begin the Biomedical Research Park in Oklahoma City. Located adjacent to the Oklahoma Health Center, Research Park provides badly-needed laboratory and office space for the biotechnology start-up companies that are "spun out" of OMRF and OUHSC every year.

Currently, three buildings are complete, one is being constructed, and several more are planned. At this point, every square foot is leased. The Presbyterian Health Foundation's vision for and investment in the Biomedical Research Park exemplifies the commitment needed for biomedical technology to succeed in our state.

Despite these positive starts, the sense of urgency needed to make Oklahoma a true player has been lacking. If the development of biomedical technology in Oklahoma is to be more than a dream, area leaders must be roused to real effort.

The state of Oklahoma, however, must invest in biomedical research or it will let the small triumphs of the last couple years go by the wayside. We have a real opportunity to contribute to Oklahoma's long-term economic health (not to mention its citizens' physical and mental health).

We have "blueprints" for success from other states. We have the necessary leadership, and the capacity for cooperation.

What we still need is the commitment, coordination, and drive to make this happen.

END NOTES

All information is either primary information from the Oklahoma Medical Research Foundation or cited from the US Senate's Joint Economic Committee entitled "The Benefits of Medical Research and the Role of the NIH" (May 2000)

Chapter 6

Markets and Governments

Michael Metzger, Ph.D.,
Director, Oklahoma Center for Policy Research
University of Central Oklahoma

Markets -
"Don't gamble. Take all your savings and buy some good stock
and hold it til it goes up then sell it. If it don't go up, don't buy it.."— Will Rogers

Governments -
"As bad as we sometimes think our government is run, it is the best run I ever saw."— Will Rogers

Chapter 6

Markets and Governments

Michael Metzger, Ph.D., Director, Oklahoma Center for Policy Research, University of Central Oklahoma

When should health care markets be left to themselves, and when (and in what manner) should the government intercede?

This chapter will identify the various forms of market "failures" that create a potential rationale for the government to intervene, with application to health care markets. Utilizing this paradigm, the evolution of the American (and Oklahoman) health care system(s) over the last century will be examined. Also with this paradigm, the commonly cited various problems and crises with the current health system will be critically examined.

It will be shown that, while unjustified government interventions will certainly lead to inefficiencies and market failures, even justified interventions have that potential to some extent, especially if poorly conceived and executed. Accordingly, in policymaking, it is imperative that underlying market failures (if any) be correctly identified, and that only appropriate and tailored interventions be made.

Market Failures and Government Intervention

Perhaps the most pervasive and divisive issue in politics in recent decades has been the size of government. Is it too large, or should more be done to address the pressing problems of the day? Surprisingly, economists have achieved a remarkable degree of consensus, at least in principle, on the appropriate role or scope of government. The basis for such agreement centers on the concept of market failure, defined to occur when a market left to itself generates an inefficient price, quantity, quality, product mix, or distribution of goods and services.

Efficiency is in turn defined to occur when marginal benefit equals marginal cost. The failure of that condition to be satisfied constitutes inefficiency and market failure.

The marginal concept is not one that lends itself easily to casual debate or political oratory. Instead, to the extent that numerical evidence enters at all, misleading arguments are often made that in no way reflect efficiency.

As a general rule, the seeker of truth in policy debates and analysis should be very wary of each of the following:

- arguments based on total measures,
- arguments based on average measures,
- arguments based on only benefit or only cost.

Any such arguments will be logically flawed.

What exactly then is the appropriate role of government? Economic theory tells us that government intervention should occur ***only*** if two conditions are satisfied:

- one, a genuine market failure occurs, ***and***,
- two, the benefits of intervention exceed the costs.

Otherwise, there is no role for government and the market should be left to itself. While an inefficient or inappropriate result may then occur, it is better than what would occur with government intervention; government cannot solve every problem.

Even if both conditions are met, secondary market failures will generally result. For example, one common secondary inefficiency or market failure is the distortionary effect of any taxes needed to fund the intervention. The costs of any such secondary market failure should always be considered in meeting the second, cost/benefit criteria above.

Government is not the only remedy for market failures. Market forces are remarkably innovative and resilient, often adapting to mitigate, if not eliminate, a market failure. However, just as in the case of government intervention, these market adaptations can also result in secondary market failures. [1]

In principle, economists generally agree on seven basic types of market failures. While, some markets for goods and services involve virtually no market failures, others, may involve one or two. Health care

markets are unusual in that they are riddled with all seven types, perhaps explaining the pervasive role that government plays.

Types of Market Failures, Market Adaptations & Government Interventions

To understand health care markets and the appropriate role of government in them, it is essential to be able to recognize the various forms of market failures. The following list and discussion is necessarily terse given the nature of this research document. Interested readers are urged to consult a basic microeconomics principles text as well as the health care economics texts listed in the bibliography.

Market Power

While this is usually attributed to a monopolist, it can be at times exercised by any firm (or small number of firms), as either a seller or as a buyer, to improve profits. It simply requires that a firm have the ability to affect market price through its choice of quantity bought or sold.

- Common result: Price too high, and quantity too low.
- Possible market adaptation: mergers and unionization.
- Possible government intervention: antitrust, utility regulation (but not usually public provision, taxes or subsidies).

Uncertainty

This refers to imperfect information as to the future market on the part of both buyers and sellers. It can occur due to vagaries in weather, accidents, epidemics, and anything else that is generally unpredictable.

- Common result: reduced output, high price, or nonexistence of market or product.
- Possible market adaptation: insurance.
- Possible government intervention: industry subsidy, public provision.

Asymmetric Information

This is another form of imperfect information, but one which occurs when either the buyer or seller has better information than the other party. Examples can include quality of a used automobile, quality of care given by a medical professional, risk of accident or illness of an individual seeking insurance, and the safety or efficacy of a new pharmaceutical or medical procedure.

- Common result: high prices, reduced output, reduced quality, non-existence of market.
- Possible market adaptation: guarantees, warranties, certification, reputation, professional licensure, consumer organizations.
- Possible government intervention: regulation, consumer protection laws, government licensure, access to reparations through judicial system, drug approval laws.

Externalities

This phenomenon occurs whenever the activities of one individual or one firm unintentionally spill over to positively or adversely affect the well-being of another individual or the productivity of another firm. Pollution and smoking are examples of a negative externality, while personal cleanliness and a business' R & D activities can be an example of a positive externality.

- Common result: too high or too low prices, reduced or increased output, too low or too high quality, non-existence of market.
- Possible market adaptation: mergers, side-payments.
- Possible government intervention: regulation, subsidies or taxes, access to reparations through judicial system, patents.

Public Goods

Like externalities, public goods involve spill-overs, but unlike externalities, it is intentional. Public goods are those that can be simultaneously consumed by everyone, e.g., national defense, monetary system, legal system, transportation systems, and fiscal and monetary policies. Since for such goods, it is typically impractical to exclude those who do not pay their share of costs, free-riding behavior occurs in which individuals rely on others for the good's continued supply. This can lead to none of the public good being provided.

- Common result: reduced (or zero) quantity, reduced quality.

- Possible market adaptation: charity, advertiser-supported provision.

- Possible government intervention: public provision or government purchase.

Universal Access to Essential Goods

The combination of poverty and essential goods is generally recognized as a potential market failure. In the case of health care, it is not a market failure if the poor cannot afford every type of and the very best in goods and services; therefore "essential" must be defined in a way that is cost-justified.

Whether this constitutes a market failure separate and distinct from those cited above is a matter of opinion. In some ways, this market failure can be viewed as a type of externality, i.e., the poor's ill health may affect the health (contagion) or sensitivities (sympathy or compassion) of the more fortunate members of society. It could also be viewed as a public good, if provision of essential goods such as basic nutrition and health care enhances the economic growth of the country, the fiscal health of government, and the individual wealth of citizens.

- Common result: reduced (or zero) quantity, inappropriate product mix.

- Possible market adaptation: charity, criminal activity.

- Possible government intervention: demand subsidies, vouchers (not usually supply subsidies or public provision).

Government Intervention

It is perhaps not surprising that unnecessary or inappropriate government interventions could cause market failures. These can occur for many reasons including: politically powerful constituencies, legitimate market failures that dwindled over time, or misunderstanding of the nature of a market failure or of the appropriate policy response.

Once established, those interest groups who benefit will lobby hard and often effectively to maintain the intervention, even if costly for the nation as a whole. The appropriate public policy response is to eliminate such interventions, an action that is often more easily prescribed than accomplished.

As mentioned previously, however, even legitimate and cost-effective government interventions can cause other secondary market failures. Any public policy response must meet the cost/benefit test cited above; otherwise, there is no appropriate action to be taken.

Evolution of the American Health Care System

In the early 20th century, health care was market-based, typically described as fee-for-service, with individuals satisfying their needs as best they could with available income and wealth. This involved perhaps too little care going to the poor, except to the extent that charity and price discrimination alleviated the problem.

During the Depression, economic activity and incomes plummeted. Hospital services became unaffordable for an even greater proportion of the population and demand for these services fell dramatically. Since the need for hospitalization was unpredictable, families were increasingly unable or unwilling to put aside funds to cover an uncertain event of an accident or illness.

Markets adapted as hospitals began to offer insurance in order to fill their beds. This not only pooled the risk of illness or accident across families, it also greatly reduced the amount of money that any one family needed to save to ensure access if needed.

This experiment was so successful that physicians followed suit and offered insurance against the need for their services. These two insurance plans were known as Blue Cross and Blue Shield.

It is important to note that health insurance at that time was restricted to what economists call "insurable risks". Such risks have the twin properties of having:

- a low probability and
- a high cost.

For example, insurance is not normally desirable nor is it profitable for low-cost events, e.g. for the common cold, or indigestion. Similarly, insurance is not normally desirable nor is it profitable for high probability events, e.g. sun damage to your auto's finish, weeds appearing in your lawn, or depreciation of your automobile. Like most other market adaptations, insurance creates other secondary market failures. One of the most notable occurs before a contract is concluded: adverse selection.

Adverse selection occurs because of asymmetric information. Since an insurer will not have as good information about the health of an individual as that of the individual himself, the premium quoted will reflect the average health and hence average cost of insuring all individuals. For the healthy, the premium will be much greater than the cost of self-insurance, and participation will be less attractive and so, fall. For the unhealthy, the premium will be less than the cost of self-insurance, and participation will be very attractive and so, increase. As the mix of insurees becomes less healthy, the average cost and the premium will continue to rise.

Ultimately, there may only be insurance purchased by the unhealthy, and the rest of the population will be uninsured. Moreover, if the insurance company cannot make a return on insuring the unhealthy, then the entire population will be uninsured. Either way, a market failure will occur as quantity falls and price increases, or as the market for health insurance fails to exist altogether.

Market adaptations have arisen to minimize adverse selection. These include health exams, experience-based policies, and pre-existing condition clauses. While these may seem unfair in the sense that it causes high-cost individuals to pay higher premiums and perhaps to be uninsured, they are efficient in the sense that insurance can cover a larger proportion of the population since premiums better reflect actual cost. [2]

Yet another, and very important, market adaptation evolved to address adverse selection: employment-based insurance. By marketing insurance directly to employers, the insurer could assure a representative and stable mix of healthy and unhealthy insurees. This permitted premiums to remain relatively low. Lower premiums were also possible since negotiating with an employer, as opposed to each and every employee individually, reduces transaction costs.

Even with employer-based insurance, there was a strong incentive not to extend coverage beyond the efficient level of "insurable risks." The reason for this is that premiums were paid directly by employees, or indirectly in the form of reduced wages.

At this point in history, the primary "Uncertainty" and the secondary "Asymmetric Information" (i.e., adverse selection) market failures were reduced, but the Essential Good market failure remained: a large proportion of the population was either unemployed or employed in establishments without employer-provided health insurance.

In order to extend access to basic health care to the general population, the government intervened at this point by subsidizing employer-based insurance. Most importantly, while income taxes were levied on earned (money) income, earned health benefits were nontaxable. The states followed suit.

It is important to note that this tax shelter was applied not just to premiums for policies covering "insurable risks" but to all health care policies. Consequently, such preferential tax treatment presented employees with the choice on the margin of taking home 50 to 70 cents on the dollar of after-tax earned income (that could be spent on additional health care or on other goods and services), or a full dollar's worth of additional health care. The obvious choice was for employees to demand more and more comprehensive health policies from employers.

Due to the failure of the government to distinguish between insurance for "insurable risks" and insurance for all health care eventualities, employer-provided health benefits evolved beyond insurance to a system of pre-paid health care. Because the federal (and state) tax subsidies for health insurance was not restricted to the amount needed for an individual or family to afford basic health insurance, a secondary market failure was created.

Employees responded to the subsidy by consuming more health care, to the point where high marginal tax families realized a negative marginal cost for such policies, i.e., the effective price became not only less than the cost in societal resources, but less than zero. Over-consumption resulted on the intensive margin. Health care expenditures naturally increased faster than would otherwise be the case.

This had public policy implications beyond just the potential misuse of resources. Due to this subsidy, the federal government was estimated in 1994 to have foregone $74 billion dollars in tax revenues, [3] necessitating higher taxes on other goods or services, and/or reducing the ability of the government to provide other public services. Updating that number to the current year and including foregone state tax revenues, the loss probably approaches $100 billion dollars per year. This foregone revenue would be enough perhaps to provide some basic level of health insurance to all working and non-working poor families in the country.

Therefore, it can be argued that this government intervention, through its poor design, led to over-consumption (with low, zero or negative marginal product on the intensive margin for those who are insured through their employer), at the expense of addressing under-consumption (positive marginal product on the extensive margin, i.e., poor families). [4]

A critical development in this chronology is another secondary market failure that arises from insurance:

Moral Hazard

Like Adverse Selection, it arises because of asymmetric information, but unlike Adverse Selection, it occurs after a transaction is completed. At this point in the transaction, information is asymmetric in the sense that the insurer cannot usually determine to what extent the cost of a health event is attributable to the action (or inaction) of the insured. Put simply, since health care costs are no longer paid out-of-pocket, but rather by a third party, insurance coverage alters the incentives of the insured by:

- reducing the out-of-pocket expense of a health event that might arise due to the insured's behavior, thereby increasing the number or severity of health events,

- reducing the insured's cost of seeking health care, thereby increasing the incentive to seek care more often and of higher quality than otherwise,

- reducing the insured's incentive to shop around for the best price, thereby increasing the prices paid and reducing the incentive for providers to compete in terms of price.

All of these aspects of Moral Hazard can serve to increase the quantity, quality, price, and hence total cost of individual health care.

As might be expected, market adaptations have occurred. Insurers have come up with measures to reduce moral hazard, e.g., deductibles, co-payments, and managed care incorporating "gate-keepers." These have had varying degrees of success.

Perhaps, the most effective means of controlling Moral Hazard is to add a third criteria to "insurable risks", namely inelastic demand. That is, insurance should cover events that are high cost, low probability, and for which the demand for any remedy or care is relatively unresponsive to price. Then, when the individual sees his out-of-pocket cost of seeking care fall to zero (or to the deductible or co-pay rate), the quantity and quality of care demanded will not increase.

How would the "inelastic demand" criteria affect health care insurance as we know it? The demand for hospital stays and physician visits is fairly unresponsive to price. These represent basic essential health care, and meet the two criteria for insurable risks. Other coverage often included in employer-provided pre-paid health care benefits generally are more responsive to price, and do not meet the criteria for insurable risks. Examples are optical, dental, and cosmetic services, since consumption typically increases for a family when such services are included in a policy.

Therefore, from a policy perspective, to arrive at a minimum essential health care package to which all individuals should have access, and to contain over-consumption and excessive growth in expenditures on health care, the two traditional criteria for insurable risks and the demand elasticity criteria appear to be key considerations.

The expansion of traditional health insurance to pre-paid health care plans, whether employer-based or publicly-provided to the more disadvantaged members of our society, represents a change from an "a la carte menu" to an "all you can eat" meal plan. Moreover, under pre-paid health care plans, there is no incentive for consumers to compare prices and no incentive for providers to compete in terms of price. For those with health coverage, over-consumption of non-essential care and rapidly rising costs have been the result. The majority of empirical evidence suggests that gains in overall health were not commensurate with the increase in expenditures.

Moreover, businesses and government have been faced with rapidly rising health care expenditures. Both needed to find a means to limit consumption to the essential and re-establish price competition among providers. Did this constitute a valid market failure as a basis for public policy or government intervention? It could be argued that market failures were developing in that:

- businesses were becoming less cost competitive with foreign suppliers,

- government faced the choice of either restricting other legitimate government activities or relying more heavily on distortionary taxes,

- many individuals who must purchase their own insurance directly rather than through an employer, responded to rising premiums by "self insuring", purchasing health care on an "as needed" basis, finances permitting. As a result, many could not afford care for unanticipated high-cost medical events.

The development and expansion of Health Maintenance Organizations and other forms of managed care represented market adaptations to these new market failures. Cost containment was thereby achieved through some combination of the following features: [5]

- Gatekeepers (usually general practitioners) decide when a patient would be permitted diagnostic tests, specialist referral, and hospital care.

- Patients were reimbursed only when care was obtained from those physicians and hospitals that agreed beforehand to price concessions to the HMO. Alternatively, some physicians were hired as employees and paid a salary thereby reducing any incentive to encourage patient visits. A similar incentive was provided to other affiliated physicians serving as gatekeepers (or primary care physicians) in that they were paid an annual capitation fee - e.g., $50 per patient - regardless of the number of visits or the time spent on each visit.

- Patients were encouraged through variable co-pays to use generic drugs or drugs for which a price concession was obtained from the pharmaceutical company.

- Utilization reviews were performed on member physicians to encourage them to contain costs.

- Because the benefits could be better internalized, HMO's had a greater incentive to invest in preventive care thereby reducing the need for more costly acute care later.

Managed care created one-time cost savings as more patients switched from pre-paid medical care policies. Consumption of quantity and quality was reduced, with most studies suggesting no detrimental effect on over all health status. The cost savings were one-time since input prices are likely to increase at the same rate in the long term for any type of medical care delivery.

Therefore, once the penetration of managed care in the general population peaked, the rate of growth in national (and state) health care expenditures is expected to grow at a rate only slightly less than before.

Consumer resentment as to restrictions on access to health care, as well as physician resentment over managed care oversight, has led to a recent backlash in public opinion. Politicians and policymakers are scrutinizing managed care practices.
Is there a legitimate market failure that invites government intervention?

Some possibilities include:

- Managed care providers are being accused of practicing a form of reverse adverse selection: creaming-skimming or cherry-picking the healthy (low cost) populations, while dumping the unhealthy.

- There are similar allegations of practices resembling reverse moral hazard, whereby managed care providers skimp or deny care in order to reduce costs or to encourage high-cost unhealthy members to go elsewhere. Such practices are arguably limited by the age-old market adaptation, reputation. To the extent that a particular provider earns a poor reputation, employers, employees and governmental bodies will presumably be reluctant to enter into long term arrangements.

Even if these market failures are occurring and are significant, any government intervention must be deliberative and measured in order to meet the necessary cost/benefit test.

In particular, any laws or regulations that removes or diminishes a cost-containment feature central to managed care risks a return to pre-paid medical care and its well-documented market failures.

This includes granting consumers free choice of physicians and hospitals, specifying minimum entitlements for a given health care event (e.g., minimum hospital stay for new mothers), and restricting the ability of a HMO to disassociate with a physician, lab or hospital.

Are Health Care Expenditures in Crisis?
From 1950 to 2000, national health care expenditures have increased from about $13 billion to $1.3 trillion, an average annual rate of increase of about 10%.[6] In terms of Gross Product, it has grown from a 4% share to 14%.

Does this represent a crisis as so often described?

If the activity were non-productive use of resources, such as consumption of addictive substances, then the answer would be yes. Clearly there has been a phenomenal increase in expenditures on desktop computers, or personal computing power, in the last fifty years, but we do not hear of a computer expenditure crisis. Conceivably, health care could be said to fall somewhere between these extremes, if a large share of these expenditures have not produced commensurate increases in health outcomes.

Managed care is a market adaptation that evolved to reduce expenditure growth. Such a reduction is desirable only to the extent that it reduced nonproductive use of resources as well as those price increases that only served to transfer dollars from individuals, employers and the government to health care providers.

Is there a need for government intervention to further reduce health care expenditures, and if so, in what form? To what extent would any such intervention have been effective in the past? To answer these questions, it is critical to know what were the underlying causes of health care expenditure increases in the past

Research of this author has broken down the growth in health care expenditures from 1950 to 2000 to shares attributable to the most obvious and easily measurable contributors: [7]

Table 1
Shares of Contributors to
National Health Care Expenditure Growth: 1950-2000

Contributing Cause		Est. Share
General Inflation (CPI)		~ 43%
Medical Price Inflation above the CPI		< 19%
Population Growth		~ 13%
Increased Quantity & Quality of Care:		
Due to Income Growth	~ 22%	
Other Causes	> 3%	
Sub-total		25%
TOTAL		100%

As seen in Table 1, the two largest components are general inflation and increased consumption of quantity and quality of health care, representing a combined share of over two thirds. Since the consumer price index [CPI] and the medical consumer price index [MCPI], are generally recognized to overstate inflation by failing to adequately control for quality and new product introductions, the second largest share, i.e., quantity and quality, is probably underestimated.

Any public policy intended to reduce expenditure growth over this 50 year period would be unable to address three of the components - general inflation, population growth, and income growth - accounting for a combined share of nearly 80%.

One likely target is the excess growth of medical prices over general inflation representing a 19% share. This might arguably be accomplished by promoting price competition (e.g., managed care), stricter antitrust enforcement, medical price ceilings, and reduced patent protection. However, there are serious issues involved in targeting this category:

- As noted above, due to the inability of Bureau of Labor Statistics to completely compensate for quality improvements and new product developments in computing price indices, at least some part of this 19% share probably belongs in the quantity and quality category.
- Price ceilings and caps are notorious in creating market failures, e.g., reducing the incentive to provide adequate supplies and appropriate quality of goods and services.
- Reducing patent protection on research and development would reduce the incentive to perform such activities, for example, adversely affect the development of new pharmaceuticals.
- Perhaps the most cost-effective policy is a neutral one: continued reliance on managed care to hold down prices, but, politically, managed care cost-containment practices are coming under increased scrutiny due to consumer and physician complaints.

The remaining target for public policy is the growth in quantity and quality of goods and services demanded and consumed. This has arisen for a number of reasons, some of which are overlapping: income growth, tax subsidy on health care expenditures, and moral hazard arising from pre-paid medical care benefits.

One relatively easy public policy measure that addresses this component is the continued reliance and support of managed care to rein in unnecessary or cost-ineffective health care purchases. The most justified and cost-effective public policy measure is also probably the most politically dangerous: limit the (state and federal) tax shelters accorded health care coverage to a level that just covers a basic essential insurance policy. While individuals could elect to purchase more extensive coverage, they would have to do so with after-tax dollars.

This research provides additional evidence that the growth in health care expenditures represents a health care crisis only to the extent that: (1) these expenditures have been applied at the intensive margin (to those with health care coverage) to the point where marginal benefit is less than marginal cost (or even to close to zero); and (2) these dollars could have achieved a greater social return if they had been applied to the extensive margin (to those without health care coverage).

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ENDNOTES

1. As will be discussed below, the phenomenon of insurance is a market adaptation that occurred to address market failures arising from imperfect information about the future, i.e., uncertainty. Insurance in turn led to secondary market failures such as "adverse selection," in which high-risk individuals disproportionately seek out insurance, driving up costs and premiums, and pricing low-risk individuals out of the market. Another secondary market failure, "moral hazard," occurs when insured individuals have less incentive to minimize risk, again driving up costs and premiums, and pricing low-risk individuals out of the market. In turn, additional market adaptations occurred, without any government intervention, to address these secondary market failures, e.g., deductibles, co-payments, experience-ratings, etc.

2. It is important to remember that health insurance is a market-based service designed to pool risks across individuals so as to make annual outlays predictable and affordable. That is, it is a market adaptation to the market failure known as "uncertainty." Health insurance was not intended to be a public program to provide universal health care access, i.e., as a market adaptation to the market failure known as "access to an essential good." While the latter is a laudable public policy goal, it cannot be accomplished through private health insurance without sizable demand and/or supply subsidies.

3. Feldstein (1999), p. 536. From a perspective of encouraging access to health care, this subsidy is somewhat perverse in that a larger absolute and percent subsidy goes to those with high incomes than to the working poor.

4. In addition, tieing health care policies to employment created job immobility in that individuals were reluctant to accept more productive and lucrative career opportunities for fear of loss of health care benefits. In the last decade, this economic loss has been reduced by new legislation in the form of COBRA and limits on pre-existing condition clauses.

5. Depending upon what combination of features are involved, the form of managed care is known as a health maintenance organization [HMO], or one of the alternative acronyms PPO, IPO, etc. The precise definitions of these alternative managed care organizations are beyond the scope of this chapter.

6. In the media and policy discussions, references are often made to "health care costs" representing a crisis. Considerable confusion ensues when one person interprets "costs" as expenditures, and another, prices. Since expenditure is the product of price and quantity, the fact that expenditure is rising does not necessarily mean that this is attributable to increasing prices. Accordingly, it may be safest to avoid the term "cost" in favor of either expenditure or price.

7. Metzger (2002).

Chapter 7

Thoughts About ...

"Everybody is ignorant.
Only on different subjects."— Will Rogers

PROVIDERS

Alternative Medicine	Lawrence H. Altshuler, MD, Private Practice	Oklahoma City
Pharmacists	Phil Woodward, Executive Director, Oklahoma Pharmacists Association	Oklahoma City
Rural Hospitals	Val Schott, President, National Rural Health Association	Oklahoma City
Rural Physicians	Steve Hinshaw, DO, Private Practice	Waurika
School Nursing	Julie Jack, R.N., Sulphur Public Schools	Sulphur

EMPLOYERS

Corporate Oklahoma	Patricia Podolec, Human Resources Manager, Delta Faucet	Chickasha
Small Business	Dolley Rolland and Catherine Haynes, Owners, C&D Home Health	Ponca City

PEOPLE

Seniors	Mac McCrory, EdD, Director, OSU Seratean Wellness Center	Stillwater
Children & Youth	Anne Roberts, Executive Director, Institute for Child Advocacy	Oklahoma City
Hispanic	Maria Palacios, LCSW, Community Service Council of Tulsa	Tulsa
Native American	Bernadine Tolbert, MD, Medical Director, OKC Area Indian Health Service	Oklahoma City
African-American	Bernard Goodman, Executive Director, Morton Health Center	Tulsa
Women	Karen Wicker and Marla Schaefer, OSU Center for Health Sciences	Tulsa

PHILOSOPHY

Community Planning	Ed Kirtley, Past Chairman, Texas County Turning Point	Guymon
Health Care Ethics	Linda Edmondson, LCSW, Executive Director, OK Assn for Health Care Ethics	Oklahoma City
Philanthropy	Michael Anderson, PhD, Presbyterian Health Foundation	Oklahoma City

Thoughts About ...

Alternative Medicine

Lawrence H. Altshuler, M.D., Oklahoma City

Conventional medicine has accomplished wonders in prolonging life and treating lethal diseases. However, it has not been as effective in alleviating chronic medical conditions, which has resulted in poorer quality of life, as well as increased financial burdens for many people. There are alternative methods that can help alleviate chronic conditions cost-effectively.

Methods & Therapies

Alternative medical methods are increasing in popularity and use, with over 40% of people now using them (70% of cancer patients). The primary reasons for their popularity is that they work, they can provide benefits that conventional medicine cannot or has not provided, and they are more holistic in approach. Ninety-six percent of people using alternative medicine still use conventional medicine, indicating a desire to receive benefits from both approaches.

The most frequently used alternative methods include herbs/vitamins/supplements (i.e. alternative products), manual therapy (chiropractic, osteopathic, massage), mind-body medicine (meditation, hypnosis, imagery, prayer), traditional Chinese medicine (acupuncture, Chinese herbs, qigong/tai chi), lifestyle and diet changes, and homeopathy. All of these methods have proven benefits for a wide range of medical conditions.

Some alternative methods, such as meditation, qigong/tai chi, and lifestyle/diet changes are beneficial for almost all medical conditions.

Other methods are effective for more specific conditions. Manual therapy is helpful for neck and back problems, with certain types of manipulation effective for headaches, TMJ syndrome, and sacral problems. Various herbs and supplements enhance brain and heart function, combat depression, and lower cholesterol. Acupuncture has been endorsed by the National Institutes of Health to treat nausea associated with pregnancy or chemotherapy, dental pain, fibromyalgia, asthma, headaches, tennis elbow, back pain, menstrual cramps, frozen shoulder, carpal tunnel, stroke rehabilitation (strengthens and improves function to affected arms and legs), and addictions (alcohol, drug, nicotine).

I have also used acupuncture successfully for allergies, incontinence, acid reflux, irritable bowel syndrome, congestive heart failure, dental problems, heel spurs, osteoarthritis, and many other conditions.

Advantages of Alternative Medicine

Rather than treating a specific disease or specific organ system, most alternative approaches evaluate the "whole" person (holistic), incorporating all the organ systems along with the mind and spirit. This requires more communication between provider and patient, which is often absent in conventional therapeutics. It also does not rely on technology to diagnose and treat, thus often providing a more caring approach. Finally, it allows the patient to take a more active role in his/her healthcare.

Current medical expenditures in the U.S. take 14% of the GNP and are rising steadily, primarily because of the increased technology upon which conventional medicine relies. Alternative methods are less expensive than conventional methods, but can be just as effective for many medical conditions.

Alternative Medicine Cautions

There are several aspects of alternative medicine that require patients to be cautious and seek competent advice and direction. They include:

Unregulated Products

Herbs and supplements are not regulated or controlled. As a result, many products do not contain the ingredients listed on the label, and many products contain impurities and substituted ingredients. If a product does not improve your condition, it may not work. Or it may be missing ingredients. You will never know. Another problem is that there is no established dosage for most products and no guidance on how long to take them or in what time period you should expect results.

Education/Training Disparities

Alternative practitioners vary widely in their training and abilities. Even licensed practitioners (such as chiropractors) can vary widely in their ability to treat effectively. Another good example is acupuncture.

There are numerous types of acupuncture, including Traditional Chinese, Japanese, Korean hand acupuncture, scalp acupuncture, moxibustion, cupping, bleeding, etc. Each type differs in the ability to benefit various medical conditions. Chiropractors require about 100 hours of acupuncture training, medical doctors about 260 hours, while Doctors of Oriental Medicine undergo eight years of training. Oklahoma is one of the few states that does not license acupuncturists, nor require specific training.

Practitioner inequity is magnified in those areas that are not regulated or licensed. Practically anyone can learn a technique and declare themselves an expert. This would include mind-body methods, homeopathy, energy healing (Reiki, Therapeutic Touch), self-help groups, herbalists, and many more.

Safety

Another problem with alternative medicine is safety, especially with alternative products. All herbs and supplements can have side effects, despite being "natural". For example, gingko, ginger, garlic, vitamin E, ginseng, and several other herbs can cause thinning of the blood and thus bruising and bleeding. Some products have now been noted to interfere with conventional treatments, such as St. John's Wort (used for depression) decreasing the effectiveness of digitalis and some HIV drugs.

Deceptive Marketing

Because alternative medicine is not regulated, marketing often is directed at the fears and/or suffering of people with chronic diseases, enticing them to use the products and methods. As a result, many desperate people waste their time and money on useless products and methods that have no chance of helping them. This wastefulness extends to those who currently may not have diseases but want to prevent them, often believing that various products and methods will do just that, when in fact, they won't. These problems are compounded since most people have little knowledge of what alternative methods work and which ones don't.

The Future

Research and available information will resolve some of these problems ... eventually. Unfortunately, alternative medicine research is in its infancy, and relatively few dollars are being spent on it as compared to conventional medical research. Conventional approaches are so ingrained in our medical care system, that the existing incentives reward technology and expensive procedures and medications rather than more cost-effective alternatives.

What is needed to improve the health of Oklahomans is to responsibly utilize the best of what both conventional and alternative medicine provide. In my practice, I have found that alternative methods can definitely improve health and quality of life for most patients with chronic diseases, and at a cost far less than with conventional medicine. For some conditions, alternative methods have been superior to conventional methods in benefit and cost and can be used alone, and for other conditions, they can be used as an adjunct to make conventional methods more effective.

To combine the two approaches most effectively, practitioners should be knowledgeable in both fields. Most physicians do not have the training, experience, desire, and/or motivation to learn and apply both approaches. This can be corrected by proper exposure to alternative methods, but at present, the University of Oklahoma College of Medicine does very little in this regard. The OSU College of Osteopathic Medicine may be slightly more oriented towards alternative methods, but most of its graduates practice conventional medicine exclusively.

Currently, the best way to balance conventional and alternative medicine limitations is for physicians and alternative practitioners to treat patients separately, but in collaboration with each other. To accomplish this, doctors must first be open to the benefits of alternative methods, and second, learn enough about alternative techniques and practitioners to serve as a basis for referral.

Oklahoma Public Policy Thoughts

Oklahomans would have the best opportunity to improve their health and address their chronic medical conditions if public policy attention were given to:

- Educate practicing physicians regarding the benefits of alternative medicine.
- Initiate communication and cooperation between conventional and alternative practitioners.
- Establish more extensive, "hands on" training in alternative medicine in medical schools, and encourage and support research efforts at OUHSC and Tulsa campus in alternative methods.
- Educate the public as to benefits and drawbacks of alternative methods and products.

Thoughts About ...

Oklahoma Pharmacists

Phillip Woodward, D.Ph., Executive Director, OK Pharmacists Association, Oklahoma City

In 1976, Supreme Court Chief Justice Warren Burger rendered an extremely unpopular opinion directed toward the profession of pharmacy. He stated that in dispensing drugs:

"The pharmacist performs two tasks; he counts out the correct number of tablets or measures the right amount of liquid; and he accurately transfers the doctor's dosage instructions to the container. Without minimizing the potential consequence of error in performing these tasks or the importance of the other tasks a professional pharmacist performs, it is clear that in this regard he no more renders a true professional service than does a clerk who sells law books."

As Will Rogers said (see our cover), "It is not what we don't know that gets us into trouble; it is what we know that ain't so." Will must have known the Chief Justice.

I .. and thousands of pharmacists around the country ... quickly voiced our disapproval. How could an individual of Justice Burger's stature and influence issue an opinion replete with such uncomplimentary language? I quickly realized that Justice Burger's preconceived ideas about the duties and responsibilities of today's pharmacists were rare, but a large majority of Americans had the same misguided perceptions.

On the other hand, the decade of the 70's marked the beginning of a new era in health care delivery for our profession. The evolution of pharmacy practice from not only dispensing products but also providing quality Disease Management Services over the last thirty years bears witness to the fact that our profession has become a vital part of the total health care delivery system in this country.

Excellent pharmacists have a solid education in scientific subjects with a willingness and curiosity to learn. Pharmacy demands good judgment, dependability and conscientious performance. Attention must be given to detail, accuracy, neatness, cleanliness, and orderliness because the pharmacist's actions involve human life and well being. Pharmacists must enjoy meeting and working with people.

Pharmacists today have broader functions than dispensing medication or providing therapeutic drug information. They are responsible for providing pharmaceutical care, a philosophy in which pharmacists care for their patients and share responsibility with other members of the health care team for the outcomes of drug therapy in their patients.

Pharmaceutical care involves the process through which a pharmacist cooperates with a patient and other professionals in designing, implementing, and monitoring a therapeutic plan that will produce specific therapeutic outcomes for the patient. This in turn involves three major functions: (i) identifying potential and actual drug-related problems; (ii) resolving actual drug-related problems; and (iii) preventing drug-related problems.

Pharmaceutical care is a necessary element of health care and should be integrated with other elements. Pharmaceutical care is provided for the direct benefit of the patient, and the pharmacist is responsible directly to the patient for the quality of that care. The fundamental relationship in pharmaceutical care is a mutually beneficial exchange in which the patient grants authority to the provider, and the provider gives competence and commitment (accept responsibility) to the patient.

The fundamental goals, processes, and relationships of pharmaceutical care exist regardless of practice setting [1]

Pharmaceutical Care Services

It is estimated the U.S. consumer spent over $100 billion for prescription drugs in 2000. Adverse drug events (drug-drug, drug-allergy, overdosing or under dosing) cost our nation almost double that amount ... $170 billion. That is not a good return on investment.

In the last few years, evidence is mounting that direct pharmacist involvement in patient care can minimize drug-related problems. Lasarou et al. [2] conducted a meta-analysis of 39 studies to examine adverse drug reactions in hospitalized patients between 1966 and 1996. Serious drug reactions occurred in 7.6% of the patients, and 0.32% of these patients died. More than

two-thirds of the serious cases reviewed involved reactions that occurred outside hospitals rather than inside them; these patients were subsequently admitted to hospitals for follow-up care. The researchers concluded that approximately half of the reviewed adverse reactions were preventable, especially with the help of a pharmacist.

Pharmacists can also help prevent drug-related problems in the community setting. Rupp [3] described a study to estimate the economic value created by community pharmacists who routinely screen for and correct prescribing-related problems during the course of their dispensing activities. He found that 28.3% of identified problems could have resulted in patient harm had the pharmacists not intervened to correct the problem. The direct cost of medical care avoided was estimated to be $122 per problematic prescription.

Providing clinical pharmacy services can help minimize drug related problems and control health care costs for ambulatory care patients. Schumock [4] estimated that for every dollar invested in clinical pharmacy services, an average of $16.70 can be saved on overall health care cost.

The Pharmacist's Expanding Role
Pharmacists are the nation's most accessible health care providers. This, among other reasons, is why many Oklahoma pharmacists have sought to develop disease state management services (DMS) for their prescription customers in collaboration with the patient's primary care physician or medical specialist.

The pharmacist can play an integral role in DMS. A pharmacist is the link between the physician and the patient and can help to manage medications and perform an array of common lab tests, which help patients monitor their diseases. The pharmacist can also play a major role in promoting wellness and prevention of health problems. In many cases, promoting lifestyle changes can make a significant difference in the quality of life for a patient.

DMS services include management of asthma, diabetes, hypertension, anticoagulation clinics to provide management of warfaring therapy, and providing needed immunizations (flu and pneumococcal vaccinations) to the citizens of Oklahoma, under physician agreements.

Other Disease Management Service programs include weight management and cholesterol screening. Patient pharmaceutical care programs and drug management services give pharmacists many opportunities to improve specific patient outcomes. Implementation of the programs in collaboration with physicians and other health care providers afford a systemic approach to target long-term monitoring of patients with chronic diseases with a high prevalence and potential for morbidity. [5]

The Oklahoma Pharmacists Association
The OPhA was founded in 1890 as the Oklahoma Territorial Pharmaceutical Association. The Indian Territory Pharmaceutical Association was formed in 1895. Those respective associations were merged into the Oklahoma Pharmaceutical Association at statehood.

Today over 3,000 pharmacists practice in community and hospital pharmacies in Oklahoma with the remainder following special fields such as sales, administration, academia, or research in the private, public, or governmental sector. There are over 600 independently owned pharmacies and approximately 500 chain pharmacies in Oklahoma. The remainder of Oklahoma's pharmacies includes hospital pharmacy, home infusion and closed-door pharmacy facilities. Because of the diversity and abundance of practice settings, the prospects for immediate employment and long-term career growth in pharmacy have never been better.

Conclusion
As pharmacists have increased their participation in chronic disease management and pharmaceutical care, they have become integral parts of the health care team. As medication experts, pharmacists can provide major benefits to the patient to improve quality of life and health care outcomes for the citizens of Oklahoma. The pharmacist's expansion of skills and knowledge into additional and diverse areas of patient health care offer the Oklahoma consumer more than just the dispensing of a product but a true health care service.

Oklahoma Public Policy Thoughts
Oklahomans should encourage our Congressional delegation to support a voluntary Medicare prescription drug benefit that covers both prescription medications and the important pharmacy-based medication counseling and education services that help Oklahoma Medicare beneficiaries take their medications properly. Proposed federal legislation which relies on the use of Pharmacy Benefit Managers (PBM's) to administer and control Medicare prescription benefits should be rejected.

Thoughts About ...

Rural Hospitals

Val Schott, President, National Rural Health Association, Oklahoma City

Medicare and Medicaid adopted a "prospective payment reimbursement system" twenty years ago. The intent was to control payment liability. They were aiming the big guns at large urban hospital systems but they hit the nation's smaller, rural hospitals. The system failed to foresee the unintended consequences this change would have on small rural providers.

Demography

Rural health providers serve an older, poorer, less insured population. The smaller population base defines rural health care practitioners as "low volume" providers thus eliminating savings from economies of scale. Health insurance coverage is a function of one's employment. The larger the employment base, the better the coverage plan. Rural employers are predominantly small employers. Small employer plans typically offer fewer benefits at higher costs; and many cannot afford to cover employee's dependents because of the high costs.

There is also a tendency by the well-insured to seek their care in a larger, urban institution. Although not true, our cultural bias is that bigger is always better. Rural providers have access to the same treatment methodologies, the same drugs, and they have something the urban providers do not have: access to patients' community support system.

The rural hospital is often the largest employer in the community. It is the keystone of the health services industry, which normally provides employment for 10% to 15% of the rural community workforce and can account for 15% to 20% of the local salary base.

Good health providers are also major factors in economic development decisions. Education and health care are the most important quality of life issues.

Rural Needs

Rural hospitals must offer high quality services or they will fail sooner or later. This requires a skilled workforce, business tools, capital, proper reimbursement, regulatory relief and community support.

Quality Workforce

Quality products are built from various components. Certainly, the efforts of the administrators, physicians, and other clinicians to form a supportive team that can deliver a quality product are fundamentally necessary. This implies a competent workforce. However, because of certain market realities rural hospitals are under increasing pressure to maintain even an adequate workforce. Young people facing early career decisions no longer look at health care as a high tech, exciting field. Those that do want to stay in the urban arena where there is more support.

Rural educators must work to expose good students to the wide variety of career options in the health delivery field. Administrators and policymakers must be supportive if health care is to attract that workforce.

Different strategies such as job shadowing, career ladders, and career counseling should be the rule rather than the exception. We must seek to interest rural youth in careers in health delivery rather than trying to entice urban people to both careers in health and the rural community.

Business Tools & Work Plans

Administrators and community leaders must have access to business tools that are applicable to the rural health environment. While most urban programs have the capacity to conduct feasibility studies for business evaluations or proposed operational expansion, all to often, similar resources are not available to or not geared for the rural health environment.

Several programs funded by the Federal Office of Rural Health Policy are attempting to fill this void. Rural Health Works and the Mississippi Delta Hospital Performance Improvement Initiative are the most notable. These programs provided much needed analytical tools for rural program administrators that consider demographic requirements as well as capital and staffing issues. Unfortunately, these programs lack permanent funding and have to depend on year-to-year reauthorization by their respective funding authorities. Operating programs absent appropriate funding support and analysis is a formula for disaster both clinically and financially.

Access to Capital
Access to capital is a major problem for rural business but especially for rural health providers. Many rural hospitals are public trusts and rely on some tax support for operational expenses. Unfortunately, the operational side of the hospital is viewed as requiring additional support that is now achievable from operations.

The reasons for this have been noted; namely more reliance on Medicare and Medicaid, more uninsured, and more poverty among the patient base. However, the years of losses from operations have made rural hospitals poor business risks for potential lenders.

Adequate Reimbursement
Governmental reimbursement policies have diminished the profitability of rural hospitals. These policies have been based on an urban model. Rural health systems must be designed around rural needs and capabilities. These often are mutually exclusive. Current methodologies require a population base line that simply does not exist in many rural communities.

The Oklahoma Hospital Association recently found that twenty to twenty-five rural hospitals were in imminent danger of closure. The Medicare Rural Hospital Flexibility Program and designation of certain rural hospitals as Critical Access Hospitals (CAH) has helped to stem this tide. Small rural hospitals under this program may elect reasonable cost based reimbursement for their Medicare patients under this program.

Currently, twenty-three Oklahoma hospitals are approved Critical Access Hospitals.

Hospitals and their communities can receive CAH planning assistance from the Office of Rural Health. A recent study of some CAHs in Oklahoma showed a decrease in losses in the aggregate from almost $400,000 annually to just over $70,000 annually. While this is not the ultimate answer, it obviously is helping to improve the financial situation of some hospitals.

Regulatory Relief
Regulation is generally geared to the larger urban institutions, which have staff personnel to deal with the regulatory process. Rural providers, by their nature, have less ability to deal with this issue.

Community Support
Rural hospitals must cultivate and engage the community they serve.

The Office of Rural Health with the Oklahoma State University Cooperative Extension Service has developed a process that involves community representatives in analyzing local health needs and the structure necessary to provide those services. This process also examines attitudes of the community regarding level of services available, quality of services available and additional services the community desires.

The process goes one step further in providing feasibility studies to determine the likely revenue and cost associated with the service. With this information, the community and the provider can make a rational decision regarding local services. Additionally, the process provides an economic impact analysis of the health sector on the local economy and a directory of locally available services. The network of rural providers, sometimes called the health safety net, needs an overhaul of the reimbursement and regulatory process.

Oklahoma Public Policy Thoughts
Much of what ails rural hospitals is a function of both federal health policy and local energy. The major role of statewide initiatives will be to meaningfully assist smaller communities in dealing with federal policy.

Rural hospitals and rural health delivery systems are important to the health, welfare, and economic stability of our rural and national economies. To be successful, quality must be the driving force behind service delivery.

Operations must look at appropriate business models and must design services that will provide enough experience to keep the quality high while being cost effective. All services are not appropriately available at all locations.

We must work to build and maintain an adequate workforce committed to quality. Rural hospitals must have access to capital to maintain their infrastructure and maintain quality.

Reimbursement and regulatory policies must consider and account for the lower volume presenting to rural providers. And the difference in the payer mix must be addressed.

Thoughts About ...

Physicians in Smaller Communities

Steven Hinshaw, D.O., Waurika; Board of Trustees, Oklahoma Osteopathic Association

About 40% of our state chooses to live in "rural" areas. Those that choose to live here should not have to expect less quality care then those living in larger metropolitan areas.

Although the offered services cannot be identical, there is no reason that rural residents cannot be served by competent practitioners, using modern technology with access to specialist services when necessary. The only things prohibiting that level of equity are government policy and local creativity.

The Basic Point

The most basic and fundamental purpose of a rural physician is to provide quality medical care for the people in his/her community.

A solid physician-patient relationship is critical. Each patient shares their most intimate feelings, emotions and physical complaints; and each exposes their bodies and minds to the physician. Each physician is trusted with this information and is expected to provide pain relief and curative measures. Very few relationships are so sensitive and important.

Modern medicine can perform clinical miracles. Modern health care financing and administration imposes ever-increasing stress, strain, intrusions and contusions upon the physician-patient relationship. More stress causes a more adversarial relationship. A disintegration of physician-patient trust reduces the quality of care by definition. Contemporary health policy is causing that relationship to weaken.

Why am I saying this?

Because physicians in rural Oklahoma do not have the luxury of a "safety net" of clinical support systems and specialists that metropolitan physician do. We practice without a "net." When city physicians catch cold ... we are subject to pneumonia.

It is an exhilarating profession and also has elements of exposure and risk. Maintaining a rational balance is the policy challenge.

Some public policy ... and attitude ... changes could help everyone.

Basic Differences

Rural physicians, or physicians practicing in smaller communities, experience the same challenges, frustrations and satisfactions as our urban colleagues. However, there are a few significant differences.

Scope of Practice

Physicians in rural practice are is required to have a broader scope of skills. The lack of immediate access to specialist services and technology requires significant ingenuity and confidence.

Economic Impacts

Rural physicians will more significantly impact local economies than their urban peers. The physician practice is a source of employment and revenue generation; and is the backbone of the local health care economy.

On average, a family physician in rural Oklahoma is responsible for the creation of 50 jobs and over $1 million of associated payroll income. Urban family physicians will create only 29 jobs with less than $900,000 in income.

Social and Civic

Rural physicians will likely know their patients more intimately than urban peers, This is a double-edged sword. Better relationships create better health and medicine; however, rural physicians cannot protect themselves (legally or administratively) by keeping a distance from "problem" patients and situations as can their urban peers. On the whole, being more integrated into the community has to be a net plus.

Rural physicians have traditionally been local leaders and contribute to communities in significant ways outside of medicine.

Individual Responsibility

Effective efforts and programs are needed to educate the public of their responsibility for themselves, for their own health.

Everyone has to do their part, including patients. This has never been a strong public message. However, the volume of that message is starting to grow.

It is distressing to watch the parade of people with the "me, me and I will sue" attitudes. Many times our patients are their own worst enemy. Smoking, excessive drinking and lack of meaningful exercise are but a few behaviors people pursue that continue to destroy the only body they have, and produce the "need" for extensive medical services.

Public Programs
Rural Oklahoma is becoming a financial hostage to the twin public programs of Medicare (elderly) and Medicaid (poor).

Rural areas have a much higher proportion of Medicaid and Medicare patients than elsewhere. Most hospitals in Oklahoma's smaller communities derive over half their revenue from these government programs. When these programs make decisions, the impacts upon rural Oklahoma are significant, direct and often harmful. In rural Oklahoma, there is less of an opportunity of off-loading these problems to someone else.

These programs are structured politically, by definition. The consequences of political tradeoffs, not patient need or clinical factors, affect the balance of eligibility and coverage. Payments to physicians and hospitals are determined unilaterally and without appeal.

The "entitlement" programs the government has sold to the population are short of successful. Medicaid (read Oklahoma legislature and Oklahoma taxpayers) covers larger and larger segments of the population but is unwilling or unable to fund the care adequately. Oklahoma Medicaid, administered by the Oklahoma Health Care Authority:

- *Pays at a level that is below most physician's costs.*
- *Require patients to receive less effective drugs due to cost.*
- *Often denies necessary testing.*
- *Limits most Medicaid patients to three prescriptions despite the number they need.*
- *Burdens rural hospitals with low reimbursements and limited patient stays.*

The system has simply bitten off more than it can chew. It cannot continue this way without inevitable catastrophic consequences for rural Oklahoma.

Tort Reforms
In this same vein, tort reform is essential. The money spent on malpractice insurance is staggering. The costs of all of the litigation is more so. There needs to be some limit to claims or more likely limit the amounts that can be gained by the trial lawyer. They keep rolling the dice on frivolous suits that cost every one. It saddens me to think of the medicines and care that could be provided to the needy that could be paid for with all of that wasted money.

I would favor a state experiment with court ordered mediation in lieu of the adversarial and litigious solutions so many feel is the only option or remedy. Such a system would lend some dignity and rationality to a process that is now a "no-win" for everyone except attorneys.

Worker's Compensation
Too many of my patients are enmeshed in our Worker's Compensation systems. Given the good intentions of the program, it has evolved into an expensive monster that suffocates its participants with rules, regulations, litigation and excessive costs. While these costs are buried in major urban corporations, they are killers for the smaller businesses in our rural communities. Although this is not scientific, it seems like the only people who benefits from the entire system those who are neither patients or physicians.

Oklahoma Public Policy Thoughts
Oklahomans cannot fix flaws in a national health care system. But Oklahomans can do things to help rural physicians, and themselves in the process. These may include:

- Initiate a major health promotion effort that emphasizes individual responsibility for health.
- Revising the methodology of how the state medicaid program balances available funds with eligible people. The number of people eligible should be limited to what we can afford at a fair price. To do otherwise is to do a disservice to everyone involved.
- Oklahoma should experiment with significant tort reform that does not violate the rights of individuals. The state may experiment with court-ordered mediation rather than a full blown legal process.
- It is time the Oklahoma Worker's Compensation house was put in order.

Thoughts About ...

School Nursing

Julie Jack, R.N., School Nurse, Sulphur Public Schools, Sulphur

I am a registered nurse in a rural school with a student population of 1,250. I also teach health education in second, fourth, and sixth grades.

You may be remembering the "old-fashioned" school nurse checking sore throats. School nursing to day is far more contemporary, complex and important.

Of course we treat the standard scraped knees, bumped heads and upset tummies. And we supervise the intake of prescribed medicines such as asthma medications, attention-deficit hyperactivity disorder medications and Type I Diabetes management, with the occasional antibiotic dosage. (See the sidebar column on the next page for a complete description of the most common issues for us).

Student's Need Health Education

Oklahoma students need school health education. America's youth need health education. Although our society is one of the most educated, but it also appears that we are not doing an effective job in preparing students to achieve and maintain a healthy lifestyle. We can do so much better with a little effort, cooperation and creativity.

The Importance of Health Education

Today's youth arrive at school with the knowledge to program a computer, set the timer on a VCR, and send E-mail around the world. However they are lacking in basic information regarding the development and care of their own bodies - the only thing in the world which is entirely theirs. If the failure to learn about computers is a crime ... then our failure to teach students about their health is a sin.

Health education is still needed in the classroom, perhaps more than ever.

Nutrition

The basic four food groups were once taught twenty-five years ago. Today, nutrition has been replaced with 'required' subjects. Students bring soda in their lunches at the elementary school or have the option to buy sodas in the upper grades on the other campuses. This not only supports the theory that students don't understand the importance of (or are apathetic about) proper nutritional intake, but implies that the parents are also ignorant or apathetic of the same.

Consider seven year-olds in the second grade. Given the opportunity, these students show an interest in learning how to read labels and understanding good and bad components in the foods they eat. Society knows that younger and younger children are becoming concerned with body image and the fear of being fat. Teaching nutrition would empower these kids to choose healthy foods at home or in restaurants.

We can do better. We just haven't tried very hard.

Physical Activity

Another problem students face today is lack of physical activity. This manifests itself in weight gains. The percentage of children and adolescents who are overweight has more than doubled in the past 30 years; most of the increase has occurred since the late 1970s. [1-2] . And of U.S. young people aged 6–17 years, about 5.3 million, or 12.5%, are seriously overweight. [2-3] Sulphur isn't much different.

Whether it is environmental or genetic the obesity pattern seems to be family oriented. Parents lacking the knowledge to teach proper diet and exercise do not pass along this concept and many Americans we know do not exercise.

What we do know is that well meaning parents have frequently occurring "food-for-thought" behaviors which encourages unhealthy food choices and habits leading to possible weight gain.

For example, food is used as a reward, lack of food is used as punishment, food is used to soothe, fast-food is the evening meal of choice and technology has replaced old-fashioned play.

Not only do the students need healthy diet education and exercise but this much needed information needs to be communicated to the parents of these students in whatever way possible whether it is through PTA functions, newsletters, or one-on-one meetings.

Growth & Development
In the fifth and sixth grades I schedule an optional growth and development session. The boys and girls are separated during these two days. Changes the body goes through during puberty are discussed. I allow students to ask anonymously any questions they might have and answer them as honest and straightforward as possible. This class has been challenging because the subject is an uncomfortable one to discuss, however the students are appreciative of this opportunity. There is also positive feedback from the parents.

For most students the teen years are a time of rapid physical and mental development, not of illness. By offering a class that addresses the hormonal changes taking place in their bodies a sense of trust begins to formulate. A teenager must feel that a school nurse is knowledgeable about adolescent issues, is interested in them, will maintain confidentiality, and is unshockable. Staying abreast of popular, risk-taking behavior that is part of normal adolescent development, is vital.

Summary
Our kids need more effective health education. They need healthier lifestyles promoted throughout the school environment and hopefully within their communities. We need to do this in ways that are positive, effective and not "nagging." Sometimes more money is necessary, oftentimes it may not be. That's for us to decide. One thing is for sure. The upward trends of self-created health problems must stop ... one way or another.

Oklahoma Public Policy Thoughts
Whether doable or not, my dream and message to Oklahoma's leaders would be to fully integrate nursing into your schools. If you do have a nurse employed, ask yourself how much better it would be to be able to provide adequate health care within the school system. It is frustrating when students have health problems and parents cannot attain care.

Since families are the basic unit of society, and schools are the most ubiquitous institution in communities, it is inevitable that families and schools will be drawn closer together in more than educational pursuits. The integrated services concept can most easily be effected within the existing infrastructure of schools. School-based clinics can be the first step. As past ANA president, Lucille Joel, says: "Linking primary health care services for children to the school is just common sense, like linking health care benefits to the work place." [4]

School Health in Sulphur

Student Stress
The health problem I spend the most time with is the upset stomach. After an exam and interview, most often the real cause of the pain is stress. The causes seem infinite. Mom and Dad may be going through a divorce, a move to another school may be imminent, a recent death in the family may have occurred, taunting and teasing on the playground is taking place, or there is no food to eat at home.

Many times I find myself being the counselor, listening to problems and situations that I have very little control over except to let the child talk and cry, offer comfort through hugs and kind words and acknowledge their stressful situations. More often than not the parents are unaware of the child's stress or are using inadequate coping mechanisms in an effort to try and help. Parent and student education is essential and ongoing in this situation.

This issue is so important that I begin each health class every with stress as the topic, and what it can do to a student providing positive actions to help alleviate the stress.

Vision/Hearing
Vision and hearing screening are performed on all kindergarten students and any other student who is referred. Approximately 10% of our students have a vision problem which is identified at school. And four in a hundred are identified with a hearing loss.

Dental Care
You may think kids no longer experience dental cavities. You would be wrong. More and more students are identified with too much tooth decay. Dental problems are ignored by many parents because of the high cost of dental care. Medicaid families still have to receive dental care at least thirty miles away from Sulphur because our local dentists are not providers.

Head Lice
Pediculosis (head lice) continues to be a problem for students just as it was for Cleopatra. Head lice screenings are an ongoing activity K-12.

Earaches
Earaches plague many students in the lower grades. Otitis media can be ruled out on most occasions through exams in my office.

Food Allergies
One in 25 students suffer food allergies. Providing menus on a weekly basis and student teaching helps to avoid food intolerance and preventing anaphylactic reaction.

Thoughts About ...

Corporate Oklahoma and Health

Patricia Podolec, SPHR, Human Resource Manager, Delta Faucet Company, Chickasha

Why is employee health important? Because the physical health of Workforce Oklahoma significantly impacts the fiscal health of Corporate Oklahoma. It is a critical "bottom-line" factor.

Private health insurance benefits in Oklahoma are employment-based. Over half (53%) of all insured Oklahomans receive their insurance coverage from their employers; and 95% of Oklahoma firms with 50 or more employees will offer health insurance to their employees.

Direct Corporate Expense
All businesses include health care expense in the prices of their products. Almost half of ALL national health care expense is paid for by revenue that is embedded in the cost of goods and services. This cost is so invisible as to be painless and therefore not an acute or emotional ... nor well understood ... issue.

The average annual cost of employment-based health insurance for single coverage in 1999 in Oklahoma was $2,361, with employers paying 88% of the coverage; for families, it was $5,870, with employers paying 74% of the coverage. This employer portion is the equivalent of an additional $1.00/hour in pay for single coverage and $2.00/hour for family coverage.

- Employee benefits add more than a third to payroll costs and are increasing. [1]
- Health care costs are projected to annually increase by 8 to 12 percent, or more.
- Medical care costs for people with chronic diseases are more than 60 percent of the total medical care expenditures. [2]
- Three leading causes of death from chronic disease relate to behavior choices-tobacco smoking, physical inactivity, obesity, and poor nutrition. [3]
- In addition, smoking contributes to 40 percent of all chronic diseases; and poor diet and sedentary lifestyles cause 35 percent of chronic diseases. [4]

"... employees demonstrate little understanding between lifestyle choices, their health and corporate productivity."

The Health Enhancement Research Organization (HERO) is a not-for-profit coalition of employers with a specific interest in health promotion, disease management, and health-related productivity. HERO found that:

- employees with self-reported, persistent depression had 70% higher health care expenditures.
- individuals reporting uncontrolled stress had 46% higher health care expenditures.
- a follow-up research project found that employees with modifiable health risks were responsible for 25% of total corporate health care expenditures.

HERO and the Union Pacific Railroad developed models to project future medical care costs. They found that if there were no effective health promotion interventions, medical care costs for the railroad would increase $99.6 million over the next decade; but if effective interventions were implemented, increases would only be $22.2 million.

Indirect Corporate Expense (see page A-29)
Health care costs, including worker's compensation costs, are consuming ever increasing proportions of corporate benefit expense. And poor health causes another more hidden cost, that of absenteeism. When employees are absent, it causes a great stress on other employees. This is especially difficult in smaller communities where everyone knows everyone else. The emotional aspects aside, there is the additional stress of handling the workload for absent employees, along with the additional costs.

Historical Corporate Responses
Historically, Corporate Oklahoma has viewed health issues as a "health care" issue. Market pressure has been exerted on providers to attempt to cap medical treatment costs through programs such as HMOs, and PPOs. Long term results have been modest and may be expiring.

Cost sharing with employees has also been used to help achieve a "buy-in" by employees on the benefits of holding down the costs of health care. Further pressure on employees to absorb more of this cost could adversely impact the ability of Corporate Oklahoma to compete for and retain employees

As health care costs rise, it becomes increasingly important for Corporate Oklahoma to look for ways to continue to afford this needed benefit to stay competitive. And, as health care costs rise, it becomes increasingly important for Oklahomans to have these benefits. The obvious solution is to work towards having fewer illnesses to treat.

Instead of adjusting coverages and premiums, a more permanent approach is to help employees change controllable behaviors. They must better understand the health risks, and the fiscal consequences for everyone, that their decisions create. Too many employees do not understand the relationship.

"Employees are 'industrial athletes.' In a better world, they should prepare for the workplace no differently than preparing for an athletic endeavor."

What To Do?
In a different world, perhaps we would be able to hire only those who are fit and healthy enough to work with little risk of injury or illness. However, legal protections and the workforce demographics do not allow such a policy.

Personal lifestyle choices can have a significant effect on the workplace. And how involved should an employer be in the personal life of an employee? What control can we really exert (or should we) over an individual's food choices, recreational choices, use of alcohol and other drugs, smoking, etc?

In the aggregate, too many employees demonstrate little understanding between lifestyle choices, their health and corporate productivity. They do not seem to share the fiscal consequences with their employer; do not seem to appreciate the cause-effect of life style choices and on-the-job injuries or absenteeism.

They do not appreciate that when an employee is not able to work at full capacity, there is an impact on the rest of the workforce and the bottom line; and do not seem to understand the relationship between stresses outside of work and their ability to be a safe and productive employee.

Employees are our "industrial athletes". In a better world, they should prepare for the workplace no differently than preparing for an athletic endeavor. Oklahomans who understand this have a much better chance for success at the workplace without injury or illness. As employers, we obviously cannot function if Oklahomans are not available to us.

What's Next?
The statistics are all there. So why does it seem that no progress is being made? Why do Oklahomans continue to make poor health choices, and why do the efforts of Corporate Oklahoma not seem to make a significant impact? Why isn't this important to all Oklahomans?

The message Corporate Oklahoma needs to send is that each Oklahoman is responsible for their individual health; and that we cannot always rely upon others to fix things (and pay for it) after they happen.

We all take care of our cars, our houses, our equipment. It's time to use the same principles for our health.

Policy makers should leverage the same principles that Corporate Oklahoma has always used to help provide motivation for their employees - powerful and effective incentives. A few examples of incentives that might be found in this better world are:

- *tax breaks for Corporate Oklahoma for providing effective wellness programs and for Oklahomans who participate in them;*
- *cafeteria-style plans with substantial credits for employees who actively participate in wellness programs;*
- *legislation that encourages a system of looking at health care costs and worker's compensation costs together as bites out of the same apple;*
- *a worker's compensation system that recognizes the effect of an employee's lifestyle on workplace injuries and rewards Oklahomans who are not injured because they do not make those poor health choices.*

Oklahoma Public Policy Thoughts
In my view, if Corporate Oklahoma could pick one policy action related to the health and well-being of Oklahomans, it would be this: provide aggressive, meaningful incentives for both Corporate Oklahoma and Oklahomans to work together to modify poor health behavior choices and to remove the barriers that keep us from pursuing this strategy.

Thoughts About ...

Smaller Business in Oklahoma

Dolley Rolland and Catherine Haynes, Owners, C&D Home Health, Ponca City

In the previous section (Corporate Health), Trish Podolec made the case that employee health is important to an employers' bottom line. She said "the physical health of Workforce Oklahoma significantly impacts the fiscal health of Corporate Oklahoma. It is a critical "bottom-line" dynamic." The same applies to smaller business ... in spades. To some extent, health of workers is determined by available health insurance. However, the marketplace makes it more difficult for smaller business to obtain health coverages similar to larger businesses.

Smaller Business in Oklahoma

Approximately 90% of the businesses in Oklahoma could be classified as small businesses (under 50 employees). These small businesses employ the majority (57%) of the Oklahoma workforce. Most thoughtful Oklahomans know that the majority of Oklahomans receive their health insurance through the workplace. Few of these businesses have the resources to provide health coverages similar to larger business.

Small business owners know that the deck is generally stacked against us being able to purchase affordable health insurance. This is not because insurance companies are evil. It is because smaller businesses are simply at the mercy of the marketplace where bigger is better, and aggregated pools of employees are easier to insure than small groups because of the risk-sharing involved.

Our company employs 12 people, including ourselves. There are 10 full-time staff, and 2 part-timers. Almost every employee obtains their health insurance through a working spouse. Therefore only one or two of us seek medical insurance through our business.

We had health coverage through a Texas-based company that discontinued Oklahoma business two years ago. We have recently contacted Blue Cross and Blue Shield of Oklahoma. We found that they offer a reasonably priced array of packages. In truth, our ability to afford insurance depends as greatly upon our business cycle and profit margin as any other factor.

A statewide small business insurance coverage program would offer the state a huge advantage over competing states and provide an incentive for Oklahomans to grow their businesses here. It is fair to suggest healthy employees are more productive while on the job, miss less work, and have fewer family health issues that could affect their production, tardiness, and absenteeism.

You Need to Know ...

Oklahomans need to know that quality health coverage can be <u>available</u> to all eligible small business owners, employees and families <u>without</u> the need for public funding. A sponsor could be the State Chamber of Commerce, Insurance Commissioner office, or private companies such as Blue Cross and Blue Shield.

A quasi-public entity could be created by the legislature that would act as the small business health coverage administrator. The administrator would negotiate for coverage, collect premiums and set the clearing and information center.

There are a host of examples nationally. And this has been discussed often in Oklahoma. What is absent is the political will, and leadership, necessary to do the hard work. This single approach would do the most good for the health, and health care, needs of small business owners, their employees and dependents.

Will all employees of small businesses eventually receive insurance? Probably not as the first rule of insurance is the employer has to have enough profit to pay even affordable premiums. But it would be an enormously helpful effort to many of us.

Oklahoma Public Policy Thoughts

Oklahomans can influence the public policy on health coverage by discussing this issue on the local, county and state level, by making it a priority issue in local organizations (Rotary Club, etc.), and by discussing it with all public officials and state and local chambers.

Rather than argue for it, we would rather ask for reasons that it cannot or should not be done.

Health Insurance Premiums

Average annual premium as a percentage of median household income, by state, 1999

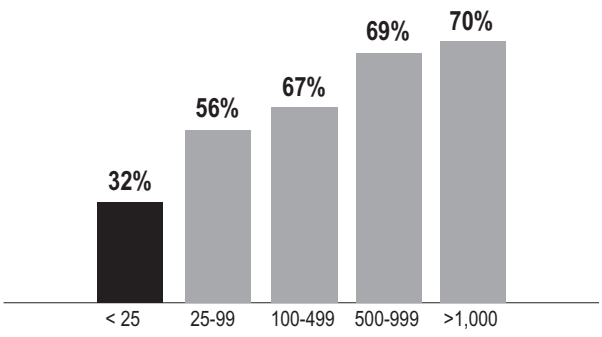
Source: Achman and Chollet, Mathematica Policy Research Inc. for The Commonwealth Fund (8/01)

South Carolina	12.5%
Missouri	12.2
OKLAHOMA	10.9
Florida	10.4
Iowa	10.2
Mississippi	9.9
Louisiana	9.2
Arkansas	8.8
Kansas	8.8
Indiana	8.7
Montana	8.5
Connecticut	8.3
National Average	8.1
New Mexico	8.1
Utah	8.1
Illinois	8.0
North Dakota	7.9
Nebraska	7.8
Alabama	7.6
Wyoming	7.6
Texas	6.9
Colorado	6.4
Alaska	6.3
Wisconsin	6.1
California	5.8
Oregon	5.5
Minnesota	4.4
Washington	3.9

Coverages by Business Size

Percentage of workers ages 18-64 covered by their own employment-based insurance, by firm size, 2000

Source: U.S. Bureau of the Census, September 2001, Current Population Survey, March 2001



Balms for rising health care costs

By Jenny C. McCune • Bankrate.com®

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Rising health care costs are giving businesses a major headache, and the pain is only going to increase this year and into the foreseeable future. Health insurance premiums have been on the rise for years, and the biggest increases tend to hit the smallest companies, according to Towers Perrin, a New York-based firm that conducts an annual survey of business health-care costs.

"It's tough for small businesses," explains Brian Stitzel, a consulting actuary with Buck Consultants, a human resources consulting firm in New York City. "They don't have the leverage or bargaining power ... They are at the mercy of insurance companies." So what's the prescription for soaring medical costs? Although small companies are handicapped by their size, there are still steps they can take to curb rising health care costs. One is to UNITE.

Look into health plans that pool together small businesses to give them more clout and better benefits. More than two dozen states sponsor such programs. For example, California has the Pacific Business Group On Health, which offers a choice of 15 health plans. "It's a neat program," says MCOL's Riddle says. "Each employee can pick a different plan according to his needs -- something that a small business couldn't offer on its own."

In addition to state-sponsored health plans, see whether trade association in your industry offers pooled plans. Also check with your local chamber of commerce to see whether they know of any plans or if they sponsor any small-business health care coverage initiatives. Having trouble finding a group to pool resources with? There's also the National Business Group on Health in Washington, D.C., which represents 100 coalitions across the United States.

Finally, there are Professional Employer Organizations. Companies outsource part or all of their personnel functions -- such as payroll processing, workers' compensation, and benefits administration -- to PEOs. Because they represent many employees, they can use their size to procure better rates and offer employees more choices.

Thoughts About ...

Healthy Seniors

Mac McCrory, Ed.D., Spence Professor & Director, OSU Seretean Wellness Center

Many of us realize that we are living longer with each generation. Some choose to dwell upon the increasing morbidity and debilitation that may occur. I would rather focus upon the opportunity to decrease morbidity and work towards many years of healthy senior living.

Point 1

The aging process or degeneration takes its toll on physical, mental, and emotional well being. The systems of the body begin to deteriorate at various times and rates between 35-50 years of age. Genetics and life style choices influence the rate of degeneration. As those great philosophers once said: "The older I get, the faster time goes. That's because when you're over the hill, you pick up speed". (Frank & Earnest, circa 1990).

We can't do anything about genetics (yet). We can always do something about our lifestyle. If we choose to smoke, eat too much of the wrong kinds of foods, be sedentary, and succumb to stress, our hill will be steeper.

If we choose to be smoke free, eat the right amounts of the right kinds of foods, exercise, and deal effectively with the stresses of daily living, our hill will be gentler.

How do we make those choices? It's usually not a question of knowledge or skill. And it's never too late to start.

The benefits of a positive lifestyle are numerous. Virtually every system of the body is improved when you practice good health habits.

Point 2

Everyone is different and will respond to changes differently. In other words, go at your own pace. Sometimes it is difficult to make many lifestyle changes at once. Start slow. Pick a few changes that are most important to you. Add changes as the new behaviors become more comfortable to you. Lifestyle is a process that begins today and runs the rest of your life.

The prevailing research over the past three decades purports the following life style behaviors to be most beneficial: Sleep, proper nutrition (eat breakfast, no snacks, lower fat/sodium, more fruits, vegetables, whole grains), exercise regularly, alcohol in moderation (if at all), no tobacco, and maintain ideal body weight. Additionally, good stress coping skills and an active intellectual, emotional, and sexual life style promote a long life.

Point 3

Health (sickness) insurance and Medicare are designed to pay for medical treatment. They are not designed to be health promotion vehicles. Several years ago, the post-Cold War term "peace dividend" was bandied about Washington. It implied that since we should spend less for military items, there is "free" money for other wants. The phrase was "so, where's my peace dividend?" The answer is .. the peace dividend is PEACE .. not a check in your pocket.

Some believe that insurance principles should change. However, I think that blame towards medical insurance companies for our poor health is a misdirected. As with the "peace dividend" example, the true beneficiary of your good health ... is YOU. That should be a decent enough incentive.

Our society enables poor health behavior ... but it does not mandate it! Yes we cope with poor nutrition (fast foods), sedentary lifestyles (remote controls), and poor stress management skills (drugs & alcohol). But these factors can be overcome.

So, you have to do it on your own. It is a choice ... your choice.

Point 4

The essence of any lifestyle enhancement program is self-responsibility. You make the choices and design the plan. You supply the energy and change your behavior.

You also make the mistakes. If you "fall off the wagon", don't give up. Remember that it's a life

long process. Just because you blow it, and eat the chocolate cake, that's OK. Back to the plan. Give to yourself. Give yourself a break. Moderation. You can have dessert. Just not after every meal. You can take a day off from exercise, just not a week. You can slug out and lay on the couch one evening, just not every night.

Don't be too hard on yourself. But don't be easy either. Just do it. The first step is the hardest. But, you take them one step at a time. Do you want to be healthier, happier, and live longer? Then, you must make that happen. It's never too late to start. Take the first step. Go at your own pace. Enjoy your senior years.

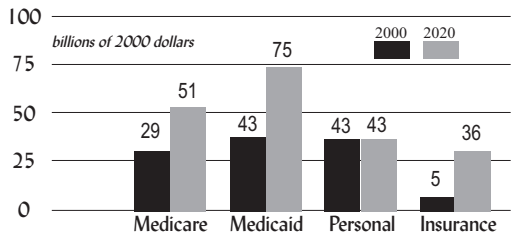
Point 5
Our laws (especially liability) make it virtually impossible for a senior to stay in one place once their health begins to deteriorate. Staying healthy gives you a better chance of choosing your last home. The number of senior Americans and Oklahomans is increasing. Some communities in Oklahoma have witnessed a significant increase in senior population as people retire and "move back home".

Elders in poor health place a burden on our care system. In the past ten years, residential care and assisted living homes in Oklahoma have increased by 300%. Legislation to establish guidelines, rules, and regulations (Assisted Living and Continuum of Care Acts of 1998) was passed to help state agencies deal with the tremendous growth of these facilities.

These facilities have been established to care for our elders as they lose the capacity to care for themselves. A few decades ago, families typically cared for their elders. Today, we pay others (or Medicare/Medicaid pays) to care for our elders. Residential care and assisted living are private pay. Once a person "qualifies" for a nursing home and their personal resources are exhausted, the system pays for nursing care.

Meanwhile, the elder person is shuffled from one facility to another. Each time the stressful effects of moving take its toll on the person's health. An elder should have the choice of "Aging in Place". In other words, each person should be able to choose his/her last home.

Long Term Care Spending
by payer for 2000 and 2020
Source: "Long Term Care Systems" Health Affairs, May/June 2000



Point 6
Public policy should reinforce the self-responsibility each of us has for our own health. Public policy should allow us to make choices regarding our own health and health care.

This is easy to say, but perhaps hard to execute. We must remove as many barriers as possible, and we need to create a social environment that promotes the practice of positive health behaviors. Our health care system has made tremendous strides in the past few decades, but it is still largely based on illness. You get sick, someone gets paid. A system that rewards healthy behaviors may actually save money in the long run.

Seniors want low cost (free) prescriptions. What about those seniors who are in good health and don't need as many prescriptions? Shouldn't they be rewarded for their good behavior? How?

Seniors want reasonable illness care (cost and choice). What about those seniors who don't need as much illness care because they have taken care of themselves? What is their incentive for making the right choices?

Oklahoma Public Policy Thoughts
The cornerstone of senior health is self-responsibility, supported by the pillars of "it's never too late to start" and "go at your own pace". Self-responsibility, by its very nature, implies that persons make choices about their own health and well being.

Liability laws and Medicare/Medicaid policies and procedures severely limit a person's choices regarding health care and how/where they choose to spend their later years. Our system should reward people for making good choices, not limit choices. The best approaches will provide positive incentives for individuals to willingly make better personal choices for the right reasons.

Thoughts About ...

Children and Youth

Anne Roberts, Executive Director, Oklahoma Institute for Child Advocacy

Research points to two health-related trends that are converging to cause a worrisome outlook for the health of Oklahoma's children: health behaviors and low incomes.

With the advent of clinical research and medical breakthroughs, most childhood diseases have become a thing of the past. More children die of injuries than illnesses. With good prenatal care and childhood immunizations, we have significantly reduced the threats from birth defects and communicable diseases. The majority of modern health risks have become behavioral.

The recent Census data reveals that, while the nation as a whole experienced unprecedented economic growth, the poverty rate for children in Oklahoma remained unchanged over the last decade, ranking Oklahoma 41st in the nation in childhood poverty.

The average per capita income has increased, meaning more people have discretionary income and better health status. But the pattern of income distribution shows a widening gap between the richest 25% and the poorest 25%. Research indicates that when income disparity among the population widens, the overall health status of the population worsens.

With the exception of teen child-bearing, the elements related to the long-standing poverty in Oklahoma are certainly beyond the scope of this paper. However, parents, schools, communities and policy makers can play an active role in identifying and influencing health-related behaviors, and thereby improve the health status of children and youth.

The factors posing the greatest threat to Oklahoma children and youth are unintentional injury, obesity, early sexual activity and substance use.

Juvenile Obesity

The latest information from the Centers from Disease Control and Prevention shows that the number of overweight children in the US has doubled since 1980. A sedentary lifestyle consisting of a daily average of 6-1/2 hours of television and computer games, coupled with poor eating habits, have produced an epidemic of obesity, leading to a dramatic increase in Type 2 diabetes and heart disease. The American College of Cardiology points to the "junk food" diets of many kids, made all the more appealing and readily available by the presence of vending machines in schools. Many under-funded school districts are now negotiating exclusive contracts with major junk food suppliers in order to raise money for school activities.

Further, many school districts, under pressure to raise test scores, have eliminated recess and gym class. It is estimated that what students consume at school accounts for as much as two-thirds of their daily food intake. Yet legislation introduced in Oklahoma this year to prohibit vending machines in elementary schools was defeated.

Unintentional Injuries

According to the Oklahoma State Department of Health, nearly 350 children 1-19 years of age die in Oklahoma every year from an injury. After the first year of life, more children die from injuries than all other causes of death combined. Motor vehicle crashes are the number one killer, taking 51 young lives under 16 in the year 2001.

The State Medical Examiner's Office states that for every one fatality, 45 children require hospitalization, 1,300 children require emergency treatment, and 3,600 children require treatment at home. Though most people view injuries as unforeseeable accidents, injuries occur in highly predictable, and therefore preventable, patterns. Car seats, seat belts, bicycle helmets, trigger locks, swimming lessons, smoke detectors, and ongoing education, can all help prevent further tragedies.

Early Sexual Activity

In the year 2000, 7,831 babies were born to females age 19 or younger in Oklahoma, ranking us 13th highest in the nation. The consequences of early childbearing can be costly to the child, the mother, and to the state of Oklahoma. 70% of teen moms drop out of high school, leaving them with few marketable skills or employment opportunities.

Children of teen moms are more likely to be born prematurely and at low-birthweight, placing them at greater risk of costly health complications.

Predictors of early sexual activity include a history of sexual abuse, poverty, cultural and family patterns of early sexual experience, a lack of school or career goals, and poor school performance.

Because teenage pregnancy is a multifaceted problem, it requires multidimensional solutions that are tailored to the needs of individual communities. The most successful strategies use a variety of approaches, including abstinence education, contraception availability, sexuality education, school completion strategies, job training and skill building opportunities that promote positive youth development.

Substance Use

The most prevalent and harmful substances used by kids in Oklahoma are tobacco and alcohol. The Oklahoma Department of Mental Health and Substance Abuse Services estimates that nearly 6% of the state's 323,000 adolescents - approximately 20,000 teenagers - need treatment for alcohol and drug addiction. Yet there are fewer that 60 adolescent residential treatment beds in Oklahoma. Substance abuse is a family issue and treatment for adolescents needs to incorporate the whole family, yet all 60 treatment beds are located in Central and Southwestern Oklahoma.

Tobacco addiction is a disease that begins in childhood. Three-quarters of adult smokers in Oklahoma report beginning their tobacco use as teenagers. The Oklahoma Youth Tobacco Survey conducted in 1999 revealed that almost half of middle school students and two-thirds of high school students have tried cigarettes.

The Oklahoma State Board of Health has identified tobacco use as the behavioral risk factor most negatively impacting the health of our residents. Yet, Oklahoma is dangerously out of compliance with laws prohibiting retailers from selling tobacco to minors, and the legislature has still not passed comprehensive clean indoor air regulations.

Solutions

When it comes to the health and well-being of children and young people, it will take a cooperative effort among all the individuals and systems that touch their lives to teach and reinforce positive health messages. Parents are the first and most influential teachers of their children. Parents must seek good information from trusted sources, from pediatricians to pastors, and learn to steer their children into healthy behaviors.

Oklahoma Public Policy Thoughts

Good public policy can help parents in their efforts to instill positive health habits in their children. The following are specific policy issues that can be addressed by the legislature:

- Support legislation the promotes child safety, such as a requirement for child booster seats and trigger locks, and provide state support for safety devices, such as free child seats, smoke detectors and bike helmets.

- Support healthier menus in school cafeterias, and work with school districts to ban vending machines on campus, and/or limit their contents to juices, bottled water or other healthier choices.

- Support research-based youth development programs, such as the Teen Outreach Program (TOP) and Postponing Sexual Involvement (PSI), that include an emphasis on health and offer a variety of opportunities for young people to identify their individual talents, complete their education, connect with their community, and find mentors and positive role models that promote healthy adolescent development.

- Support the Tobacco Use Reduction Initiative proposed by health advocates throughout the state. This Initiative includes:

  raising the tax on cigarettes to reduce youth smoking and produce a new revenue stream,

  repealing language that preempts cities from enacting their own tobacco-related ordinances,

  strengthening the compliance systems to ensure that retail outlets do not sell tobacco to minors.

- Support increased funding to the Department of Mental Health and Substance Abuse Services to expand the number and geographic accessibility of adolescent substance abuse treatment beds.

We know that societal influences, including media and peers, can wreck havoc on our good intentions. Parents should enlist the help of their schools, places of worship, communities, and even state government, to set not only good examples, but good policy.

Thoughts About ...

Hispanic Oklahomans

María Carlota Palacios, LCSW, Community Service Council of Greater Tulsa

Hispanics make very significant and positive contributions to the successful economic, social and cultural growth of Oklahoma. However, many don't fully enjoy the same benefits as the rest of the population. Access to health services is a major challenge for Hispanics due to lack of awareness on how to effectively utilize the system. In addition, the failure of the system to provide "Hispanic friendly" services results in high percentages of uninsured families and subsequent economic hardship and negative health outcomes.

Hispanic Population Growth in the U.S.
2000 Census data indicate that with the combination of high immigration rates and high birth rates, Hispanics have become the fastest growing minority in the United States. According to the latest U.S. Census Bureau report, the Hispanic population has grown by about 58% over the past decade to 35.3 million in 2000 from 22.4 million in 1990.

Oklahoma's Hispanic Population Growth
The growth of the Hispanic population in Oklahoma has been unprecedented, with diverse racial/ethnic, educational and economic backgrounds. Hispanics accounted for 5.2% of the total population in the year 2000. This is a 108% increase, from 86,160 in 1990 to 179,304 in 2000. The majority of this population is concentrated in Oklahoma and Tulsa Counties. Most families come from Mexico to find work and improve their standard of living. Others came to Oklahoma from South America fleeing economical and political instability in their home countries.

"Si Dios quiere" (If God permits) they will get better, or seek treatment.

Many Hispanics have been in the U.S. for a period of time prior to immigrating to Oklahoma. The population continues to grow partly due to the increase in young families and young children, which is a key indicator for predicting population growth in the Hispanic population in the coming years. Even though the 2000 Census has been very helpful, the population has been growing so rapidly that it has been difficult to accurately describe it in terms of numbers and demographic characteristics. Currently, birth statistics and school enrollment totals are most helpful to measure population change from year to year, especially among young families and children. Early indicators for the metropolitan statistical areas of Oklahoma City and Tulsa are 10% of total resident births to women of Hispanic origin.

Access to Healthcare Services (see page A-16)
Even though Hispanics in Oklahoma fare better then the total population on some health measures, they face many challenges in meeting their basic healthcare needs. There are many factors that are related to a positive health outcome for Hispanic families, especially women and children. These factors discussed below, include culturally appropriate healthcare facilities, language barriers, health insurance, cultural perceptions about health, natural support systems, and immigration status of the families.

Culturally Appropriate Healthcare Facilities
Culturally sensitive healthcare services are essential if Hispanics are to fully access preventive health care and treatment. Service delivery models that have worked for Non-Hispanics often do not seem to work well for Hispanics. Health care providers find themselves frustrated with the lack of success these traditional models have had in dealing with Hispanic communities. Hispanics tend to relate to the staff member of an institution, rather than to the institution itself. It is difficult for them to access services in places where they do not feel understood and welcome. Hispanics, especially those who are not proficient in English and are not highly acculturated, are more likely to access services if there is a staff member who is bilingual, and understands the culture, values and circumstances of the client.

Language Barriers
Language barriers play an important role in reducing access to health care services, especially for Hispanic children. Sometimes, when parents are not proficient in English enough to interact fully with the health provider, they hesitate to access health care services. When healthcare facilities provide interpreters or have bilingual people on their staff, it significantly increases the chances of Hispanic families seeking appropriate services.

Health Insurance

- Minority groups are uninsured at higher percentages compared to their representation in the population. Hispanics are more than five times more likely to be without health insurance than any other racial or ethnic group. According to the Tulsa Hispanic Study (THS) 2001, 50% of survey respondents reported having no health insurance. Some of the factors that influence lack of healthcare coverage include affordability, place of employment not offering health care coverage, Hispanics' lack of knowledge of how the healthcare system works, and immigration status.

- In interviewing Tulsa employers who employ Hispanic workers, data from the Tulsa Hispanic Study indicate that many Hispanic employees don't take advantage of the healthcare coverage the employer provides. They feel that they need the money that is used to pay the premium right now.

- There seems to be a relationship between the length of time Hispanics have been living in the United States, formal education and the likelihood of having health insurance coverage (Suárez-Orozco, 1998). Data from the THS, over 57% of survey respondents who have lived in Tulsa less than five years reported no health insurance coverage.

Hispanics perceptions of health and prevention:

- In general, Hispanics have the perception of being in good health. In the Tulsa Hispanic Study 95% of respondents reported having good or excellent health, with 96% of their children having good or excellent health. However, many Hispanics do not seek medical treatment unless they become acutely ill. Over 56% of respondents reported not having a personal doctor, many making the minor and emergency clinics their place for medical treatment. Many Hispanics who come from Mexico come from towns where they have no access to medical facilities, and view health services more in terms of crisis rather than prevention and early intervention.

- Currently, there is little participation by Hispanics in preventive health screenings for blood pressure, cholesterol, mammograms, pap smears, prostate, diabetes, etc. Many of them wait until there is a crisis to seek health services. This is especially true for mental health services. They are more likely to seek crisis intervention services than psychotherapeutic services that would ultimately help prevent a crisis from happening. This is partly due to lack of awareness, education about the importance of health prevention, and the lack of culturally competent screenings.

- Fatalism: Much of life is beyond one's control. Many take a passive role in dealing with negative situations, leaving the control of their health to destiny. It is not usual for them to take charge of their health needs. "Si Dios quiere" (If God permits) they will get better, or seek treatment. They have the attitude that it is not up to them, if it happens, it happens. This attitude seems to be pervasive among those who are more traditional and are reluctant to become fully bicultural.

Natural Support Systems

In the Hispanic community helping networks go beyond family and friends. They utilize people and resources that have impact in their lives. These natural support systems include nuclear and extended family, neighbors, religious leaders, folk healers, friends and others whom they have trust. These systems are cost effective, increase social participation in community and can be effectively used by health providers when serving this population.

Immigration Status

Even though, the majority of Hispanics in Oklahoma are here legally, there is a strong relationship between the person's immigration status and their ability to access healthcare services. If a person is undocumented in Oklahoma, he/she does not qualify for most public state and federal assistance. They are eligible for certain basic kinds of assistance including: emergency Medicaid, immunizations, testing and treatment for the symptoms of communicable diseases, short-term, non-cash disaster relief, free and reduced school meals, and others essential to public health and safety.

Summary

Hispanics families in Oklahoma are young, and they play a vital role in the successful growth of our state. Adequate access to healthcare services and a healthcare system that works increases the economic productivity of our state. This would save millions of dollars that could be used for prevention education and early intervention to increase the healthy growth of all Oklahoma families. Hispanics want what everyone wants. They aspire to have decent jobs, adequate healthcare services, good schools for their children, fair treatment in society and workplace, and the same opportunities for success. Many Hispanics, like other ethnic groups also aspire to preserve and share their heritage.

Thoughts About ...

Native Americans

Bernadine Tolbert, MD, PhD, Chief Medical Officer, Oklahoma City Area Indian Health Service

The opinions and views expressed by Dr. Tolbert do not necessarily represent the views of the Indian Health Service.

The Indian Health Service (IHS), an agency within the Department of Health and Human Services (DHHS), is responsible for providing federal health services to American Indians and Alaska Natives AI/AN). The provision of health services to federally recognized Indians grew out of a special relationship between the federal government and Indian tribes resulting primarily from the numerous treaties that included provision of health services as part of the treaty.

The mission is to provide a comprehensive health services delivery system for American Indians and Alaska Natives with opportunity for maximum tribal involvement in developing and managing programs to meet their health needs.

The operation of the IHS health services delivery system is managed through local administrative unites called service units. A service unit is the basic health organization for a geographic area served by the IHS program, just as a county or city health department is the basic health organization in a State health department.

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The Oklahoma City Area IHS (OCAIHS) office provides technical and administrative support for the provision of health care to American Indians and Alaska Natives residing in Oklahoma, Kansas and part of Texas. The Oklahoma City Area serves over 285,000 American Indians and Alaska Natives and more than 95% reside in Oklahoma. This is the largest IHS service population in the United States.

There are approximately 12,000 hospital admissions and 1,500,000 outpatient visits annually to the seven Indian hospitals and 42 outpatient health centers. Tribes manage 31 of the 42 health centers. IHS manages nine health centers and two are operated under contract with Indian organizations. Tribes operate three of the seven hospitals and IHS manages four.

Heart Disease

Recent data indicate that while cardiovascular diseases have been declining for the U.S. general population it is increasing for the American Indian population. The Strong Heart Study (SHS) is funded by the National Institutes of Health National Heart Blood and Lung Institute. It includes more than 5,000 American Indians in three centers including Oklahoma. The study began in the late 1980's and is ongoing.

It has been widely assumed that American Indians were at lower risk of developing cardiovascular disease compared to the general population. This study proved that assumption false. Cardiovascular disease in AI/AN now occurs at rates almost two times that of the general population and with a higher associated mortality.

Diabetes Attacking Tribes

A major factor associated with the increasing cardiovascular disease is the increasing prevalence of diabetes mellitus. There has been a 61 percent increase in the number of persons with diabetes from 1993 to 2001 (1999-2000 omitted).

Chart 1
Native Americans
Diabetes Cases in OK
Source: Bernadine Tolbert, MD, Medical Director, OKC Area IHS

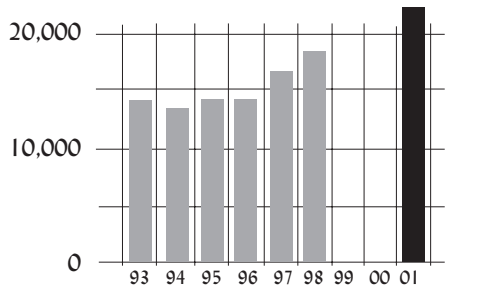
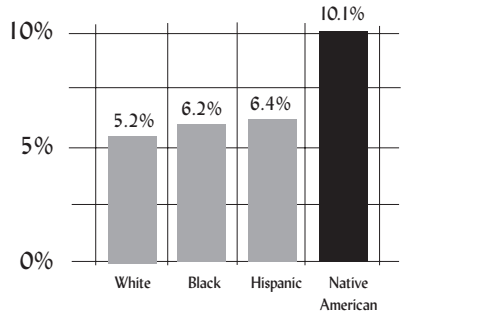


Chart 2
Diabetes Prevalence in Oklahoma
Source: Oklahoma State Department of Health; Daily Oklahoman, 7/10/02



What is even more alarming is the growth of diabetes among younger people. The prevalence of diabetes in the under 45 age group increased ten (10%) percent for the period 1993-1997.

The major complications of diabetes are cardiovascular disease, nephropathy, lower extremity amputations, retinopathy and periodontal disease. About 80 percent of persons with diabetes die from cardiovascular disease.

Diabetes is the leading cause of non-traumatic lower limb amputations. Diabetic retinopathy is the leading cause of new blindness in persons 20 to 74 years old. Periodontal disease is also a complication of diabetes and is the primary reason for the high rate of edentulous persons with diabetes.

The incidence of kidney failure in persons with diabetes is increasing. Diabetic nephropathy is responsible for 75 to 80% of the kidney failure in the Oklahoma AI/AN population persons with the AI/AN in Oklahoma.

Diabetes mellitus is a disease that dramatically illustrates the changing pattern of health in the Indian population. This disease, and associated complications, has all of the characteristics of a chronic disease. It requires the abandonment of the acute care model of medical care in favor of a well-implemented and accepted chronic care model.

Tuberculosis
Tuberculosis has been decreasing in the general U.S. population for many years. However, in the 2000 the case rate for AI/AN was still three times that of the white population.

Cancer
Cancer is the second leading cause of death in the Oklahoma AI/AN population. The prevalence of most cancers is less than that of the U.S. general population.

Accidents
Accidents, and other injuries are the third leading cause of death in the Oklahoma AI/AN population. In ALL major categories of injury, death rates for AI/AN exceed those of the U.S. general population.

Infant Mortality
Infant mortality rates for Oklahoma AI/AN are the lowest of all areas of Indian Health Service and was slightly less than for the U.S. general population in 1994-96.

Life Expectancy
Life expectancy of Oklahoma AI/AN is less than that of the U.S. general population but it is the second highest of all of the Indian Health Service areas. The life expectancy of females at birth during 1994-96 was 77.5 years compared with 78.9 for U.S. all races in 1995. For males, the life expectancy was 70.8 compared with 72.5 years.

Summary
There are several areas in which significant progress has and is being made in decreasing morbidity and mortality, and thus increasing longevity. These include infant mortality and infectious diseases including such as tuberculosis. The death rate from cancer is less than that of the general population and it is essential that the trend not be reversed.

Cardiovascular disease and injury death rates are much worse and must be addressed aggressively. The recent attention to diabetes management and prevention activities should begin to impact the cardiovascular disease problem. Injury prevention activities must be enhanced in order to reverse the high injury death rates.

Oklahoma Public Policy Thoughts
In order to improve the health of American Indians and Alaska Natives in Oklahoma, public policy action should promote healthy lifestyles. The two leading causes of death are due to diseases that are accelerated and/or precipitated by unhealthy lifestyles related to excessive food intake, physical inactivity and tobacco use.

Thoughts About ...

African-American Oklahomans

Bernard Goodman, Executive Director and
Larry Bowler, MD, Medical Director, Morton Health Center, Tulsa

African-Americans have a higher mortality (death) rate, and worse health indicators, in almost every major category than any other ethnic group in the United States. And Oklahoma African-Americans have higher (worse) rates than other African-Americans. These elevated death rates are the obvious indicators of the relatively poorer health status in Oklahoma (see page 3-5).

Health disparities are caused by a variety of factors including group behavior, genetics, environment, income levels, access to services and others. The extent to which each contributes to these higher prevalances of disease or increased mortality rates is debatable.

Other than the major health categories, there are three conditions that particularly afflict African-Americans. They are: asthma, sickle cell anemia and hypertension, as well as infant mortality and low birthweight children.

National and state data indicates the disparity in death rates of cancer, diabetes, firearms, heart disease and stroke. It also indicates that blacks smoke less, are more overweight, and report above average mental health (see table on page 3-5 for detail). The reasons for the disparity in each category are likely similar.

Child and Adult Immunization

The 1997 influenza vaccination rates for adults show that Hispanics (53%) and African-Americans (45%) remain substantially below the whole population. (Oklahoma State Department of Health)

Prenatal Care

African-American women are less likely to receive prenatal care, and when they do receive it, are more likely to have received it late. This is due to poverty, health behaviors and generational beliefs and myths of African American women.

Infant Mortality

African-American and Hispanic women are less likely than other women to enter prenatal care early. The 1997 infant mortality rate among African-American infants was 2.3 times higher than for white infants.

Sickle Cell Anemia

Sickle Cell Anemia is a blood-inherited disease, characterized primarily by chronic anemia and periodic episodes of pain. African Americans have been afflicted with sickle cell anemia more than any other race. It is usually found in people of African Mediterranean, Indian and Middle Eastern heritage. In the United States, these disorders are most commonly observed in African American and Hispanics from the Caribbean, Central American and parts of South America. The disease affects 1 in every 500 African American births.

Asthma (see page A-16)

African Americans are three to four more times likely to be hospitalized than whites and were four to six more times likely to die from asthma. A recently published study (Annals of Allergy, Asthma and Immunology, healthnewsdigest.com, June 3, 2002.) found that 30% of the racial difference in the prevalence of asthma is explained by low birthweight. According to the report, prenatal factors that could be attributable to smaller lung size or pulmonary impairment include smoking during pregnancy, lower respiratory tract illness, or poor maternal nutrition.

Hypertension (High Blood Pressure) & Strokes

Hypertension can cause strokes, heart attack, kidney problems, eye problems and eventually death. The stroke and heart disease death rates for Oklahoma blacks are ~30% higher than the general population. Hypertension can be substantially controlled with diet and medication.

Strokes are a by-product of high blood pressure. A stroke occurs when the blood supply to part of the brain is suddenly interrupted or when a blood vessel in the brain bursts, spilling blood into the spaces surrounding brain cells.

Prostate Cancer

Prostate cancer is the most common cancer among American men, causing more than 40,000 deaths annually. Although it can occur in men of all ages, it most often strikes those over the age of 65. For every 100,000 African-American men, for example, about 181 will have prostate cancer this year, 54 of who

will die from the disease. Black men in America are 1.5 times more likely to develop prostate cancer and are 2 to 3 times more likely to die of the disease than white men (PSA Rising Magazine).

Discussion
All of these diseases play a major role in the health or lack thereof for the African-American community. It is up to us as healthcare practitioners, caregivers and caretakers to take a preventative roll in addressing the problems that afflict our communities.

Beliefs and Behaviors
Most health beliefs garnered by African-Americans are passed down throughout generations over the years. Health care professionals are usually not the first people that African-Americans contact when seeking medical care advice or treatment. For example, many African Americans seek information on health care from their family members, friends and clergy. Of course, these methods set the course for African-American health and are precipitated by unfounded truths and myths that usually prolong much-needed treatment and cause African Americans to deal with health situations at home or church that should be taken care of at the doctor's office.

These myths are slowly being dissolved by educating African-Americans on the need to receive regular health checks and through direct consultation with their physicians. Many of these beliefs are universal for health problems, be it cancer, diabetes, or prenatal health care. These beliefs and behaviors are prevalent within our African-American communities for a variety of reasons, but most commonly it derives from the fact that most African-Americans are either not insured or under insured.

Community Health Centers
CHCs are a much-needed entity throughout minority communities. They provide health services that a large number of African-Americans cannot afford. Health centers are open to everyone who seeks their care, regardless of ability to pay.

Morton Comprehensive Health Services, Inc., the largest community health center in northern Oklahoma, "recorded more than 37,000 patient encounters in our community. Included in this number were 24,000 encounters with patients who had no health insurance and who otherwise would have been unable to access quality and cost-effective primary care and preventative health services," said Bernard Goodman, CEO of Morton.

By providing more public revenue there would be an increase in Community Health Centers. This could annually save taxpayers $7 billion by keeping people healthy and out of hospitals and costly emergency rooms. Community health centers also serve more than 10% of the 40 million uninsured Americans, while also filling critical gaps in health care serving the working poor, the uninsured, the medically underserved and many high-risk and vulnerable populations. They focus on chronic illness and decreasing the financial burden of diabetes, asthma, and hypertension in their patients.

President George Bush, in February 2002, stated, I strongly support these community health centers because they're compassionate, they are cost effective, and America needs more of them. And so I've set this goal: we need 1,200 more community health centers over the next five years to make sure the government fulfills its commitment to the need."

Oklahoma Public Policy Thoughts
To improve the health of African-Americans in Oklahoma, we recommend and suggest:

- Expansion of financial resources to community based health care providers (FQHC's).
- Disproportionate share contributions from Medicaid/State supported hospital systems.
- County and City Government funding to share in the cost of indigent care provided by FQHC's.
- Increased financial support of health education and prevention for high-risk to FQHC's.
- Increased staff support to the State Office of Primary Care on Health Shortage Designations to provide increased detailed and current demographic data and health indicators on the populations in Oklahoma's 77 counties.
- Encourage medical, dental and social work universities to join the National Health Service Corps Campus-Based Ambassador Program. This program encourages universities to partner with FQHC's and rural health care clinics to provide training experiences and eventual employment opportunities for physicians, dentists and mental health professionals in Oklahoma and encourages/develops/enhances relationships between the universities, teaching hospitals and primary care providers in the State and encourages these professionals to remain in Oklahoma.

Thoughts About ...

Women's Health Needs

Karen Wicker and Marla Schafer, OSU Center for Health Sciences

Mama needs her health. If Mama ain't healthy, we have big problems. Women play a unique and significant role in the overall physical and mental health of the family system and entire community.

Their reproductive roles, and responsibilities for the health of other family members (immediate and extended) provide them a unique role in our society. This unique role requires all of us to be respectful of their unique needs and requires each woman to be especially vigilant and responsible.

Many females tend to have steady work, a good income, decent education and affordable health insurance. However, too many American women do not. But their responsibility for the health care of their children and spouses does not go away.

Women's health is more than the yearly mammogram and Pap smear. From birth to puberty through child rearing and menopause, women have specialized health concerns that are evolving as society changes. The following commentary takes a peek at the health complexities facing women today, as they take on additional roles in their world and live longer than ever before.

Reproductive Years

Prenatal checkups. Well-baby visits. Annual Pap smears. The child bearing and rearing years are likely the most hectic, intense and crucial time in a woman's health care life.

The Centers for Disease Control (CDC) reports that woman are three times more likely to see a physician than a man, perhaps because they are conditioned from birth to focus more on preventive care. The assumption is that women receive early training about going to the doctor due to reliance on birth control. So when they get sick, it is less of a hassle to find a health-care provider.

According to the CDC, women make an average of five trips to the doctor a year. Their most common diagnostic service is blood pressure screening followed by pelvic exams and urine analysis.

Prescription Drugs

The most commonly prescribed drugs are non-narcotic analgesics like Tylenol. What's most alarming is the rate of antidepressant use among women. Antidepressant drugs for females are prescribed as often as men receive antidepressants, tranquilizers and anti-anxiety medication combined.

Domestic Violence

An estimated 4 million women are victims of domestic violence each year. Homicide as the leading cause of death for women in the workplace.

In Oklahoma, 25% of women and 17% of men reported a "bad mental health day" in the last 30 days. Although this may not be scientific, perhaps the differential is partially explained by the high rates of domestic abuse in Oklahoma.

A 1998 study conducted by the State Department of Mental Health estimated that 24 percent of the females 18 years or older in Oklahoma had suffered a physical injury perpetrated by their male partners in the previous year. That is one in four. The Oklahoma rate is 45% above the national average. There are counties in Oklahoma where a conviction for domestic abuse is almost impossible. This must stop.

State of Oklahoma

	Male	Female	All	USA
*Deaths **				
Cancer	267.4	168.6	207.8	202.7
Diabetes	28.4	27.4	28.0	25.2
Firearms	26.4	5.1	15.4	10.6
Heart Disease	391.4	263.4	319.4	270.4
Stroke	69.7	69.4	69.8	61.8
Total Death Rate	1,193.3	828.4	985.0	881.9
Smoking	24%	23%	23%	23%
Overweight/Obese	60%	46%	53%	55%
Poor Mental Health	17%	25%	21%	33%

* *Per 100,000 population*

Source: Kaiser Family Foundation/www.kff.org

Job-Related Health

Job stress, family responsibilities and the fact that women are living longer contribute to the changing status of women's health. Three-quarters of reproductive aged women are in the workforce; and more than half of children born in the United States are born to working mothers.

The National Institute for Occupational Safety and Health reports that stress at work is a growing problem for women. Studies find that female workers site heavy workload demands, little control over work environment and role ambiguity as major factors in their overall health status. Additional factors such as sexual harassment and work/family issues were also cited as stressors for women.

Mental Health
Studies in leading mental health journals show a direct correlation between physical health and mental health, particularly for married and older women. Recent findings show that depression is often associated with an increased incidence of heart failure in elderly women, but this is not always the case for men. A couple survey in depression and hostility found that marriage satisfaction plays a key role in a woman's mental health. Women report more symptoms of depression due to marital trouble than do men and their levels of depression are closely related to their husband's hostility ratings. Men's depression levels are reportedly not directly linked to their wives.

Health Risks
Women live longer than men in Oklahoma. However their causes of death and death rates are very similar to men. The four leading causes of death among women (and men) are heart disease, cancer, stroke and diabetes. The female death rates for heart disease and cancer are 33-37% lower ... but the rates for diabetes and stroke are identical.

Heart disease is the leading cause of death for women, yet females are often unaware of its potential dangers compared to illnesses such as breast cancer. In fact, heart disease and stroke take nearly double the number of lives than cancer does in women.

Other female health issues of concern include the growing trend of hysterectomy, lack of mammograms in minorities, and the effects of chronic disease as women age.

- By age 65, half of all U.S. women have two or more chronic diseases and they occur most often in minority and low-income women.
- About 600,000 women have a hysterectomy each year, by age 60, more than one-third of U.S, women will have one.
- Poor and minority women have fewer mammograms than other women, and outpatient mastectomies have increased over the last decade. Where she lives and who is paying for it are key factors.

Hormone Replacement Hoopla
For more than half a century, women have relied on estrogen and progestin supplementation to combat menopause. Until recently, hormone replacement therapy (HRT) was seen as the cure all for a variety of chronic health concerns such as heart disease and osteoporosis. But government studies on HRT recently came to an abrupt halt, shedding new light on its long-term complications. HRT is now said to increase risk of coronary disease, breast cancer, strokes and blood clots. Research has been temporarily halted.

Womens Health Policy
The National Women's Law Center recently compared women's health across the nation. [NOTE] The report was not favorable to any state, but ranked Oklahoma very poorly compared to others. The significant voids in Oklahoma were access to family planning and smoking prevention programs.

However, the report did find encouraging news on several fronts. Oklahoma met NWLC policy standards in diabetes-related services for women, and for screenings for mammograms, osteoporosis and colorectal cancer.

Oklahoma Public Policy Thoughts
Oklahoma public policy could use a proactive program that is aimed at improving women's health without being patronizing or equivocal.

Illinois has eight working groups that focus on a wide range of women's health priorities. Delaware state legislators have created an Office on Women's Health. And the Ohio Department of Health has an Office of Women's Health Initiatives working with agencies to improve women's health.

The following are considerations:

- Partner with the Governor's Task Force on the Status of Women to serve as a catalyst for health policy initiatives and to educate health consumers about relevant medical issues facing women throughout their lifespan.
- Create a Women's Health Network with regional chapters across Oklahoma. This Network could be operated within the state's Area Health Education Centers. Such a network could easily work with hospitals, clinics and physician's offices to implement women specific health programs and education in respective communities. And it could identify "women's health" friendly providers for Oklahoma's women.
- Offer tax incentives to business for adopting workplace initiatives to better the quality of health among female employees. These initiatives would include everything from education to implementation of specific programs with measurable goals and objectives.
- Women must be publicly encouraged to be proactive in their personal and family health. Free exchange of ideas, open dialogue and ongoing education appear to be the best medicine for the evolution of woman's health care and health needs.

Thoughts About ...

Community Health in Guymon

Ed Kirtley, Past Chairman, Texas County Turning Point, Guymon

I am Ed Kirtley, the past chairman of the Texas County Turning Point program and Guymon's fire chief. I am not a "health care professional" but rather an interested citizen of Guymon and Texas County who wants to improve the health of all our citizens.

I have been invited to share my perspectives re: the benefits of the Turning Point process to an Oklahoma community. While there are significant benefits to the community, and the process drives change, I don't believe that I can accurately express the overall positive impact of Turning Point without expressing the changes and benefits from both personal and organizational perspectives.

"The greatest, and most significant change, that occurred as a result of Turning Point is the feeling that we, at the local level, can actually have control over our own public health."

Undoubtedly the most important personal change from Turning Point is a better understanding of my community of Guymon. By meeting with the representatives from the various organizations and citizen groups I really began to understand the 'who' of my community and its groups. This drove a greater appreciation for the diversity of the community and how I fit into it. It also helped me as a leader because I was better able to focus my organization, the fire department, on the most pressing needs in the community.

Another personal change as a result of Turning Point was a broader network within the community. Rather than being one person trying to improve the quality of life I was now part of a broader network of like-minded individuals all committed to improving our community.

Finally, my involvement in Turning Point created a new enthusiasm for public health and the potential for making an impact. I felt empowered to really create change - something that without the synergy of the group I would not have thought possible to do. At the organizational level, the greatest change has been the redirection of fire department resources to improving the health of the community. Just as on the personal level, I began to more clearly understand the role the fire department could play in the community, especially as a community leader in the area of health.

Another organizational change was the cooperative sharing of resources with other agencies and groups. I discovered that there were other agencies with similar goals and the same target audiences. By joining with these other agencies our resources were used more efficiently and we were better able to serve our customers.

Another benefit was that the fire department was able to promote our mission and services to other agencies and service providers. This word-of-mouth marketing has proven to be very beneficial because those who provide direct services to the citizens are aware of what we provide and can direct customers in need to the department.

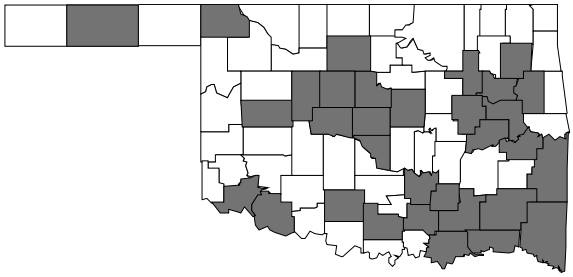
I could never have achieved this without being at the Turning Point table. The greatest, and most significant change, that occurred as a result of Turning Point is the feeling that we, at the local level, can actually have control over our own public health.

Oklahoma is a state that has a strong centralized approach to providing services. Local agencies can deliver services, but the planning and control is done from Oklahoma City. Turning Point taught each of us that we can change that and can more effectively serve our community if priorities and solutions are developed and implemented locally.

A secondary benefit from this change is losing that 'learned helplessness' that comes from centralized planning. We feel empowered to move forward and to take action. Another community change is the focus of resources on the high priority issues.

Rather than taking a shotgun approach to all the problems, Turning Point helped us to identify the problem areas that required the most immediate interventions and mitigation. This approach has helped increase our overall effectiveness.

Oklahoma's Turning Point Initiative Counties in coordination with the State Health Department



Guymon, Oklahoma (Texas County)

Population
2000 Population was 10,472. This is an increase of 34.2% from 1990. In Guymon, 70.4% of the population is White, 0.8% is Black, 1.3% is Native American, and the remaining 27.4% is comprised of all other races.

Air Transportation
The nearest commercial airport is 125 miles from Guymon at Amarillo, Texas. This airport is a full service field with several airlines in operation: American, Southwestern, Continental Express, United Express, and ASA. The Guymon airport has a paved, 5,890 ft. runway with lights and instruments.

Water Transportation
The nearest water transportation is the Port of Catoosa. It is 353 miles from Guymon and has a channel depth of 9 feet. It is connected via the Arkansas River to the Mississippi River and the Gulf of Mexico.

Road System
Guymon is located at the intersection of US 54, US 64, SH 3, Federal Hwy. 412, and SH 136. The nearest interstate highway is I-40, approximately 120 miles to the south.

Rail Availability
Rail service is available form the St. Louis-Southwestern, which operates approximately 10 local trains daily.

Media
Guymon has 1 daily newspaper and one bi-weekly newspaper. There are 2 local radio stations and cable availability.

Educational Resources
Guymon has 7 primary and secondary schools with approximately 1,800 students and 134 teachers. Oklahoma Panhandle State University (Goodwell-10 Miles) and Liberal Junior College (Kansas) offer residents of Guymon an opportunity to partake of higher education. There is one public library in Guymon.

Telecommunications
Guymon has 170 miles of fiber optic cable with 3 points of presence available. Of the central offices, 3 have digital switching capability and one is analog.

Medical Facilities and Medical Practitioners
Guymon is home to 1 hospital with 47 beds. There are 8 clinics in Guymon. There is 1 nursing home with 77 beds. Practicing in the Guymon area are 20 medical doctors and 6 dentists.

Texas County, Oklahoma Turning Point Partnership

The vision of the Texas County Turning Point Partnership (TCTP) is a healthy and vigorous Texas County community, supported by a public health system which focuses on a healthy environment, health promotion and disease prevention. In addition to assuring access to health care for all, the vision includes an ongoing planning process which is driven by active community participation in assessing needs, setting goals, implementing activities, and monitoring accomplishments.

Goals and Objectives:

- *Incorporate community participation in efforts to enhance the public's health.*
- *Design a community health improvement plan grounded in community-specific data.*
- *Implement the community health improvement plan.*
- *Document and evaluate the process and outcome of the Texas County Turning Point Partnership's Community Health Improvement Initiative.*

Partnering Organizations
Texas County Health Department (TCHD). TCHD will provide co-director, consultative and clerical staff, office space, and Internet access. TCHD will be responsible for convening Partnership meetings and communicating with Partnership members and the community.

Guymon Community Enrichment Foundation (GCEF) was established in 1994 to facilitate community development. GCEF will act as fiscal agent and grant administrator.

City of Guymon brings to the partnership a wealth of experience in economic and community development, access to diverse community specific data bases, and participation by local EMS services, law enforcement and fire departments.

The OSDH provides technical assistance through regional staff. The current director for the Oklahoma Turning Point Initiative is a former administrator for the Texas County Health Department.

Seaboard Farms, the community's largest employer, has been an active participant.

Rural Health Projects/Northwest AHEC (RHP), headquartered in Enid, Oklahoma, has a long history with the community of Guymon and has worked with a number of the Partners on joint projects. RHP will assist with contacts with educational institutions and consult on assessment and plan development.

Other agencies and groups that have already committed to the Partnership include: Texas County Memorial Hospital, medical community, Next Step Network, Area Prevention Resource Center, Department of Human Services, Guymon Chamber of Commerce, The Oakes of Mamre Homeless Shelter, Hispanic community, faith community, OSU Extension Service, Department of Environmental Quality, Oklahoma Panhandle State University, Oklahoma Health Care Authority, and Oklahoma Commission on Children and Youth.

Thoughts About ...

Philanthropy

Michael Anderson, PhD, Presbyterian Health Foundation

Years ago, Dave Weyerhaeuser told me, ' you know, I have never heard of a good idea, that is good for the body, mind and souls of human beings, that does not cost money." Weyerhaeuser has been a life long advocate of philanthropy for health.

The charitable giving in Oklahoma for the enhancement of the overall health of Oklahomans is immense, strategic, and effective. Jean Gumerson, President of Presbyterian Health Foundation, states the mission of that group: "to support (financially) the highest standards of excellence in the sciences related to medical arts and human healing and to maintain a clear, moral and ethical concern for enduring human values." Those arts, statewide, for many are "ingenious" and the financial support by scores of foundations and thousands of individuals is "generous."

Philanthropy comes from two Greek words: "philia" which means love and "anthropos" which means humanity.

Health Foundations in Oklahoma
There are four types of foundations:

- Independent foundations may be started with a single grant or bequest.
- Community foundations are defined by the I.R.S. as public charities, and may have multiple sources.
- Corporate foundations may be established by a business and their form of funding varies from single initial grants to annual grants from the business.
- Operating foundations use their income to support charitable programs with the organization that formed the foundation.

Among these types of foundations, Oklahoma has over 160 independent foundations. Many of these emphasize health issues. For example, the Warren Foundation and the Warren Charities are two foundations that have over 300 million dollars in assets and have given millions of dollars to primary health care, and medical research.

By contrast, Oklahoma has many small foundations that emphasize health care in their mission, e.g., "Texas County Memorial Foundation, Inc." with assets under one million dollars.) These "Texans" are in Guymon). We shall not name many of the great foundations of the state but refer to several quintessential examples of how philanthropy impacts the health of Oklahomans.

We are who we are. Generosity, philanthropy, is made even more important in a state that ranks well below the median income of Americans. Philanthropic giving has made remarkable successes in the growth of health care and health research that shall benefit not only Oklahomans, but all people.

Generous and Ingenious Human Spirit at Work
The Oklahoma Medical Research Foundation is a world-class example of the way charitable giving and the medical sciences cooperative for the enhancement of human health. President J. Donald Capra initiated a five year $100 million dollar campaign, "For the Future of Medical Research." In the first year, over $63 million dollars were given to OMRF. This money came from 13,530 individuals who gave 27,532 gifts in one year. The largest gifts came from foundations.

This is not an inclusive list, but it shows how the cooperative giving of Oklahoma-based foundations brings rewards to the entire state. There was $41.6 million dollars raised in the first year of the campaign that was provided by the following Oklahoma-based philanthropic foundations.

Samuel Roberts Noble	Chapman Trust	Gaylord Family
Presbyterian Health	Donald W. Reynolds	Sarkey
Merrick	McCasland	Mabee
Hocker	Goddard	Champlin
Hasbrouck	Rainbolt Family	Rapp
Williams Companies	Barrett Family	Puterbaugh
Bernsen	Boviard	Dolly Harrison
Kirkpatrick		

Within fifteen months, OMRF raised two-thirds of its 60-month campaign goal. However, the real goal is beyond, far beyond, any amount of dollars. A much larger goal is science, knowledge, in many areas of information. For example, OMRF is the cutting edge of research in understanding human DNA and human disease related to the regulation of gene expression.

The cooperative human spirit of generosity is shown by Linda Lambert, a trustee of the Donald W. Reynolds Foundation. The genetics center is named after this foundation. Ms. Lambert said, "One of Oklahoma's best kept secrets is not going to be a secret anymore," in reference to the excellence in research at OMRF. (The Reynolds Foundation was founded by the principle owner of the Donrey Media Group, and it is one of the largest private foundations in America, headquartered in Las Vegas, Nevada.)

How Medical Science "Stars" are Born

There are numerous ways to point out how stars are born, persons who become leaders in scientific thought and medical practices that enhance, save, and make better, the quality of human life.

Here are two examples. "Top Scholars Delve into Medical Research: is a headline from the Daily Oklahoman. Philip Mudd is among 12 high school students designated as Fleming Scholars at OMRF. They perform basic research side-by-side with world class scientists. They mutate DNA strands, incubate cells, grow colonies and participate in many other research processes. Philip's project was "Site-directed mutagenesis of nuclear antigen to determine the importance of epitope dominance in T-cell tolerance." Philips inter'est in science began at age 10 "with a trip to the science lab" with his aunt. He will enroll at the University of Oklahoma.

Another example takes place at Oklahoma School of Science and Mathematics (OSSM). High school students Helen Shi (Edmond) and Tim Davenport (Tulsa) were selected for the national team competing at the International Chemistry Olympiad. The competition was held in the Netherlands during summer 2002. 200 contestants from 50 nations competed in this 34th Olympiad, They were competitively selected from 10,000 American applicants. Although the competition is not over, Oklahoma's OSSM students have won gold and silver before. The site for OSSM was a charitable gift of the Presbyterian Health Foundation.

The Idea, Then the Support, Then the Product

Oklahoma-based foundations are responsible for the following research to business success stories:

Inoveon

Dr. Lloyd Hildebrand told me how he borrowed from a credit card to buy a projector so that he could make a presentation to a California venture capital group.

It worked. Oklahoma City-based Inoveon was started with support from Presbyterian Health Foundation and others. This summer Inoveon secured $16 million dollars to develop "3DT" a device that screens patients for diabetic retinopathy.

This disease is the leading cause of blindness among adults in the world today. It is a good idea for the good of humanity. "The blind shall see" is a sign of good news.

Novazyme

Dr. William Canfield operates Oklahoma's only FDA approved lab for manufacturing drugs, His company, Novazyme will produce a biopharmaceutical based on life-saving technology for the treatment of a rare group of Lysosomal Storage Diseases.

This idea was developed and sold for over $200 million and shall remain in Oklahoma creating high tech jobs and futures for many.

Without philanthropic support, including space at the Presbyterian Health Foundation Research Par, Dr. Canfield's ideas would have been lost, delayed, or moved to another state.

Research Parks

The Presbyterian Foundation Research Park is located in Oklahoma City. This is philanthropic money at work for hundreds of Oklahomans. Other than Novazyme, and Inoveon, it is home for other companies such as ZymeTx, Advancia, Oklahoma Technology Commercialization Center, Nomadics/ VigiLink, Hyalose, Cutanix, and Protcom Tech.

The Future is Created by Today's Decision

Today's political, community and personal decisions create tomorrow's future of Oklahoma's health. Good ideas are the basis of good decisions. All good ideas for the good of humankind cost money. Public (taxes) and Philanthropic (for the love of humans).

Thoughts About ...

Healthcare Ethics & End-of-Life

Linda Edmondson, LCSW, Executive Director, Oklahoma Association for Healthcare Ethics

Living Wills
Palliative Care
Do Not Resuscitate
Advance Directives

Our Town Hall is about health. But there must also be a responsible discussion concerning the ultimate loss of health.

Providing comprehensive, competent and compassionate care to all Oklahomans at the end of life will not improve the state of the state's health in the same way as decreasing smoking and increasing exercise. However, achieving excellence in end-of-life care will impact every Oklahoman.

Why? Because every Oklahoman will die. Each of you reading this article will die. That is why, no matter what action we take to improve our health and the quality of our lives, it is important to take the steps necessary to insure that we will have a good death as well.

What is a good death? Many would argue that "good" and "death" are contradictory. However, most Americans have definite ideas about what it means to have a good death. Studies tell us that most of us wish for a quiet death at an advanced age: without pain, at peace spiritually and emotionally, at home, surrounded by our family and friends. Yet in Oklahoma few of us die like that.

Most die in hospitals (53%) or nursing homes (23%). Many are in pain. Rather than experiencing a natural and dignified death, too many Oklahomans receive futile and unwanted high-tech treatments that reduce the end of life to an undignified, cold and painful experience.

Key Elements

There are three key elements in care at the end of life that Oklahomans must consider. First, will you receive palliative care when you have a life-limiting illness and a cure is not possible? Second, what are the ethically and medically appropriate questions and decisions at the end of life? Finally, who can speak for you if you are incapacitated, and how will they know what to say?

Palliative Care

Palliative care focuses on relieving or reducing symptoms of a life-limiting, life-threatening, or terminal illness. It is comfort care. The most important part of palliative care for most people is pain management.

Almost no one need suffer unrelieved pain at the end of life. Medical knowledge and techniques exist to bring comfort to the dying, but groundless fears about addiction and over-prescription of powerful painkillers may get in the way, for both physicians and patients.

Palliative care also addresses other physical symptoms, and psychological, social and spiritual needs. When pain and other symptoms are under control, there is time and energy for the dying to tend to personal unfinished business, saying: I love you. I'm sorry. I forgive you. Forgive me. Thank you. Good-bye.

Palliative care should be available for all dying patients. All physicians and nurses should have the knowledge and skill to provide it. Hospice care, delivered at home or in a nursing home, is the best-known provider, but palliative care is a much broader concept than hospice.

With palliative care training and access to appropriate resources, no health care professional ever needs to say, "There is nothing more to be done." Their response can be, "The curative treatment is no longer working, but there is much more that can be done with palliative care."

Questions and Decisions

When the goals of care have shifted from cure to comfort, and death is approaching, there are bioethical principles that help guide our questions and decisions. The competent and informed person has the right to autonomy, to control medical treatment, and the right to refuse any form of treatment.

There is an emotional difference but no moral or ethical difference between withholding and withdrawing treatment. Oklahoma's advance directive law says, "I direct my attending physician...to withhold or withdraw treatment from me under the circumstances I have indicated below....I will be given treatment that is necessary for my comfort or to alleviate my pain."

At the end of life, what are the questions to be asked and the decisions to be made? Important questions

include whether or not to attempt cardiopulmonary resuscitation (CPR) when heartbeats and breathing stop. CPR has some success in reviving patients with strong hearts and no terminal condition. However, the American Heart Association says, "For many people the last beat of their heart should be the last beat of their heart .... a disease process reaches the end of its clinical course, and a human life stops. In these circumstances, resuscitation is unwanted, unneeded and impossible.

"If started, resuscitative efforts for these people are inappropriate, futile, undignified and demeaning to both the patient and the rescuers." An order not to attempt resuscitation is usually called a DNR (Do Not Resuscitate) order. Perhaps it should be called an AND (Allow Natural Death) order.

Another difficult decision is whether or not to use artificial means of nutrition and hydration (tube feeding) when a dying person is no longer eating or drinking by mouth. Some studies show that artificially administered nutrition, and particularly hydration, may cause more burden than benefit to someone who is imminently dying. As body systems and functions shut down, a dying patient may be more comfortable without the use of artificial hydration. Decisions about this issue deserve thoughtful consideration by family and healthcare providers.

In Oklahoma, it is especially important that families document their decisions about artificial nutrition and hydration and CPR.

Oklahoma law presumes that everyone wants artificial nutrition and hydration if they are unable or unwilling to take nourishment by mouth, even if they are near death and the treatment will cause more burden than comfort. It is presumed that everyone wants CPR administered, if their heart and breathing stops, even if they are imminently dying or suffering from a terminal illness that will soon cause death.

<u>Your Representative</u>
If you are incapacitated and not able to make your own decisions about medical care, who will speak for you? How will they know what you want? In this state, family members do not automatically have legal standing to speak on a person's behalf when that person can no longer speak for themselves. So documentation of your wishes is very important. How to document decisions about end-of-life care? A complex but useful form is the Oklahoma "Advance Directive for Health Care." It is available from attorneys (but an attorney is not required), physicians, hospitals, Area Agencies on Aging, or the Oklahoma Alliance for Better Care of the Dying. It asks whether life-sustaining treatment is desired to prolong life when there is no hope of recovery. A healthcare proxy can be named to make decisions for the person when they are unable to speak for themselves at the end of life. There are other state forms, a Durable Power of Attorney for Health Care, and a Do Not Resuscitate Consent form.

You Need To Know
Better care for the dying in Oklahoma has to start with a conversation in each family. Without frank conversations about living arrangements, financial plans, medical care and end-of-life wishes, families will be faced with difficult questions when their loved ones are critically ill and unable to speak for themselves.

When doctors and nurses ask family members: What would your loved ones say, if they could still think and speak for themselves? It is tragic when the answer is "We don't know what they wanted; we never talked about it." The advance directives are important legal documents, but the most important thing is the conversation.

Oklahoma Public Policy Thoughts
- We must make palliative care more available in nursing homes. Twenty-three per cent (23%) of the Oklahomans who die each year, die in a nursing home. Almost half of those residents who are terminally ill report moderate to excruciating pain. While there, they have a right to a comfortable life, and also, they also have a right to a dignified, pain-free death. At the same time that we are insuring that nursing home patients are not neglected or abused, we need to be sure that we do not deprive those who are dying of a good death.

- Support legislative and administrative measures to increase training in palliative care for physicians, nurses and health care professionals.

- Increase the use of palliative care for the hundreds of Oklahomans dying in nursing homes each year.

- Create a statutory hierarchy of decision-makers so the families of those who did not make their wishes known are entitled to speak for their loved ones.

- Face the fact that 34,000 Oklahomans die each year, most in hospitals and nursing homes, and that they deserve better end-of-life care.

Facts On Dying

www.chcr.brown.edu/dying/OKPROFILE.HTM

1997

Percentage of People Dying	OK	US
At Home	24%	24%
In Nursing Homes	23%	24%
In Hospitals	53%	52%

Pain in Nursing Homes	OK	US
Excruciating daily pain among all patients	9%	4%
Rate of moderate or excruciating pain among patients who are terminally ill	46%	44%
Persistent severe pain	42%	42%
Persistent severe pain among patients with cancer	50%	47%

1999

Use of formal advance directives in	OK	US
All nursing home residents	27%	37%
Terminally ill nursing home residents	33%	42%
Persons with severe cognitive impairment	26%	38%

Do Not Resuscitate orders among	OK	US
All nursing home residents	29%	46%
Terminally ill nursing home residents	64%	74%
Persons with severe cognitive impairment	42%	64%

Orders to forego artificial hydration and nutrition among	OK	US
All nursing home residents	3%	8%
Terminally ill nursing home residents	5%	12%
Persons with severe cognitive impairment	4%	10%
Use of feeding tubes among personswith severe cognitive impairment	19%	18%

Chapter 7

End Notes

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American Heart Association

Centers for Disease Control and Prevention's National Center for Health Statistics

Journal for Behavioral Medicine

Kaiser Family Foundation

National Institute for Occupational Safety and Health

National Women's Law Center

Psychosomatic Medicine

Wall Street Journal (Wednesday, July 10, 2002)

Corporate Oklahoma
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Chapter 8

A Sooner State Forecast

The Outlook for Health Care Organizations

Stanley Hupfeld, FACHE President & CEO, INTEGRIS Health, Inc.

general hospitals • nursing homes • hospice • clinics • assisted living
outpatient surgery centers • specialty hospitals • HMOs • health insurance

Chapter 8

A Sooner State Forecast

Stanley Hupfeld, FACHE, President & CEO, INTEGRIS Health, Inc.

Preface —
No examination of health would be complete without an assessment of various health care organizations and delivery systems. Much of what we read in this document is based upon preventive actions. Prevention is neither universal nor always successful. Inevitably, everyone will need health care services of one the or another.

Oklahoma is witnessing four megatrends that could drive health care institutions (and our state's economic well-being) for years to come:

- the growing challenge to small businesses;
- our state's poor health status;
- the future of care for our vulnerable populations;
- the outlook and prospects for our high-tech, urban medical centers.

But our Oklahoma healthcare story begins not inside the walls of hospitals and medical centers, but on the bustling Main Streets our towns and cities.

From Boom and Bust to "Free Agent Nation"?
In Oklahoma, we're proud of our frontier heritage - and the cachet of pioneer spirit and fiery individuality that comes with it. It's in our state character to strike out with new ideas and to overcome adversity. Over the past two decades, we've diversified our state's economy. We've made it easier for businesses to thrive here, with the passage of a "Right to Work" law. And small businesses have become a crucial part of our new economy.

In 1998, according to the U.S. Department of Commerce, small businesses (defined as a company with fewer than 500 employees) represented nearly 55 percent of Oklahoma's total employment and small firms numbered nearly 69,000.

Optimists might say Oklahoma is on the verge of approaching, what a™ recent book termed, the "free agent nation." Such a "nation" is a place where a "third wave service economy" is dominated by small business and freelance consultants. According to the U.S. Small Business Administration, for example, Oklahoma ranks 12th in the nation for small business firm "births" from 1990 to 2000.

But such a growth of the small business sector brings new challenges.

In Oklahoma, according to the U.S. Census Department and Kaiser Family Foundation, we're also witnessing the growth of an aging population. And the elderly almost always need the most expensive health care - an arsenal of prescription drugs, high-tech surgical procedures and long hospital stays.

In 1995, about 13 to 18 percent of Oklahoma's population was 65 or older. By the year 2025, we're projected to be at 21 percent. Contrast that with the percentage of the population under 65 and uninsured in 1998 - more than 20 percent.

Oklahoma also faces an uphill battle against heart disease, stroke, diabetes, obesity, unwanted pregnancies and tobacco use. A recent "state of the state's health" report from Oklahoma's health department revealed that we perform worse than neighboring states in almost every health category.

And the increasing cost of uncompensated care is also reducing hospitals' profit margins. It all adds up to a recipe for a possible health care meltdown in the years to come - a serious concern for policymakers and for health care providers.

Because of these characteristics - and other important factors - states like Oklahoma are facing a "future shock" when it comes to health care. And both could be emblematic of a coming health care firestorm for the rest of the nation.

Remember the health care debates of the early 90s? Get ready for a repeat.

While the economy boomed in the late '90s, a tight labor market and employers willing to foot the health care bill masked health care inflation. But the "irrational exuberance" of the New Economy is gone. In its wake, we're staring down the reality of a health care crisis.

In some states, the crushing cost of health insurance for small employers has already led to open discussion of a "single-payer system" - that is a system covered by the government and paid for through

higher taxes. Of course, the federal ERISA law blocks states from regulating many employer health plans. So it's unlikely any state would enact such a system on its own.

Still, one can almost hear the buzz of indignation and restlessness coming from the American populace. It first began to bubble up through smaller initiatives like a "patients bill of rights" and federal prescription drug benefit.

Fundamentally, in Oklahoma and elsewhere, we're faced with a perplexing conundrum. As Americans, we believe we're entitled to the very best health care. But that's the very best health care money can buy. And our nation's politicians, the media and our entertainment apparatus have done a whizbang job of demonizing managed care - a movement that began as a way of tamping down on spiraling health care costs. Now HMO's are so reviled that many managed care organizations themselves are loath to deny much.

We can't have all the health care we want or think we need without an economic day of reckoning.

So what do we want from modern medicine and from our modern health care facilities? And are we willing to pay for it? The answer is stark: We can't have all the health care we want or think we need without an economic day of reckoning.

Because Oklahoma relies on a plethora of small businesses to drive its economic engine, I'm often asked to speak to small business gatherings. At one recent conference, I heard from employers who routinely see double-digit premium increase notices from their insurance providers. Some reported as much as 30 to 40 percent increases for the same amount of insurance.

Just how does a small business budget for such an expense? Small employers are making it increasingly clear that as far as they're concerned it's "game over" for health care coverage for their employees. Many employers spell out the same plan: increase salaries for staff to as much as $100 a month and leave employees to find coverage on their own. Under such a scenario, employees would find themselves footing a hefty bill to hang onto their insurance - a cost burden akin to a second mortgage.

This situation presents a myriad of problems. First, while many employees might appreciate another $100 in their paycheck each month, how many will actually procure new health insurance? And for those that do, what sorts of options will they have?

The insurance industry is accustomed to basing health insurance on group rates, not individual plans. Insurance companies make a profit by taking premiums from a total population to cover the outstanding events of a few sick people, with the hope of making money through cash flow and investments.

Insurers base their premium structure on the size of an insured group, demographics, and the history of the group based on preferences. Government employees and women, for example, tend to utilize their health benefits more frequently - as do older workers.

What kind of benefits will employees find in the absence of such group protection? It's likely any plans or policies available would have high exclusions, deductibles and co-payments. Short on benefits, long on cost.

Quite simply, Oklahoma could soon face a stark scenario - under which many small employers drop coverage. What happens then? The number of uninsured in this state could grow exponentially. And Oklahoma already ranks high in its percentage of uninsured. In Oklahoma City, for example, the uninsured rate for 2001 was more than 18 percent compared to 12.5 percent for the entire nation (according to a report from Health Strategies Group, Spring 2002).

This is in part because of the poor health status of our state. That health status will only worsen if the ranks of uninsured grow.

An Economy of Health

Oklahoma's poor health status isn't merely an academic concern. It has as much to do with dollars and cents as our efforts to recruit new industry or to revitalize our cities.

No doubt Oklahoma has made significant progress in diversifying its economic base. Once victim to the boom and bust cycles of oil, our state no longer feels the brunt when the wells go dry. To use an athletic analogy, Oklahoma begins about ten yards behind the starting line in the race with other states for new

business. We're burdened with an onerous worker's compensation system. And we must shoulder a heavy personal income tax.

But all of that pales in comparison to another, even more important barrier, and it goes right to the heart of the matter - literally. It also involves our arteries, our lung capacity, even our livers.

In Oklahoma, the biggest barrier to collective wealth is our health.

In the race to win new business you might say we're huffing and puffing well behind the pack. And if Oklahoma is to weather the storm that may come as small employers drop insurance coverage, we must certainly learn how to attract new business.

A report by the Oklahoma State Department of Health crystallizes the issue. Oklahoma performs worse than neighboring states in almost every health category. Part 3 of this paper provides a detailed analysis of our health status in Oklahoma. It tells us of the cultural health behaviors that we are passing on to our children.

In Oklahoma, the biggest barrier to collective wealth is our health.

But there's one statistic that should grab anyone's attention: In 2000, Oklahoma had a 6-13% higher incidence of workdays lost to injury and illness than the surrounding states of Kansas, Missouri, Arkansas, New Mexico and Texas. (Bureau of Labor Statistics at www.bls.gov). That represents a two-fold problem for employers:

First, the additional cost of employee health appears higher than surrounding states and

Second, employers face the replacement cost for those lost days.

The budgets of our local health departments are too constrained to tackle many of these problems in an effective fashion. But we must consider how we can.

It's clear that in states with aggressive anti-smoking campaigns, significant numbers of teenagers have refused to take up the habit.

Perhaps it hearkens back to our pioneer heritage. The same independence and fierce individualism that created this state during the Land Run now hampers us by making us resistant to helmet legislation or seat belt laws, diet constraints or daily exercise.

But our relatively poor economy fuels the problem. Again, lack of health insurance rears its ugly head. The uninsured don't have access to prevention programs. There's also a direct correlation between smoking and income.

The solution to this statewide dilemma?

The important first step is to institute a local option on raising the millage for city-county health departments. Such a measure would provide these agencies with the funding they need, enabling them to begin the monumental task of changing our state's health habits.

Over the past decade, health care institutions in our state have begun to reach "beyond the walls" of facilities to attempt to change health habits for the better. This is certainly altruistic, but it also has a bottom-line motivation: the poorer our state's health, the more the ranks of uninsured will grow. And those uninsured will show up on the doorstep of hospital emergency rooms, rather than finding treatment from primary care physicians.

We eat too much, drink too much, smoke too much and exercise too little. But these are more than just interesting factoids. Our business community must realize these are true obstructions to economic progress - as important as our educational system, our tax structure or our regulatory environment.

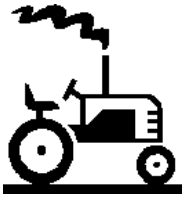
We do a good job of taking care of people when they come to our sophisticated physicians and hospitals.

We need to begin doing a better job of keeping them out of our healthcare facilities.

And while our state is blessed with some of the most superb healthcare facilities, Oklahoma is faced with two other trends that will change the face of these institutions. The first concern begins far away from the shining urban medical centers and medical schools.

Down on the Farm

In the Sooner state, even the most urbane among us still have a fondness for our rural heritage. Our country towns are cordial, caring and cohesive.



But there are some storm clouds on the horizon for rural health care. [See The Perfect Storm scenario in Part 9] Large percentages of nearly every county in Oklahoma are still rural. Many, of course, are completely rural. And any health care debate in our state must consider the future of rural health care.

Oklahoma's non-metropolitan hospitals continue to face relentless demographic and economic forces beyond their control. A short history lesson provides some clues as to the causes.

After World War II, rural communities shared in the postwar boom with a surge in rural hospital construction during the 1950s - using funds provided under the Hill-Burton Act.

But as time passed, some common problems developed. [see Rural Hospitals perspective in Part 7]

Because of weak economies and difficulty in recruiting physicians, most rural hospitals have been operated with a break-even budget or a negative cash flow. In Oklahoma, unlike some other states, there is no requirement or incentive to provide county-based tax support for the care of the indigent.

Medicare and Medicaid reimbursements, rather than private insurance still usually drive Oklahoma's rural hospitals. It's not uncommon to see 80 to 90 percent of a rural hospital's income coming from governmental programs - a shaky economic base at best.

Many small town hospitals have also become dependent on a handful of services - such as home health - to supplement negative cash flows. The federal government persists in making those sources of revenue tough to maintain. Hundreds of home health agencies have gone out of business in rural areas in just the past few years.

After four decades of operation, with no cash reserves and a smattering of tax support, most of these facilities are in dire shape. The facilities are deteriorating, and community leaders have no reserves to draw upon to fix them.

Rural Oklahoma is filled with a sense of self-reliance and pride. It's part of what has made our rural communities so strong for so many years. Small town residents take satisfaction in their local hospital - often the largest employer in town, with the best-educated work force.

But this push for independence prevents cooperation with neighboring communities. Time and again, communities just miles apart (both with general hospitals) would do better to combine their resources into a single facility. The same problem appears in other areas, such as an overabundance of independent school districts.

This sense of self-reliance also keeps communities from turning to organizations that could help. Towns have sometimes approached organizations like INTEGRIS or Quorum Health Group, Inc., asking us to save rural hospitals on the brink. By the time we're contacted, it's often too late. And we must look to our existing commitments to other communities first.

Many small town hospitals have also become dependent on a handful of services - such as home health - to supplement negative cash flows.

Political leadership frequently forms another barrier. Particularly in Oklahoma, most rural hospitals are city-county owned or operated. While many small communities are fortunate to have wise leaders, a lack of vision has cursed other towns, where hospitals are treated as political pawns.

As a result, we've seen an evolution of three kinds of rural hospitals.

- The first are successful independent facilities that have carved out a niche, either because of the size of the community or because of the strength of local leadership. Ada, Duncan and Altus boast examples of this flourishing model.

- The second type faces a financial "code blue." They've failed to participate in collaboration, and now face desperate situations. These facilities will be increasingly at risk as we move into the new century.

- Aligned hospitals represent the third type, and the middle road. They've united with larger health care organizations for an economy of scale. They've also maintained some local autonomy.

But what are long-term solutions to this problem?

Leaders like U.S. Representative Frank Lucas, along with other strong voices in Congress, has sounded the alarm about flawed reimbursement systems. He and others are calling for reforms to address the needs of rural communities.

Still, government should do more by encouraging rural communities to join forces. This solution must overcome local politics. But opportunities to combine facilities into stronger partnerships clearly exist. Government could play a role by offering incentives like construction grants.

There's no question, however, that we are reaching a critical point. Hospitals can hang on much longer than for-profit private businesses, because of non-profit status or affiliation with local government. But the future for many rural hospitals is dire.

Post-Modern Health Care

By contrast, many affluent urban areas are witnessing an explosion of what could be called "boutique health care."

... a lack of vision has cursed other towns, where hospitals are treated as political pawns ...

Drive along the gleaming streets and expressways of a high-toned Dallas suburb - the Las Colinas district - and you can see one possible future for health care.

Part of the city of Irving, Las Colinas began as an ambitious development in the early 1980s - originally envisioned as a grandiose project with monorails and canals.

Those dreams disappeared after the oil bust. But developers still managed to lure luxury hotels and businesses (Oprah favorite Phil McGraw keeps his offices in the district). Today, Las Colinas stands as a crème de la crème collection of shining office buildings, gated communities, exclusive golf clubs, hotel towers and haute-cuisine restaurants - even boasting a movie soundstage and its own symphony orchestra.

One might consider it the Palm Beach of Dallas.

Motor through the district, whizzing by mile after mile of manicured grass and carefully landscaped properties, and you might happen to pass by a large building bearing the Baylor Health System logo.

The sign on the front indicates it is an outpatient surgical facility (including requisite urgent care and 24-hour obstetrics offerings).

The sign means this large, impressive building offers almost no inpatient services. Consider it the post-modernization of health care.

Recently, my organization opened a new hospital in Yukon - INTEGRIS Canadian Valley Regional Hospital. The new facility has a heavy emphasis on outpatient care. It's a bellwether of how far the health care industry has evolved over the past few decades.

In the 70s and 80s, outpatient care in a hospital was pretty much an afterthought. After planning for development of inpatient services, if there was money left over, health care organizations might include some outpatient services.

In this era, we might now ask what would drive such a remarkable change in a relatively short period of time.

The answer is deceptively clear-cut. One of my old health care administration professors used to instruct his students plainly, "Remember, form follows prepayment." By this he meant that all facilities and services would be developed where there are established insurance payments to cover care.

When I began my career in health care administration in the early 70s, insurance was inpatient oriented. In fact, I remember patients having their molars removed, then staying two or three days in a hospital. If hospitals and doctors were going to get insurance companies to pay, care had to be delivered in an inpatient setting. During the same era, psychiatric and drug rehabilitation facilities flourished. Then government reimbursement dried up, and many of these facilities disappeared.

But money isn't the only driving force for change. Tuberculosis sanitariums used to dot the nation. Science conquered tuberculosis, and these sanitariums no longer exist. So, our evolving health care system responds to a combination of financial and technological pressures.

I suspect insurance companies' motive for the inpatient model was the theory that insurance should only pay for the most serious of problems. And because the insurance companies focused on inpatient care, the medical system often convinced itself that everything had to be treated as an inpatient problem, no matter the lack of risk or severity.

This system worked because inpatient care was far less expensive at the time. Now, some three decades later, the reverse is true. Unless a patient is seriously ill insurance companies won't pay for inpatient stays. Because of my professor's truism, the design of our national health care system has subtly shifted to meet these new forms of insurance payments.

> ***[It was] meant that all facilities and services would be developed where there are established insurance payments to cover care.***

Procedures are now routinely performed in doctor's offices that at one time would never have been done (minor surgery or chemotherapy, for example) because they were viewed as too risky or because they wouldn't be reimbursed properly.

Certainly we've learned how to manage risk better. Physicians have too.

But insurance companies have figured out that care can be delivered cheaper and more effectively in outpatient settings. Health care systems like Baylor in Dallas have discovered a large portion of their revenues will be outpatient, so they're building facilities that are completely outpatient-driven, with no inpatient support.

Even mentioning this kind of facility 20 years ago would have been considered ridiculous. Now, we're seeing the emergence of many niche players in the health care arena in Oklahoma City and Tulsa.

If the healthcare system has responded to changes in reimbursement, can we predict equally dramatic changes in the next few decades? The truism will likely hold.

We'll probably see hospitals almost totally focused on the most acute cases, patients experiencing major trauma, such as burn victims or those needing organ transplants.

As science becomes more refined, insurance companies will recognize this trend. And it will become even less attractive for providers and patients alike to consider hospitalization for what we consider today to be serious medical conditions.

To say that our health care system seems to be devised around where the money flows sounds a bit cynical. But in the case of increasing outpatient care, we find a neutral development - one that may actually be part of the solution to the problems of rising insurance premiums, spiraling health care costs and the death of rural health care.

As the ancient Roman writer Publilius Syrus once observed, "Money alone sets all the world in motion."

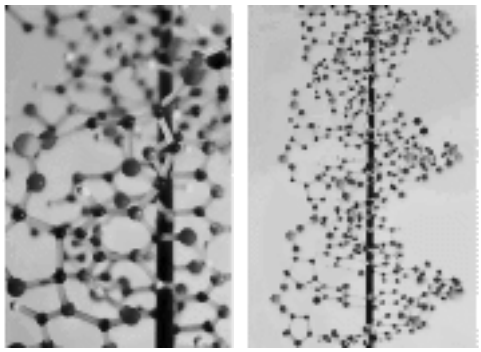
Exactly so, whether it applies to rising insurance premiums for small employers; the challenge of Oklahoma's poor health status; the promise and peril of rural health care; or shining new hospitals that cater to an outpatient population.

Chapter 9

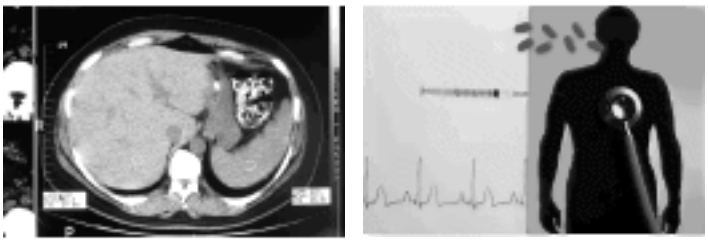
The Future

Blue Cross and Blue Shield of Oklahoma

Mike Rhoads, Executive Vice-President
Linda Sponsler, Vice President, Advertising/Public Relations
Karen Langdon, Assistant General Counsel



DNA sequencing models



21st century imaging and telemetry

Chapter 9

The Future

Michael Rhoads, Linda Sponsler and Karen Langdon: Blue Cross and Blue Shield of Oklahoma, Tulsa

Preface —
The staff of Blue Cross and Blue Shield have provided us a glimpse of the future. We know that the future will be different but none of us can accurately predict how different. Mr. Rhoads, Ms. Langdon and Ms. Sponsler have drawn upon the work of The Institute for the Future, a working partner of Blue Cross and Blue Shield. They have also added their own research, thinking and reasoning. What follows is not a prediction ... it is simply information for your use as you ponder the future.

Many years ago, Oklahoma physicians often treated the poor for no charge. Barter was sometimes delivered on their doorstep as a thank you for the kindness in healing sick family members. That physician-patient relationship changed with the advent of the Medicare (elderly) and Medicaid (poor) programs. Some changes were for the better, others were not.

Elsewhere in this document, you will see that the Oklahoma Medicaid program annually expends almost $2 billion on health care services for the needy.

Does anyone honestly believe today's physicians would accept $2 billion of chickens, eggs and lemon pies in exchange for that service? Of course not. We live in a much different world.

I don't drink, smoke or chew ... well except one time when my brother gave me a cigar and I got sick and never smoked again," [1] E.A. Blasinggame, Clayton, OK, age 93

The adoption of Medicare and Medicaid, and the expansions of private insurances, have irreversibly changed the balance of patient-physician relationships and the overall delivery of health care services.

Other than these major public programs, many other factors have shaped and are shaping our pursuit of health. And exciting changes are on the horizon that will shape our future.

This section is about that future.

Dr. McCullough
In 1963, young Dr. Robert McCullough, Jr. began medical practice in Tulsa. There were no Intensive Care Units; no Medicare, no Medicaid and office calls were $3. There were only four major antibiotics to prescribe for all of the colds, flu, sore throats, and ingrown toenails. A bleeding ulcer often required a 10-day hospital stay.

During Dr. McCullough's medical career, he had the privilege of providing health care for four generations in the same family. By the early 1970s, he expanded his practice into the relatively new specialty of oncology.

More medicines were being developed for chemotherapy to help treat patients with various cancers. Prior to this time the cure rate for cancers was very low, but with work through the National Institutes of Health combination chemotherapy was developed and used in experimental treatments.

Just in the past ten years, science has allowed doctors to target therapies allowing successful cure rates of many cancers.

The practice of medicine is evolving from what was a "single-doc" cottage industry to "big business." Consumers are demanding more from the health care delivery system. With this demand comes increased health care costs.

The future of health care will be driven by many factors. This analysis provides a review of the current literature analyzing the critical components of health care in the future: our national demography, emerging technologies and cost/utilization trends including health insurance factors.

There are, of course, many other scenarios and influences.

U.S. DEMOGRAPHY

The Graying of America
Americans are enjoying the highest level of health care services in the world. Life expectancies are continuing to increase from 79 years old for a female in 1998 to 82 years old in 2010. A male in 1998 life expectancy was 73 years old and for 2010 there is a projected increase of three years to 76 years old. [2]

More than 13 percent of Oklahoma's population is 65 years old or older with 57,000 Oklahomans 85 and older. [3] What about the "baby boomers?" The U.S. population over 65 will increase from 11 percent in 1985 to 21 percent in 2050. In Oklahoma today the "baby boomer" generation, born between 1945 and 1964, represents more than 28 percent of the state's population. [4]

These new consumers will seek empowerment through more informed choices of health plans and providers, better self-care and self-management of their health conditions, and shared medical decision-making with caregivers. [5]

The New Consumer
(See companion Part 4 of this report, "Is Health for Sale?" by Kim Holland of the Quarles Agency)

In defining the 21st Century Health Care Consumers, the Institute of the Future demographics show the higher education achievement of the new consumer.

In 1965, 20 percent of U.S. adults had been to college. By 2005, 60 percent of adults will have college. These consumers will have disposable cash with 50 percent of U.S. families having an annual income of $50,000 in constant 1995 dollars as compared to 22 percent of U.S. families earning $50,000 in 1965. [6]

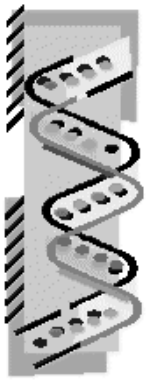
The new consumer will have an "analytical sophistication" that comes with applied information technologies to use for comparison shopping. These applications have transformed many industries in the U.S., including banking, investment and retail.

These new "consumers" have grown from 25 percent of the population twenty years ago to 45 percent today. By 2005 they will be at 52 percent.

Currently 143 million people are on the Internet. [7]

EMERGING TECHNOLOGIES

Human Genome Project
The Human Genome Project (HGP) is being coordinated by the National Institutes of Health and the U.S. Department of Energy. It was started in 1990. The project was originally planned to last 15 years, but rapid technological advances and market-based competition accelerated completion date to 2003.



The project goals are to:

- Identify all the approximately 30,000 genes in human DNA.
- Determine the sequence of the three billion chemical bases.
- Store this information in databases.
- Develop faster, more efficient sequencing technologies.
- Develop tools for data analysis.
- Address the ethical, legal and social issues that might arise from the project. The key distinctions in genetic testing are disease genetics for disease prognostics/diagnostics and pharmacogenomics, which are medical response profiles.

The benefits and unintended consequences of the HGP are significant. It will significantly impact clinical medicine and research, as well as both consumers (patients) and third-party payers of health care services.

Why Genomic Medicine Now?
There are technological advances in biology, chemistry, bioinformatics, biocomputing and associated reductions in costs of gene sequencing. The public and private investment in genetic research is providing insights. The pharmaceutical industry is in need of improvements in the drug discovery and development processes.

Genetic research would help with one of the leading causes of death and injury ... that being drug safety and medication errors.

The IOM (Institute of Medicine) reports that errors are responsible for 44,000-98,000 in hospitalized patients per year, which is the 8th leading cause of death in the United States. Medication errors alone cause 7,000 deaths a year.

One real-world clinical example of genomics in oncology care is cited in collaboration between IBM, NuTec Sciences, a software company, and Winship Cancer Institute at Emory University. IBM analyzes the patient's genetic profile from blood or tissue samples as determined by DNA chips. NuTec produces algorithms to examine the gene combinations and try to match them to an effective drug regimen. Winship receives the result via the Internet within hours and administers care to the patient. This example shows how cancer treatment is now personalized and targeted for maximum effectiveness.

A Los Angeles Times telephone interview with adults in July 2000 indicated that most Americans said they would take a genetic test to see if they were at risk for a disease. However, more than half of the respondents said they worry about discrimination as a result of genetic research.

What does the future hold?

Pharmacogenetics & Pharmacogenomics
According to the Institute of the Future pharmacogenomics testing will have an impact within the next two to five years . Several genomics-based drug candidates are likely to be approved with oncology-related treatments at the leading edge. Biotech drug spending will increase at 15-20 percent annually.

Pharmacogenetics focuses on single genetic variations, while pharmacogenomics looks at the whole genome. Pharmacogenetics depends on the success of two technologies.

First, the genes responsible for drug metabolism must be discovered. The forms of those genes that are incompatible with specific drugs must be identified.

Second, genetic testing must advance to the point where the genes responsible for drug metabolism can be found rapidly and at reasonable costs. [8]

Pharmacogenetics has the potential to drastically alter the economic landscape of the pharmaceutical industry. Drug development costs could be decreased with careful selection of clinic trial participants. Patients would be enrolled only in trials in which the drug is likely to be safe and efficacious for them. If a drug tested on a genetic subset of the population were approved, the drug could then be prescribed only for patients with genetic profiles similar to the clinical trial participants'.

The flip side of this is another cost-saving measure: because the clinical trial pool would be less genetically diverse, fewer patients would be needed to generate similarly robust results. Estimates are that pharmacogenetics could shave $60 million to $85 million off of the $240 million spent on phase I-III clinical trials.[9]

Pharmacogenetics is a reality. The selection of trial participants is happening with simple genetic testing for conditions such as asthma, cancer, and depression. Genetic analysis of biopsied breast cancer is used to guide the physician's selection of the drug Herceptin, highly effective in 30 percent of patients with breast cancer but ineffective in the rest.

The Institute of the Future predicts that over the next ten years pharmacogenetics will lower the costs of drug developments, thereby increasing the profitability of the pharmaceutical companies. As drug development costs continue to decrease into 2010, the forecast shows that niche players will enter the market and develop more of the small-market drugs that large pharmaceutical companies avoid.

Drugs in the second decade of the century won't yet be highly personalized, but they will be designed for progressively more distinct and specific populations. As the understanding of human molecular genetics broadens and deepens, drug development and prescription will continue to become more specialized.

Vaccines of the Future
Edward Jenner used cowpox to make the first vaccine more than 200 years ago. Since then, vaccines have been developed by altering living agents, as with the oral vaccine for polio.

Modern vaccines often combine several components in the routine immunizations for toddlers and school children. Newer vaccines have overcome some of the limitations of first-generation products.

One such example, a conjugate vaccine, overcomes the inability of immature immune systems to recognize some pathogens as harmful. The conjugate vaccine teaches the immune system to recognize a

pathogen as dangerous by linking the outer coat of the pathogen with proteins or toxins that the immune system does recognize as harmful. Another type, the subunit vaccine, uses just antigenic components or genetic material from the pathogen to evoke an immune response. A newer class of vaccines involves the insertion of genetic material from disease-causing organism into a harmless bacterium or virus that serves as a vector.

The next step in the evolution of vaccinology will be the use of pure, or naked, DNA. The goal is to develop a lifetime vaccine in which an immunogenic protein is produced by an individual's normal cells. Once incorporated into an appropriate cell, the genetic material, a fragment of DNA, will produce the immunizing protein over time, eliminating the need for multiple immunizations and booster doses and in effect maintaining the immune system on ready alert. DNA can be delivered in plasmids, which are extrachromosomal, self-replicating, double-stranded DNA molecules found in bacterial cells. DNA vaccines have the added advantage of activating both arms of the immune system: the cellular (including lymphocytes) and humoral (antibody-medicated) systems.

"Physicians will be armed with a patient's blueprint, and patients will be able to tailor their health behaviors to their own genetic profile."

Within the next several years, these newer vaccines will be administered in equally new ways. Vaccines will be inhaled, imbibed, eaten, and rubbed on the skin. An entire industry is evolving around the development of creative ways of delivering drugs and vaccines that are safer, more effective, less painful, and in some cases less expensive.

In the future, a cream containing a vaccine for hepatitis B that can be applied to the skin may be seen. Vaccination time in the future may be taking a few deep breaths from an inhaler or eating a banana that has polio vaccine grown into it.

Gene Therapy

David, the much publicized "bubble boy," had enzyme adenosine deaminase (ADA) deficiency. David had lived in a plastic chamber for nine years to prevent contact with infectious viruses to which his immune system was defenseless. The therapy proved to be a success, although a limited one, because the correction was incomplete. The reality of transferring genetic materials into patients had arrived.

David's gene therapy made headlines in September 1990. His disease was chosen first because a single genetic mutation caused the deficiency and because there were no complicated cellular regulatory issues; this gene is always "on" in healthy individuals. Furthermore, any amount of ADA is known to be a least partially beneficial.

In the intervening years, gene therapy has applied to conditions as diverse as hemophilia, cancer, Alzheimer's, and heart disease. In the foreseeable future, it will be applied only to nonreproductive cell targets. Genetic modification of sperm and eggs will certainly become possible, however, raising new ethical questions.

The Institute of the Future forecasts that gene therapy will be deployed for Parkinson's disease, hemophilia, lymphoma, and occlusive vascular disease between 2003 and 2005. Following in the second half of the decade, will be gene therapy for chronic pain; breast, colon, and lung cancer; and ischemic solid organs (e.g. the heart). Gene therapy for memory loss, degenerative arthritis, cancer in predisposed individuals, and mental diseases (e.g. schizophrenia) are predicted for the second decade of the century.

The discoveries of genetic predisposition to Alzheimer's and breast and colon cancers have been in the news. Two factors are driving the future of genetic testing: rapid improvements in technology will soon make whole-genome testing cheap and quick; and genome-sequencing efforts will pinpoint more genes that show predisposition to disease. Having the technology is one thing, but knowing what to test for is another.

This is where gene-sequencing efforts come in. Once the SNP (single nucleotide polymorphism) databases that document the differences between people's genomes have been largely constructed, all that will be needed is to link a disease to one or a group of these differences. This will be relatively easy for well-studied genes and diseases, but for others it may require comparing afflicted patients' genomes to a wide sample taken from the greater population. Once this is done, predisposition genes will be tested for in unaffected individuals.

Physicians will be armed with a patient's blueprint, and patients will be able to tailor their health behaviors to their own genetic profile. Conceivably, a baby at birth could be issued a report stating that he is at high risk for colon cancer and tobacco addiction but will not need to worry about elevated cholesterol.

Stem Cell Technologies
Embryonic stem cells can generate virtually all other types of cells in the body and therefore hold great promise for replacing or repairing tissues and organs damaged by disease. Most basic research on mammalian stem cells has been conducted in mice. When the first successful development of embryonic stem cell lines derived from human blastocysts was reported, there was an immediate outcry based on ethical concerns about the use of human embryonic issues.

In September 1999, the National Bioethics Advisory Commission (NBAC) sent a report to the president recommending that research into embryonic stem cells be approved for funding. The NBAC hoped that privately funded researchers would adopt their recommendations, including submitting research protocols to an oversight panel.

"The first cultured skin, bone, and cartilage is projected between 2003 and 2005. Also reported is the use of bone marrow cells to create muscle cells. Cultured heart and other muscle will emerge after 2005."

Clinical applications of stem cell technology are on the drawing boards in many laboratories, and investigators working in the new field anticipate a steady stream of innovate clinical trails over the next several years because of the unprecedented potential for tissue repair and replacement.

Tissue engineers envision creating semi-synthetic tissues and organs. Skin and bone have been the first successes, but more complex tissues, such as muscle or even organs, are on their way (e.g. pancreases for diabetics or muscles for limb repair or replacement).

The principal cause of immune rejection is circumvented if the recipient of the population of transplanted cells is also the donor.

The potential of engineered replacement parts will be a powerful impetus to move the science forward as quickly as possible. The first cultured skin, bone, and cartilage is projected between 2003 and 2005. Also reported is the use of bone marrow cells to create muscle cells. Cultured heart and other muscle will emerge after 2005. These cardiac muscle cells will be introduced to regions of the heart damaged by coronary artery disease. Functional neurons for implantation in the brain and spinal cord are further off, arriving after 2010.

Those in the field disagree widely over when functioning solid organs - such as livers, kidneys, and hearts - will be available. Estimates range from late this decade to past 2030 to never. Projections are that solid organs will arrive, but not until near 2020. Medical science is advancing at a rapid pace; however, there will be many clinical tests and trials before such medical advances are accepted by society.

Ethical Concerns
There are ethical, legal and social (ELSI) issues to be considered with genetic information. These issue range from confidentiality concerns such as discrimination, to access to the new, expensive tests and treatments to ethical concerns with stem cell research and cloning.

Should genetic information be treated differently than other types of personal health information?

COSTS & UTILIZATION

Health Care Financing
According to a recent article from Columbia University, "The Future of United States Health Care," Dr. Steven A. Schroeder points out that every nation, whether rich or poor, struggles with managing rising expenditures for medical care.

Since in most countries the bulk of medical payments come from governmental sources, the issue is by definition a political one - even in the United States, which is the only established market economy that does not provide health insurance to all citizens. Government sources, either Medicare, Medicaid, the state, or the Veterans' Administration pays about half of all medical care.

Though the United States trails other nations in the percentage of people covered by health insurance, it leads the world in medical expenditures. While the United States outspends the world in health expenditures, it ranks anywhere from 19th to 22nd in tradi-

tional health status measurements. The United States ranks first or second in the world in life expectancy after age 65. This population is fully insured, with access to the nation's sophisticated medical technology.

Advances in technology, clinical practices and prescription therapies have dramatically improved our quality of life and, in many cases saved lives. However, these advances do not come without cost. Currently, health care spending in the United States represents 14 percent of the Gross National Product (GNP) and will reach 17 percent by 2011 - that's more than $2.8 trillion.[10]

It is important we make sure the health care system remains affordable. It is critical for every stakeholder in the U.S. health care system, hospitals, physicians, patients, employers and policymakers, have a better understanding of the forces driving health care costs.

Pharmaceutical Cost Trends

Over the past twenty years, there has been a substantial and steady increase in the share of national health expenditures attributed to pharmaceutical costs and total pharmaceutical spending for public and private payers. Increased utilization and price increases are the primary drivers of prescription drug costs.

Promotional spending has propelled sales for pharmaceutical companies with projections of increased research and development budgets continuing to feed expensive new drugs in the market. Pharmaceuticals continue to be the most profitable industry; however, the introduction of generics affects profit margins.

Pharmacy costs are projected to continue to grow from 4.9 percent of the percentage of the National Health Expenditures in 1980 to a projected 14.7 percent of the National Health Expenditures in 2011. The increase in pharmacy costs is affecting all payers: private health insurance; out-of-pocket payments; total public payments with a projected total of $414 per payer in 2011 vs $12 per payer in 1980. [11]

Three main factors drive pharmacy costs increases: increased utilization at 39 percent; price inflation at 37 percent and shift to higher cost drugs at 24 percent.[12]

People are using more drugs from 7.8 per capita in 1993 to 10.9 per capita in 2001 totalling $3.1 billion in number of prescriptions dispensed.

Drivers for the increased drug utilization include: promotional spending; new medical guidelines which may call for more aggressive treatment of disease; outpatient delivery setting where drugs are covered under pharmacy plan instead of medical plan; increased compliance with more convenient dosage; increased consumer awareness and fewer side effects; and off-label usage. [13]

Employer-Sponsored Health Benefits

For covered workers, employers have been absorbing most of the cost increase with member out-of-pocket share of prescription drug costs steadily declining over the last decade. [14]

The trend is shifting as more employers seek to increase personal accountability for health care spending. In a recent Kaiser Family Foundation survey, 44 percent of all firms (and 75 percent of large firms) say that they are very or somewhat likely to increase the percentage of the premium they ask employees to pay in the next year.

According to benefits consulting from Hewitt Associates, most big employers plan to ask their workers to pay up to 30 percent of their health care costs in 2002, up from 25 percent in 2001. Smaller employers with fewer than 500 workers will see larger increases because they lack a larger pool of premium dollars afforded the bigger firms.

In the past when the economy was stronger, a tight labor market prevented companies from wanting to pass more cost onto their workers; for fear that they would find employment elsewhere. That's all changed, analysts say, with layoffs and unemployment back up companies are forced to use their leverage and are asking employees to pay more.

A survey released by National Public Radio, the Kaiser Family Foundation, and Harvard's Kennedy School of Government indicates a significant medical divide in the U.S. along socioeconomic lines.

The vast majority of people in the top income categories have very few problems getting health care or paying for it. But in the bottom income categories, many people are burdened by such problems and when they are, the problems are likely to be serious.

Only one in five Americans thinks the health care system works pretty well, and that proportion holds across all but the highest income grouping.

It does not appear that people's worries and experiences are causing them to push for sweeping change in the health care system. On key health policy questions, the survey found that most people favor sticking with the current methods of providing health insurance through guaranteed benefits from employers and public programs.

Most do not want to switch to what is called a defined contribution system, in which they would be given money to chose among available insurance options in the marketplace. Americans also recognize how important it is to have health insurance. One in four say they have stayed in jobs longer than they otherwise would in order to keep their insurance. [15]

" ... all health care transactions begin with the consumer demanding something, and the health care system meeting that demand."

There's lots to think about.

Oklahoma Public Policy Thoughts

This is the final chapter of the Academy's Town Hall resource book. We were asked to look into the future and we did. We examined technology, demography and the whole concept of risk and insurance.

But that should not be enough. Some of you should be asking "so what?" Given the glimpse into the future, what should we be thinking, planning and doing today?

We at Blue Cross and Blue Shield of Oklahoma have put on our thinking caps too. Here's what we think, and here's some ideas perhaps the Town Hall should consider discussing.

Empowerment of the Consumer

Several other authors have forcefully mentioned the "consumer" and consumer behavior. Just as all health care dollars originate with the American family, all health care transactions begin with the consumer demanding something, and the health care system meeting that demand. The consumer drives the health care engine. The following suggestion is to restore balance and consumer dynamics to health care transactions:

- Provide economic incentives to balance the need and cost of health care services through "defined contribution" group health plans.
- Maintain the social contract between employer and employee where employers substantially finance access to the health care system.
- The state of Oklahoma should promote a demonstration project to test the two above principles within the state employee health insurance system. Such a pilot would create a controlled option for the use of Medical Savings Account-like instruments which take advantage of existing Oklahoma laws allowing state tax deductions for such expenditures.

Minimizing Costs

Health care expenditures and costs are going to increase. That is not arguable. What is variable is the rate of those increases. They could be minimal, moderate or severe.

The determining variable will be our demand for services. That will be driven by our health status. And our health status will be increasingly defined by our individual and group health behaviors. This is likely the 100th time you have read or heard that if you read all preceding pages. Perhaps that is the collective and independent message that the contributing authors are trying to say.

We know the statistics, and we see it every day. We can modify poor health behaviors with the same approach that created the Oklahoma Quality Jobs Program. We can create tax and economic incentives for those companies that can create and maintain a standard of employee health. How? That's a good question to discuss at the Town Hall. Perhaps we can create a statewide index or metric against which organizations could be measured.

Sharing the Load

Companies that are self-insured are exempt from certain state regulation and oversight. In many cases, that is not a major problem. Other times it can be,

Oklahoma operates a High Risk Insurance Pool for those who cannot obtain health insurance via conventional means. This insurance is subsidized by private businesses purchasing health insurance in the state but the self-insured companies do not participate. Without their help the burden placed on the "fully-

insured" will eventually become too heavy.

Summary
There is no doubt the future of health care will be very different from health care today. A much larger proportion of patients will be in their retirement. And, those receiving health care will rely on technologically sophisticated information systems to choose what kind of care they receive.

- Because of the identification of all genes in human DNA, medical treatment and drugs will be precisely matched with each patient to prevent complications and errors and promote recovery.
- Persons will tailor their behavior to their genetic make-up.
- Drug development costs will decrease as a result and small market drugs will be developed.
- New vaccines, including those of pure DNA and gene therapies will conquer many diseases that now kill thousands.
- Organs, bones, and tissues that are damaged or diseased will be replaced.

All these wonders will come with a high price tag.

- Will health insurance be affordable for all?
- Will insurance cover basic care only or costly medical treatments to sustain life at all costs?
- How will these costs be spread across the total population?
- What will be the responsibility of employers and governments to pay a portion of those costs?

Think about it ... talk about it ... and see if we can't think of something we can do in Oklahoma to address these questions.

A Future
Steven A. Schroeder, MD
President, Robert Wood Johnson Foundation

Steven A. Schroeder addressed American health factors in a lecture [Challenges for Health and Health Care in the 21st Century] at Columbia University on April 12, 2000. *The full text of that address is at the Appendix section. It is reproduced with expressed permission of the Board of Trustees, Columbia University granted to the Oklahoma Academy. Excerpts are below:*

Introduction
Unhealthy foods and emerging diseases grab most of society's attention and blame for ill health; but health, quite logically, is a product of factors of living.

Diet, exercise, socioeconomic status and health care are far more important manipulators of population health than frightening but confined new viruses.

No amount of government spending and scientific advance, however, can better the health of the population unless personal habits—physical activity, hygiene and stopping smoking—are improved, advises Steven A. Schroeder, M.D., president of the Robert Wood Johnson Foundation.

Behavioral Impact on Health
Today, health is determined by a collection of factors: genetics, behavior, environment, socioeconomic status, educational level and health care.

My colleague at Robert Wood Johnson, Mike McGinnis, estimates that behavior accounts for 50 percent of premature mortality, more than any other factor.

The two most important challenges to improving the health of the public seem to be how to encourage healthier lifestyles and how to reduce the toll exerted by low socioeconomic stress.

ENDNOTES

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Three Healthcare and Health Insurance Scenarios

The Perfect Storm — Pacifying Patches — Solid Solutions

Created by The Institute for the Future and abstracted by Blue Cross and Blue Shield of Oklahoma

Preface —
The Oklahoma Academy loves scenarios! The following are three scenarios that will help Town hall members to envision a future and its variations.

These are challenging times for the health care system. During the 1990s, health benefit plans, as payors, and providers tried to balance the demands placed upon them to control costs while improving access to care and its quality. If achieving equilibrium among these competing market forces was difficult in the past, it is even more so today. A new group of issues has emerged, joining the existing ones, that brings payors and providers, purchasers, and patients to the table, each seeking solutions to their problems.

The new issues are becoming more clearly defined and better understood. They include:

- Legislative changes that will have a significant impact on the mainstream health care system in the areas of privacy, benefit delivery, and claims transactions.
- The powerful backlash against managed care resulted in a renewed round of pricing pressures, extending to the area of medical management where doctors' advice and disease management collide with patient compliance.
- New health care plan structures will reframe the relationship between benefit delivery and benefit financing by paying for specific services to defined contribution plans, allowing employees to spend a defined amount on services desired.

The new issues, combined with the old ones, allow payors and providers to create scenarios for planning into the future.

The three scenarios presented here include drivers of change developed by The Institute for the Future, a think tank. The scenarios have been descriptively named The Perfect Storm, Pacifying Patches, and Solid Solutions.

Scenario 1
The Perfect Storm

In the Perfect Storm scenario, the issues of cost, access, and quality, are not addressed in a meaningful way by plans or providers. Therefore, the rising cost of healthcare, dissatisfied providers, patients, and purchasers, and unequal access to care cause the barometer to drop, winds to converge, and stormy weather to erupt. The primary forces in this scenario include:

- Managed care programs run out of gas and are judged to an ineffective model to contain cost and improve quality.
- Employer-sponsored benefit plans, driven by their employee-consumers, look to the health insurance industry for answers to the cost and access problem. Providers react to the new environment with a unified backlash to managed care and with emphasis on improved reimbursement from payors. The climate becomes adversarial. Legislative remedies are sought that regulate lengths of stay, clinical and administrative decisions, and network restrictions.
- Provider oligopolies form, including large group specialty practices, physician practice management firms, and large hospital chains that are able to successfully negotiate reimbursement increases by threatening to leave payor networks if their demands are not met.
- The increased costs are passed along to employers and individual purchasers of health insurance. Many elect to no longer pay the price and "fall out" of the system into the growing uninsured pool. Those that stay are forced to deal with higher and higher levels of cost sharing through higher deductibles, copays, and coinsurance.
- Demand for new life-saving technology and drug therapies continues unabated. Health plans accept the market's demand and pass the costs along in premium increases. Any thought of controlling cost and quality is shelved.

- No public policy on limits dealing with end-of-life care develops. Without a public consensus on this issue, costly medical technologies are not controlled or restricted.

- The investment in costly information technology by health plans and providers does not deliver on the promised return on investment. In the absence of a better way, the investments continue and the costs are passed on to the consumer.

- Health plans begin to consolidate, involuntarily at first because of insolvency or regulator intervention, then voluntarily as a survival mechanism.

Scenario One is an overwhelming disaster.

Health care expenditures approach 20 percent of gross domestic spending, but there are more uninsured than in any point in the past 30 years. Workers see the real possibility of being one job change away from being without coverage, but workers remaining among the insured are unhappy as their out-of-pocket costs continue to rise.

The health system takes on a distinctively tiered structure. The uninsured and Medicaid populations are underserved due in large part to underfunding of programs at the state level. Medicare is unprepared to absorb the health care demands of the baby boomers. By the end of the scenario period, health care reform is at the top of the public policy agendas.

Scenario 2
Pacifying Patches

In Scenario Two the health care system finds that some hard work on controlling costs and improving quality actually pays off. Those involved in developing and delivering solutions find that balance can be achieved in some areas and are encouraged to continue to tinker with the system.

The primary driving forces in this scenario include:

- Employers, protective of their bottom lines, lead the way in controlling costs through changes in benefit programs on two fronts. The first is pressure placed on payors and providers to seek mutually agreeable ways to balance cost with access and quality. Expectations with regard to limits on price increases are clearly articulated and understood. The second is a shift to employers to manage risk and cost through a movement away from defined benefit plans to defined contribution plans. This new payment pathway places greater accountability on the consumer to manage limited funds for healthcare services, so less utilization results.

- Health plans, with employer support, move away from broad provider networks to smaller ones that are better equipped to control utilization by exerting both clinical control and strong price pressures on providers.

- In addition to the market-based cost control measures that are introduced on the commercial side, cost containment provisions in public support programs are also effective in reining in Medicare and Medicaid spending.

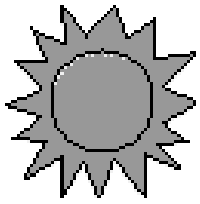
- While the changes during this period are disorganized and sometimes turbulent, they are incremental in nature so they are assimilated into the structure of the healthcare system.

Scenario Two has its problems, but also the promise of being able to incrementally control costs and maintain coverage. Commercial and federal programs work well enough to make coverage affordable for most employers, and the uninsured population remains relatively flat at 1 in 6 citizens nationally but higher in low-income states.

The healthcare system remains tiered, but not as radically as in Scenario One. The bottom tier, about 20%, consists of individuals with public, safety-net coverage, or completely uninsured. The majority of the market, 60%, is served by managed care plans with restrictions on network providers. Those served

in this bulging middle tier, along with the 20% in expensive plans, are managing their own payment pathways more and more.

Because there is incremental change and 80% of the citizenry is covered under some plan, healthcare reform does not enter the public policy debate.



Scenario 3
Solid Solutions

In this scenario hard work, innovative designs, and collaborative partnerships come together to form an efficient healthcare system. Investments in information technology and management systems increase knowledge of what does and does not work in the delivery of healthcare. More importantly, the payors, providers, patients, and purchasers have learn how to work together to balance cost, access, and quality. The driving forces for this scenario include:

- Competition among providers drives costs down. The competition permits price reform at the payor level that is then passed along to the purchasers of coverage. All this is based on provider behavior as it relates to income expectation.

- A wave of provider and payor consolidation creates more efficient healthcare delivery and financing organizations that are able to assimilate the best practices from their constituent parts. Excess capacity that existed in the system in the form of hospital beds and administrative costs is eliminated through the consolidation wave.

- Administrative partnerships are created that balance the risk-sharing equation-long troublesome in the Medicaid and Medicare programs.

- Progress in information technology improves payor administrative systems, especially benefit payments, and provider administrative systems, especially clinical systems, and processes and outcomes. Less paperwork becomes a reality.

- Cost control becomes a unified goal. Regulators grant rapid approval to therapies that demonstrate cost-effectiveness, safety, and efficacy. Payors and providers agree upon therapies based on their cost effectiveness.

Scenario Three is marked by moderate cost increases and makes health insurance more affordable.

The uninsured rate drops to 10% of the population nationwide. The desired balance between cost, access, and quality is reached, because the basics are in place. The system is positioned to take on the wave of baby boomers who become Medicare-eligible starting around 2010.

Health: An Oklahoma Academy Town Hall
October 27-30, 2002 at Quartz Mountain, Oklahoma

Summary and Challenge

Michael Lapolla, Director, Center for Health Policy Research, OSU Center for Health Sciences

This report is likely the most comprehensive collection of information and perspectives on Oklahoma health that has ever been assembled. We have the ideas, viewpoints, information and opinions offered by 50 thoughtful and knowledgeable Oklahomans.

If you absorbed the whole report, you will notice that most contributors were saying similar things in a variety of ways. You should have picked up the common themes and threads.

This report began with a Pogo quote by Ed Brandt. It was "We have met the enemy and he is us."

That quote has several layers of meaning as expressed by the subsequent contributors. It alludes to our health behaviors, our propensity to not share with the less fortunate in more effective ways; and our self-imposed limitations to organize at the community level to improve health. There are many others.

Let's keep our eye on the ball. Our Town Hall will be discussing HEALTH. Our end game is to develop a combination of public policies and private initiatives that are most likely to result in the improvement of the collective HEALTH of Oklahomans.

I will not presume to suggest answers. That is your job. The 30+ authors have given you some ideas. We expect you to sort through their thinking ... and do lots of your own to come up with ideas. However, I will offer these observations that I trust will keep your thinking on track.

- *There will be some discussion about "spending more money." Fine. But it is equally incumbent upon you to at least guess what a return on investment might be ... if any. And whether such expenditures improve the health of anyone except bankers and brokers.*

- *Others will discuss "universal health insurance." Do so at your peril, realizing that such ideas are well beyond the abilities of a state to implement.*

- *Before you try to convince others of your ideas ... have some thoughts about HOW the idea could be implemented, and HOW MUCH you want others to pay to implement your idea.*

- *Many contributors have talked about "health behaviors." Your challenge is to devise methods that positively change individual and collective behaviors ... while at the same time avoiding becoming Health Nazis or other "true believers" who want to onerously proscribe "correct behavior." There are many ways to do this. You will figure some out.*

YOUR JOB?
FILL IN THE BLANKS

Oklahoma Academy
2003 Health Agenda

? _____

? _____

? _____

? _____

? _____

Your challenge is to be realistic, pragmatic, imaginative and creative. Vague and idealistic handwringing we don't need.

As a veteran Academy member, I will observe that many of the "great ideas" proposed by members are either (1) so vague, global and abstract that action is not possible ... and if it was, it wouldn't make much difference or (2) so radical and destructive that general support is not socially or politically practical. Our challenge is to occupy the higher ground.

On Wednesday morning, October 30, 2002, the Academy needs you to agree upon a handful of creative, effective and doable policy actions that will form our program of work. We need these recommendations to be of such quality that we may confidently carry them immediately to our state's public and private leadership.

Waiting until Wednesday morning is way too late. Start thinking now ... test your ideas at the Town Hall ... and hopefully we will boil them all down into a coherent, actionable and dynamic Academy program of work that will make a difference.

Appendices

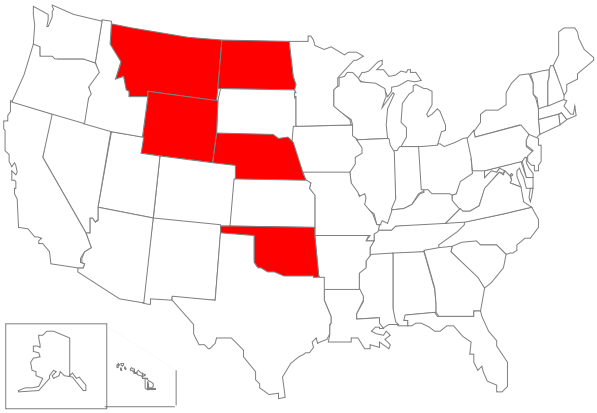
The State of Oklahoma Health

Overview

State Health Rankings

"Live your life so that whenever you lose, you're ahead." — Will Rogers

1990 - 2001
Largest Declines in Health



1990 - 2001
Oklahoma Health Rankings

	1990	2000	2001
OVERALL	***33***	***42***	***41***
LIFESTYLE			
Prevalence of Smoking	*44*	*39*	*24*
Motor Vehicle Deaths	*14*	*27*	*21*
Violent Crime	*24*	*31*	*32*
Risk for Heart Disease	*16*	*45*	*38*
High School Graduation	*26*	*25*	*20*
ACCESS			
Unemployment	*34*	*15*	*9*
Adequacy of Prenatal Care	*40*	*41*	*41*
Lack of Health Insurance	*46*	*41*	*39*
Support for Public Health	*30*	*44*	*46*
OCCUPATIONAL			
Occupational Fatalities	*8*	*27*	*27*
Limited Activity Days	*40*	*39*	*45*
DISEASE			
Heart Disease	*31*	*48*	*48*
Cancer Cases	*30*	*33*	*30*
Infectious Disease	*32*	*42*	*38*
MORTALITY			
Total Mortality	*31*	*46*	*45*
Infant Mortality	*27*	*36*	*41*
Premature Death	*26*	*44*	*42*

2001
Oklahoma Health Rankings

In 1990, Oklahoma was the 33rd "healthiest" state in the nation; in 2001 Oklahoma dropped to 41st. This was the fifth largest health decline of any state in the nation. Only Wyoming, North Dakota, Nebraska and Montana declined more since 1990.

The report says ... "Oklahoma is 41st this year. Despite the small change in its rank from last year, the state experienced a substantial change in its score from 10.8 to 7.7 percent below the national average.

In the last year, Oklahoma decreased the prevalence of smoking from 25.2 to 23.3 percent of the population smoking, violent crime from 539 to 508 offenses per 100,000 population and the incidence of infectious disease from 42.4 to 32.0 cases per 100,000 population. However, the infant mortality rate increased from 8.0 to 8.5 deaths per 1,000 live births, and the state's support for public health care decreased, so it is now 46th among the states.

Since 1990, Oklahoma has decreased the prevalence of smoking from 33.0 to 23.3 percent of the population smoking and lowered unemployment from 7.4 to 3.0 percent. The total mortality rate increased from 904.5 to 980.7 deaths per 100,000 population."

Oklahoma worsened in the following categories
- *motor vehicle deaths*
- *violent crime*
- *heart disease risk*
- *support for public health care*
- *occupational fatalities*
- *heart disease*
- *infectious disease*
- *overall mortality*
- *infant mortality and premature death*
- *limited activity days*

Oklahoma improved in the following categories:
- *smoking prevalence*
- *unemployment*
- *persons with health insurance*
- *high school graduation*

Oklahoma remained essentially the same in the following categories:
- *adequacy of prenatal care*
- *cancer cases*

Overview of 2002 Oklahoma Legislature - Health

House Research Division, June 11, 2002 (www.lsb.state.ok.us/house/ohorpage.htm)

Health Tobacco Wars

Anti-tobacco foes made considerable gain in the 2002 session, although not as much as they had hoped. Among the most contentious issues of the session, the Legislature received a set of rules adopted by the State Board of Health that would have prohibited smoking in all public buildings and many other enclosed spaces where the public gathers, except for smoking areas that meet strict air-circulation guidelines. Most of the rules, particularly those that would have banned smoking in private concerns, were ultimately disapproved by the Governor because they conflicted with the state's Smoking in Public Places Act.

Nevertheless, public support for the rules put pressure on the Legislature to enact its own changes to the Smoking in Public Places Act to deal with secondhand smoke. **SB 1553:**

- Makes all state buildings nonsmoking, except for one designated smoking area meeting new requirements designed to contain the smoke, per building and up to 25 percent of rooms at state operated hotels;

- Allows county or municipal governments two new options with respect to smoking that would allow buildings to be completely smoke-free or to use the new state requirements; and

- Prohibits smoking within 25 feet of entrances to public buildings, indoor theaters, libraries, cultural facilities, indoor roller rinks, concert halls and buses.

The Legislature banned the sale of bidis to minors in **SB 1504**. Bidis are hand-rolled, flavored cigarettes primarily imported from India. Those who support their ban do so because bidis release two to three times more cancer-causing tars and up to seven times more nicotine than regular cigarettes, without their adverse taste or smell.

One further bill, **HB 2403,** enables the state after June 1, 2003, to confiscate cigarettes intended to be sold in Oklahoma by tobacco manufacturers that are not participants in the national tobacco settlement agreement or not paying into an escrow fund required by state law against future tobacco settlements against the manufacturer. The bill is intended to demonstrate that Oklahoma is enforcing the terms of the tobacco agreement.

Health Insurance

The recent double-digit increases in health insurance premium costs, some as high as 30 percent, have had a substantial effect on the numbers of uninsured persons and the uncompensated care costs experienced by health care providers. Two measures address these concerns. **HB 2350**, which creates the Employer Health Insurance Purchasing Group Act, will allow smaller employers, those with 100 or fewer employees, to form health insurance purchasing groups that must be recognized by health insurance carriers. Under the provisions of the act, a Health Insurance Purchasing Group (HIPG) is required to offer at least two health benefit plans. One of the plans must cover state-mandated health benefits and offer a choice of deductibles; the other may be a plan that does not contain the state-mandated health benefits. The ability to form larger groups, along with the availability of plans that do not include mandated benefits, is expected to make the purchase of health insurance more affordable for smaller employers.

Access to Health Care

The Trauma Care Assistance Revolving Fund was established in 1999 to reimburse ambulance services and hospital emergency services for trauma care expenditures that would otherwise be entirely uncompensated. **HB 2901** will increase revenues for the fund from $2.4 million to $5.5 million dollars. Last year some $10 million in validated claims were filed with the State Department of Health, which administers the fund. Revenues for the fund are generated through fees attached to driver licenses and boat and motor registrations and licenses. The bill increases the driver license fee by $1.50; the increases become effective January 1, 2003.

HB 2901 also creates the Community Hospitals Authority to serve Tulsa and other northeast counties of the state. The purpose of the Community Hospitals Authority with regard to indigent care and medical teaching and training is similar to that of the University Hospitals Authority in Oklahoma City, but differs in that:

(1) the facilities served by the Community Hospitals Authority are private health care systems;

(2) the focus of indigent care will be those persons who have no public or private insurance and whose care is uncompensated by any individual or third-party payment; and

(3) there are no state appropriations to the Community Hospitals Authority. It is anticipated that the Authority will assist the participating health care systems with private or federal grants and through improved methods of allocating the funds that are available for uncompensated indigent care.

Nursing Homes

HB 2604 substantially addresses the financial accountability requirements for nursing homes, while **HB 2218** amends the staffing requirements for nursing homes established by the Oklahoma 2001 Healthcare Initiative. HB 2604: (1) directs the State Board of Health to establish minimal solvency standards to ensure the operation of a facility, as well as minimum levels of supplies, such as food and other perishables; (2) authorizes a notice of violation, an administrative order for remedial action, or the suspension or revocation of a nursing home license whenever the financial condition of a facility poses a threat to the health, safety or welfare of a resident. When the financial situation poses an immediate danger, the State Department of Health is authorized to issue emergency orders and take action to protect the health and safety of the residents and to appoint a temporary manager; and (3) reestablishes statutes providing for court-ordered receiverships.

Driven by nursing home concerns over potential funding cuts, HB 2218 amends the current direct care staff-to-resident ratio requirements for nursing facilities by: (1) delaying implementation of the third incremental increase in the direct care staff-to-resident ratio one year, from September 1, 2002, to September 1, 2003; (2) making implementation of the ratio increase subject to the availability of funds; and (3) granting facilities the option of varying from the statutory starting times for shifts by one hour. The measure also continues the inclusion of activity and social services staff as direct care staff for an additional year, until September 1, 2003. After January 1, 2004, a nursing home would be allowed to implement "flexible staffing," commonly referred to as "24-hour staffing," if the facility has consistently met the staff-to-resident ratios that go into effect on September 1, 2003. A facility that implements flexible staffing must maintain a minimum direct care service rate of 2.86 hours per resident per day and at no time fall below a ratio of one direct care staff to every 16 residents, with two direct care staff on duty and awake at all times. In addition to other applicable penalties under the Nursing Home Care Act, a facility that is out of compliance with staffing requirements will be required to meet fixed staff-to-resident ratios for a minimum of three months before becoming eligible to implement flexible staffing.

Other components of HB 2218:

- Establish a formula for the incremental increase in flexible direct care staff-to-resident hours based upon Medicaid reimbursement. The formula provides that the hours per day per occupied bed will increase when the facility is reimbursed the current per diem rate of $94.11 plus the actual costs above the per diem rate plus the costs of increasing the staff-to-resident hours;

- Include Intermediate Care Facilities for the Mentally Retarded (ICF/MR) that have 17 or more beds under the same staff-to-resident ration requirements as nursing facilities and directs the State Board of Health to promulgate rules establishing staffing requirements for ICF/MR facilities having between 6 and 16 residents and those having fewer than 6 residents; and

- Require criminal background checks and a registry within the State Department of Health, subject to the availability of funds, for nontechnical services workers, defined as those persons who perform functions such as administrative, janitorial, maintenance or food preparation services.

Nursing Homes
Statutory Direct Care Staff-Resident Ratios

	Effective Dates		
	9-1-00	9-1-01	9-1-03*
7:00 a.m. to 3:00 p.m.	1to 8	1 to 7	1 to 6
3:00 p.m. to 11:00 p.m.	1 to 12	1 to 10	1 to 8
11:00 p.m. to 7:00 a.m.	1 to 17	1 to 17	1 to 15

*Delayed from 9-1-02

A final measure that would have improved access to some basic dental hygiene services for nursing home residents, HB 1029, was vetoed. HB 1029 would have established a specialty area of "geriatric public health hygienist" to allow a dental hygienist who has completed advance training and been certified by the Board of Dentistry to practice dental hygiene in nursing homes as an employee of the home or of a dentist. The veto message indicated concern over the quality of care provided in the absence of direct

supervision by a dentist. The message went on to state that the Commissioner of Health has been directed to work with dental hygienists, dentists and members of the nursing home industry to reach a solution. Currently, Oklahoma is the only state that does not allow dental hygienists to practice outside of a dentist's office.

Mental Health

According to the U.S. Department of Justice, approximately 16 percent of state prison inmates and those on probation suffer from mental illness. If that percentage is applied to the number of inmates and individuals on probation in Oklahoma, it can be estimated that 8,600 individuals in those two populations have a mental illness. **HB 2105** creates the Anna McBride Act, which allows a district or municipal court to establish a mental health court pilot program. A mental health court could divert nonviolent offenders who are mentally ill or developmentally disabled into various courses of treatment as an alternative to incarceration. As the following information indicates, the cost to house and treat a mentally ill person in prison is nearly three times the cost of providing treatment. The cost of incarceration for one year is $25,000. The cost of treatment for one year is $25,000 $4,000-$8,000 depending on level of severity of mental illness. Source: OK Dept. of Corrections.

Interim Studies 2002

Source verbatim
Ray Carter, The Journal Record, 7/17/02)

State Representatives to Study Several Health Issues
At least 13 interim studies (House Study Proposals - HSP) dealing with health care issues have been requested by members of the Oklahoma House of Representatives and assigned committees.

The 13 requests are among 109 House interim study requests assigned to committees. The studies will be conducted between now and January, when the next Legislature will form. The state Senate has not assigned interim studies. Those studies have been assigned to committees and include:

HSP 02-23, by Rep. Todd Hiett, R-Kellyville, is a study of evaluation of pharmacy contracts to determine differences between individually owned pharmacies and chain pharmacies. The study has been assigned to the House Public Health Committee.

HSP 02-35, by Rep. Al Lindley, D-Oklahoma City, is a study of teen drinking, drug use and driving, and will search for gaps in services and programs providing treatment for these problems.

HSP 02-36, also by Lindley, is a study of catchment service areas for mental health facilities. It has been assigned to the House Mental Health Committee.

HSP 02-44, by Lindley, is a study of the complaint system for persons with disabilities. It has been assigned to the House Human Services Committee.

HSP 02-45 by Lindley, is a study of staffing requirements for residential and day treatment programs for the mentally ill, including both state and non-profit programs and their funding. The study has been assigned to the House Mental Health Committee.

HSP 02-57, by Rep. Greg Platt, R-Ardmore, is a study of micropigmentation. It has been assigned to the House Public Health Committee.

HSP 02-80, by Rep. Ron Peters, R-Tulsa, is a study of development of a statewide plan for treating hepatitis C. It has been assigned to the House Public Health Committee.

HSP 02-93, by Rep. Bill Mitchell, D-Lindsey, is a study of health care benefits for Medicaid recipients. It has been assigned to the House Human Services Appropriations and Budget Subcommittee.

HSP 02-94, by Rep. Joe Eddins, D-Vinita, is a study of hospital funding by the Oklahoma Health Care Authority. It has also been assigned to the House Human Services Appropriations and Budget Subcommittee.

HSP 02-96, by Rep. Kris Steele, R-Shawnee, is a study of medical care for Medicaid recipients. It has been assigned to the House Human Services Appropriations and Budget Subcommittee.

HSP 02-102, by Rep. Kevin Calvey, R-Del City, is a study of Medicaid benefits, funding, federal rules and waivers. It has been assigned to the House Health and Social Services Appropriations and Budget Subcommittee.

HSP 02-103, by Calvey, is a study of medical malpractice and providing possible exemptions for "Good Samaritans," voluntary medical providers and others.

HSP 02-106, by Calvey, is a study of mandate-free health insurance. It has been assigned to the House Judiciary Committee.

1999 State Health Care Expenditures (millions) for Oklahoma

Source: 1998-1999 State Health Care Expenditure Report, Milbank Memorial Fund

Oklahoma State Budget Demographics	State Population	3,358,044
	Adult Inmates	21,788
	Juveniles Incarcerated	497
	Medicaid Caseload	389,484
	SCHIP Enrollment	24,944
	State Employees	62,624
Total State Expenditures	State General Fund	$4,411.0
	Other State Funds	$2,442.0
	Federal Funds	$3,094.0
	State Bonds	$53.0
	TOTAL FUNDS	$10,000.0

State Expenditures ~ $10 billion

			% Budget	% Health
Total State Health Expenditures	State	$751.6		
	Other	$109.4		
	Federal	$1,179.3		
	TOTAL	$2,040.3	20.4%	100.0%
	U.S. Comparison		27.0%	
Oklahoma Medicaid Program	State	$409.9		
	Other	-		
	Federal	$1,005.5		
	TOTAL	$1,415.4	14.2%	69.4%
	U.S. Comparison		19.8%	73.0%
SCHIP Children's Insurance	State	$3.5		
	Other	-		
	Federal	$13.7		
	TOTAL	$17.2	0.2%	0.8%
	U.S. Comparison		0.1%	0.4%
State Employee Health Benefits	State	$102.1		
	Other	$43.0		
	Federal	$21.9		
	TOTAL	$167.0	1.7%	8.2%
	U.S. Comparison		2.1%	7.9%

1999 State Health Care Expenditures (millions) for Oklahoma

Source: 1998-1999 State Health Care Expenditure Report, Milbank Memorial Fund

			% Budget	% Health
Oklahoma Department of Corrections	State	$40.3		
	Other	-		
	Federal	-		
	TOTAL	$40.3	0.4%	2.0%
	U.S. Comparison		0.3%	1.3%
Higher Education Healthcare	State	$26.7		
	Other	-		
	Federal	-		
	TOTAL	$26.7	0.3%	1.3%
	U.S. Comparison		0.6%	2.2%
Insurance and Access Expansion	State	-		
	Other	$3.0		
	Federal	-		
	TOTAL	$3.0	0.0%	0.1%
	U.S. Comparison		0.1%	0.3%
Public Health Related Expenditures	State	$37.2		
	Other	$28.9		
	Federal	$98.4		
	TOTAL	$164.5	1.6%	8.1%
	U.S. Comparison		1.5%	5.5%
State Facility-based Services	State	$71.0		
	Other	$29.7		
	Federal	$17.6		
	TOTAL	$118.3	1.2%	5.8%
	U.S. Comparison		0.8%	3.1%
Community Based Services	State	$60.9		
	Other	$4.8		
	Federal	$22.2		
	TOTAL	$87.9	0.9%	4.3%
	U.S. Comparison		1.7%	6.3%

National Health Care Expenditures, 1970 - 2000

Source: Health Affairs, Volume 21, Number 1, January-February 2002, pp 172-181

By Source of Funds

	1970	1980	1988	1993	1997	1998	1999	2000
TOTAL , billions	$73.1	245.8	558.1	888.1	1,091.2	1,149.8	1,215.6	1,299.5
Private Funds	45.4	140.9	331.7	497.7	588.8	628.8	666.5	712.3
Consumer Payments	40.6	126.4	293.8	445.0	521.8	557.7	593.8	638.4
Out of Pocket	25.1	58.2	118.9	146.9	162.3	174.5	184.4	194.5
Private Health Ins	15.5	68.2	174.9	298.1	359.4	383.2	409.4	443.9
Other Private Funds	4.8	14.5	37.9	52.7	67.0	71.1	72.7	73.8
Public Funds	27.6	104.8	226.4	390.4	502.4	520.9	549.0	587.2
Federal	17.6	71.3	154.1	274.4	358.8	367.7	384.8	411.5
Medicare	7.7	37.4	89.0	148.3	208.2	209.5	212.6	224.4
Medicaid	2.8	14.5	31.0	76.8	94.9	99.6	108.4	118.4
Other Federal	7.1	19.4	34.1	49.3	55.8	58.6	63.8	68.7
State and Local								
Medicaid	2.4	11.5	24.1	44.8	64.8	71.8	78.3	84.3
Other Local	7.6	22.0	48.2	71.1	78.8	81.5	85.9	91.4
NHE per capita	$347.6	$1,067.0	$2,243.0	$3,381.0	$4,001.0	$4,177.0	$4,377.0	$4,637.0
Pop (millions)	210.2	230.4	248.9	262.6	272.7	275.2	277.7	280.2
GDP, billions	$1,039.7	$2,795.6	$5,108.3	$6,642.3	$8,318.4	$8,781.5	$9,268.6	$9,872.9
NHE/GDP	7.0%	8.8%	10.9%	13.4%	13.1%	13.1%	13.1%	13.2%

Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group.
Note: Numbers may not add to totals because of rounding.

By Type of Expenditure

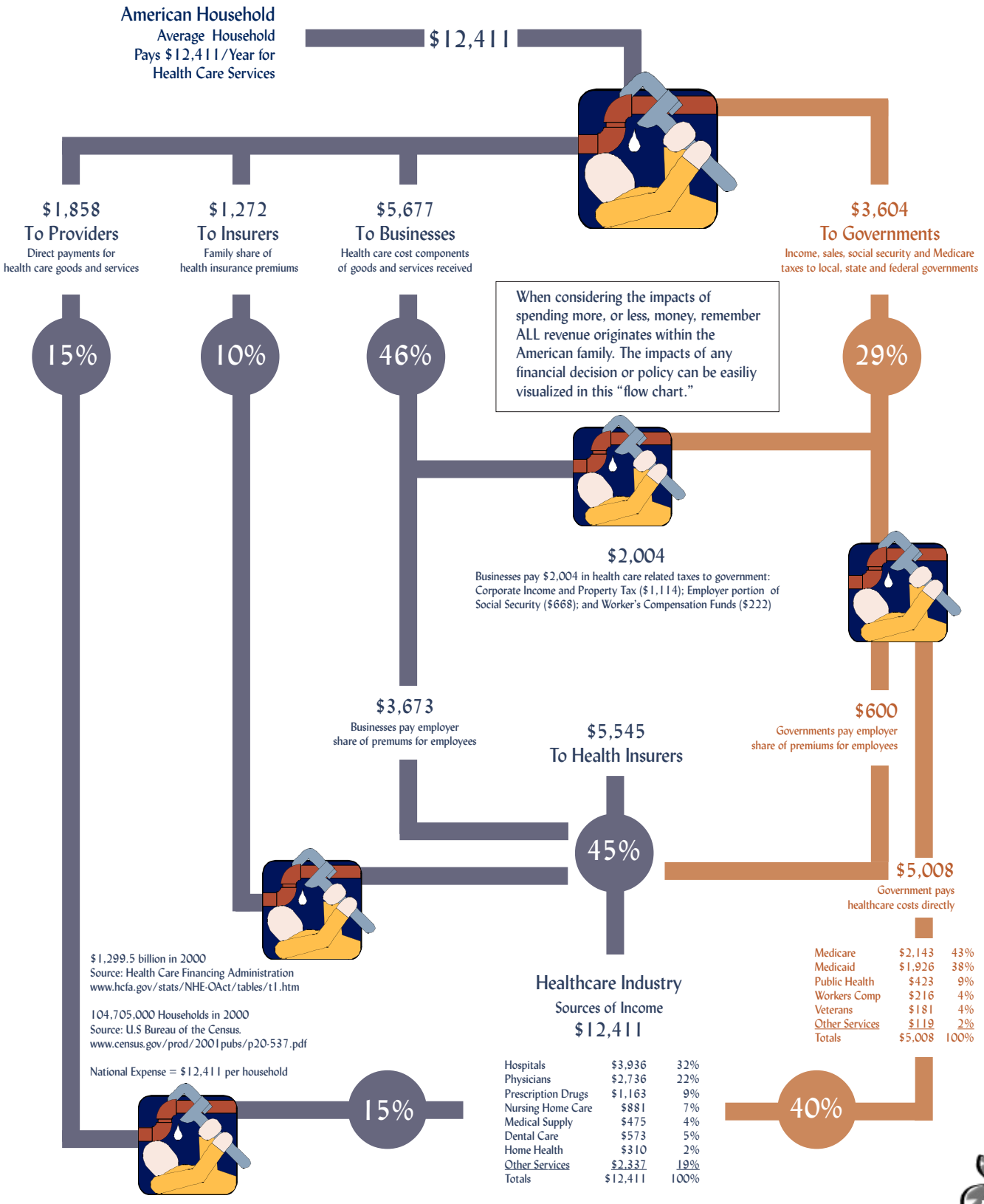
	1970	1980	1988	1993	1997	1998	1999	2000
TOTAL, billions	$73.1	245.8	558.1	888.1	1,091.2	1,149.8	1,215.6	1,299.5
Hospital	27.6	101.5	209.4	320.0	367.5	379.2	392.2	412.1
Nursing home	4.2	17.7	40.5	65.7	85.1	89.1	89.3	92.2
Home health	0.2	2.4	8.4	21.9	34.5	33.6	32.3	32.4
Physician/Clinical	14.0	47.1	127.4	201.2	241.0	256.8	270.2	286.4
Dental	4.7	13.3	27.3	38.9	50.2	53.2	56.4	60.0
Prescription drugs	5.5	12.0	30.6	51.3	75.7	87.2	103.9	121.8
Medical equipment	4.9	13.7	28.1	36.2	44.1	45.1	48.0	49.7
Admin/insurance	2.8	12.1	26.6	53.3	59.2	63.7	71.5	80.9
Govt public health	1.4	6.7	15.5	27.2	35.5	37.9	40.9	44.2
Research & construction	5.7	12.3	22.7	31.8	37.2	38.3	40.5	43.9
Other	2.1	7.0	21.6	40.6	61.2	65.7	70.4	75.9

Sources: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis; and U.S. Bureau of the Census.

Financing & Costs

"Flow Chart" - Money in Healthcare

Prepared by OSU Center for Health Policy Research. Data: National Health Expenditures Survey and U.S. Bureau of the Census

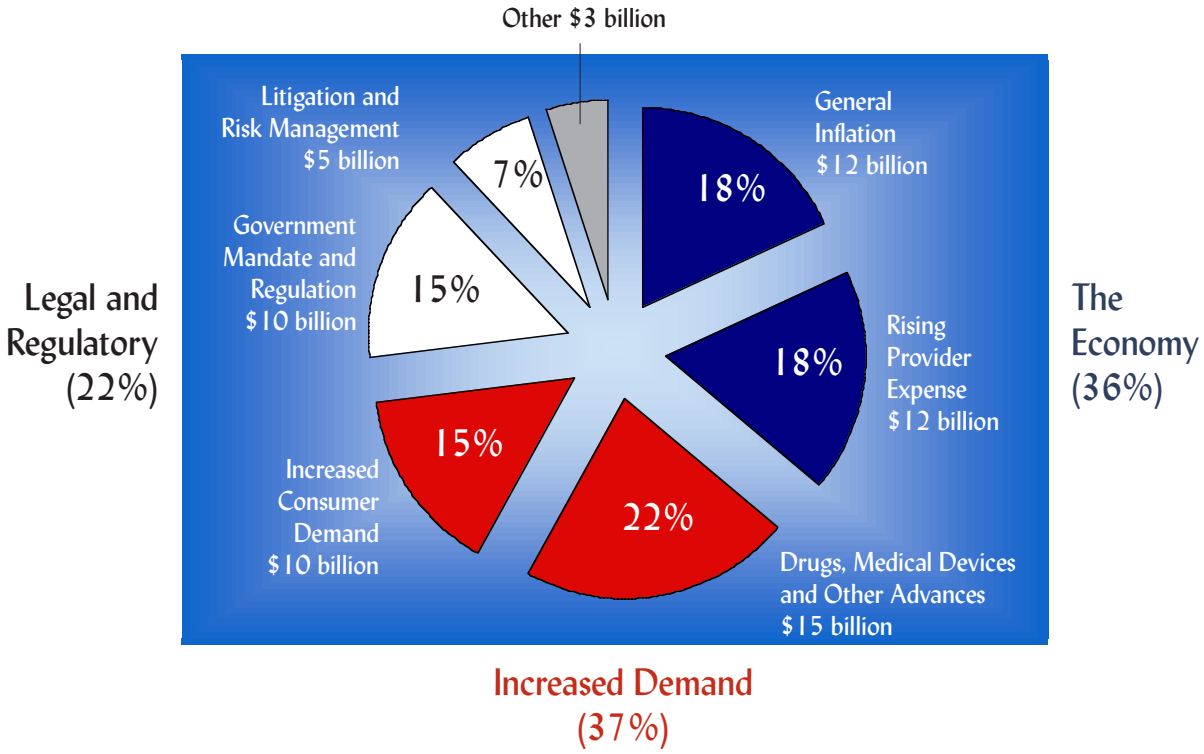


Components of Health Care Cost Increases

PriceWaterhouseCoopers for the American Association of Health Plans, April 2002. Printed in Medical Benefits, May 30, 2002

Why are health insurance costs increasing?

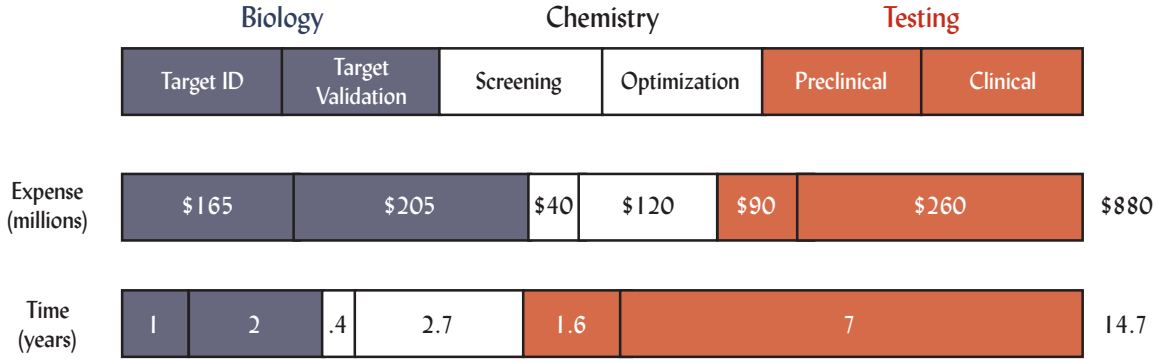
It is estimated that health insurance premiums for large employers will increase by 13.7% in 2002. This will account for an estimated additional $67 billion of health insurance premiums. The reasons are many and across the board. The chart below shows the percent influence of each reason on the overall premium increase; and the amount of premium increase in billions. It is estimated that 36% of the increase is due to general economic factors ... 37% to increased/induced demand ... 22% to legal and regulatory pressures ... and 3% other.



Pharmaceutical Innovation

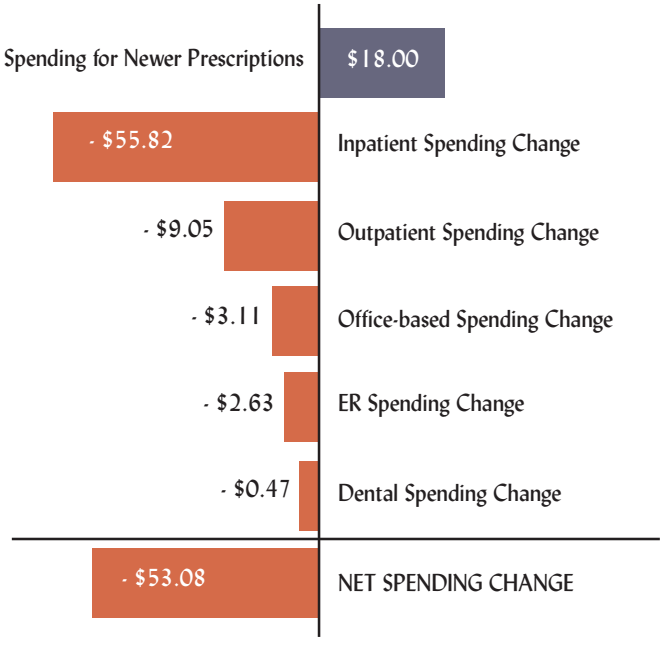
The Cost of Pharmaceutical Innovation: A Risky and Expensive Proposition

Source: Boston Consulting Group. A revolution in R&D: the impact of genomics. BCG Focus; June 2001:3



Estimated Expenditure Reductions from Use of Newer Medications

Source: Health Affairs, September 2001, pp 241-251. NBER Working Paper 8147, March 2001.



Interpretation: On average, we will spend $18 more for newer generation drug prescriptions. That said, these newer drugs will help reduce expense in other areas by $71.08 (inpatient, outpatient, office visits, ER and dental expense) ... a net spending change of $53.08 savings.

Oklahoma Medicaid: Percent of Population Covered

Source: Oklahoma Health Care Authority 2001 Annual Report

	County	Pop	Clients	Percent
1	Choctaw	15,342	4,055	26%
2	McCurtain	34,402	8,884	26%
3	Coal	6,031	1,419	24%
4	Pushmataha	11,667	2,709	23%
5	Adair	21,038	4,778	23%
6	Seminole	24,894	5,640	23%
7	Haskell	11,792	2,604	22%
8	Harmon	3,283	709	22%
9	Hughes	14,154	2,930	21%
10	Latimer	10,692	2,126	20%
11	Jefferson	6,818	1,340	20%
12	Okmulgee	39,685	7,745	20%
13	Leflore	48,109	9,363	19%
14	Caddo	30,150	5,862	19%
15	Sequoyah	38,972	7,575	19%
16	Okfuskee	11,814	2,274	19%
17	Johnston	10,513	1,947	19%
18	Ottawa	33,194	6,087	18%
19	Cherokee	42,521	7,792	18%
20	Atoka	13,879	2,517	18%
21	Tillman	9,287	1,639	18%
22	Muskogee	69,451	12,157	18%
23	Carter	45,621	7,830	17%
24	Murray	12,623	2,099	17%
25	Pittsburg	43,953	7,172	16%
26	McIntosh	19,456	3,165	16%
27	Delaware	37,077	5,999	16%
28	Kiowa	10,227	1,645	16%
29	Bryan	36,534	5,841	16%
30	Craig	14,950	2,331	16%
31	Greer	6,061	927	15%
32	Pontotoc	35,143	5,373	15%
33	Pottawatomie	65,521	9,895	15%
34	Garvin	27,210	4,103	15%
35	Marshall	13,184	1,970	15%
36	Beckham	19,799	2,951	15%
37	Love	8,831	1,310	15%
38	Washita	11,508	1,672	15%
39	Nowata	10,569	1,524	14%
40	Jackson	28,439	4,087	14%
41	Cotton	6,614	944	14%
42	Mayes	38,369	5,405	14%
43	Kay	48,080	6,427	13%
44	Blaine	11,976	1,593	13%
45	Stephens	43,182	5,519	13%
46	Garfield	57,813	7,348	13%
47	Pawnee	16,612	2,109	13%
48	Custer	26,142	3,293	13%
49	Oklahoma	660,448	82,376	12%
50	Comanche	114,996	14,154	12%
51	Grady	45,516	5,561	12%
52	Creek	67,367	7,922	12%
53	Lincoln	32,080	3,723	12%
54	Woodward	18,486	2,078	11%
55	Noble	11,411	1,181	10%
56	Tulsa	563,299	56,527	10%
57	Logan	33,924	3,340	10%
58	Washington	48,996	4,793	10%
59	Woods	9,089	883	10%
60	Major	7,545	716	9%
61	Osage	44,437	4,179	9%
62	Payne	68,190	6,390	9%
63	Grant	5,144	474	9%
64	McClain	27,740	2,549	9%
65	Cimarron	3,148	283	9%
66	Dewey	4,743	416	9%
67	Ellis	4,075	351	9%
68	Wagoner	57,491	4,936	9%
69	Texas	20,107	1,723	9%
70	Kingfisher	13,926	1,175	8%
71	Rogers	70,641	5,905	8%
72	Roger Mills	3,436	274	8%
73	Harper	3,562	278	8%
74	Canadian	87,697	6,678	8%
75	Cleveland	208,016	15,312	7%
76	Alfalfa	6,105	406	7%
77	Beaver	5,857	366	6%
	STATE	3,450,654	439,633	13%

How to Read:
There are 5,847 residents of Beaver county; and there were 366 residents who received Medicaid benefits. This is 6% of the county population.

Oklahoma Medicaid: Percent Services Provided In-County

Source: Oklahoma Health Care Authority 2001 Annual Report

	County	To Providers	For Clients	In-County
1	Oklahoma	$520,740,181	$356,957,173	146%
2	Haskell	$11,687,507	$9,234,769	127%
3	Kingfisher	$6,738,960	$5,340,467	126%
4	Tulsa	$357,317,098	$286,120,487	125%
5	Bryan	$31,456,255	$26,101,068	121%
6	Pontotoc	$32,753,885	$28,372,724	115%
7	Creek	$42,610,906	$41,293,971	103%
8	Muskogee	$52,646,891	$52,366,014	101%
9	Texas	$4,114,525	$4,268,619	96%
10	Comanche	$42,953,481	$44,594,228	96%
11	Woodward	$7,133,119	$7,549,849	94%
12	Custer	$11,118,819	$12,393,193	90%
13	Carter	$28,710,366	$32,715,954	88%
14	Payne	$23,332,607	$26,610,548	88%
15	Garfield	$59,195,868	$68,187,653	87%
16	Garvin	$42,891,003	$49,850,960	86%
17	Pittsburg	$25,711,237	$29,883,855	86%
18	Craig	$16,989,889	$19,771,100	86%
19	Kiowa	$8,152,024	$9,507,614	86%
20	Ellis	$1,610,438	$1,882,582	86%
21	Beckham	$11,585,450	$13,598,503	85%
22	Ottawa	$20,789,137	$24,898,755	83%
23	McIntosh	$10,944,937	$13,758,231	80%
24	Stephens	$16,987,463	$21,454,422	79%
25	Sequoyah	$21,990,148	$27,950,374	79%
26	Blaine	$5,294,808	$6,811,386	78%
27	Harmon	$2,489,281	$3,212,179	77%
28	Kay	$15,574,009	$20,177,143	77%
29	Dewey	$1,928,176	$2,535,246	76%
30	Nowata	$5,253,186	$6,923,963	76%
31	Woods	$3,038,199	$4,014,258	76%
32	Noble	$6,208,394	$8,265,198	75%
33	Pawnee	$6,236,812	$8,359,682	75%
34	McCurtain	$21,404,785	$28,745,904	74%
35	Pushmataha	$8,417,350	$11,358,818	74%
36	Harper	$1,261,888	$1,709,902	74%
37	Beaver	$925,692	$1,267,593	73%
38	Seminole	$17,784,595	$24,475,840	73%
39	Cherokee	$23,870,589	$33,038,397	72%
40	Washington	$20,167,414	$28,126,869	72%
41	Leflore	$23,281,542	$32,799,241	71%
42	Okfuskee	$7,861,568	$11,131,509	71%
43	Cimarron	$468,853	$664,052	71%
44	Jefferson	$4,273,554	$6,153,066	69%
45	Okmulgee	$21,363,695	$30,825,856	69%
46	Cleveland	$41,990,079	$60,612,943	69%
47	Caddo	$12,462,083	$18,111,399	69%
48	Major	$2,319,891	$3,372,529	69%
49	McClain	$6,528,668	$9,529,268	69%
50	Grant	$1,938,859	$2,851,122	68%
51	Greer	$2,441,520	$3,700,064	66%
52	Delaware	$14,471,111	$22,033,999	66%
53	Rogers	$15,517,935	$23,818,353	65%
54	Choctaw	$9,323,198	$14,759,480	63%
55	Atoka	$6,061,252	$10,014,392	61%
56	Marshall	$5,140,899	$8,495,929	61%
57	Alfalfa	$1,406,604	$2,331,000	60%
58	Murray	$5,155,771	$8,594,479	60%
59	Johnston	$4,669,263	$7,809,050	60%
60	Grady	$11,578,539	$20,031,207	58%
61	Logan	$8,127,206	$14,804,467	55%
62	Coal	$2,807,906	$5,351,119	52%
63	Jackson	$7,873,255	$15,094,131	52%
64	Tillman	$3,447,731	$6,672,236	52%
65	Adair	$7,922,001	$15,524,819	51%
66	Pottawatomie	$18,590,438	$36,652,100	51%
67	Lincoln	$7,184,857	$14,181,014	51%
68	Washita	$3,161,891	$6,348,926	50%
69	Love	$1,992,650	$4,103,674	49%
70	Cotton	$1,650,712	$3,436,527	48%
71	Latimer	$3,852,547	$8,264,013	47%
72	Hughes	$7,519,201	$16,177,692	46%
73	Mayes	$9,950,732	$22,396,069	44%
74	Roger Mills	$592,228	$1,385,531	43%
75	Canadian	$11,676,581	$30,162,095	39%
76	Wagoner	$5,798,889	$16,622,824	35%
77	Osage	$5,848,925	$17,040,358	34%
	STATE	$1,856,270,006	$1,935,542,024	96%

How to Read:
The Medicaid program paid $5,848,925 to Osage county hospitals, physicians and others as reimbursement for services provided to Medicaid clients; and Medicaid paid $17,040,358 on behalf of clients who live in Osage county. Therefore 34% of the Medicaid dollars stayed within Osage county.

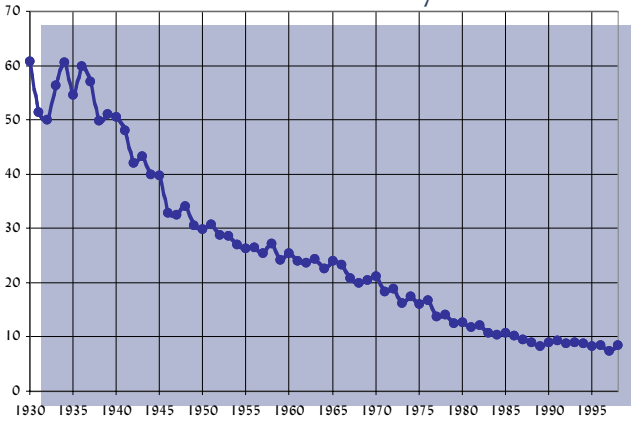
Health Data

Selected Death Rates in Oklahoma

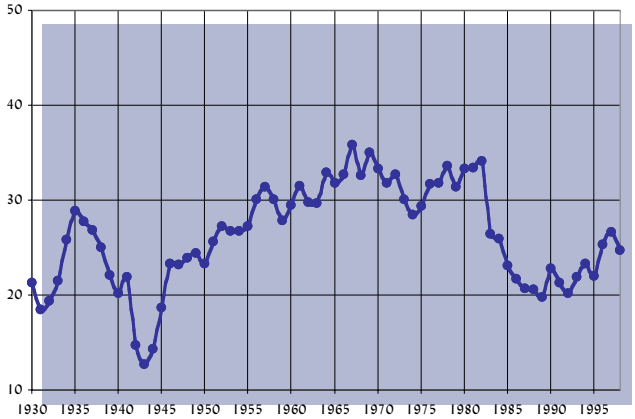
Source: Oklahoma State Department of Health

Chronic Obstructive Pulmonary Disease

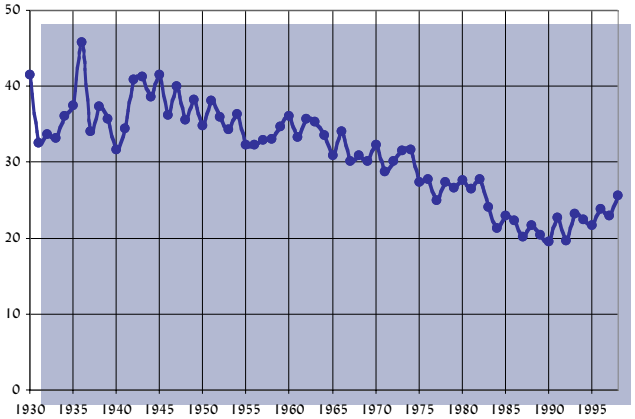
Infant Mortality



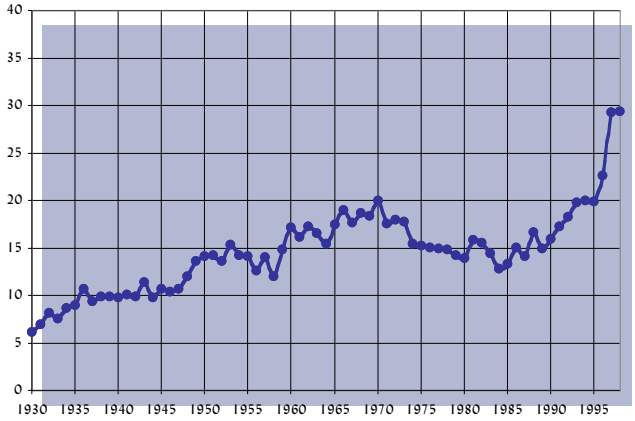
Motor Vehicle Accidents



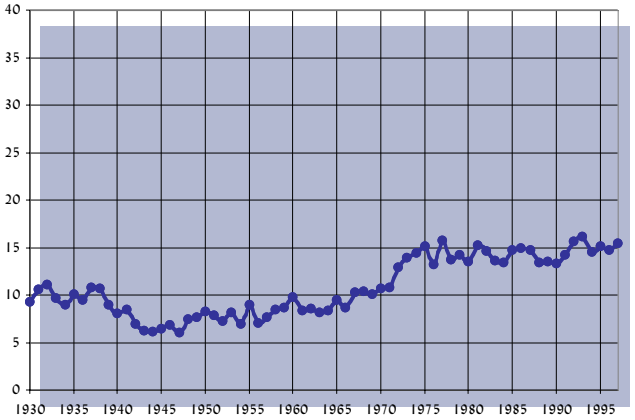
All Other Accidents



Diabetes



Suicide



Health Data

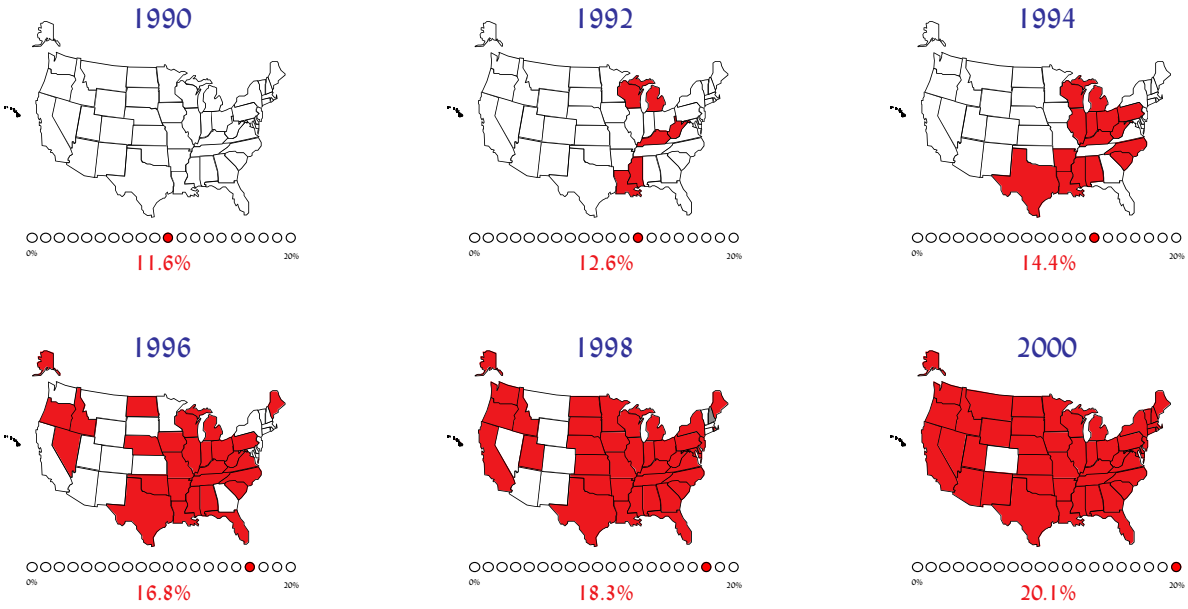
Weight Gains in the '90s

Behavioral Risk Factor Surveillance Survey (BRFSS), Centers for Disease Control (CDC). Source: www.cdc.gov/brfss

see www.nhlbisupport.com/bmi/bmicalc.htm

The weight gains in America have been significant during the 1990's. The increase has spread across the country from east to west. In 1990, not a single state reported over 15% of its population being obese. In 2000, only one state (Colorado) reported less than 15% of its population being obese. In the charts below, the shaded states have reported that greater than 15% of the population is obese; the number below each map indicates the percentage of all Americans who are obese.

states with over 15% of population obese (BMI >30)



Overweight
BMI = 25.0-29.9

Year	OK	US
1990	33.5%	33.1%
1991	35.9	33.6
1992	35.1	34.6
1993	41.6	35.3
1994	38.0	35.4
1995	35.8	35.5
1996	34.7	35.4
1997	34.1	36.3
1998	33.5	36.3
1999	36.8	36.8
2000	36.6%	36.7%

Obese
BMI > 30.0

Year	OK	US
1990	11.6%	11.6%
1991	11.9	12.6
1992	14.1	12.6
1993	12.1	13.7
1994	13.2	14.4
1995	13.5	15.8
1996	16.8	16.8
1997	15.1	16.6
1998	19.5	18.3
1999	21.1	19.7
2000	19.7%	20.1%

Overweight or Obese
BMI > 25.0

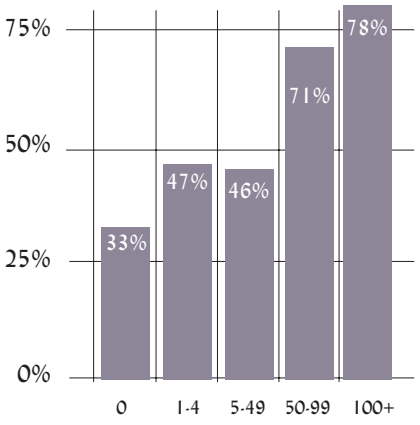
Year	OK	US
1990	45.1%	44.7%
1991	47.8	46.2
1992	49.2	47.2
1993	53.7	49.0
1994	51.2	49.8
1995	49.3	51.3
1996	51.5	52.2
1997	49.2	52.9
1998	53.0	54.6
1999	57.9	56.5
2000	56.3%	56.8%

Assorted Charts

Long Term Care Insurance

percentage of employers who say they would be more likely to offer long-term care i nsurance of there were better tax incentives to do so.

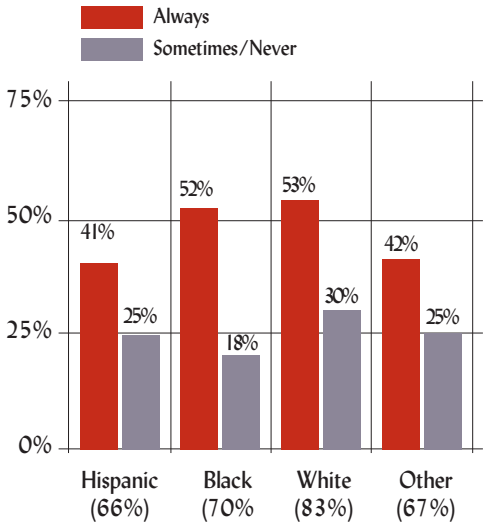
Source: Leadership Survey, Hospital & Health Networks, April 2001



Urgent Care Access

Percentage of respondents ages 18-64 getting needed urgent care from a physicians office, clinic or emergency room as soon as wanted, by ethnicity

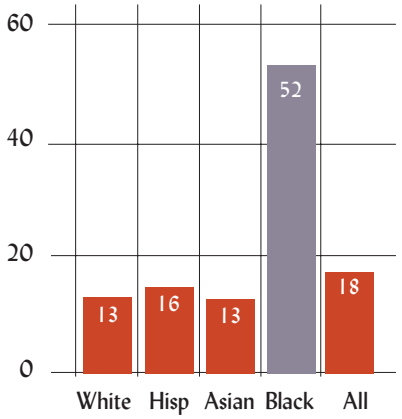
Source: Agency for Healthcare Research and Quality, March 6, 2002



Asthma in 1998

Cases per Million People in U.S.

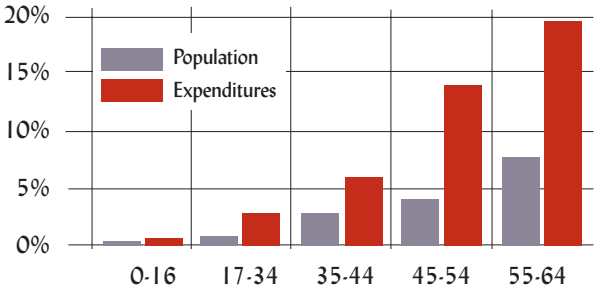
Healthy People 2010 Goal is 9.0



Diabetes

Diabetic individuals as a percentage of total health care plan population and expenditutes

Source: Laditka et.al., Archives of Internal Medicine, May 28, 2001



Challenges for Health and Health Care in the 21st Century

Steven A. Schroeder, M.D., President, Robert Wood Johnson Foundation at Columbia University April 2000

Steven A. Schroeder addressed American health factors in a lecture at Columbia University on April 12, 2000. Copyright 2000 by The Trustees of Columbia University in the City of New York. The full text of that address follows. It is reproduced with written permission of the Board of Trustees, Columbia University granted to the Oklahoma Academy.

Introduction

A complex interaction of scientific and social factors creates what we know as health. Health is as much a personal responsibility as a societal one, with improvements in American health dependent on individual action and governmental action. Though the science of health care is constantly advancing, harmful behavioral habits, ignorance of health information and options, and limited access to health care are preventing technological treatments from reaching many who could benefit from them. Rising health care expectations and spending conflicts are likely to continue, as individuals become more educated about health and treatment options and as social stratification remains a barrier to health care access.

Steven A. Schroeder, M.D., president of the Robert Wood Johnson Foundation, advocates improving health in the coming century by improving health habits and instigating governmental changes in health policy.

Although health care may be less crucial in improving the population's health, we all want it when we need it, and it is the stuff of the polls, elections and politicians. Every nation, whether rich or poor, struggles with managing rising expenditures for medical care. Since in most countries the bulk of medical payments come from governmental sources, the issue is by definition a political one—even in the United States, which is the only established market economy that does not provide health insurance to all citizens. About half of all medical care is paid by government sources, either Medicare, Medicaid, the state, or the VA campus. Though the US trails other nations in the percentage of people covered by health insurance, it leads the world in medical care expenditures. There is great concern about whether Americans are getting proper value for their medical care dollars. While the US outspends the world in health expenditures, it ranks anywhere from 19th to 22nd in traditional health status measurements such as infant mortality rates and life expectancy from birth.

We have a very different country. Politicians will be under enormous pressure to provide more health care, even though the real benefits may be modest or possibly injurious, as in the case of bone marrow transplants for breast cancer patients. The pressures from the health care industry and from patients desperate for a cure forced approval of procedures that were not scientifically proven.

It is no accident that our country spends so much on medical care, for we are abundantly endowed with expensive medical technology. We have the highest number of technologies per person, the greatest concentration of health workers who apply those technologies, the highest technology cost and the highest volume of use. Forty-four million people are not covered by health insurance in the United States, and that figure has been steadily rising.

While insurance coverage is not the only determinant of health care access, it is unquestionably the major one. The US ranks first or second in the world in life expectancy after age 65. This population is fully insured, with access to our nation's sophisticated medical technology. Those who argue that the poor get enough health care despite lacking health insurance are wrong.

The statistics about cost and technology in the US mask some fundamental regional differences in patterns of care. For example, there are twofold fewer hospital beds per capita in Seattle than Chicago. Similarly, end-of-life health care is far better on average in Minneapolis than in Miami, where there is a twofold higher hospital cost, twofold higher admission rate to the Intensive Care Unit (ICU), and a threefold longer stay in the ICU. The tension between cost and coverage has reached a new level in the United States. What had previously seemed to be an inexorable spiral of uncontrollable medical costs came to a screeching halt in 1992. To the astonishment of analysts, medical care expenditures have remained at 13.6 percent of gross domestic product since then. The congressional budget office in 1992 projected that by the year 2000 that number would reach 20 percent.

This period of cost containment has increased the take-home pay of US workers and has probably been a major contributor to our prosperity, but it has been achieved by applying market pressures to a system that had excess capacity. Buyers of health care, large employers, commercial insurers and government are able to bargain for the lowest possible prices. As a result, there has been a decrease of more than 325,000 hospital beds and 850 hospitals in the past 15 years. Yet only 16 percent of all hospital beds are filled. Further shrinkage of hospital capacity is sure to come. As with all major social change, there was a price to pay for even this modest period of medical cost containment, with US spending still far in excess of other countries'.

The public is increasingly suspicious of conflicts of interest between health care providers and doctors, and media reports are filled with stories of patients who feel they were denied necessary care. The reputation of the managed care industry plummeted to just above that of the tobacco industry, despite objective analysis showing managed care to be as good, if not better than traditional fee-for-service. Previously, antiregulatory, conservative politicians felt compelled to mandate certain benefits for managed care subscribers, particularly women. The morale of doctors and nurses is lower than it has been for decades.

Future health care predictions

What lessons does the recent US experience hold for health care in the next century? We should expect an increased public appetite for more health care. The news media extensively feature promises of new therapeutic breakthroughs, carrying explicit and implicit suggestions of better health through more medical care. Over a decade ago I compared health care expectations in our country with five English-speaking countries. When the elderly were asked if, given a fatal diagnosis, they would seek a second opinion, the English response was, "Well, love, it's been a good life, let's have a cup of tea. It's all over." In the US, not only would they get a second opinion, a lot of them would probably find a lawyer.

To explore the discrepancy between promise and performance, the Harvard School of Public Health has reviewed a host of clinical preventive services to identify those that will produce significant gains in population health. They found only five. Hormone replacement therapy in post-hysterectomy 50-year-old women can yield a 13 percent increase in life. More recent data linking estrogen therapy to increased heart disease might cause that to change. Treatment of severe diastolic hypertension at age 35 extends life by 64 months for a man, 68 months for a woman. Stopping smoking at 35 adds another two to two and a half years. Weight reduction in the obese gives almost a year to a year and a half. Exercise in a 35-year-old adds half a year for a man, nothing for a woman. All the studied factors, including Pap smears, mammograms and immunizations, didn't add more than a few days. They may have been helpful in selective patients, but not in the entire population.

All signs point to a renewed growth of health care expenditures, although probably not at the previous steep level. This will result from the potent combination of an aging population with increasingly prevalent chronic conditions; the avidity with which we all will pursue services to improve health, appearance and vigor; and the continued development of new drugs and technologies that promise to postpone or avoid disability and even death. While there are a small number of services that are both cost-effective and healthful, like immunization and prenatal care, recent medical history teaches us that almost all new technologies increase overall medical costs.

Because of rising public expectations, it will become increasingly difficult to agree on what constitutes a basic minimal benefit package for which public or privately insured customers are eligible. The political temptation will be to create a broad package and seek ways to ration services in order to keep costs down. But as new information technologies like the Internet create more active and educated consumers, rationing will become less palatable, even in countries like England that are characterized by stoic, often passive patients.

Thus, the tension between the desire to provide more health care services while simultaneously holding costs in check will probably be played out at individual clinical sites. This is because, in a political struggle between patients and providers, patients are going to win. Cost-containment strategies are liable to be seen as cuts in payment rates for hospitals and doctors, as well as the devolution of rationing decisions to individual clinicians. So the days of the hassle factor are going to stay with us.

The future approach to health and health care

How can we modify personal behavior toward healthy habits? In my view, there are two streams of effort that should be undertaken in parallel. The first is to increase scientific research on prevention. Though impressive gains have been made in our knowledge about the determinants of human behavior, there is much more to learn. Compared with the

seductiveness and relative freedom in basic science, behavioral research often ranks second in the contests for resources and the best minds.

Even if we triple spending on basic biomedical research and the NIH builds palaces all over the Washington area, we will find ourselves disappointed by the difficulty of improving our nation's health. Only by improving both our scientific knowledge of health behavior and our understanding of social marketing can we achieve meaningful improvements in health. We need to improve translating knowledge into action. We can learn from the commercial worlds of marketing and communication and successful citizen action campaigns like Mothers Against Drunk Driving.

Florida conducted an aggressive tobacco advertising campaign against youth smoking, and in two years smoking among middle-school students decreased an incredible 54 percent. This is a revolutionary decline that the American Legacy Foundation is trying to replicate nationally. Ad campaigns are too frequently stalled because the media is afraid of alienating their tobacco advertisers. Alcohol is trickier. While in tobacco we advocate abstinence, people who have one to two drinks a day are actually healthier than those who don't.

Citizens have to make the National Institutes of Health (NIH) accountable for improvements in health status. Though the breast cancer lobby, the mental health lobby and the AIDS lobby are terrific, there is no anti-tobacco lobby. There is no organized group of people who have lost loved ones to tobacco. There are no real pressure groups addressing alcohol or drugs. There is no core citizens' group of public health. We cannot sit here, secure in our science, assuming that right will ultimately triumph. We must understand that health care and research is a political process, susceptible to political pressures.

Meanwhile, there are 11 million kids in this country who don't have health insurance. Five and a half to 6 million of them are eligible for government insurance programs but go without because of stubborn bureaucrats, fearful parents, ignorance of program availability and lack of attention from the upper and middle classes. Right now the political focus is on drug coverage for the elderly and more benefits for the middle class, and the poor are mostly forgotten. The flip side of entrepreneurialism in this country is a lack of solidarity. My hope is that the public will eventually say, "It is morally wrong for a country this wealthy not to cover everyone with at least basic health care."

At the level of the individual, patients are becoming better-informed consumers and will become more discerning in the quest for quality. This will force the medical care system to focus more on quality measurement and improvement. The response of physicians should be to lobby for more resources and to strive for efficiency in order to stretch a fixed budget. This will mean moving more care out of the hospital, finding ways to curtail overuse of services, looking for lower-cost treatments and looking to postpone or prevent expensive institutional care in hospitals and in nursing homes.

Since there are limits to how much physicians can be squeezed in the name of cost containment, politicians will have to directly address the tensions between mutually contradictory public desires for more services, equity and a low tax burden. It is likely that this will be resolved by establishing a basic level of services to which everyone is entitled, and then requiring extra premiums, copayments or full payments for extra services, in particular services seen as enhancing lifestyle or performance, like Viagra. These will not be seen as mandatory unless powerful political forces can be marshaled on their behalf.

For the homebound elderly or the disabled, there will be pressures to find volunteer services and to support family care in order to preserve individual choices for autonomy and to prevent the social cost of institutionalization. Similar pressures will focus on care at the end of life, where patients will want to maximize their chances of survival, minimize pain and suffering and be more in control of the kinds of services they receive.

There is much promise contained within these challenges. Think of where we were at the turn of the twentieth century, when there were no antibiotics, when you were told that if you entered a hospital there was less than a 50 percent chance that your health would be improved by that encounter. It may be possible to move toward a world in which lifestyles are healthier, medical care is more efficient and of higher quality, and patients are better informed and better able to take advantage of the exciting scientific breakthroughs that are sure to come. To achieve this will require strong political and professional leaders, such as those at this institution, and the resolve to confront fundamental trade-offs and balance competing interests. I only hope that we will be up to that challenge.

Give Peas A Chance

"Schools Teach Kids to Give Peas a Chance," Laura Bird, Wall Street Journal, June 14, 2002

EAST HARLEM, N.Y. -- A group of second-graders in Ms. Ulloa's class at P.S. 101 here are using plastic knives to hack away at mounds of fresh red peppers, green onions, mushrooms and carrots.

Today's lesson is vegetable fried rice. Smells of garlic and ginger waft from a pot on a hot plate, as the children pore over workbooks, crafting a story about rice and coloring pictures of rice farmers. "A lot of these vegetables they've seen, but they don't know their names," says Johanna Ulloa, their teacher. "Considering they are from the city, and not from the suburbs or the country, a lot of times they aren't given these foods at home. They aren't exposed to plant foods."

In a nation where 26% of adults are obese, the battle to get kids to eat more vegetables has turned into a public health mission. Several grass-roots groups are working inside classrooms to introduce children weaned on french fries and pizza to the taste of lentils and fresh broccoli. This class is CookShop, a cooking and nutrition program funded with grants from the Agriculture Department that the Community Food Resource Center, a nonprofit advocacy group, brings regularly into seven public elementary schools in East Harlem.

No one is suggesting that the average kid will pass up a McDonald's cheeseburger in favor of, say, broccoli rabe. But nutrition specialists say that a child who has picked a tomato, sliced a carrot, stirred a pot of vegetable chili or selected ingredients for his own salad is more likely to put these things in his mouth than one who has some steaming broccoli dumped onto his lunch plate by a cafeteria worker.

In earlier CookShop lessons, students at P.S. 101 learned that cauliflower and broccoli are flowers, and radishes are roots. They wrote letters to regional farmers. They visited an organic farm on Staten Island. Parents get perks for helping out: Each mom or dad who attends 10 or more of the 12 CookShop sessions gets a free half-share in a local farm -- an investment with a face-value of $250 that pays dividends of spinach, potatoes, carrots and other fresh produce over the course of several months.

Soon Ms. Ulloa is passing out plastic bowls of rice and vegetables, forks and chopsticks (for those who dare). The children dig in, and speak out. "Everything tastes good to me!" exclaims eight-year-old Zenia Whyte, a ladylike elf in red leather pants and gold hoop earrings, who puts away one bowl and then another. Not so with classmate Emauja Mitchell, who takes a forkfull and runs for the wastebasket to spit out. "That's nasty!" she declares. She sits back down, watches the other kids munching away and soon decides to give her bowl a second chance.

CookShop and several other programs nationwide are demonstrating how food-and-nutrition education could be part of the classroom curriculum, an approach that obesity-prevention experts are increasingly advocating. Making lunch part of schools' educational mission, instead of an ancillary service, could help remove the economic pressures that drive lunch programs to serve pizza and french fries. That would add another drain on the already-beleaguered education budget. But the ounce of education about obesity prevention could be worth pounds of future treatment for obesity-related ills, advocates say.

"Kids will eat foods their parents would swear they'd never touch," says Antonia Demas, a food activist and consultant in Trumansburg, N.Y. Her nutrition curriculum, Food Is Elementary, is currently in use in about 20 schools and combines elements of math, science, nutrition and cooking. In the family, Ms. Demas says, food can be a reward, a punishment, a weapon. But in the classroom, "you can take the emotion away," she says. "It becomes cool to eat the weird stuff."

One key to making fruits and vegetables palatable to the younger palate is to not make them boring, says Lisa Kingery, manager of the CookShop program. "We don't weigh them down with a lot of information about fat and nutrients." One week, the children prepared apple snacks, dipping apple wedges in peanut butter, plain yogurt and chopped nuts. The lesson seemed to stick. "When my mother isn't home and there's nothing to eat, I get the CookShop book and make apple snacks," says Sidiki Diarra, a string bean of a boy who definitely isn't suffering from childhood obesity .

School Lunches and Nutrition

"Cafeteria Food Fight," Laura Bird, Wall Street Journal, June 14, 2002

It's 12 noon. Do you know what your child's lunch is? If they attend public school, there's a good chance the answer is pizza -- or chicken nuggets, or a cheeseburger. In a nation of foodies, school lunch generally remains a bastion of processed, full-fat meat and cheese. On some days, school lunch is no healthier than what is sold at a fast-food chain -- and in some cases, that's exactly what it is.

The school lunchroom has long been a battleground for food activists and parents concerned about the nutritional quality of their children's midday meal. Now, with rising unease over the fast-growing rates of obesity , criticism is escalating from legislators, researchers and consumer groups who say fast-food, vending machines and the troubled economics of school cafeterias are culprits in the alarming growth of children's waistlines. Some 14% of teenagers were overweight in 1999, almost triple the rate of the late 1970s, according to the latest figures from the Centers for Disease Control and Prevention. Among children ages six to 11, 13% were overweight, almost double the rate two decades ago.

Most public schools offer students a government-subsidized lunch that is supposed to adhere to certain fat, caloric and nutritional standards. But 20% of schools also sell branded fast foods such as Pizza Hut and Little Caesars pizza or McDonald's burgers and fries, according to a 2000 study of school health policies and programs by the Centers for Disease Control and Prevention. Vending machines are present in 43% of elementary schools, 74% of middle schools and nearly all of high schools. The machines aren't supposed to operate in lunchrooms during lunch hours, but in practice they often do. The CDC study found beverage vending machines operated during lunch in 68% of schools that had them.

Calling obesity a public-health crisis as urgent as smoking, legislators are preparing to take a hard look at fast food, vending machines and the school-lunch program when it comes up for reauthorization in Congress next year. In many districts, parents are one step ahead and have organized to try and kick brands out.

Congress created the National School Lunch Program in 1946 to fight childhood malnutrition by providing low-cost and free lunches to U.S. school children. The U.S. Department of Agriculture oversees the program, subsidizing participating schools with cash reimbursements and free food commodities and overseeing the nutritional content of meals. U.S. schools serve more than 27 million lunches each day under the federal program.

Yet serving up a healthy, low-fat lunch -- even with the free food from USDA -- is no easy task given the paltry reimbursements. The federal meal subsidies -- $2.09 for meals served free to qualifying students, $1.69 for reduced-price meals and 20 cents for the ones sold at full price -- "aren't a lot of money to create a whole meal for a teenage boy, if you think about the price of apples or grapes," says Margo Wootan, director of nutrition policy at the Center for Science in the Public Interest, Washington.

A 1999 Agriculture Department survey found only 20% of the lunches served in schools stayed within the required limits on fat set by the USDA, and only 15% stayed within saturated-fat limits by the USDA and only 15% met the saturated-fat standard. Lean meat, low-fat cheese and fresh produce all often cost more than full-fat and processed foods.

Given the economic realities for schools and kids' preferences, vending-machine snacks and fast food eventually "will kill the lunch program" if they aren't reined in, says Agnes Molnar director of the child-nutrition unit at the Community Food Resource Center, a nonprofit advocacy group in New York. "That is the way it is heading: The more these foods are there, the more children purchase, and the fatter they get."

"Adults would like to believe if you just had a wonderful fresh fettucine dish, the kids would flood to the cafeteria," says Judi Jaquez, division head for student nutrition for Santa Fe public schools and a registered dietitian. Although so far, she has been able to hold the line on fast-food brands, her program served 170,000 servings of frozen pizza to elementary school students last year. "Get real," she says. "The kids will eat pizza, even pizza that is frozen, day in and day out."

Costs of Smoking, Aging, Drinking ... and Weight Gain

"Health-Care Costs for Obesity Top Those Related to Smoking," Rhonda Rundle, Wall Street Journal, March 12, 2002

Health-care costs linked to obesity -- and resulting conditions such as diabetes and heart disease -- are greater than those related to smoking and problem drinking, a new study finds.

"We get bombarded all the time by health warnings" about everything from sleep apnea to smoking, but "there is never a comparison" to establish policy priorities, says Roland Sturm, the study author who is a senior economist at Rand Corp., a Santa Monica, Calif., think tank. Obesity turns out to be worse than smoking or alcohol abuse and "is like aging 20 years" when measured by the onset of chronic medical problems, he adds.

For obese people, spending on hospital and outpatient care is 36% higher and medication costs are 77% higher than for people in a normal weight range, according to the study, which appears in Health Affairs, a health policy journal published in Bethesda, Md. For smokers, health-care service costs were 21% higher and drug costs were 28% higher than for nonsmokers. Cost increases associated with problem drinking were smaller.

While the findings "confirm the world view" of people in the obesity field, they "put a different perspective on the problem that will help everyone to conceptualize it differently," said Morgan Downey, executive director of the American Obesity Association, a Washington nonprofit advocacy organization. "There has definitely been a feeling that smoking, drinking and substance abuse are bigger problems than obesity. This study and others will be important to clarify that this isn't the case."

Mr. Downey pointed to the proliferation of prevention programs in schools and workplaces that educate people about the risks of smoking and alcohol consumption. "There is so much greater acceptance for the role of those programs. Weight has been seen as a kind of superficial thing that schools and employers don't have to worry about," he said. Such dismissive thinking may be spurred by commercial pitches for weight-loss programs that cater to people seeking a "quick fix," he said.

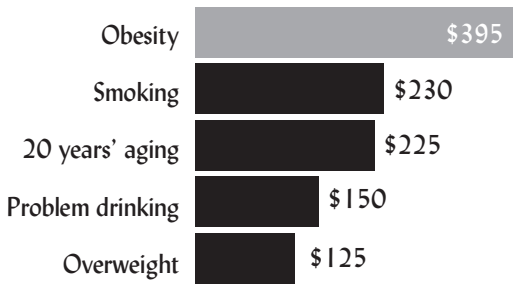
About one in three Americans is overweight and one in five is obese, based on the body-mass index. The BMI, a common measure of obesity, is an individual's weight in kilograms divided by height in meters squared. Translated into pounds, an individual who is 5 feet 3 inches tall and weighs 169 or more is obese; so is someone who is 6 feet tall and weighs at least 221 pounds. Between 1991 and 2000, obesity in the U.S. rose 60%, while smoking rates have been cut roughly in half since 1964, according to government studies.

The Rand study uses data from a 1997-1998 household telephone survey of about 10,000 adults from age 18 to 65. The participants responded to questions about their smoking and drinking habits, as well as their weight, age, gender, race, household income and education. They were also asked questions about their medical care, such as hospital stays and medical visits during a set period. Dr. Sturm, who has a doctorate in economics, multiplied the self-reported medical utilization information by unit costs from a federal medical expenditure survey.

The study found that obesity is associated with an average increase in hospital and outpatient spending of $395 a year, while smoking is linked with a $230 annual increase and problem drinking with a $150 increase. For all adults in the survey, including those who are obese, average health-care service spending was about $1,500. "We can't nail down costs exactly," but "the very strong effects of obesity are clear," Dr. Sturm said.

HEAVY BURDEN

Estimates of what various conditions add to health-care service costs over a 12-month perioid, based on a survey of 10,000 people.



Rural Health Care & Market Failures

Source: Michael R. Metzger, PhD, Central Business Review, Vol. XV, No. 1, pp. 5-10, Winter 1996.

Title: Identifying market failures and appropriate policy responses in the provision of rural health care.

ABSTRACT

Public expenditures to assure adequate rural health care should ideally be both appropriate in magnitude and effective in design. This paper provides evidence that, of the two most common criteria for identifying underprovision of health care, the first, inputs per capita, is generally misleading, while the second, health outcomes is empirically problematic and ultimately ambiguous. Consequently, health care policymaking in regard to rural markets must be conducted in the twilight if not the dark. Accordingly, it is argued that the appropriate policy should be both community-based and -financed. Consistent with the vast body of economic theory and empirical analysis that finds supply subsidies to be costly if not ineffective, it is argued that any outside intervention should take the form of demand subsidies. The potential market failures that might justify government intervention are identified and then used to support these conclusions.

I. Introduction

As rural population has continued to shrink in both absolute and relative terms, rural communities have voiced concern as the growth in medical physicians and facilities has failed to keep up with more urban communities. [1] In response, state and federal governments have invested large amounts in medical facilities to serve such communities. Public policy recommendations also have been often proposed and sometimes enacted to provide incentives for physicians to locate and remain in rural areas. [2] Whether such public expenditures have been in fact warranted is hotly debated. [3]

The emotional appeal for government action is clear. In an emergency, few would want to risk complications or even death due to the lack of nearby essential medical care. As an ideal, then, equal access to medical care has taken on a new (geographic) meaning that may be somewhat compelling. Such anecdotes, however, focus solely on the benefits of providing complete medical care to rural communities, generally neglecting the social costs. Determining whether adequate rural health care is or is not being provided must require weighing benefits against costs. If the health care market works perfectly, a physician will be attracted to and remain in a rural community if the demand for her services - the social benefit - is sufficient to cover her costs (including a normal return on her considerable human capital investment, i.e., medical training). If not, then society is in most instances better served if the physician practices in another community where the demand for her services is greater - even if that community is already served by one or more physicians. While the state or federal government could subsidize the physician to remain in the smaller rural community, this policy could be potentially inefficient, involving two real and important costs. First, it deprives another community of that physician's services despite a greater demand for medical care. Second, the policy necessitates higher taxes at the state or federal level to finance the subsidy. Consequently, the need for government intervention in such cases must be questioned.

This logical argument is premised by the assumption that rural health care markets function reasonably well. However, there are characteristics of such markets that may lead to so-called market failure, in which case carefully designed government intervention may in fact be desirable. This paper seeks to identify market characteristics that might lead to such market failures in the provision of rural health care. In addition, for each potential market failure, appropriate policy responses are identified and discussed. In most instances, the standard approach - outside governmental subsidization or provision of health care inputs - is argued to be a less desirable option.

The remainder of this paper is organized as follows. The next section addresses the task of identifying actual instances of underprovision of health care. Section III identifies the market characteristics that could be reasonably expected to lead to such market failures. In addition, for each of these characteristics, alternative policy responses are identified and evaluated. A summary and conclusion follows.

II. Identifying the Problem

In all the discussions of rural health care, there has been little success in defining exactly what constitutes under-provision of health care. This definition is essential in both determining pervasiveness of the problem and identifying those rural communities in need of assistance (whatever form that might take). The two most commonly cited criteria are discussed here: health care inputs (per capita) and health care outcomes.

The first criterion focuses on a comparison of the number of health care inputs of various types (e.g., physicians, clinics, etc.) across rural and urban communities. Since, one clearly can expect fewer of such inputs in a small town than in a large city, comparisons are typically made in per capita terms. This criterion is generally misleading for several reasons. First, the more specialized the input, the larger the population necessary to support its continued provision, and hence the smaller the number in per capita terms for small communities. For example, assume a family physician can be supported by a population of 5,000, while an obstetrician requires a population of 30,000. Then, one might reasonably observe a community of 15,000 having no obstetrician, a community of 45,000 having one, and a community of 90,000, three. The physician to population ratios would be zero, 1:45,000, and 1:15,000. On the other hand, for family physicians, the ratio is 1:5,000 for all three communities. [4]

Second, the criterion ignores the potential for substitution among inputs in the provision of health care. If a hospital is not available in a community, clinics may be used more intensively. If a specialist is not available, the general physician may utilize telemedicine. If a physician is not available, nurse practitioners and emergency evacuation services can be substituted.

Third, the inputs-per-capita criterion neglects inputs that may not be in the community but are nevertheless accessible to residents. For most medical care for most individuals, it is not essential that a physician or hospital be in the same community or even same county.

A second criterion, health outcomes, is a more direct measure of whether health care is being adequately provided. Just as is the case in assessing the quality of the product of an automobile manufacturer, the quantities of, quality of or expenditures on various inputs may be of little importance. When obtainable, we would prefer to have more direct measures such as gas mileage, repair histories/projections, "life" expectancy, consumer satisfaction, etc. Similarly, in determining whether there is under-provision of health care in rural markets, we would prefer to look at statistics relating to mortality, treatment complications, life expectancies, disease incidence, etc. Unfortunately, these health outcomes are determined to a large extent by numerous variables unrelated to access to health care: e.g., attitudes toward health care, socioeconomic variables, occupational hazards, lifestyle choices, and demographics. To determine whether health care is under-provided in a community would require being able to distinguish the magnitudes of the effects of these other variables. The requisite information and econometric sophistication does not exist today to do this in any meaningful manner.

Assume for the sake of argument that health care outcomes could be accurately measured and meaningfully interpreted. It would still be inefficient for society to assure the same level of health care outcomes to remote, rural patients as that enjoyed by comparable urban patients. The overriding criteria should always be to devote resources to rural markets to the point where the last dollar spent yields a dollar in benefits, i.e., marginal benefit equals marginal cost. Since the marginal cost of providing care will always be higher in rural markets - e.g., due to lower scale economies - the marginal benefit of the last dollar spent in those markets should also exceed other markets. With diminishing marginal benefits, this implies that health outcomes in a rural market will be quantitatively or qualitatively less than that of more urban markets. This is a logical consequence of efficient use of resources, not an indication of a market failure deserving public attention. The implication then is that even meaningful evidence of lower health care outcomes in a rural community cannot serve as a definitive indicator of a market failure.

In summary, the first criterion, health care inputs per capita, is generally misleading, while the second criterion, health outcomes, is conceptually more appealing, but empirically problematic and ultimately ambiguous. Consequently, health care policymaking in regard to rural markets must be conducted in the twilight if not the dark. Policymakers cannot accurately determine those rural markets in which health care is underprovided, or even the pervasiveness of such underprovision in all rural health care markets.

Fortunately, as is argued in the next section, such determinations are unnecessary if policies are formulated appropriately to address the potential causes of a market failure of this type.

II. Identifying Market Failures and Remedies

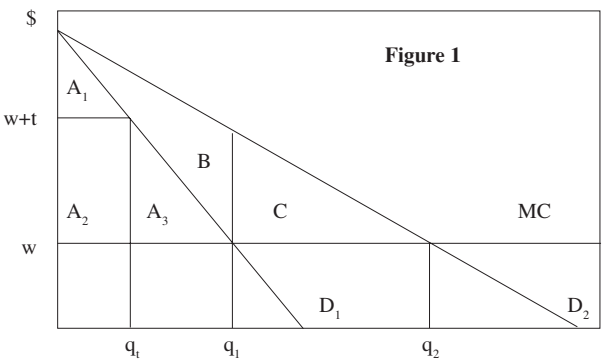
In this section, four potential market failures are identified for the purpose of then identifying appropriate public policy interventions in the provision of rural health care.

Failure of a Market to Exist

This theoretical scenario represents perhaps the most compelling explanation for why health care may be under-provided in certain rural areas. However, the scenario's primary identifying characteristic—complete isolation—fits relatively few rural health markets.

Consider two communities, I and II, identical in their health needs, but different in that the population of II is twice that of I. Assume initially that II is served by one physician and I by none. There is no possibility of obtaining health care outside the respective communities.

For ease of presentation, assume that we can readily order the demands for a physician's services from the highest value services (e.g., life-threatening emergencies) to the lowest value (e.g., cosmetic procedures). The first, highest-value service has a maximum "price" willing to be paid which is plotted against the unit (or units) of the physician's time required, i.e., the quantity of service. The next highest-value service has a lower "price", and so on. In Figure 1, this is represented by downward-sloped demand curves for the two communities. Note that since the two communities were assumed to differ only with respect to size, the quantity of a service of a given value to the consumers in community II will be twice that of community I, e.g., q2 is exactly twice q1.



Also, for ease of presentation, assume that a physician earns a "wage" for each hour of time associated with a given service, [5] and that the wage is the same whether the physician is a sole provider for that community or not. [6] Finally, assume that the size of our two communities is such that at the prevailing wage, one physician can exactly satisfy the demand of community I and two physicians can satisfy community II.

Now consider the case of a new physician considering practice in either of the two communities. Since both will yield the same demand at the prevailing wage and hence the same income, there is no operative market incentive for the entrant to choose Community I over II. There is however a compelling social benefit. This is reflected in the relatively larger gain in consumer surplus realized by community I in attracting the physician (area A1+A2+A3) as compared to that for community II (area C).

Generalizing, under the condition of complete isolation, the gain to a community in attracting its first physician will be greater than the gain to a community in attracting an additional physician when the number of patients served by that physician would be identical, ceteris paribus. Note that this argument can be applied as well to dentists, nurse practitioners, clinics, hospitals, etc. [7] Several potential policies can be identified for situations in which the market for physicians fails to exist for an isolated community.

The first-best solution is a two-part tariff, in which the isolated community's population pays a flat annual fee for "access" to the physician plus the "wage" cited previously for services rendered. This may be more practically accomplished by taxing the community to subsidize the physician's practice.

A second-best solution would be to raise the "wage" to generate an income sufficient to attract and keep a physician in the community. This has several inherent problems. First, by raising the wage, the quantity of services demanded in the community will decline, creating a loss to consumers and the community. Second, the decline in services will be greater for the poor, creating an equity problem. Finally, income can only be expected to increase with an increase in the wage charged if demand for the physician's services is inelastic. While this can perhaps generally be expected to be the case, it need not necessarily be.

Unfortunately, the foregoing analytical example can not be easily identified in practice due to problems in measuring demand and supply, among other things. In any given community, it would be extremely difficult for a governmental body outside the community to accurately estimate the net gains of attracting a first (or additional) physician. Fortunately, the first-best policy prescription - a two-part tariff - is one which may not require such analysis. That is, once the community determines the magnitude of the subsidy necessary to attract its first physician, it would then vote on whether to levy the corresponding tax - the access fee. [8] Presumably, if the after-tax gain in consumer surplus were positive for a majority of the residents, the levy would be approved; otherwise, it would not. Therefore, the calculation of net gain or loss would be performed by individuals in the community, by those who would have the best information as to the relative costs and benefits. Note that, for an outside governmental body to provide the necessary funds, wholly or on a matching basis, to a community for the purpose of attracting a physician would be inefficient; the desired calculation of costs and benefits by the individuals of the community would be significantly and inappropriately biased.

Transportation Costs

Isolation in the above example is functionally equivalent to prohibitively high costs of transportation. At the other extreme one can imagine a situation in which two communities are on opposite sides of a river, spanned by a series of bridges. In this case it would be immaterial whether one community had all the physicians or not. Of more interest is the intermediate case in which a community is "somewhat" isolated, that is, a physician's services can be obtained only at an added cost arising from the need to commute to another community. This is the more relevant case from a practical policy perspective, in that it is more apt to describe most rural communities.

Returning to the analysis developed above, we can incorporate the transportation cost by adding it to the physician's wage paid by community I when forced to commute for medical care to another community. In Figure 1 , this is shown by the higher price (w+t) and lower quantity qt. Again, by construction, the entering physician has no incentive to locate in one community over another. The gain to community II remains unchanged (area C), while that for community I is now less than before (areas A2, the transportation expenditures, plus A3). Whether the gain to community I is greater or less than that of community II depends on the magnitude of the transportation cost.

Two implications of the analysis are important to note. First, whether society is in fact better served by the physician locating in community I or II now depends on the magnitude of the transportation cost. Second, the amount that community I would be willing to pay as an access fee in a two-part tariff is now less than before, depending also on the magnitude of the transportation cost. The lower that cost, the less the community would be willing to pay.

A two-part tariff is once again the first-best policy prescription for all the reasons cited before. It is worth emphasizing that this would be a community-sponsored solution to a potential market failure, with the decision as to whether to provide a subsidy left to those individuals possessing the best information as to the benefits and, importantly in this case, the relevant transportation costs. [9]

Rural Poverty

Whenever a large proportion of a rural population lives in poverty, health care may be underprovided in the absence of some form of assistance. While this can be true in an urban community as well, other characteristics contributing to rural health care underprovision may be exacerbated. For example, the transportation costs cited above may be even greater for the rural poor than for others in the same community, or for the poor in some urban community.

To the extent that rural health care underprovision results from poverty, the appropriate policy prescription is not a supply subsidy for one or more health care inputs, but rather should be a demand subsidy to supplement those families' ability to purchase health care. This can take the form of general income assistance, health care vouchers, and/or medical insurance. In most instances, it is less market-oriented and far more costly to achieve the same outcome through direct provision or subsidization of health care inputs (physicians, clinics, etc.) for the community. Once most or all families in a community can afford adequate health care, then the community can rationally decide (as outlined previously) the most efficient means of obtaining it.

Government Regulation

Government regulation is often promulgated to protect consumers from excessively high prices, suboptimal quantity or quality, misleading advertising, or inadequate information. Whether a given regulation is excessive or not is often a matter of debate, with any meaningful resolution contingent on market data that often can only be roughly approximated. While excessive regulation can be expected to impose costs on consumers in any market situation, those costs can have more profound implications in rural settings if it causes health care inputs to be underprovided.

A rural community often may not have the population to support a hospital or even a physician. While it may be able to support a physician assistant or a nurse practitioner and a part-time clinic, government regulation may preclude the community from receiving such services for albeit good reasons (e.g., quality of care). Consequently, for rural health care markets, it is important that regulations be periodically reviewed and revised to minimize any unintended adverse effect on the provision of health care inputs. [10] Indeed, it may even be reasonable to promulgate different sets of regulations for rural markets.

IV. Conclusion

In this paper, it has been argued that policymakers generally have insufficient information to determine from an efficiency perspective which rural communities may in fact be receiving inadequate medical care. The most plausible causes for a market failure of this type have been identified. The logical policy implications arising from this analysis do not support the many past and present policies of subsidizing medical care inputs so as to be located in rural markets. Rather, the appropriate policies should be to:

- facilitate community-based decision-making as to whether the community should subsidize the provision of local health care;
- assure equal access to health care regardless of income by supplementing purchasing power (not by subsidizing local health care facilities or personnel); and
- review state and federal regulations impacting the cost of providing health care to rural communities.

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END NOTES

1 In light of allegations of a rural health care "crisis", it is perhaps surprising to note that the primary care physician to population ratio has not generally declined for rural areas. From 1975 to 1988, remote rural counties exhibited an increase in the physician-to-100,000-population ratio from 28.1 to 31.9. The percentage increase in this ratio was however much lower than that for the U.S. as a whole, 13.5% vs. 39.2%. [See Frenzen, 1991.] Another study examined a longer period, 1965-85, for the state of Minnesota. While it also found an increase (20%) for the period 1975-1985 for the most rural counties, it found a slight decrease (3%) for the period 1965-85. [See Dennis, 1988.] The definition of primary care physician was broader in the latter study.

2 Examples of federal measures include: the National Health Service Corps (NHSC) scholarship program which provided financial aid to medical students and other health trainees in return for post-graduation service in designated Health Personnel Shortage Areas (HPSA's); a NHSC loan repayment program in the late 1980's; and a Medicare reimbursement bonus for services performed by physicians in designated HPSA's.

3 For example, the National Health Service Corps subsidized physicians' cost of education in exchange for their assignment to an underserved area for some period of time post-graduation. Economic analysis of physician location decisions would predict that this would have little impact on the distribution of physicians. This prediction was borne out by one study demonstrating that an underserved area was equally likely to have a physician whether or not it had a Health Services Corps physician assigned to it. [See Held, 1976.]

4 This analysis can also be used to explain the failure of the number of physicians per capita to grow as rapidly in rural communities. In recent years, the composition of physicians nationwide has changed toward more specialists and less generalists. Therefore, a larger proportion of the supply of physicians can be expected to have located in larger communities. [See Newhouse et. al., 1982.]

5 It is important to distinguish between demand for medical services and demand for a physician's time input into those services. Even though the "wage" may be uniform across services, the prices of those services can differ due to other inputs (besides the physician's time) going into providing that service.

6 One interpretation is that, if the wage represents a only normal rate of return on the physician's investment in her human capital, professional ethics or reputation may effectively prevent her from charging a higher fee even as a monopolist. This assumption, while not critical to the argument, may not be unrealistic in light of the paucity of evidence of pricing abuses in one-physician communities. Indeed, one widely cited study found that after adjusting for cost-of-living differences, physicians of a given specialty earn approximately 5% less in metropolitan areas of over 1 million than in smaller communities. [See Newhouse et. al., 1982.]

7 Note also however that the following, seemingly equivalent, generalization is not necessarily valid: the gain to an unserved, small community will exceed the loss to a larger community whenever a physician from the latter can be induced to relocate to the former.

8 This approach has been adopted in at least one rural area, Gilliam county, Oregon, where citizens have elected to pay a property tax that partially subsidizes a clinic staffed by two physician assistants. [See American Academy of Physician Assistants, 1990, p. 420.]

9 For some emergency medical care the transportation cost may be prohibitive; for example, delay in obtaining care increases the probability of disability or mortality. However, there are substitutes that deserve mention, most notably, emergency evacuation services. For a community, it may be more advantageous to have access to such services (and to commute to another community for all other care), than to have its own physician. Whether this is indeed the case is once again best evaluated by the individuals in each community.

10 An example of one such revision is the Rural Health Clinic Services Act of 1977 which authorized Medicare and Medicaid payments to physician assistants and nurse practitioners staffing certified clinics in rural underserved areas.

Worker Compensation Rates

Source: Oregon Department of Consumer and Business Services, 2000

	State	Index
1	Florida	4.08
2	Louisiana	3.36
3	California	3.34
4	Rhode Island	3.18
5	Nevada	3.10
6	New York	3.05
7	Texas	3.05
8	Hawaii	2.99
9	Ohio	2.89
10	D.C.	2.89
11	**OKLAHOMA**	**2.85**
12	Montana	2.75
13	West Virginia	2.72
14	Colorado	2.64
15	Illinois	2.62
16	Delaware	2.58
17	Connecticut	2.58
18	Alabama	2.56
19	Maine	2.52
20	New Hampshire	2.47
21	Georgia	2.42
22	Minnesota	2.40
23	Michigan	2.40
24	Kentucky	2.32
25	Pennsylvania	2.31
26	Missouri	2.26
27	New Jersey	2.19
28	Alaska	2.18
29	Idaho	2.11
30	Mississippi	2.10
31	Tennessee	2.10
32	Wisconsin	2.01
33	Vermont	1.98
34	Oregon	1.93
35	North Dakota	1.79
36	Massachusetts	1.77
37	Arizona	1.77
38	Washington	1.77
39	Wyoming	1.75
40	Arkansas	1.68
41	Iowa	1.66
42	New Mexico	1.66
43	North Carolina	1.64
44	South Dakota	1.63
45	Nebraska	1.62
46	Maryland	1.58
47	Utah	1.58
48	Kansas	1.56
49	South Carolina	1.51
50	Indiana	1.32
51	Virginia	1.27

Note: Index Rate is per $100 payroll. Index Rate is the weighted average rate per $100 of payroll

Work Impairment

Source: Ronald C. Kesler, PhD et al, Journal of Occupational and Environmental Medicine, March 2001. Medical Benefits, Volume 18, Number 8, April 30, 2001

	(1) Affected	(2) Work Impaired	(3) Days Impaired
Major depression	16.5%	44.5%	4.3
Asthma	14.6	35.8	3.0
Arthritis	12.6	39.0	4.0
High blood pressure	12.4	34.2	3.9
Panic	7.9	52.0	5.1
Substance dependence	7.2	33.9	2.3
Ulcer	4.4	48.6	5.8
Autoimmune disease	4.3	38.5	3.2
Generalized anxiety	4.0	53.5	5.5
Diabetes	3.7	38.2	3.6
Heart disease	3.4	47.6	6.6
Cancer	0.5	66.2	10.9

(1) - Percentage of employees affected
(2) - Percentage with any work impairment
(3) - Average days of impairment

Glossary

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"Nothing you can't spell will ever work."— Will Rogers

Acute disease- A disease which consists of only one episode or is relatively short in duration such as a cold.

Ambulatory care- All types of healthcare that do not require a hospital stay such as physical therapy, lab work, or routine doctor's appointments. Also, this does not include any type of home-healthcare.

Aid to families with dependant children (AFDC)- Established in 1935 and eliminated in 1996, this provided cash payments to needy children and their caretakers when at least one parent was absent.

Allied Health- This term is used loosely to describe all medical personnel who do not perform the same services as physicians do, such as nurses, physician assistants, and lab techs.

Bioinformatics- Computational tools applied to health statistics.

Biocomputing- the application of computational theory and modeling on the study of biological, social and behavioral systems.

Board Certified- This is said about a medical specialist who has completed a required course of training and experience (usually in the form of a residency), and has passed an exam in their specialty.

Boren Amendment to Medicaid- This amendment to Medicaid by Congress states that hospitals and nursing facilities must be "reasonable and adequate" to meet the costs incurred to provide care and services meeting federal and state standards.

Capitation- A method of payment where an individual physician or group institution is paid a fixed amount for each patient served regardless of the services provided to each patient. This is the method of payment usually used by health maintenance organizations (HMOs).

CDC- The Centers for Disease Control and Prevention, based in Atlanta, Georgia. This center provides guidance in the prevention and control of disease to promote the over public health of the nation.

CHAMPUS- (Civilian Health and Medical Program of the Uniformed Services) A healthcare program for military personnel, their dependents and retired military personnel. This program has since been discontinued and revised into TRICARE.

Chronic care- Care and treatment for individuals whose health problems are long-term.

Certification- A process where a governmental or non-governmental agency evaluates and individual, organization or educational program as meeting predetermined standards.

CMMS- Centers for Medicaid and Medicare Services. Formerly called Health Care Financing Administration (HCFA). This center conducts research for the success of the Medicaid and Medicare programs.

Coinsurance- A cost sharing requirement under a health insurance policy. This requires that the insured party shares in a portion or percentage of the services covered by the insurance policy.

Comorbidity- This is the condition of having two of more health conditions at the same time. An example of this would be a diabetic who also has high blood-pressure.

Continuing medical education- Further education a physician or other medical professional seeks after the completion of their training and residency. Some states require a minimum number of hours of continuing medical education, especially specialty boards for certification.

Coverage- The guarantee against specific losses provided under the terms of a health insurance policy. This term is often used interchangeably with "benefits".

Credentialing- This is the recognition of competency of a physician or other medical personnel by registration, certification, licensure, or the award of a degree in that field.

Deductible- The amount an insured person must contribute toward their medical expenses before the insurance policy will cover any costs for treatment. Another way of thinking about this is that one must pay a certain dollar amount first before the insurance company will contribute to the expense.

ERISA- (Employee Retirement Income Security Act) Passed in 1974, this act provided new standards and requirements for employer-funded pension and health benefits.

Epidemic- A group of cases of a disease or infection clearly in excess of what one would normally expect for a geographic region. An example of this would be Inhalation Anthrax. Because there are relatively few cases of this infection in Oklahoma each year, any larger number relative to what Oklahoma is used to could be considered an epidemic.

Exclusive provider arrangement (EPA)- An indemnity or service plan that provides benefits only if care is provided by practitioners that participate solely with a specific insurance company. Some exclusions apply for emergencies and out of state coverage.

FEHBP- (Federal Employees Health Benefit Program) A voluntary health plan for federally employees.

Fee for service- A billing method used by the majority of U.S. physicians that requires the patient pay for each encounter or service rendered. This is in contrast to capitation where a physician is paid a flat rate no matter what services are rendered.

Fee schedule- An exhaustive list of physician services with an associated monetary value which is the maximum amount an insurance company will pay for that service.

Formulary- A list of pharmaceutical drugs that an insurance company will issue to their clients that the insurance company will cover. Drugs that are prescribed to patients that are not on their specific list are not covered by the insurance company and the patient must pay the full amount out of their own pocket.

Graduate medical education- Education received after the receipt of a degree that includes internship, residency, specialty training and continuing medical education.

Health care financing administration- (HCFA) See CMMS.

HMO- (Health Maintenance Organization) This is an insurance group and a group of practicing physicians together. The physicians in the group are capitated for the services they provide and the covered individuals are required to see physicians within the organization to receive services.

HMSA- (Health Manpower Shortage Area) This is an area that the U.S. Department of Health and Human Services has determined has inadequate medical services available.

HRSA- (Health Resources and Services Administration) This administration is responsible for addressing resource issues relating to access, equity and quality of healthcare particularly to areas that are underserved or disadvantaged.

Home healthcare- Health services delivered in the patients home to individuals who need care but do not need to receive inpatient care.

Hospice - A program that provides supportive care to terminally ill patients and their families.

Indemnity- Health insurance benefits provided in the form of cash payments directly to the patient rather than services.

Indigent care- Health services provided to the poor or those unable to pay.

Inpatient- A patient who has been admitted to a hospital or other facility at least overnight in order to receive diagnostic tests or treatments.

Integrated services network- A network of clinics and hospitals that coordinate together to provide continuous care to a defined population.

Intermediate care facility- A facility that is licensed to provide care to patients on a regular basis who do not require the type of skilled care delivered in a hospital.

JCAHO- (Joint Commission on Accreditation of Healthcare Organizations) A national private non-profit organization that looks to obtain uniformly high standards of medical care.

Longterm care- A set of healthcare, personal and social services provided to individuals who have lost or never had the ability to care for themselves.

MRI- (Magnetic Resonance Imaging) A new form of diagnostic radiology that shows body tissues.

Malpractice- Professional misconduct or failure to apply standard skill in the treatment of a patient.

Managed care- Clinical, financial and organizational activities used together to ensure appropriate healthcare is delivered in a cost-effective manner.

Medicaid-(Title XIX) A federally aided, state-operated program that ensures quality healthcare to low-income persons.

Medical Savings Accounts (MSA) These instruments have two parts (1) a cash account that can only be used for health care expense and (2) a high deductible insurance policy that provides protection when the cash account is insufficient. Employers contribute to the cash account in lieu of paying higher premiums for lower deductible insurance; and provide the high deductible policy. Employees then reward themselves by making smart, cost effective health care purchases. The MSA cash account is non-taxable; carries from year to year and may be passed on to dependents.

Medically underserved population- a population suffering from a shortage of healthcare personnel.

Medicare- (Title XVIII)A U.S. health insurance program for individuals 65 and older, eligible for Social Security and some individuals with kidney failure.

Medicare+choice- Developed in 1997, to contract with more managed care and fee-for-service offices in order to offer more flexibility to those participating in Medicare.

Medigap policy- A private health insurance policy offered to Medicare patients to cover the costs not covered by Medicare.

Morbidity- Disease status. This is usually stated in terms of incidence and prevalence in a population.

Mortality- Death. This can be stated in terms of Mortality Rates in a population.

National Health Service Corps- A program that places physicians in medically underserved areas using medical school scholarships as incentives.

Occupational health services- Health services related to individuals physical, mental and social well being of an individual in relation to their work environment.

Outpatient- A person who is receiving medical care without being admitted to a hospital.

Pharmaceutical assistance program- a public program that provides pharmaceutical drugs to people who cannot afford to pay for themselves.

Physician assistant- A specially trained, and licensed individual who performs tasks that may otherwise be performed by a physician under the supervision of a physician.

Point of service- A health insurance program where individuals are able to choose between different forms of care (HMO, PPO and fee-for-service) at the time they need care, not at the time of open enrollment.

Portability- Requirement that insurance plans guarantee continuous care to persons moving between plans without a waiting period.

PPO- (Preferred Provider Organization)- A healthcare delivery and insurance program where incentives are given to patients who choose to see physicians from the specific list in the organization.

Prevalence- The number of people with a certain disease in a population at a certain point in time.

Primary care- Basic or general healthcare focused on the point at which a patient first seeks assistance for a problem.

Public health- Science involved with the protection and improvement of community health by an organized community effort.

Safety net- The network of providers and institutions who provide medical care to low income, medically needy and underinsured populations.

Secondary care- Services provided to patients by physicians other than the physician who has initial contact with the patient. There has been a trend in the U.S. toward self-referral of patients to specialists such as dermatologists and gynecologists rather than referral by a family physician.

Secondary prevention- Early diagnosis, treatment and follow up.

SCHIP-(State Children's Health Insurance Program)- Established with the 1997 Balanced Budget Act to provide money to states for the medical care of children in families up to 200% below the poverty level.

Supplemental Security Income- A federal program to give cash to low income aged persons, blind persons, and disabled persons. Telemedicine- The use of telecommunications to facilitate the delivery of diagnosis, patient care or distance learning.

TANF- (Temporary Assistance to Needy Families) Formerly Aid to Families with Dependant Children.

Third party payer- An organization that pays or insures health or medical expenses on behalf of its beneficiaries.

Title XVIII- Medicare Title XIX- Medicaid Tricare- Formerly called CHAMPUS, provides healthcare to military, military dependents and retired military personnel.

Underinsured- people with public or private insurance policies that do not cover all required services.

Uninsurables- Individuals who are unable to obtain insurance because they are unusually high risk for disease.

Vital statistics- Statistics relating to births, deaths, marriages, diseases and health.