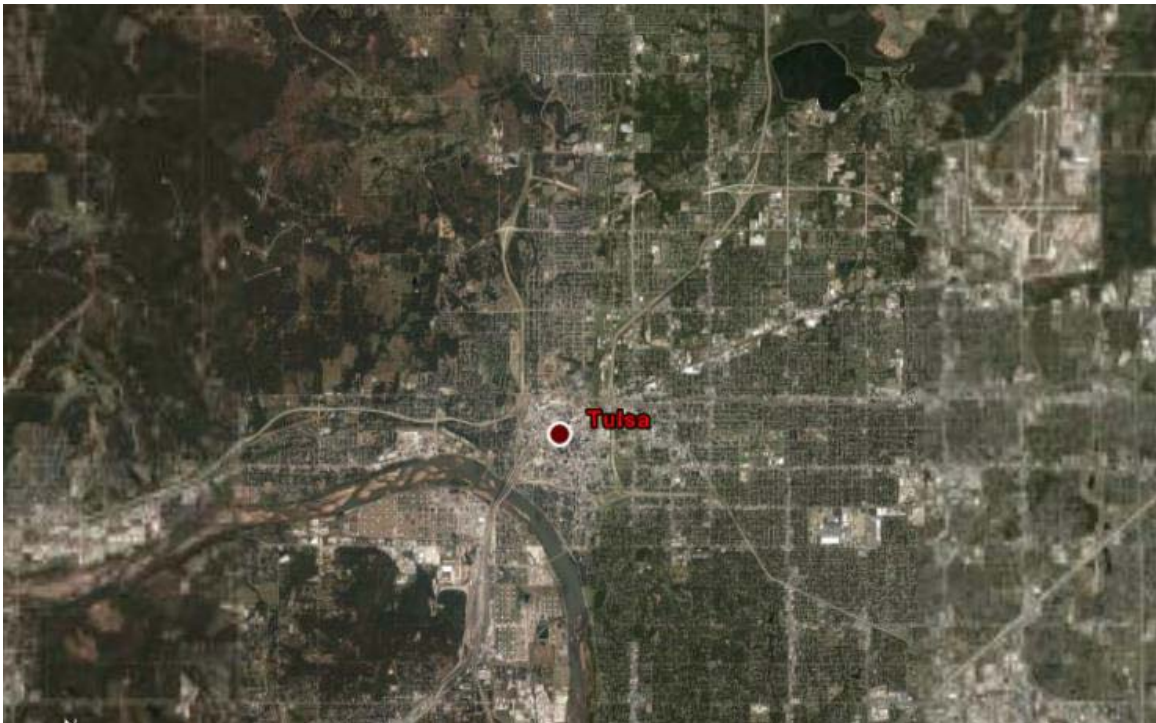


# THE FLATTENING **TULSA** REPORT



## **HEALTH CARE AND ECONOMIC DEVELOPMENT**

Strengthening the Tulsa Area Health Care Delivery System  
as a Strategy for Economic Development

Gerard Clancy, M.D. Dean, **University of Oklahoma** College of Medicine, Tulsa  
November 2005

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**Part 1**  
**SYSTEM CHANGES NEEDED?**

**Making the Case for Health Care Delivery System Change**

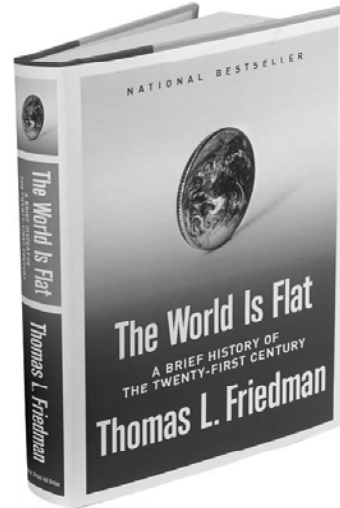


## Section 1 Introduction

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### Parts of the World Are Not Flat Due to Poor Health Status

Thomas Friedman's best selling book "The World Is Flat" highlights how new attitudes regarding capitalism, internet connectivity and the efficient / immediate transfer of information globally is leveling the playing field for China, India and the former Soviet Union to be able to compete in the new global market place. He refers to the leveling of the playing field as a "flattening" of parts of the world. Despite the economic gains within these countries, he also highlights the fact that distinct segments of the population within these countries are being left behind during the flattening process – in part due to abject poverty, poor education and poor health.



Entire countries are being left behind in this "flattening" process. Africa for example, has little chance to compete on a global scale with diseases such as HIV and malaria affecting so many of its citizens. Diarrheal illnesses from poor sanitation and non-potable water continue to be the primary cause of death in India and Bangladesh.

Frustrating to many health care workers is the fact that HIV, Malaria and infectious diarrheal diseases are preventable in a well-organized health care system.

The importance of not leaving the poor of these countries behind has been recognized by Bill Gates who has significantly invested in health initiatives regarding malaria and HIV in Africa. "These 3 billion poor in the world are caught in a trap and may never get into the virtuous cycle of more education, more health, more capitalism, more rule of law, more wealth."

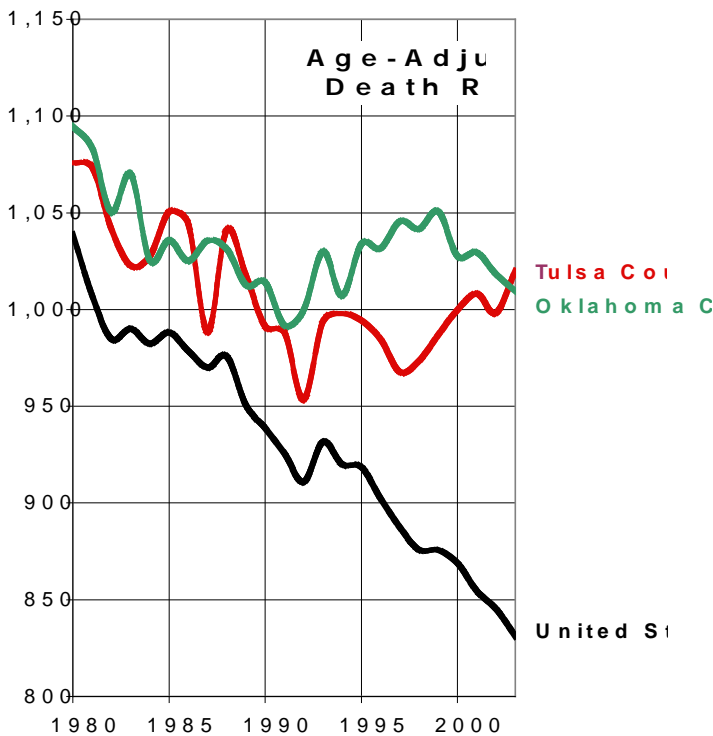
Although nothing of the scale of Africa, even parts of the US are not yet flat due to severe poverty and poor health status. Beyond just the poor, the US middle class is being stretched to a point of haves and have-nots. Tulsa is no exception. Tulsa is a region with areas of excellent health and areas with very poor health status. Not surprising is the fact that health - wealth and poverty - poor health are intimately linked. What is not apparent is the degree of poor health in parts of the Tulsa region and how this is having an effect on the entire economic potential of this region.

Age-adjusted death rate is the best single number to measure the health of a population. A low age related death rates signifies that within each age group, people are living to their fullest. Over the past 25 years, the age related death rate in the US has fallen steadily.

**In contrast, Oklahoma is the only state in the US that has had a worsening of the age-adjusted death rate (premature death) since 1990.**

## Parts of Tulsa are Not Flat Due to Poor Health Status

Tulsa County's age-adjusted death rate mirrors the rest of Oklahoma – even Oklahoma County, which has a State-sponsored medical center. A careful analysis of Tulsa area zip codes highlights that mid-town and south Tulsa neighborhoods have exceedingly healthy citizens – with age-related death rates far better than the national average. By contrast, zip codes in east, west and north Tulsa areas have age-related death rates far worse than the US averages.



Specific neighborhood health status ratings are so poor that their numbers dominate and bring the entire Tulsa area's average age related death rate to its low point.

There are correlations with these poor age-related death rate health status zip codes including:

- High poverty
- Poor access to primary care
- High rates of heart disease.

Other areas for concern in these Tulsa neighborhoods include worse than average; premature birth rates, low infant birth weights, infant mortality and cancer rates.

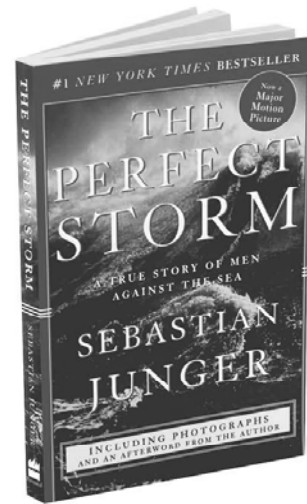
Following Friedman's theme that parts of the world are flat (where

there is a level economic playing field) and other parts that are not flat (where poor health status is a major contributor) the same can be said of the Tulsa region. Mid-town and South Tulsa are "flat" – connected with the rest of the world, healthy, well educated and economically thriving. North, east and west Tulsa regions are "not flat" – with overall poor health status, education programs in need of improvement, information technology disadvantaged and economically losing ground.

**Tulsa's overall regional economy will struggle unless we can level the playing field for the entire region. Health care delivery, early childhood development and quality education are primary areas of investment to bring this about.**

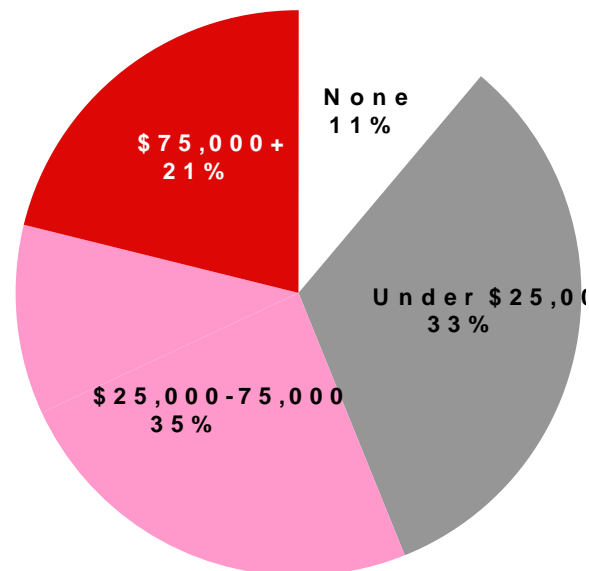
## Health Care's Perfect Storm

In Sebastian Junger's *The Perfect Storm*, the equivalent of a Hurricane merged with a nor'easter and a strong cold front to produce one of the most powerful storms in recorded weather history. Several factors are aligning within health care, which collectively, paint a very worrisome picture. The US already spends almost twice what other developed countries spend on health care per person per year. At the same time, the overall health status of the US population is only average when compared to other developed countries. A merging of multiple factors around the cost of health care (a Perfect Storm) is soon to make the efficiency of health care delivery a major determinant of the region's future economic health. These factors include:



- Increasingly sophisticated and expensive medical technologies.
- Steadily increasing costs of medical practice liability coverage.
- The aging of the population will lead to twice as many people moving into a health care delivery utilization category that costs 4 times as much. (Centers for Disease Control).
- Clinical manpower shortages already exist in nursing, pharmacy, and medical technologists. To attract health care practitioners, hospitals are required to pay higher and higher salaries. Within the next 10 years, the US will face a 20% shortfall of physicians. This shortfall of approximately 200,000 physicians will force community-based hospitals to pay higher and higher salaries for physicians to simply practice in their facilities.
- The increasing number of uninsured. Within the US, as many as 48 million do not have health care coverage. In Oklahoma, over the past year, the percent of population in absolute poverty declined but at the same time the number of uninsured grew to 700,000.

**LOST PHYSICIAN INCOME**  
21% OF PHYSICIANS ABSORBED PATIENT PAYMENT LOSSES IN EXCESS OF



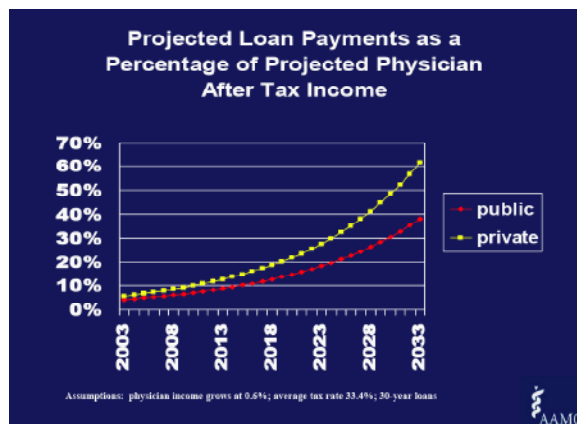
The impact of increasing health care costs is becoming a major factor in corporate vitality. General Motors now spends as much as 25% of a car's price on health care insurance coverage for GM employees. Starbucks Corporation spends more on health care coverage for its employees than on raw materials. The cost of care for the uninsured is borne by both the uninsured and the general population. The degree of debt for the uninsured – and care absorbed by physicians - can be quite substantial as detailed in this graphic.

Employers and insured citizens also pay a significant amount for the care of the uninsured. The average cost shift for care of the uninsured in the US is \$ 800 / family premium per year. With the higher rate of uninsured in Oklahoma, the cost shift of care of the uninsured is \$1780 / family premium per year. In the Tulsa region, the health care overall cost shift of the uninsured is estimated at \$250,000,000 per year. This is an enormous economic burden for existing and potential new area employers and employees alike. By 2010, this cost shift for the uninsured could go as high as \$2100 / family premium per year. The three major hospital systems in Oklahoma each calculate an uncompensated care cost totaling more than \$ 300,000,000 / year.

### Physician Behaviors

As described above, we are soon to see a 20% short fall in physicians in the US. Medical student debt is growing at a rate far faster than physician income projections (Oklahoma graduating medical student debt is \$ 110,000). The relative percentage of physician income spent on student loan payback is approaching 10% as detailed in this graphic.

This degree of debt is driving students to choose specialties with higher earning potential. At the same time, we are seeing significant changes in medical student, resident and practicing physician behaviors regarding control over personal time.



The **EROAD** specialties of:

- **E**mergency Medicine
- **R**adiology
- **O**phthalmology
- **A**nesthesia and
- **D**ermatology ...

...have become exceedingly popular because of their earning potential and controlled schedule. Primary care specialties (Pediatrics, Internal Medicine, and Family Medicine) have seen a corresponding decline in medical student interest due to their relatively low earning potential and high time demands.

Finally, across the US, there is a steady decline in physician willingness to participate in providing charity care. Physicians' providing any charity care has dropped from 71% to 63% in a 5 year time period. During the same time period, physician owned for-profit specialty hospitals have thrived. The combination of a physician shortages, physician's desire for control over their schedules and high debt from medical school loans point to where the shortage of physicians will be felt the greatest - **PIGCAF** specialties of:

- **P**ediatrics
- **I**nternal Medicine
- **G**eriatrics
- **C**ommunity Health / Public Health Care
- **A**cademic Medicine
- **F**amily Medicine

## **Social Justice and Medical Professionalism**

For years, medical schools have professed the importance of the “Profession” of medicine. For the most part, the standard medical school curriculum has focused on the primacy of the doctor patient relationship, ethical behaviors and the provision of high quality care to each patient. But many Americans are not happy with the actual behaviors of physicians in the health care marketplace. In Joseph Epstein’s book *Snobbery: The American Version*, the following quote can be found:

*“We no longer revere physicians at least in the way we once did. This owes in part to their interest in moneymaking. The loss of prestige in physicians can be traced in significant part to their gain in earning power. .... empty babble about the special doctor-patient relationship continues but they have come to be like everyone else in business for themselves ... with the added mark against them that their money mongering could result in their actually doing harm by refusing to give care to poorer patients or making decisions on profit rather than health”.*

In a 2002 Milbank Report, Schlesinger was able to trace public confidence in the medical profession. The results are disappointing. The percentage of the general public expressing confidence in the medicine profession dropped from around 80% in 1965 to around 40% in 1999.

In the past 4 years, the tone of US and Western Europe medical leadership has changed with greater attention to the needs of society and the greater community as a professional obligation of medicine. In 2002, the American Board of Internal Medicine Foundation, the American College of Physicians and the European Federation of Internal Medicine Foundation published *Medical Professionalism in the New Millennium: A Physician Charter*.

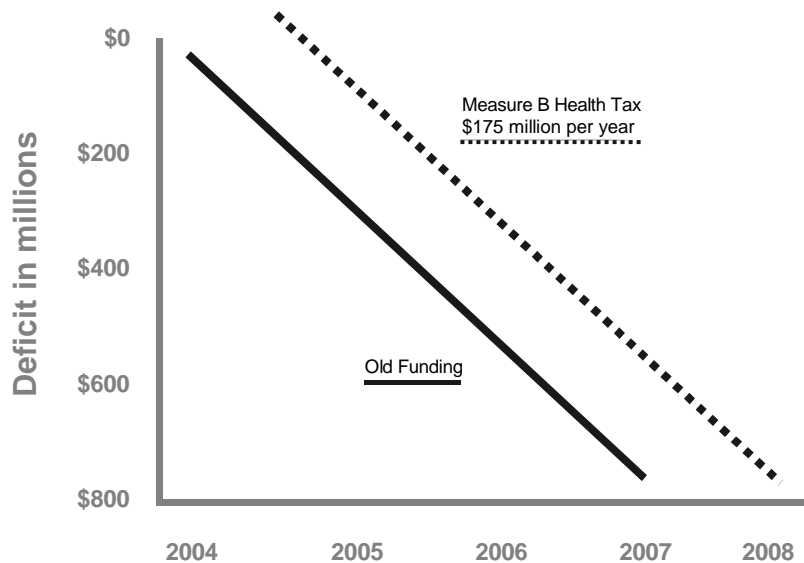
This charter highlights a new emphasis on medical civic professionalism – “*medical professionalism entails not only a physician’s personal commitment to the welfare of their patients but also collective efforts to improve the health care system for the welfare of society*”. This is the first time organized medicine has declared the importance of service to the broader community as a core professional obligation.

## **More than Money: The Importance of System Redesign by 2010 – 2015**

California is often a trend setter for much of America regarding music and fashion. The same can be said in health care. Healthcare delivery in Los Angeles may very well be a predictor of what will happen across the US. The public health care delivery system in Los Angeles is facing major deficits as a result of many of the above-described events already playing out in the clinical trenches.

In 2004, a local property tax was passed to support the Los Angeles County public health system, bringing in an additional \$175 million per year. What is disconcerting is that despite these new funds, significant debt is still predicted for Los Angeles County health services due to a failure to redesign how health care is delivered. Rather than correcting a poorly functioning system, the additional revenue was simply put back into the same dysfunctional system.

## Los Angeles County Health Services Budget



In summarizing the above information, effective (vs. non-effective health care planning), redesign and implementation will be a major determinant in how the US overall and regions within the US compete economically. What is done to redesign our health care delivery systems over the next 5 years will determine success or failure. Key milestones include:

- By 2010, health care will approach 20% of Gross Domestic Product.
- The first baby boomers turn 65 in 2011, heralding a huge increase in demand for health care services and dependence on Medicare funding of these health services.
- A 20% shortfall of physicians across the US (200,000 physicians) will be seen by 2015.
- Average medical school loan repayment will pass 10% of a practicing physician's income. This in turn will drive physicians toward higher earning specialties and away from charity care, primary care, community-based medicine, psychiatry and academic medicine.
- The cost shift to employers and employees in Oklahoma for the care of the uninsured will pass \$2,000 per premium per year

Time is of the essence for this redesign as much of the work to be done is complex and requires significant investment and lead-time. A regional approach will be the most effective strategy for this redesign, efficient utilization of existing resources, integration of the spectrum of clinical programs and networking of information technologies to support these health care delivery systems. A regional approach also allows for data specific - community specific planning.

## Section 2

# Overview of the Tulsa Region Health/Health Care Systems

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The success of any strategic plan depends on accurate research data regarding the pertinent existing and future landscape. Below is a summary of key health status and health system indicators for the Tulsa Region:

- **Health of the Population.** Oklahoman's health related behaviors leave much to be desired. Compared to national norms, Oklahoma has higher rates of obesity, inactivity, tobacco use and teen pregnancies. As expected with these unhealthy behaviors, Oklahoma has higher rates of chronic diseases such as heart disease, stroke, pulmonary disease, diabetes and cancer. Oklahoma leads the nation in percent of population with severe mental illness. As expected from these high rates of chronic disease, Oklahoma has a worsening age related death rate as described in detail above.
- **Zip Codes Study.** As described above, the north, west and east areas within the Tulsa region have significantly worse health status than mid-town and south Tulsa areas. Within these north, east and west communities, poverty, poor access to health care and heart disease are the strongest correlates to poor health status.
- **The Uninsured.** As many 150,000 in the Tulsa region do not have health care coverage. This is an expanding number despite an improvement in the overall economy. The uninsured are primarily US citizens, employed and in families. Although employed, this group struggles to make ends meet. Oklahoma's insurance premiums for individual policies are among the most expensive in the US.
- **Emergency Room (ER) Use.** According to an OU College of Public Health Study, as many as 30% of ER visits are by the uninsured for non-urgent care. The inappropriate use of the ER for non-urgent care by the uninsured leads to an overcrowding of area ERs. On a daily basis, Tulsa area ERs go on divert status due to over-usage and patient gridlock. Over-usage is more problematic between 5 PM and 11 PM. While on divert status, the ERs cannot respond to trauma and true emergencies. Thus, poor access to primary care during after-hours for the uninsured leads to impaired trauma system responsiveness for the entire Tulsa area population.
- **Hospital Bed Capacity.** Each of the major hospitals in the Tulsa area is frequently at bed capacity. Two major factors leading to this state are: i) that many of the uninsured are admitted to the hospital through the ERs as the "safest" way to provide their care in a fragmented system; and, ii) discharge of uninsured patients is slowed by shortages in follow up outpatient care options.
- **Geographical Access to Care Shortages.** Within the Tulsa region, the predominance of hospitals, clinics and physician offices are in mid-town and south Tulsa. OU has 18 clinics across the region. Morton Comprehensive Health Services has clinics in east and north Tulsa. One State House Representative (Rep. Darrell Gilbert) does not have a single physician in his district in northeast Tulsa.
- **Organ Transplant Rates.** Within the Tulsa area, fewer kidney transplants are performed compared to expectations. This leaves patients on chronic dialysis, which in the long-run is far more expensive.
- **Missed Health Financing Opportunities.** Oklahoma receives fewer Federal health funds than it contributes in taxes. Oklahoma is among the lowest in the nation in Disproportionate Share Federal funds to support hospitals caring for a high

percentage of indigents. Oklahoma is 49<sup>th</sup> in the nation in Federally Qualified Health Centers per capita. **Federally Qualified Health Centers (FQHC)** provide distinct advantages for clinics providing care to the poor including:

- Reimbursement at twice the usual rates for Medicare and Medicaid.
- Block grants for care of the uninsured of \$ 650,000 / year.
- 40% pharmacy discount.
- Federal Tort Claims Malpractice Protection.
- Medical school loan repayment of \$160,000 for clinic physicians.

**Some Success.** Much work has been done over the past 5 years to improve the health care delivery system in the Tulsa region. A quick summary of successes includes:

- Multiple Studies of Health Problems – The OU College of Public Health, Community Health Net, the Community Service Council and the Community Action Project have been able to accurately survey and report on the region's health needs.
- 4 Community Health Net and OU-Tulsa Health Summits have educated opinion leaders on area health needs.
- Area Health Planning- through the support of private philanthropy, the Lewin Group has been commissioned to draft a long-term regional plan for uninsured health care delivery that both the Community Hospital Authority and private philanthropy endorse.
- FQHC Partners –through the support of the PriCare Board, the Morton FQHC and OU-Tulsa are coming together for an FQHC partnership for western Tulsa clinical services.
- FQHC – a new FQHC was awarded to the Tulsa region - Community Health Connections
- OU Bedlam Primary Care Clinics provides after-hours care to uninsured patients through physician volunteerism. Last year the new clinic saw 10,000 patient visits.
- OU Bedlam School based clinics are now in 7 schools within the – Union, Tulsa, Sand Springs Public Schools Systems. Absenteeism and mobility have been reduced by 30%. Student test scores have improved by 25%. Twain Elementary was removed from the No Child Left Behind List as a result of these improvements.
- OU Bedlam and Community Action Project / Head Start have begun the planning of a joint clinic on the McClure Elementary School campus.
- OU / OSU Bedlam Telemedicine Clinic provides telemedicine services from Tulsa to Galveston and Shreveport Shriners' Hospitals for Shriners' children follow up care – saving the Shriners' programs \$ 1,000 per visit.
- 3 mobile psychiatric and rehabilitative PACT Teams have been established in Tulsa. The OU PACT team also serves as a training site for existing and future mental health professionals to work within the PACT model.
- A 211 Toll Free / 24 hours per day phone system has been established for non-emergency health and social services assistance.
- OU Electronic Medical Record has been implemented. In development are; Infosys.com – a doctor to doctor web based consultation service and docvia.com - a patient to doctor web based “e-visit” system.

### Section 3

## Best of the Best - Regional Health Care Delivery Systems

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According to Institute of Medicine leaders, future improvements in the health of populations will require a focus on the determinants of the health of that population. These determinants of health can be broken down along the following lines:

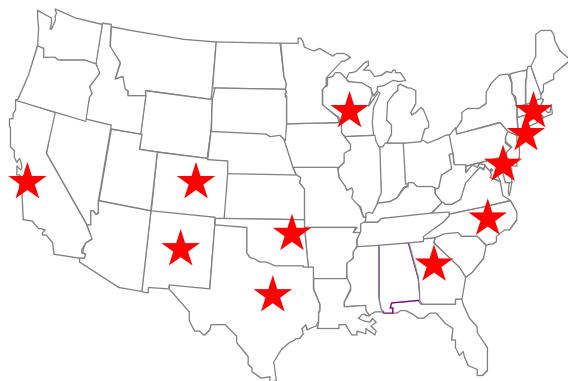
- Social and Physical Environment 70%
- Genetics 20%
- The Quality of Health Care Delivered 10%

A model health care delivery system recognizes the importance of modulating the quality of health care delivered but also the social and environmental factors. A model health care delivery system would have:

- Community-based, neighborhood focused prevention and early intervention programs.
- Easy access to primary care services - including extended hours.
- Smooth integration of community-based primary care services with specialty services including advanced ambulatory diagnostic testing and procedures.
- An integration of high quality hospital based services.
- Advanced electronic medical records and sharing of medical information across clinical entities to reduce duplication.
- A workforce of clinicians - dedicated to the overall health of their community - that are not financially disadvantaged by caring for the poor.
- An effective community health monitoring system.
- Local, State, Federal and private financial assistance for care of the poor.

**No one region appears to have THE model health care delivery system.**

There are several regional collaboratives that have been able to build strength in certain aspects of a model health care delivery system. Below are some examples of model components:

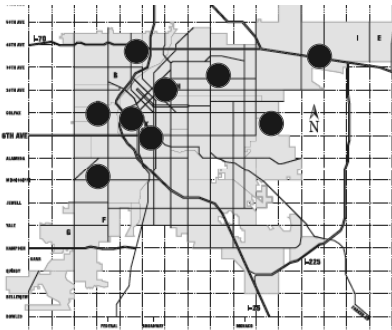


## Regional Access to Care Via A Network of Neighborhood FQHC Clinics

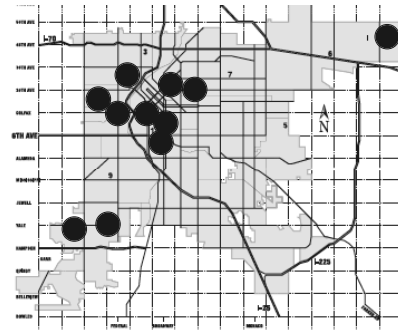
**Denver Health** is an integrated consortium of hospital based services, the County Public Health Department, emergency services, Federally Qualified Health Centers, School based Clinics and coordinated fundraising. **The University of Colorado Medical School is a partner in Denver Health.** The Denver Health consortium has been quite successful in bringing Federal health funds to the Denver area.

### Denver Health Family Health and School Clinics

9 Family Health Centers



11 School-based Clinics



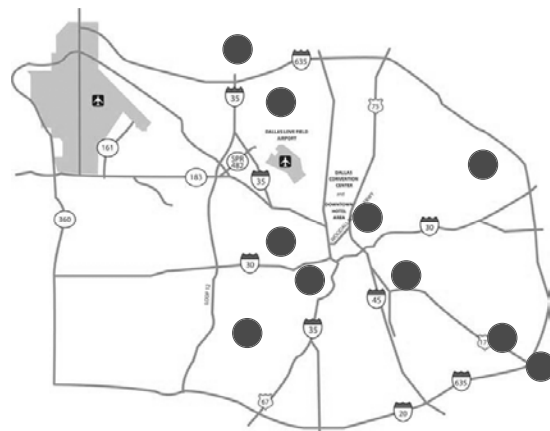
Dallas' **Parkland Health System** is an integration of hospital services and culturally designed neighborhood family medicine, pediatrics and women's health clinics funded through the Federally Qualified Health Center Program. **The University of Texas Southwestern Medical School is a partner.**

### Parkland (Dallas) Health Systems

8 Family Health Centers



10 Youth and Family Centers



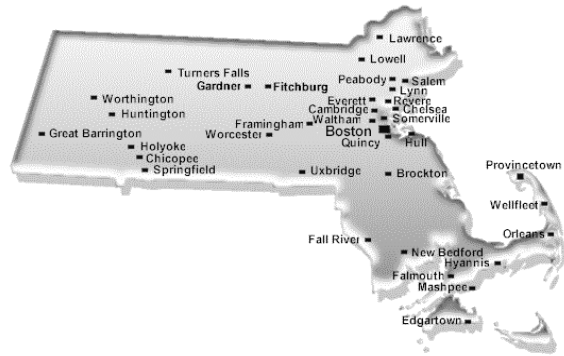
Beyond high quality hospital services, the Parkland approach addresses the social and environmental determinants of health in specific communities and neighborhoods. Parkland community health programs interface with education, transportation, cultural / communication, public safety and housing needs. This focus on a spectrum of health and social programs, balanced across the Parkland clinics and hospital, has had extraordinary health and financial results. A few examples include:

- Culturally focused outreach obstetrical clinical care and case management has improved infant mortality significantly. Consider these infant mortality data:
  - Within the Parkland system: 5.6 / 1,000 births
  - Texas general population: 6.6 / 1,000 births
  - US general population: 7.0 / 1,000 births

Equivalent success has been seen with reductions in premature birth deliveries and low infant birth weights.

- Between 1982 and 2004, there was a doubling of the population that the Parkland System was responsible for. The Parkland Health System efficiently accommodated this huge increase in clinical responsibility by dramatically expanding their community-based clinics. Parkland community-based outpatient clinical services now provide over 600,000 visits per year.
- During this same time period, the pressure to use more expensive hospital based inpatient and clinical services have been reduced. In 1982, Parkland Hospital provided 182,000 visits per year. By 2004, Parkland Hospital visits had dropped to 138,000 visits per year.
- The **CHIMES** (Community Health Improvement, Measurement and Evaluation System) allows Parkland leadership to track success of particular interventions. This objective data is then used to advocate for additional private, local, State and Federal funds.

The **Massachusetts** League of **Community Health Centers** pulls together more than 22 Federally Qualified Health Centers into an integrated health delivery system. Harvard, Boston University and Tufts medical schools are partners.



**Other Academic Health Centers Partnering with Federally Qualified Health Centers and School-based Clinic.** Several academic health centers and medical schools are new sponsors of Federally Qualified health Centers and School-based Clinics:

- The **University of New Mexico** sponsors 5 clinics. The state of **New Mexico** plans to increase the number of FQHC and school-based clinics across the state from 43 to 85 in the next several years.
- **Baylor University** sponsors 5 clinics.
- **Duke University** has opened its first FQHC sponsored community outreach clinic

### Community-Based Geriatrics

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**Johns Hopkins (Baltimore)** Geriatric Programs provide interdisciplinary team-based comprehensive ambulatory assessment, consultation and on-going care for the aging population in non-hospital settings.

### Integration and Sharing of Health Information

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**Santa Cruz Regional Health Information Organization (RHIO)** – Over a 10 year period, the Santa Cruz RHIO has been able to integrate health information systems from radiology centers, clinical laboratories, clinics and hospitals from across the region. The result has been reduced duplication of tests and improved continuity of care. In a *Relay Health* study, patients that used web-based patient / doctor visits were:

- 50% less likely to report having missed work due to illness.
- 45% less likely to report having visited the doctor.
- 36% less likely to report having telephoned the doctor’s office.

E-based doctor to doctor consultations also promise to reduce the pressure for face to face visits for patient and doctor.

## Clinical & Education Programs Tailored for At-Risk Youth

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**EduCare** - focuses on very early childhood development as the best investment and best chance for children in disadvantaged environments to succeed as adults. There is strong evidence for the effectiveness of these early childhood interventions regarding long-term success.

**All Kinds of Minds Institute** is a national leader in the interface of children's education and neuroscience based learning assistance. **The Student Success Centers** in Chapel Hill, North Carolina and New York City provide an in-depth assessment of a student's "neuro-developmental construct" learning strengths and weaknesses. Recommendations are then given for parent and teaching strategies that match a student's learning patterns. The companion **Schools Attuned Program** assists teachers, parents and students in the identification of individual student strengths and challenges followed with tailored learning strategies. **Oklahoma and North Carolina** have been the lead states in the broad implementation of the Schools Attuned Programs in both public and private schools. A new joint initiative of the Schools Attuned Program and the Student Success Center targeted underserved children in the Bronx. Outcomes studies on student performance of the Schools Attuned Program and the Student Success Center are underway. Initial results show promising trends:

- Teacher, parent and student satisfaction is high for both programs.
- The **University of Massachusetts** is studying the effects of Schools Attuned programs on student performance in Oklahoma and North Carolina.
- The first 6 children through the Student Success Center in the Bronx have had significant improvements in school performance
- Schools Attuned interventions have reduced special education referrals by 50%.

In the Tulsa region, select teachers in the Tulsa Public, Jenks Public, Broken Arrow Public, Monte Cassino and Holland Hall Schools have trained in the Schools Attuned Program. The All Kinds of Minds Institute has yet to fully integrate the Schools Attuned Program and Student Success Center model across an entire school system. The early success of OU sponsored school-based clinics provides an opportunity to develop such a network of services.

**OU Justice Center / Child Abuse Network** – provides an interdisciplinary team of pediatricians, social services, law enforcement and the district attorney to assess and provide early intervention around serious child abuse cases.

**School Based Pediatrics Clinics** – **Atlanta, New Haven** – have been able to reduce ER use, asthma severity, asthma care annual costs by \$1,000, lower inpatient use and lower overall Medicaid costs.

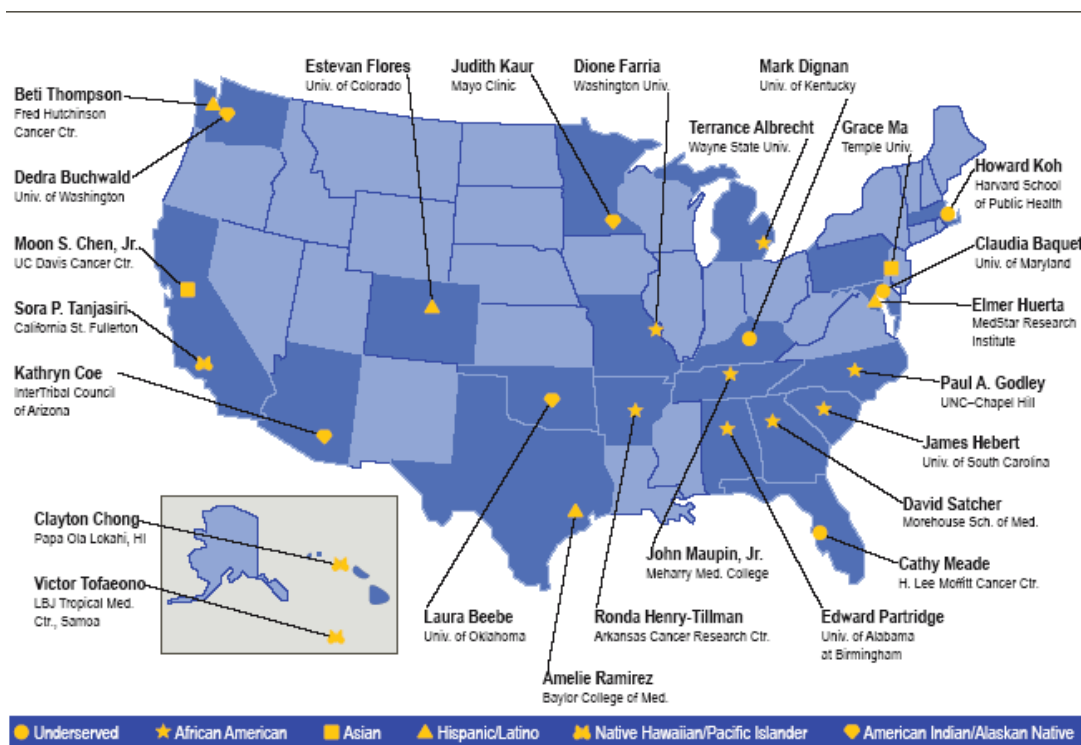
## Mobile Psychiatric Care for Severe Mental Illness

**Oklahoma and Wisconsin PACT Network** – Programs of Assertive Community Treatment (PACT) Teams provide daily mobile outreach psychiatric and rehabilitative care to persons with severe mental illness. Wisconsin has 62 PACT Teams across the state. The OU PACT program in Tulsa has reduced hospitalization days per year by 60% for patients in the program more than one year.

## Community-Based Cancer Care

The **National Cancer Institute** has initiated an entire Center dedicated to researching and reducing cancer related health disparities: **The Center to Reduce Cancer Health Disparities**. Within this Center, several community-based initiatives are underway that are geared towards prevention and early intervention regarding cancer in underserved populations.

### Community Networks Program Sites



## Section 4

# The Central Role of the Medical School

Community Health Improvement, Physician Dedication to the Poor and Physician Manpower for Community Needs

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Ernest Boyer's landmark 1990 report *Scholarship Reconsidered*, highlighted the need for universities to become intimately involved in the needs of society and communities ... *"the scholarship engagement means connecting the rich resources of the university to our most pressing social, civic and ethical problems, to our children, to our schools, to our teachers and to our cities...I have this growing conviction that what's needed is not just more programs, but a larger purpose, a sense of mission, a larger clarity of direction in the nation's life as we move toward century twenty one"*.

The Institute of Medicine's 2002 Report *Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21<sup>st</sup> Century* made strong recommendations to academic institutions to develop criteria for recognizing and rewarding faculty scholarship related to service activities that strengthen public health practice. In addition, the Report urged the National Institutes of Health to increase the proportion of its budget allocated to population and community-based prevention research.

Several medical schools have been quite successful in answering the above calls to action by improving the health of their communities through explicit commitment to their community's health and innovative community focused clinical, education and research programs.

- **The University of Rochester.** This award winning medical school has an explicit mission to make **Rochester** the "healthiest city in the world". The school has numerous community based clinical programs, school based clinics, Federally Qualified Health Centers, neighborhood revitalization programs, medical students tutoring in disadvantaged schools and over \$40,000,000 annually in community health related research from the Federal Government.
- **Yeshiva School of Medicine/ Albert Einstein University/ Montefiore Medical Center.** This medical school has been successful in developing numerous community-based clinics, Federally Qualified Health Centers, Advanced Ambulatory Diagnostic and Interventional Centers and neighborhood revitalization programs in high poverty areas of the **Bronx**. They have developed a "community health track" within the medical student and resident physician training programs that prepares and financially supports them for clinical work in underserved areas. Sixty percent of the graduates of these programs have established careers in underserved areas.
- **UCLA - Drew Medical School** in inner city **Los Angeles** has been able to demonstrate that medical students exposed to high quality clinical experiences in underserved areas are more likely to establish careers serving the poor.
- **OU Bedlam Community Health Partnerships** have been able to establish medical student managed clinics for the uninsured. These clinics helped these student's clinical skills and preparation for Medical Board examinations. In addition, students report a better understanding of the needs of the poor and a greater sense of obligation to serve the poor during their medical careers (see attachments).

## Section 5

# The Central Role of Community-based Research

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There is great interest at the Federal level to increase the degree of funding from the National Institutes of Health to community-based and applied (patient oriented / health of entire populations oriented research efforts. The University of Rochester, for example, has been successful in building a community health focused research arm that receives \$40,000,000 / year in research funding from the Federal government. Research opportunities for the University of Oklahoma College of Medicine, Tulsa with direct benefits to the health of the region include:

### **US Health Services and Resources Administration (HRSA)**

- Sponsors FQHC funding across the U.S.
- Open funding opportunities with HRSA include the areas of:
  - Primary Care
  - HIV / AIDS
  - Health Facilities
  - Health Professions
  - Healthcare Systems
  - Maternal and Child Health
  - Organ Transplantation
  - Rural Health
  - Tele-Health

### **NIH Research Road Map**

The NIH recently developed the **Research Road Map** that prioritizes new research funding into the following areas:

- Health Services and Clinical Outcomes Research of Populations and Special Populations (e.g. Native Americans, the Underserved).
- Clinical (patient oriented) Research
- Medical Informatics (computers in medicine, connectivity, information sharing, error reduction).
- NECTAR – National Electronic Clinical Trials And Research Network
- Private / Public Partnerships
- Interdisciplinary Research – e.g. the interface of education and health care in regards to children's development and brain function.

### **National Institutes of Health Sponsored General Clinical Research Centers**

- Provides facility and staff support for Clinical Outcomes Research.

### **National Diabetes Education Program**

- Health education outreach program empowering patients to manage diabetes.

### **National Cancer Institute – Community Health Links**

- Populations Research
- Phase I Trials (newest drugs, vaccines and radiation techniques - cancer treatment)
- Center to Reduce Cancer Health Disparities:
  - Community Networks Program

- Patient Navigator Program
- Special Populations Network

## Part 2

# OU College of Medicine, Tulsa

Specific Areas for Planning, Investment and Implementation



## Section 1

# Best Investments Across a Spectrum of Services

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In 1998, the Association of American Medical Colleges polled Americans and asked “*what should medical schools do?*” The top 5 responses were:

1. Educate the next generation of physicians.
2. Advance medical care through research.
3. Care for the complex.
4. Care for the poor.
5. Help solve the most pressing problems in healthcare.

At the University of Oklahoma in Tulsa, we believe we are addressing each of these expectations from the public. OU in Tulsa is the area’s leader in medically related research with over \$3,500,000 annually in health related research funding. OU in Tulsa is also the leader in medical student, resident physician, nursing, pharmacy, public health, social work and allied health education. The University of Oklahoma in Tulsa is the leading provider of care for the Medicaid and uninsured populations. OU provides these clinical services and educational programs in a community based setting. This includes 18 clinics across the region, partnerships with the three major hospital systems in the region through the Tulsa Medical Education Foundation and affiliations with over 30 safety net clinics and community health agencies.

From the above discussions, the most pressing concerns and problems in health care for the Tulsa region are:

1. Overall poor health status of the population.
2. Lack of access to care for the poor.
3. Inadequate health care manpower to care for the poor.
4. An inadequate sense of professionalism among physicians regarding the health needs of all in our society.
5. Inability to create a high quality health care delivery system that is prevention and early intervention focused, accurate to the needs of particular cultures, and neighborhoods, takes full advantage of new medical information technologies and utilizes health care funding in the most efficient manner possible.
6. Missed opportunities to leverage Federal, State, Local and private funding.
7. Poor integration of health care programming with other community improvement efforts – e.g. early childhood development and children’s education programs.
8. **Can Tulsa ... through the creation of a healthier, more productive workforce and the lowering of overall health care costs to the region, strengthen the economic viability of the Tulsa region?**

The University of Oklahoma in Tulsa has a central role in the current and future health care delivery system in the Tulsa region. We have an obligation to society to lead the transformation of our current healthcare delivery system to a model health care delivery system. OU efforts will focus on a spectrum of medical education programs, community based services and program in key areas and research efforts that assure the best value for each public and private dollar invested.

## Section 2

# Planned OU Community-based Clinical Program Enhancements

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### Prenatal Care Outreach Team

- Early access to Obstetrical Outreach Care / Case Management (need discussion with OHCA regarding new waiver)
- Gestational Diabetes Outreach (Dr. Lofgren \$ 200,000 grant applied for.)

### Women's Health

- Program for Breast Cancer screening for the uninsured (Dr. Howard \$200,000 grant applied for with Susan Komen Foundation)
- Human Papilloma Virus Vaccine for Cervical Cancer (Dr. Martins approved - \$400,000 grant with NIH).

### Children's Health

- Expand School Based Clinics to 25 area public schools (partial funding through Medicaid and FQHC initiatives. Need additional \$100,000 – 200,000 / school / year for care of uninsured = \$5,000,000 – 10,000,000 / year. St. John Foundation currently provides \$320,000 annually for Bedlam Programs. XXXXX Foundation to provide \$250,000 annually for Bedlam Programs.
  - 25 schools could provide access to care for more than 13,000 children and their families.
  - Each physician / physician assistant could provide up to 5,000 patient visits per year.
  - 20 new physicians / physician assistants could provide 100,000 visits per year for these children and families.
  - Each physician / physician assistant hired leads to a regional economic development impact of 20 additional jobs and \$1,000,000 year.
  - Twenty new physicians / physicians assistants has community economic impact of 400 new area jobs and \$20,000,000 annually.
- EduCare Clinic at– Kendall-Whittier School – should come under FQHC umbrella, possible partnership with Community Health Connections.
- Integration of Bedlam / school based clinics with Community Action Project - Head Start programs.
- All Kinds of Minds - Student Success Center and Schools Attuned Programs integrated with OU school-based clinics – study with All Kinds of Minds Institute and several Foundations to establish programs in Tulsa.
- Expansion of Justice Center, study integration with the newly established Family Safety Center
- National Cancer Institute designated Cancer Center Satellite – possibly with Saint Francis Children's Hospital - \$ 2,000,000 from Tobacco Tax.

### **Access to Primary Care**

- FQHC expansion in partnership with Morton (and Community Health Connections?). PriCare has contributed \$ 11,000 to assist with agreement between OU and Morton. Bring School Based Clinics under FQHC umbrella if partnership successful. Seed grants from Oklahoma Department of Health and Private match available for new clinic sites.
- Within each FQHC, special themes would include:
  - Diabetes Prevention
  - Heart Disease Prevention and Early Intervention
  - Education programs on appropriate use of health services.
  - National Health Service Corps – Scholarship programs for new faculty.

### **Organ Transplant Program**

- Led by OU Department of Surgery, interdisciplinary transplant team could focus on kidney and liver transplants.
- OU Bio-ethics Center of Excellence assists in organ sharing policy development.

### **Community-based Cancer Program**

- Integrate OU Tulsa cancer programs with established National Cancer Institute's Center to Reduce Cancer Health Disparities funded Community Networks Program in Oklahoma City / OU Health Sciences Center. This OU program seeks to reduce cancer health disparities among Native Americans (Choctaw, Cherokee) and African Americans in Oklahoma.
- Endowed Chair from Gussman Family for \$1,000,000 for OU Cancer Center Satellite Director.
- Additional Dermatology Research in progress.
- Pediatric Cancer Clinic– possibly with Saint Francis - \$2,000,000 from Tobacco Tax.
- Adult Oncology and Surgery Clinic – possibly with St. John - \$ 2,000,000 from Tobacco Tax
- Dermatological Cancer / Surgery Program– Partner with Dermatology Associates of Tulsa.
- Women's Cancer
  - Susan Komen Program for Breast Cancer screening of uninsured.
  - NIH HPV Vaccine for Cervical Cancer.

### **Community-based Geriatrics Program**

- Aging Resource Center – Comprehensive center for assessment, consultation, referral and on-going care of aging population.
- Utilizes interdisciplinary team of geriatricians, psychiatrists, neurologists, orthopedists, rheumatologists, nursing, social work, physical therapy, occupational therapy, and pharmacists.
- Partner with St. Simeon's Program.
- \$ 1,000,000 for three-year demonstration pilot – Corporate support discussions in progress.

### Section 3

## Investments for Promoting Efficiency in the Health Care System

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- Integrated Service Delivery Initiative Grants for integration of region's FQHCs – share back office functions e.g. contracting, credentialing, billing, electronic medical records. \$1,000,000 – 2,000,000 grant funding available from US Health Resources and Services Administration.
- Regional Health Information Organization (RHIO) – shared and integrated health information ties ERs, clinics and hospitals together. Reduces duplication of labs / x-ray. Improves continuity of care and follow up. Initial need for systems consultant to create long-term strategic plan - \$ 25,000.
- E-based health care – Tulsa developed InfoSys allows for doctor-to-doctor web-based consultation. Tulsa developed docvia.com allows for doctor / patient e-visits. Both reduce pressure for face to face visits. (OCAST grant of \$ 150,000 awarded).
  - Similar e-based visits were able to reduce face-to face visits by 45%, leading to an opening of physician schedules for patients requiring face to face visits.
- Tele-medicine, tele-radiology connections from school-based clinics and FQHC clinics to main OU Schusterman Clinic. \$ 250,000 grant request to Blue Cross Blue Shield on file.
- Regional Electronic Medical Record “Backbone” development with GE / Centricity Corporation. Continue discussions with GE.
- Advanced MRI and CT Center with Neighbor for Neighbor.(St. John Foundation \$2,000,000 awarded)
- Transportation services between clinics ( St. John Foundation \$1,000,000 awarded)

## Section 4

# Investments for Manpower Shortages

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### **Community Health Track; Financially Supporting the Placement of Dedicated Physicians in the Community**

- Community Health Fellows – Loan Reduction Program – needs \$3,000,000 endowment to produce \$150,000 annually in loan reduction funds for revolving - 5 promising new faculty with significant loan obligations.
- Community Health Champions – endowed chair program for service and innovation around community health improvement. \$20,000,000 matched with \$ 20,000,000 State Board of Higher Regents created \$2,000,000 / year to support 20 faculty working directly in community clinics, caring for the poor and researching / innovating health care system improvements.
- Community Health Services Research – establish a Center to coordinate and synthesize health services and outcomes research within targeted programs and suggest policy initiatives to optimize resource investment and optimize outcomes. Such a Center would be small yet effective in that attention would be focused upon practical local and regional considerations. It is estimated that \$200,000 per year would fully fund operations.

Policymakers and/or legislators will require this research as a prerequisite to fund the replication of successful local programs in other parts of Oklahoma and the nation. And this research will be critical in galvanizing additional philanthropic and governmental support.

- A mix of primary care providers and specialists would be needed for the Fellows and Champions Programs.
- Each physician / physician assistant could provide up to 5,000 patient visits per year.
- 20 new physicians / physician assistants could provide 100,000 visits per year for these children and families.
- Each physician / physician assistant hired leads to a regional economic development impact of 20 additional jobs and \$1,000,000 year.
- Economic impact of 20 new physicians / physician assistants equates to 400 new area jobs and \$ 20,000,000 annually.

New **OU Physician Assistant (PA) Training Program** in Tulsa. Partnership with University of Tulsa. Would graduate 20 new PAs / year. – needs \$1,000,000 annually for support of faculty and administrative functions.

Expanded **OU Nurse Practitioner Training Program** in Tulsa.

**Physician Fellowship Training Programs** – Internal Medicine, Pediatrics.

**Emergency Medicine Residency Program** - \$ 1,000,000 / year from Oklahoma Department of Health for creation of Emergency Medicine and Disaster Preparedness Institute and Oklahoma's only allopathic Emergency Medicine Program.

**FQHC Supported National Health Service Corps Scholarships.** For physicians working in FQHCs, scholarships available for medical school loans. \$ 30,000 / year up to \$ 160,000 per physician.

**Immediate Recruitment Needs for Community Health Champions and Fellows.**

These physicians have strong interest in coming to OU Tulsa within the next 6 months.

- XXXXX, M.D. - Current Executive Vice President for the American Board of Internal Medicine – could lead Community Health Track.
- XXXXX, MD - Harvard Research Fellow in Medical Informatics, board certified in Internal Medicine and Pediatrics. Could lead development of Regional Health Information Organization – RHIO. A Duncan, Oklahoma native and OU Medical School graduate with Honors
- XXXXX, M.D.- Yale Research Fellow in Geriatric Psychiatry. Could lead Alzheimer's Program and be part of Aging Resource Center Team. A Tulsa native and OU Medical School graduate with Honors
- XXXXX, MD – Area Oncologist with interest in leading OU Cancer Center satellite. Previously led major academic Cancer Center Program.
- XXXXX, MD – graduating Family Medicine resident with hopes of teaching, research and working in underserved areas of Tulsa.
- XXXXX, MD – graduating Family Medicine / Psychiatry resident with hopes of teaching, research and working in underserved areas of Tulsa.

## Section 5

### The Role of the OUHSC Research Enterprise in Tulsa

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As mentioned earlier, the University of Rochester School of Medicine annually receives \$40,000,000 in National Institutes of Health research grants around community health improvement. OU-Tulsa is well positioned to significantly increase clinical and community based research efforts. Focus areas include:

- OU Early Childhood Development Program as part of the EduCare Programs
- OU General Clinical Research Center –Satellite in development. \$250,000 seed grant to XXXXX Foundation on file.
- OU Native American Center for Excellence satellite in Tulsa – new Federal grant approved.
- Neuroscience / Mental Illness Imaging Center in partnership with XXXXX Foundation. \$7,000,000 functional MRI Center in discussion stages. Neuroscience research efforts could be integrated with early childhood development programming.
- National Cancer Institute -OU Cancer Center Satellite. \$5,000,000 in Tobacco Tax funds for facility development.
- Community Health Assessment and Measurement Program (CHAMP) – OU College of Public Health and University of Tulsa Center for Community Research and Development. The success of replication of PACT programs in Iowa and Oklahoma can be traced to the tracking of specific clinical outcomes of pilot programs. In a similar fashion, the success of the expansion of Tulsa area school-based clinics can be traced to the tracking of clinical outcomes, absenteeism and student test scores.
- OU Young Investigator Endowments – XXXXX Foundation - \$ 1,500,000 endowment. Founders of Doctors Hospital and Associates - \$ 200,000 seed grant received.

## Section 6

# Neighborhood Revitalization

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The pictures below depict Charleston, South Carolina before and after neighborhood revitalization efforts. Similar efforts were successfully initiated by Einstein Medical School in the Bronx and Parkland Health System in Dallas.

### Row Houses in Charleston, South Carolina

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Before Urban Revitalization



After Urban Revitalization



### Tulsa Area Opportunities:

- The success of the Mark Twain Elementary School Based Clinic has led to additional neighborhood strengthening efforts in west Tulsa e.g. West Fest, establishment of the Sandy Park Apartments Housing Authority Bedlam Clinic.
- There is similar potential for the Kendall Whittier area with an established OU school-based clinic and EduCare and Community Health Connections on the horizon.
- A group of OU Family Medicine faculty are working with Hillcrest leadership in regards to neighborhood revitalization near the Hillcrest campus. It is hoped that a “village” for OU residents and medical students could be developed in the area as a starting point.
- There is also discussion underway to develop a “Creative Class” village of laboratories, condominiums and shops on the east side of downtown Tulsa with biotechnology as an underlying theme.

## Section 7

# Strengthening the Hospital Delivery System

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To be described as part of (1) the Tulsa Regional Strategic Health Plan focusing upon the needs of the uninsured being developed by the Lewin Group (2) and the Interim Legislative Study for state investment in the OSU / Tulsa Regional Medical Center medical education enterprises.

### **LEWIN STRATEGIC PLAN**

- Develop primary care capacity
- Expand access to urgent care/specialty care
- Establish/designate core safety-net hospital
- Enhance Graduate Medical Education programs
- Develop program to improve access to pharmaceuticals
- Support Insure Oklahoma implementation
- Align and enhance charity care policies
- Develop capacity to share health information electronically across health care sites
- Create (or enhance existing) Authority to coordinate indigent system of care development
- Focus and increase Foundation resources devoted to health
- Assess feasibility of (develop support for) new local tax dollars

### **LEGISLATIVE INTERIM STUDY (TBD)**

Section 8

**Start up Costs, Complexity of Implementation and Sustainability**

INITIATIVE	NEED	START-UP	SUSTAINABLE	COMPLEX
1. OB Outreach	High	Low	Private/OHCA	Low
2. OB Diabetes	High	Low	Private /OHCA	Low
3. Breast Cancer Screening	High	Low	Private/OHCA	Low
4. Cervical Cancer Vaccine	Moderate	Low	NIH / OHCA	Low
5. 50 School Based Clinics	High	High	FQHC	Moderate
6. EduCare	High	High	Private	Moderate
7. All Kinds of Minds Clinic	High	Moderate	Private	Low
8. Justice Center Expansion	Moderate	High	Private	Low
9. OU Pediatric Cancer Clinic	Moderate	High	Tobacco Tax	High
10. FQHC Expansion	High	Low	Feds	Moderate
11. OU Adult Cancer Clinic	High	High	Tobacco Tax	High
12. OU Dermatology Cancer Clinic	Moderate	High	Clinical	Moderate
13. Aging Resource Center	Moderate	High	Clinical	Moderate
14. Integrated Svc Delivery Initiative	Moderate	High	FQHC/Clinical	High
15. RHIO	Moderate	High	Cost Saving?	Very High
16. e-health	Moderate	Moderate	Clinical	High
17. EMR backbone	Low	High	Clinical	Very High
18. Advanced MRI / CT	High	High	SJ Foundation?	Moderate
19. Transportation	Moderate	Moderate	SJ Foundation?	Low
20. OU/TU PA Program	High	High	State	Moderate
21. OU Nurse Practioner Program	Low	Moderate	State	Low
22. OU Specialty Fellowships	Moderate	High	State / Fed	Moderate
23. OU Emergency Med GME	Moderate	High	State / Fed	High
24. Community Health Track	High	High	Private / State	Low
25. Neighborhood Revitalize	High	High	High	Very High
26. Community Health Svcs Research	High	Low	Private	Low
27. Neuroscience Research	Moderate	High	NIH	High

## Section 9

### Other University of Oklahoma Efforts

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- Joint Commission on Accreditation of Healthcare Organizations - Ambulatory Care Accreditation of OU Clinics in process.
- Unified OU Call Center for nurse triage, scheduling, patient education, physician consultation.
- Self Insurance of OU Physicians Practice Plan. FQHC components under Federal Tort Claims Protection.

## Section 10

# Making the Case for Economic Development

## A Summary of Estimates for Return on Investment

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This report has highlighted the dramatic challenges that face the US health care delivery system. As health care costs continue to rise, those regions within the US that can redesign their health care delivery systems - with attention to efficient, high quality health care for all - will have a distinct economic advantage. These regions will not experience dramatic cost shifts to insured employers and employees for care of the uninsured. Lower health insurance premiums in these regions will be an attractant for new business development. In addition, a high quality health care delivery system that supports preventive and early intervention health care initiatives will result in a healthier pool of employees from which these new businesses can recruit.

In the Tulsa region, we face the problem that the overall health status of our population is poor. There are higher rates of unhealthy behaviors, higher rates of chronic diseases and a worsening age-adjusted death rate. The percentage of those without insurance is high. Emergency rooms are used as primary care clinics for the uninsured leading to overcrowding in these emergency rooms and impaired response capacity for trauma. Specific zip codes in north, east and west Tulsa areas face much worse age-adjusted death rates, high poverty, poor access to primary care and high rates of heart disease.

Return on Investment examples from the specific OU projects proposed earlier are detailed below:

### FEDERALLY QUALIFIED HEALTH CENTERS AND SCHOOL BASED CLINICS

- 3 New FQHCs and 25 new School-based Clinics; Federal block grants for the uninsured - \$650,000 / yr / FQHC X 3 FQHCs = New funds of \$1,950,000 per year
- 25 School-based Clinics with an average of 600 kids / school = 15,000 kids; 50% of children qualify for Medicaid = 7,500 Medicaid kids; 7,500 kids X 2 visits / yr = 15,000 Medicaid visits; 15,000 visits X \$ 100 bump payment / visit = \$1,500,000 per year in additional income
- Pharmacy discount of 40% for 7,500 uninsured kids; 7,500 uninsured kids X 2 visits / yr X 2 Rx / visit = 30,000 Rx / yr; 30,000 Rx / yr \$ 50 / Rx = \$1,500,000 / yr in drug costs; \$1,500,000 X 40% discount = \$600,000 savings per year
- Federal Tort Claims Act Protections X 20 physicians at \$10,000 malpractice premium / yr = \$200,000 per year in savings
- National Service Corps Scholarships X 5 physicians X \$30,000 scholarship / yr = \$150,000 per year in value
- Total new funds and savings for 3 FQHCs / 25 School-based Clinics = \$4,400,000 / year

**\$4.4 million**

### **ANNUAL VALUE OF THREE FQHC/25 SCHOOL CLINICS**

<b>FQHC BENEFIT</b>	<b>New Funds</b>	<b>Savings</b>	<b>Total Value</b>
Federal Operating Subsidy	\$1,950,000		\$1,950,000
Enhanced Medicaid Payments	\$1,500,000		\$1,500,000
Reduced Cost Medicines		\$600,000	\$600,000
Malpractice Cost Reduction		\$200,000	\$200,000
Physician Loan Forgiveness		\$150,000	\$150,000
<b>TOTAL VALUE</b>	<b>\$3,450,000</b>	<b>\$950,000</b>	<b>\$4,400,000</b>

### **OBSTETRICS OUTREACH**

- Cost of normal pregnancy and delivery = \$6,000.
- Cost of premature birth or complicated pregnancy e.g. gestational diabetes = \$36,000 (conservative) → \$30,000 difference.
- 3 masters trained obstetric nurse practitioners at \$ 100,000 each (salary and fringe) = \$ 300,000 annual costs.

**Prevention of 10 complicated pregnancies per year pays for nurse practitioner outreach program.**

### **MAMMOGRAPHY SCREENING**

- \$ 200 / mammogram
- Uncomplicated breast cancer surgery – cancer identified early by mammography
  - Lumpectomy / modified radical mastectomy = \$22,500
  - Chemotherapy X 1 year = \$12,500
  - Total = \$35,000
- Complicated breast cancer surgery – cancer identified late.
  - Radical mastectomy = \$35,000
  - Radiation = \$15,000
  - Chemotherapy = \$15,000
  - Total = \$65,000

**For every breast cancer that is detected as uncomplicated and early, \$30,000 is saved. \$ 30,000 buys 150 mammograms.**

### **VACCINES FOR CERVICAL CANCER**

- Cervical Cancer (HP Virus) Vaccine cost \$ 100.
- Complicated surgery, radiation and chemotherapy for cervical cancer = \$ 70,000

**Prevention of one case of Cervical Cancer frees funds for 700 cervical cancer vaccines.**

## DIABETES DISEASE MANAGEMENT

- End result of diabetes is renal failure, blindness and neuropathy.
- Kidney dialysis cost / year = \$30,000
- Kidney transplant – one time = \$50,000
- Post kidney transplant immuno-suppression / yr = \$20,000
- Diabetes disease management early in course / yr = \$ 5,000

**Diabetes Disease Management ranges from a 4:1 to 10:1 savings when compared to renal dialysis or transplantation**

## HEART DISEASE MANAGEMENT

- Coronary Bypass Graft Surgery = \$100,000
- Heart Disease Management / maintenance therapy/ yr = \$5,000

## AGING RESOURCE CENTER

- Average annual cost of care at home with aid = \$24,000
- Average annual cost in nursing home = \$43,000
- **Annual savings of being able to stay in own home = \$19,000**

## ALL KINDS OF MINDS STUDENT SUCCESS CENTER

- Special education services average \$ 600 / child / month or \$ 5,400 / year / child.
- All Kinds of Minds Student Success Center evaluation is \$3,400 one time cost with 50% reduction in need for special education services or a savings of \$2,700 per year per child.

## REGIONAL HEALTH INFORMATION ORGANIZATION

- Sharing of existing radiology studies and results between entities can save health care delivery system an average \$2,000 per MRI study and \$ 1,200 per CT Scan.
- E-based patient visits and consultations reduce the need for face to face visits by 50% leading to improved access to physicians.

## INTEGRATED SERVICE DELIVERY INITIATIVE

- Funded by the US Health Services and Research Administration (HRSA), these grants of **\$1,500,000 – 2,000,000** help distinct FQHCs work together and reduce overhead costs through shared contracting, credentialing, billing, collections and electronic medical records.

## PHYSICIAN ASSISTANT TRAINING PROGRAM

- Total Physician Assistant student tuition costs averages around \$ 40,000 for 30 months compared with \$ 68,000 for medical school graduates 4 year program.
- Physician Assistant income averages roughly \$90,000 / year and Physician Assistants can collect upwards of \$ 180,000 / year in collaboration with physicians.

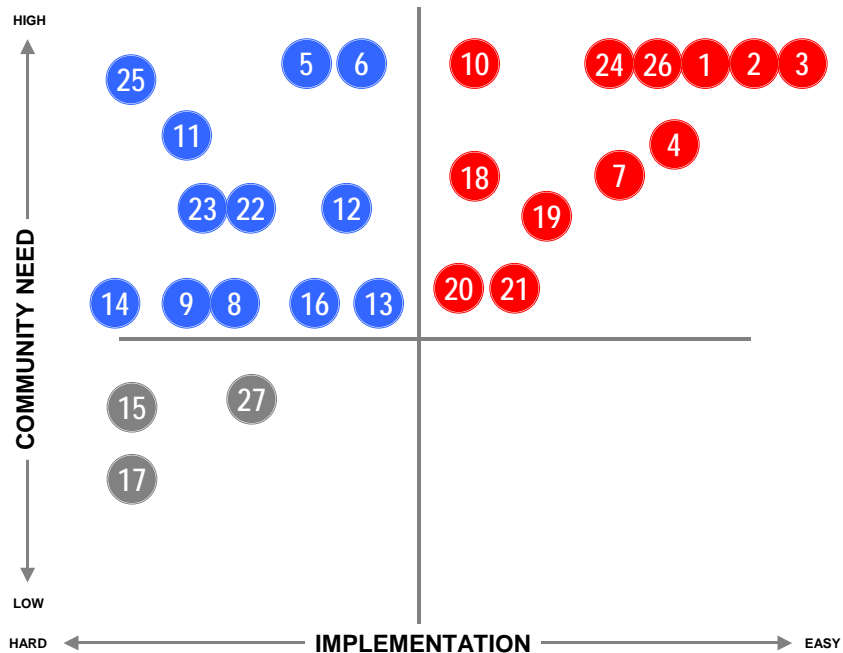
# Handout 1

## Potential Initiatives

Need/ Impact and Complexity of Implementation

**HIGH NEED – EASY IMPLEMENTATION**  
**HIGH NEED – HARD IMPLEMENTATION**  
**LOW NEED – HARD IMPLEMENTATION**

- |                                      |                                        |
|--------------------------------------|----------------------------------------|
| 1. <b>OB Outreach</b>                | 15. RHIO                               |
| 2. <b>OB Diabetes</b>                | 16. <b>E-Health Initiatives</b>        |
| 3. <b>Breast Cancer Screening</b>    | 17. EMR Backbone                       |
| 4. <b>Cervical Cancer Vaccine</b>    | 18. <b>Advanced MRI/CT</b>             |
| 5. <b>50 School-based Clinics</b>    | 19. <b>Transportation</b>              |
| 6. <b>EduCare</b>                    | 20. <b>OU/TU PA Program</b>            |
| 7. <b>All Kinds of Minds Clinics</b> | 21. <b>OU Nurse Practitioner</b>       |
| 8. <b>Justice Center Expansion</b>   | 22. <b>OU Specialty Fellowships</b>    |
| 9. <b>OU Pediatric Cancer Clinic</b> | 23. <b>OU Emergency Med GME</b>        |
| 10. <b>FQHC Expansion</b>            | 24. <b>Community Health Track</b>      |
| 11. <b>OU Adult Cancer Clinic</b>    | 25. <b>Neighborhood Revitalization</b> |
| 12. <b>OU Derm Cancer Clinic</b>     | 26. <b>Community Health Research</b>   |
| 13. <b>Aging Resource Center</b>     | 27. <b>Neuroscience Research</b>       |
| 14. <b>Integrated Svc Delivery</b>   |                                        |



## Handout 2

### Prevalence of FQHCs

Rank	State	FQHCs	Population Per FQHC	Factor
1	West Virginia	101	17,924	16
2	Alaska	36	18,023	16
3	New Mexico	91	20,600	14
4	South Dakota	30	25,477	11
5	Mississippi	102	28,248	10
6	Oregon	100	35,596	8
7	Connecticut	92	37,863	8
8	Montana	21	43,696	7
9	Colorado	102	44,615	7
10	Rhode Island	24	44,840	7
11	Idaho	29	47,115	6
12	North Dakota	14	47,417	6
13	Washington	129	47,531	6
14	Maine	27	48,360	6
15	South Carolina	83	49,966	6
16	Hawaii	25	50,304	6
17	Alabama	87	51,733	6
18	Massachusetts	119	54,062	5
19	Arkansas	47	57,994	5
20	Vermont	10	61,911	5
21	New Hampshire	18	71,538	4
22	Missouri	76	75,059	4
23	Tennessee	70	83,454	4
24	Illinois	147	86,079	3
25	New York	191	100,472	3
26	Pennsylvania	121	102,194	3
27	Utah	23	102,238	3
28	Kentucky	37	111,293	3
29	Virginia	65	113,636	3
30	California	311	114,098	3
31	Arizona	46	121,322	2
32	Michigan	80	125,996	2
33	North Carolina	66	127,383	2
34	Maryland	43	128,114	2
35	Louisiana	35	128,467	2
36	Ohio	83	137,781	2
37	Florida	123	138,366	2
38	Texas	158	139,991	2
39	Nevada	16	140,072	2
40	Georgia	62	140,076	2
41	Kansas	19	143,342	2
42	Nebraska	11	158,117	2
43	Wisconsin	34	160,950	2
44	Iowa	18	163,559	2
45	Indiana	33	187,747	2
46	Minnesota	25	202,375	1
47	New Jersey	41	210,693	1
48	Delaware	3	272,497	1
49	<b>OKLAHOMA</b>	<b>12</b>	<b>292,628</b>	<b>1</b>
50	Wyoming	1	501,242	

Source: Handcount of clinics listed at HRSA Bureau of Primary Care website and Bureau of the Census

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