Arizona ◆ California ◆ New Mexico ◆ Texas

MEDICAL EMERGENCY:

Costs of Uncompensated Care in Southwest Border Counties

submitted to:

The United States / Mexico Border Counties Coalition
1201 Pennsylvania Avenue, NW, Suite 300
Washington, DC 20004
(202) 302-0670
www.bordercounties.org

submitted by:

502 East 11th Street, Suite 300
Austin, Texas 78701
(512) 476-4697
www.mgtofamerica.com

in partnership with:

TEXAS PERSPECTIVES INC.
Austin, TX

SJOBERG EVASHENK CONSULTING, LLC
Sacramento, CA

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502 East 11th Street, Suite 300
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Txp TEXAS PERSPECTIVES INC.
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The statements contained in this report are solely those of the authors and do not necessarily reflect the views or policies of the Centers for Medicare & Medicaid Services. The United States/Mexico Border Counties Coalition and MGT of America assume responsibility for the accuracy and completeness of the information contained in this report.

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Air Med El Paso Inc., Victor Quiroz

American Medical Response, Eric Burch

Arizona Ambulance Transport, Paul Pedersen, Jr., Edward Van Horne

Arizona Hospital and Healthcare Association, Sheri Jordan

Arizona State Senate, Senate Research, Jason Bezozo

Arizona State Senate Health Committee, State Senator Susan Gerard

Avra Valley Fire District, Barry Gerber

Bisbee Fire Department, Jack Earnest

Carondelet Holy Cross Hospital, Rich Polheber

Centers for Disease Control, U.S./Mexico Border Infectious Diseases Coordinator, Stephen Waterman, M.D., MPH

Center for Public Policy Priorities, Ann Dunkelberg

Children's Hospital & Health Center, Rafael H. Santos

Copper Queen Community Hospital, Jim Dickson, Ruth Kish

Del Sol Medical Center, Doug Matney

Dolly Vinsant Memorial Hospital, Charles Justis

Drexel Heights Fire Department, Douglas Chappel

El Centro Regional Medical Center, David Selman, Kathy Farmer

El Paso County, Judge Dolores Briones

El Paso County Commissioners Court, Hon. Carlos Aguilar

Golden Ranch Fire Department, John Fink

Harlingen EMS, Bill Aston

Healthcare Association of San Diego and Imperial Counties, Steve Escoboza, Lisa Sontag

Healthcare Innovations, Inc., James Broome

Hidalgo County Ambulance, Rose Mary Lasher

Kino Community Health, Roger Spivey

Kino Community Hospital, Ellen Moulton

Knapp Medical Center, Joe Beck

Las Palmas Medical Center, Doug Matney

Life Ambulance Service, Rachel Harracksingh

Luna County Commissioners Court, Hon. Dennis Armijo

McAllen Heart Hospital, Ron Ballard, Diane Vititto

Membres Memorial Hospital, Peter Finelli, Dr. John Lundy

Memorial Medical Center, Phil Rivera

Mercy Health Center, Marco Rodriguez

Mission Hospital, Lupe Bautista, Sonia Sosa

New Mexico Department of Health, Barak Wolk

New Mexico Health Policy Commission, Patrick Alarid

Nogales Fire Department & Ambulance Service, Dennis Van Aucken

Palomar Pomerado Health, Robert Hempker

Paradise Valley Hospital, Alan Soderblom

Picture Rocks Fire District, Vickie Ketterie

Pima County Board of Supervisors, Hon. Sharon Bronson

Pioneers Memorial Healthcare District, Richard Mendoza, Nick Aguirre, Troy Carpenter

Providence Memorial Hospital & Sierra Medical Center, Thomas Casaday, Irene Chavez

Rural Metro/Southwest Ambulance, Jeff Sargent

San Antonio Metropolitan Health District, Director of Health, Fernando Guerra, M.D.

San Diego County Board of Supervisors, Hon. Greg Cox, Patty Dannon

San Diego Medical Services Enterprise, Phil Forgione, Wayne Johnson

Scripps Hospital System, Michael Bardin, Mollie Drake

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Sierra Vista Regional Health Center, Don Kaplan

South Texas Emergency Care, Bill Aston

Southeast Arizona Medical Center, George Hooper

Sunwest Ambulance Inc., Enrique Chavez

Texas Department of Health, Joe Walton

The University of Texas at Austin, Lyndon B. Johnson School of Public Affairs, Dr. Chandler Stolp

Thomason General Hospital, Josie Huerta, Pauline Motts, Eddie Sosa

Tri-City Medical Center, Robert Wardwell

Tucson Fire Department, Paul McDonough

Tucson Medical Center, Robert Guerrero, Jose Robles

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EXECUTIVE SUMMARY

Southwest border counties—the 24 counties adjoining the Mexican border—are facing a medical emergency. A score of federal and state policies, such as declining federal Medicaid reimbursements and rising professional liability insurance costs, are contributing to an imminent health care crisis. The disproportionate burden placed on southwest border counties for providing emergency healthcare services to undocumented immigrants is compounding an already alarming state of affairs.

In 2000, the Immigration and Naturalization Service (INS) apprehended over 1.5 million undocumented immigrants—a fraction of the individuals that either entered the United States without detection or over-stayed their entry visas. They come for various reasons, but many end up needing emergency medical care they cannot afford.

Uncompensated care is the unreimbursed or uncollectable costs incurred by any medical provider for providing healthcare services. The federal government defines a medical emergency as a condition with a sudden onset that could expect to result in a person's serious bodily harm or death if not immediately treated. Every state and county along the southwest border has approached the issue of uncompensated *emergency* health care services differently. However, as the number of undocumented immigrants in the country has escalated, state and local governments have increasingly stepped up to the plate to cover the cost of uncompensated care.

A poll conducted in November 2000 by Fingerhut Granados Opinion Research established that Americans believe, by a margin of almost six to one, that the *federal* government rather than *local* government should pay for emergency medical services provided to undocumented immigrants. While the majority of Americans feel the federal government should pay for this care, to date, researchers have had little success defining the size of the problem. In fiscal year 2001, Senator Jon Kyl of Arizona secured funds for the U.S./Mexico Border Counties Coalition (USMBCC) to:

> *"determine the unreimbursed costs incurred to treat undocumented aliens for medical emergencies in southwest border States, their border counties, and hospitals within the jurisdiction of these States and counties."*

The USMBCC hired MGT of America, Inc. (MGT) in the fall of 2001 to conduct the analysis.

Estimating the Cost of Uncompensated Care

According to the American Hospital Association annual survey, southwest border county hospitals reported uncompensated care totaling nearly $832 million in 2000.[1] Using an advanced statistical modeling approach, MGT determined that almost $190 million or about 25 percent of the uncompensated costs these hospitals incurred resulted from emergency medical treatment provided to undocumented immigrants.

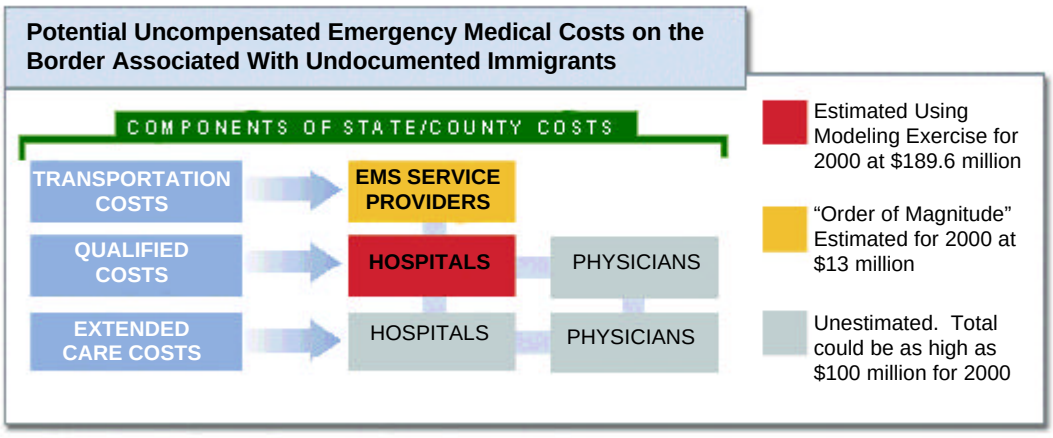
[1] The complete results by county, including 95 percent confidence interval calculations, are included in Appendix F.

To develop our cost estimate, we compared reported levels of uncompensated hospital care and socio-economic factors such as poverty rates, median age, and net domestic migration in non-border counties to border counties. We found a statistically significant difference between the amount of uncompensated care delivered in border counties versus non-border counties. We attribute this difference to undocumented immigrants who seek emergency medical care in southwest border counties.

Using a separate methodology, MGT estimated that emergency medical services (EMS) providers incurred another $13 million in uncompensated costs in 2000. Here we used the County Business Patterns data set and the average percent of uncompensated care reported on our survey of border EMS providers to estimate the cost.

Together the costs of emergency hospital and transportation services exceeded $200 million. Yet, this figure does not represent the total costs borne by southwest border counties and local medical providers. In **Figure 1** the boxes in gray represent the costs we were not able to estimate. Costs incurred for preventive, acute, extended or rehabilitative healthcare, and non-emergency medical transportation are not included in our estimate since these services fall outside the federal definition of an "emergency" and were therefore beyond the scope of our analysis. Furthermore, services delivered by a physician in a hospital's emergency department that are not paid by or through the hospital are billed separately and cannot be captured by examining uncompensated hospital costs. As such, costs incurred by physicians attending an undocumented immigrant in a medical emergency also are not included in our cost estimate.

Figure 1



***Source**: MGT of America, Inc.*

The problem of uncompensated emergency services has far reaching implications beyond loss of hospital revenues. Health care costs and insurance premiums are rising, due in part to burgeoning levels of uncompensated care. Rising health insurance premiums are threatening business' ability, particularly small business, to offer employees affordable health care benefits. High liability costs and low levels of compensation are threatening the viability of emergency rooms and emergency transportation providers along the border. Some counties with high rates of

uncompensated care can no longer afford to provide "charity" care for local needy residents. In some instances, high levels of unpaid medical bills related to undocumented immigrants have forced local healthcare providers to reduce staffing, increase rates, and cut back services.

Findings

Our findings are based on an extensive literature review, policy analysis, field research, statistical modeling exercise, and written surveys of southwest border hospitals and emergency transportation providers. Our study found:

- State and local governments and local healthcare providers absorb a large portion of the costs of providing uncompensated emergency medical care to undocumented immigrants. These costs impose a significant financial burden on southwest border hospitals' and emergency medical services (EMS) providers, and account for an estimated 25 percent of hospitals uncompensated costs.
- No standard method to track the amount of uncompensated care provided to undocumented immigrants currently exists. The absence of Social Security Numbers (SSN), in combination with other factors, may provide the federal government with an adequate proxy to enable tracking of aggregate amounts of uncompensated emergency care delivered to undocumented immigrants.
- The Emergency Medical and Treatment and Active Labor Act (EMTALA) requires hospitals and emergency personnel to screen, treat and stabilize anyone who seeks emergency medical care regardless of income or immigration status. Under Emergency Medicaid, the federal government pays for some emergency medical care delivered to undocumented immigrants who, except for their immigration status, would be eligible for Medicaid. EMTALA mandates conflict with Emergency Medicaid reimbursement policies to the extent that EMTALA requires screening and treatment beyond those covered under the Medicaid "emergency condition" definition.
- Our survey and field research suggest that the Immigration and Naturalization Service (INS) continues to bring injured and ill undocumented immigrants to hospital emergency rooms without taking financial responsibility for their medical care.

Recommendations

Some members of Congress are addressing the issue of uncompensated emergency medical services and have filed legislation to address the lack of adequate federal reimbursement for emergency medical treatment provided to undocumented immigrants. In light of our study's findings, we propose the following recommendations:

- Congress should provide additional federal funding to reimburse hospitals, emergency transportation providers, and other health providers for care provided to undocumented immigrants.

- Congress should take into account the additional losses incurred by southwest border counties related to the treatment and transport of undocumented immigrants when developing federal funding proposals designed to offset relevant losses.
- Congress should require hospitals and emergency medical providers seeking federal funds to pay for uncompensated emergency medical services to approximate the number of undocumented immigrants provided uncompensated emergency care using the absence of a Social Security Number as the principal proxy.
- Congress should direct the Centers for Medicare and Medicaid Services (CMS) to extend Medicaid reimbursement for post-stabilization treatment for otherwise eligible individuals whose treatment results from a qualified emergency as defined by the U.S. Department of Health and Human Services.
- Congress should appropriate funds for the INS to pay for emergency medical services that result from search and rescue or apprehension activities the INS initiates.
- Congress should direct the U.S. Department of Health and Human Services (DHHS) to work with the states and the INS to develop a formal process that would allow hospitals and emergency transportation providers to determine an individual's immigration status and submit federal reimbursement requests without violating EMTALA's provision against asking a patient's status prior to delivering treatment.

Areas for Additional Research

Our examination of the costs associated with uncompensated emergency medical care provided in southwest border counties suggests areas needing additional study. In particular, the following areas merit further research and analysis:

- Cost of emergency medical services provided by physicians.
- Cost of medical care such as rehabilitation and other extended care that is not included in the current federal definition of an emergency medical condition.
- Changes to Medicaid that could make it easier for hospitals and other medical providers to receive reimbursement for treating certain categories of patients who meet Medicaid categorical eligibility.

The need for federal action is clear. The growing medical emergency on the southwest border has far reaching implications, not only for the southwest border, but for the nation as a whole.

CHAPTER 1:
Introduction

Study Purpose and Scope

The Immigration and Naturalization Service (INS) apprehended approximately 1.6 million undocumented immigrants along the U.S. Mexico border in 2000. That same year, millions more crossed the border undetected. Some undocumented immigrants who cross the border come seeking medical care. Others arrive intending to find work and a permanent place to live, but find themselves in sudden need of healthcare services. Unfortunately, many undocumented immigrants lack health insurance or other means to pay for the medical care they require. When these individuals arrive at hospital emergency rooms, medical personnel have an ethical and legal responsibility to provide needed medical care.

The federal government controls the nation's borders, and has sole responsibility for developing and enforcing immigration policy. The government's success or failure at protecting the nation's borders directly affects state and local governments, particularly southwest border counties. Although the federal government reimburses states for part of the costs they incur providing federally-mandated emergency health services to undocumented immigrants, southwest border counties are absorbing a significant amount of costs.

The USMBCC is a non-partisan organization formed in 1998 to develop a forum for border county officials to exchange ideas and policy solutions to the challenges facing the 24-county border region.

To provide policymakers with a clearer picture on the actual costs incurred by southwest border counties, Senator Kyl of Arizona inserted language in the fiscal year 2000 federal appropriations bill to secure funding for a study that would:

> *"determine the unreimbursed costs incurred to treat undocumented aliens for medical emergencies in southwest border States, their border counties, and hospitals within the jurisdiction of these States and counties."*

Funds were allocated to the United States/Mexico Border Counties Coalition (USMBCC), which in turn, contracted with MGT of America (MGT) in the Fall of 2001, to conduct the study and provide specific policy recommendations to Congress. The Centers for Medicare and Medicaid Services (CMS) served as the funding and oversight agency for this study.

Our study has two central purposes. The first is to estimate the costs to southwest border counties and county healthcare providers for delivering emergency medical services to undocumented immigrants. The second purpose of the study is to recommend changes to federal laws and policies contributing to the challenges local governments and hospitals face when providing such care to undocumented immigrants.

The study's scope is narrow. First, we only estimate the cost of providing *emergency* hospital and transportation services to undocumented immigrants. Costs incurred for preventive, acute, and extended or rehabilitative health care, and non-emergency medical transportation are beyond the scope of this study because these services fall outside the federal definition of an "emergency." This is significant given that emergency medical costs represent only a small portion of the costs borne by counties and medical providers that serve undocumented immigrants.

> ***The federal government defines emergency medical condition as:***
>
> *"The sudden onset of a medical condition (including labor and delivery) manifesting itself by acute symptoms of sufficient severity (including severe pain) such that the absence of immediate medical attention could reasonably be expected to result in placing the patient's health in serious jeopardy, serious impairment to bodily functions, or serious dysfunction of any bodily organ or part."*
>
> – Social Security Act

Second, the study is restricted to estimating costs and addressing policy issues specific to the 24 southwest border counties in Texas, New Mexico, Arizona, and California.

Third, the study only estimates costs incurred by hospitals and emergency medical transportation providers, not physicians. The majority of services delivered by a physician in a hospital's emergency department are not paid by or through the hospital, but are billed separately and cannot be captured by examining uncompensated hospital costs. Therefore, costs incurred by physicians attending an undocumented immigrant in a medical emergency are not included in our cost estimate.

Literature Review

In recent years, the issue of uncompensated care and undocumented immigrants has received a growing amount of attention due to rising healthcare costs, increased levels of illegal immigration, and serious financial struggles at the nation's hospitals. However, the issue has been around for a long time, and studies related to the subject date back to the 1980's.

MGT conducted a literature review to identify existing studies on the costs of uncompensated emergency health services to undocumented immigrants in the four U.S./Mexico border states. MGT focused on studies during the past fifteen years. Technical reports, policy analysis, and manuals on immigrant health care are not discussed below, but were used in the report for background information and are included in the study's bibliography. Studies on the general issue of the cost of illegal immigration in the United States were outside the scope of our review.

MGT contacted leading national health care and border-related public agencies and organizations by phone or email to solicit information regarding relevant studies. These organizations include the:

- American Hospital Association.
- American Public Health Association.
- The Association of State and Territorial Health Officials.
- The Center for Budget and Policy Priorities.
- The Centers for Disease Control.
- The General Accounting Office.
- The Health Resources and Services Administration.
- The National Association of Public Hospitals.
- The Pan American Health Organization.
- The Urban Institute.
- The US/Mexico Border Health Commission.

> *"An undocumented immigrant is a person who is not a U.S citizen or national, who has entered the United States (or has remained in the United States) without proper documentation and who does not have legal status for immigration purposes.*
>
> - The Access Project

In addition, MGT conducted an extensive web site and Nexis search using terms like "undocumented aliens," "uncompensated care" and "emergency health services."

The literature review revealed a large amount of research on the subject of immigration and health care. However, no previous study exclusively focused on the financial impact on the 24 southwest border counties of providing emergency medical services to undocumented immigrants. One study developed for the U.S. Department of Justice reviewed the financial impact on the 24 southwest border counties of providing criminal justice, law enforcement, and emergency medical services to undocumented immigrants. However, the focus of the study was criminal justice and the estimate of emergency medical services developed by the study's authors only reflected some of the costs to county governments, and did not include what was reported as the "enormous uncompensated costs to states and non-county hospitals."[2]

Numerous studies have reviewed the cost of providing healthcare to immigrants, both legal and illegal. However, many of these studies were either national in scope, or very localized to a particular city or state. A state-specific study was conducted in 1993 by the Texas Governor's Office that concluded that Texas pays an estimated $122 million annually to treat the state's 550,000 undocumented immigrants. A local study was conducted in 1997 by the California State Auditor's office to review the impact of U.S. Border Patrol policies on the San Diego health care system. The study concluded that U.S. Border Patrol policies cost San Diego County health care providers millions of dollars a year. The report recommended that the California Legislature memorialize Congress to require the federal government to pay the full costs of emergency medical services provided to undocumented persons who would have been taken into custody had it not been for their injuries.[3]

A 1994 study by the Urban Institute, entitled "Fiscal Impacts of Undocumented Aliens: Selected Estimates for the Seven States," was the federal government's first attempt to estimate the Medicaid, education, and corrections costs imposed on states through illegal immigration.[4] The study, which was commissioned by the Office of Management and Budget, along with the Departments of Justice, Education, and Health & Human Services, focused on fiscal impacts in seven states including Texas, California, Arizona, Florida, New Jersey, New York, and Illinois. The study concluded that these seven states spent an estimated $422 million on Medicaid costs related to undocumented immigrants.

The General Accounting Office (GAO) also has published a number of studies on issues related to uncompensated care and undocumented immigrants. Major findings from each of these reports are included in the appendix of this report. A common theme among many of the GAO studies was the need for the government and hospitals to systematically gather more reliable data on the amount of uncompensated care delivered to undocumented immigrants and to develop better ways of tracking that information.

[2] "Illegal Aliens in U.S./Mexico Border Counties: The Costs of Law Enforcement, Criminal Justice, and Emergency Medical Services." U.S. Mexico Border Counties Coalition. February 2001, page 43.
[3] "California State Auditor: U.S. Border Patrol: Its Policies Cause San Diego County Healthcare Providers to Incur Millions of Dollars in Unreimbursed Medical Care." Sacramento, CA. California State Auditor, October 1997.
[4] "Fiscal Impacts of Undocumented Aliens: Selected Estimates for the Seven States." Urban Institute, 1994.

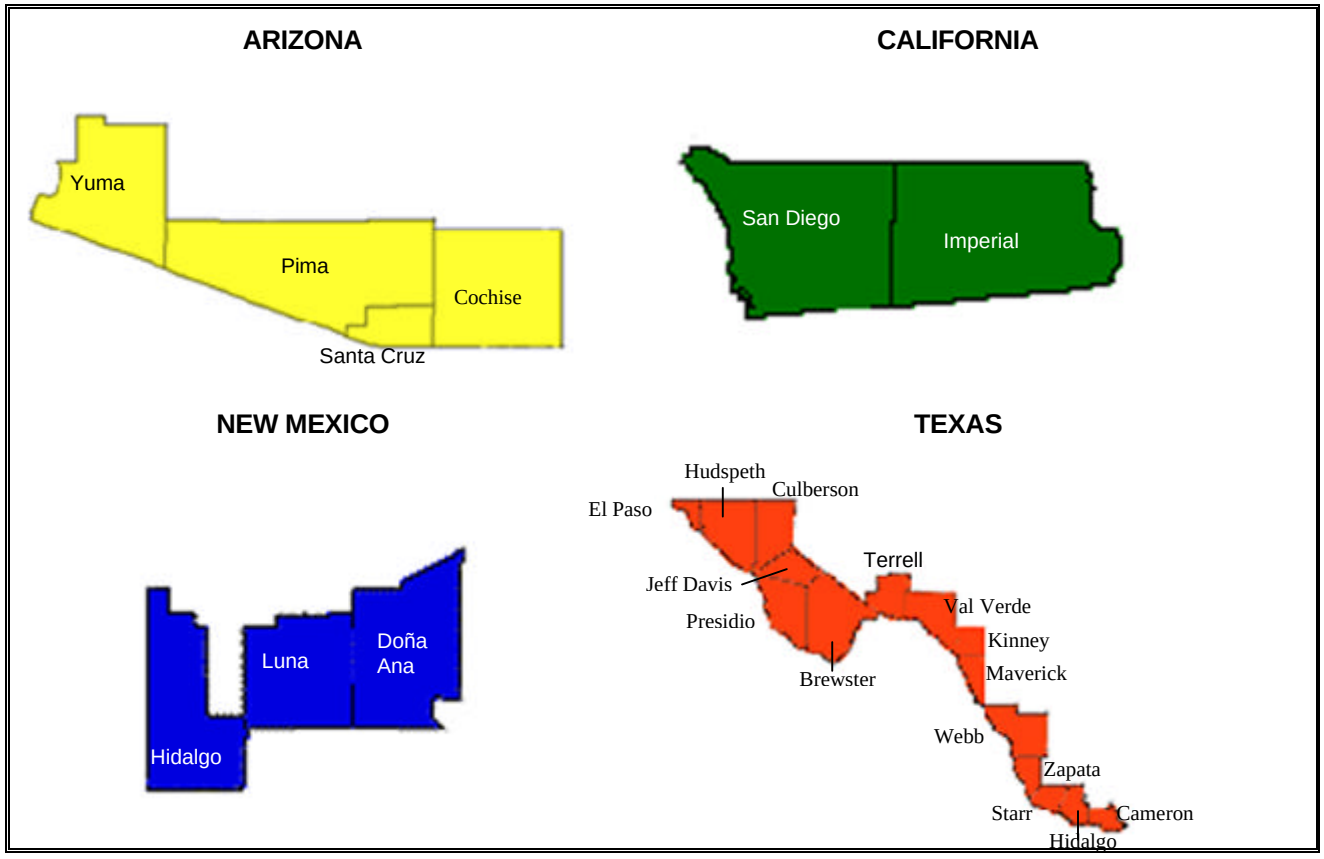
A white paper on uncompensated care entitled "Paying the Costs of Medical and Public Safety Services for Undocumented Immigrants: Revisiting the Federal Mandates Issue" was prepared for the County Executives of America in April 2001 by the James D. Riggle School of Public Policy.[5] The report cited several relevant public opinion polls that suggest most Americans believe undocumented immigrants should be entitled to receive emergency medical care and that the federal government (as opposed to local) should foot the bill.

Appendix B contains a summary of major articles and reports related to uncompensated care and undocumented immigrants.

Southwest Border Counties: A Snapshot

For the purposes of this study, we define the southwest border as the 24 U.S. counties in California, Arizona, New Mexico and Texas that actually touch the Mexican Border.

Table 1.1
Counties By State Included In The Study



[5] "Paying the Costs of Medical and Public Safety Services for Undocumented Immigrants: Revisting the Federal Mandates Issue." County Executives of America. April 2001.

The INS estimates that 6.5 million undocumented immigrants live in the United States, with almost 60 percent residing in California, Arizona, New Mexico and Texas. Whether undocumented immigrants settle down along the border or merely pass through, border communities often bear a disproportionate share of the costs of providing services to this population.

While southwest border counties share a common proximity to the U.S./Mexico border, each county has unique circumstances and faces special challenges. The population of the 24 southwestern border counties ranges from 2.8 million (San Diego County, California) to just over 2,000 residents (Jeff Davis County, Texas). Some counties experienced population growth over the past 10 years as high as 50 percent (Yuma County, Arizona) while other county populations have decreased by as much as 23 percent (Terrell County, Texas).

Still, the border counties share some common characteristics and challenges that cannot be overlooked. Border counties have a proportionately higher Latino population than the rest of the United States – 58 percent versus 13 percent nationally. The southwest border population is also slightly younger than the rest of the nation, with about 30 percent of the population younger than 18 compared to the U.S. average of 25 percent.

The chart below shows how the 24 border counties would compare to states in the U.S., if the border counties were combined to become the 51st U.S. State. Combined as a theoretical "State," the border counties would rank *last* in several key economic indicators. These include unemployment and per capita income, making it the poorest and most economically depressed region in the nation. Border counties face, on average, a growing population that significantly outpaces the rest of the nation. Border counties are also experiencing a higher percentage of both adults and children without health insurance, adding costs to counties and states for local healthcare services.

Table 1.2
How The 24 Border Counties Combined Into A Single "State" – Compare To The Rest Of The Nation

Indicator	If the 24 Border Counties were the 51st U.S. State, it Would Rank…	Reason
Population Growth from 1990 to 2000	8th	23.1 percent increase, versus 13 percent nationwide
Fertility Rate	4th	Outpaces nation by 11 percent
Unemployment Rate (2000 average)	51st (Highest Rate)	12.6 percent - almost double that of state with highest unemployment
Per Capita Income	51st (Lowest)	Over 1/3 less than U.S. average
Median Household Income	51st (Lowest)	$10,000 less than average household
Children Living in Poverty	51st (Highest Percentage)	36 percent – nearest state is at 27 percent
Residents without Health Insurance	51st (Highest Percentage)	72 percent higher proportion than U.S. average

***Source**: U.S. Census, Bureau of Labor Statistics, Centers for Disease Control.*

The economic challenges faced by southwest border counties are compounded when sick or injured indigent, undocumented immigrants access local emergency medical services. Because limited reimbursement options are available for these services, undocumented immigrants who seek medical care often end up placing additional strain on scarce local resources. **Appendix A** contains the individual county data profiles as well as summary county data for each state, and an explanation of the methodology used to compile the data.

Study Overview and Organization

The study that follows is the culmination of an intensive 10-month period that included a series of interrelated activities, including:

- A review of the literature on the cost of uncompensated emergency care provided to undocumented immigrants.
- A review of existing federal statutes and programs to assess their impact on local governments and hospitals in the southwest border.
- A review of pending legislative proposals before the 107th U.S. Congress.
- A review of the public policies enacted in the four border states to address the financing and delivery of emergency health services to undocumented immigrants.
- A written survey of 77 hospitals and 82 emergency transportation providers.
- Field research in the four southwest border states, including in-depth interviews with key hospital administrators and emergency transportation providers.
- The development of an economic model to estimate the cost of providing emergency health services to undocumented immigrants by border states and localities.

The remainder of this study is organized as follows:

Chapter Two outlines the major federal statutes and programs that affect the delivery and financing of emergency health services to undocumented immigrants. In addition, state-level policies related to indigent health care, Medicaid, and emergency health care services for undocumented immigrants are reviewed, along with recent legislative proposals before the current Congress.

Chapter Three describes the methodology used to develop the statistical model used to estimate the cost of providing emergency medical services to undocumented immigrants in southwest border counties and the results of the modeling exercise.

Chapter Four describes the methodology used to select hospitals and Emergency Medical Service (EMS) providers for the written survey and personal interviews and the results of this qualitative research.

Chapter Five summarizes the study's major findings and conclusions resulting from the literature review, policy analysis, survey and field research, and statistical modeling exercise. This chapter also recommends relevant changes that could be made to state and federal policies to help ease the burden placed on southwest border counties.

Appendices are included at the end of the report with relevant background and supporting information.

CHAPTER 2:

Federal and State Policy Environment

Chapter Overview

It is difficult to develop sound public policy recommendations related to the financing of emergency health services to undocumented immigrants without a basic understanding of existing federal and state laws, policies, and state indigent healthcare systems. As such, the following chapter reviews:

- Major federal laws that significantly affect the delivery and financing of emergency healthcare services to undocumented immigrants.
- Major federal programs available in all states to help offset some of the costs related to providing health services to undocumented immigrants.
- Major legislative proposals considered by the 107th U.S. Congress.
- Indigent healthcare delivery systems in the four southwest border states.
- State policy developments and responses surrounding the delivery and financing of emergency healthcare for undocumented immigrants.

General Federal Policy Environment

During the past 15 years, Congress has passed numerous laws that directly affect the delivery and financing of emergency healthcare services for undocumented immigrants. Table 2.1 highlights the most relevant federal laws. Statutes with more indirect effects (e.g., Medicaid coverage for *lega*l immigrants, deeming and public charge issues) are outside the scope of this study, and therefore not addressed in this chapter.

In 1986, Congress authorized the federal government to reimburse healthcare providers for emergency medical services and childbirth care delivered to immigrants who, except for their immigration status, would otherwise qualify for a state's Medicaid program. Although this program, (known as "Emergency Medicaid") has been beneficial, many patients do not qualify for coverage because they do not meet state Medicaid eligibility criteria (e.g., low-income adults without children). In addition, certain medical expenditures that occur after a patient is stabilized do not typically qualify for reimbursement from the federal government.

In 1996, Congress passed two major laws that affect the delivery and financing of emergency services to undocumented immigrants. The first is the Emergency Medical Treatment and Active Labor Act (EMTALA), which requires hospitals and emergency personnel to screen, treat and stabilize anyone who seeks emergency medical care regardless of income or immigration status. The second law, the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), among other things, limits Medicaid benefits for undocumented immigrants to emergency health services and non-Medicaid funded public health assistance (e.g., immunizations, communicable disease treatment).[6] In addition, PRWORA requires states that want to provide non-emergency

[6] Undocumented aliens were not eligible for Medicaid prior to the passage of PRWORA. For a more lengthy discussion and interpretation of the health benefits available to undocumented aliens see, for example, "Immigrant Access to Health Benefits: A Resource Manual" by Claudia Schlosberg.

medical assistance to "non-qualified" immigrants to pass affirmative legislation before providing such services, even if the state already had such a law in place prior to the federal Act's passage.

Table 2.1
Key Federal Statutes Affecting Undocumented Immigrants And Emergency Health Services

Act	Year Enacted	Relevant Highlights
Consolidated Omnibus Budget Reconciliation Act 1986 (OBRA 86)	1986	• Amended Medicaid law to authorize the reimbursement of healthcare providers for childbirth care and emergency medical services delivered to all immigrants (regardless of their legal status) as long as they meet the state's Medicaid eligibility criteria (no need to present a social security number).
Emergency Medical Treatment and Active Labor Act (EMTALA)	1996	• Requires hospitals and emergency personnel to treat anyone who needs emergency medical care regardless of income or immigration status. • Requires hospitals to provide all patients that arrive in an emergency department with mandatory medical screening examinations. • Requires hospitals to stabilize patients, if possible, before transit if an emergency medical condition exists and ensure patient safety during the transfer process.
Title IV of Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA)	1996	• Continues coverage for undocumented immigrants in need of "healthcare items and services that are necessary for the treatment of an emergency medical condition." • Continues coverage for undocumented immigrants for certain public health assistance, including immunizations, and the "testing and treatment of symptoms of communicable diseases whether or not such symptoms are caused by a communicable disease." • Allows states to provide and pay for preventive or primary care to undocumented immigrants by passing specific legislation after August 22, 1996 that affirmatively provides eligibility for such services.
Balanced Budget Act of 1997 (BBA 1997)	1997	• Directed the Secretary of Health and Human Services to distribute $25 million annually to 12 states, during fiscal years 1998-2001 to help pay for costs of providing emergency health services to undocumented immigrants. • Funds were allocated based on state's estimated total number of undocumented immigrants in nation (using INS figures), and were restricted to 12 states with the highest share of this population. • Twelve states that received funds accounted for 88 percent of the undocumented immigrant population.
Illegal Immigration Reform and Immigrant Responsibility Act	1996	• Clarified and strengthened INS' prosecutorial discretion. • Requires the Attorney General to report on the use of its "parole" authority.

The year following the passage of PRWORA, Congress enacted Section 4723 of the Balanced Budget Act of 1997 that directed the Secretary of Health and Human Services to distribute $25 million annually to the 12 states with the highest number of undocumented immigrants. The funds were distributed during fiscal years 1998-2001 to help pay the cost of furnishing emergency health services to undocumented immigrants. Unlike funds available through Emergency Medicaid, Section 4723 funds were available to cover the costs of furnishing emergency services to undocumented immigrants who do *not* meet state Medicaid eligibility requirements. Table 2.2 below illustrates the state allotments in FY 1998.

Table 2.2

FY 1998 Allotment for State Emergency Health Services Furnished to Undocumented Immigrants Under Section 4723 of the Balanced Budget Act of 1997

Ranking	State	Estimated Number of Undocumented Immigrants	Percent Distribution of Undocumented Immigrants	Allotment
1	California	2,000,000	45.34%	11,335,298
2	Texas	700,000	15.87%	3,967,354
3	New York	540,000	12.24%	3,060,530
4	Florida	350,000	7.93%	1,983,677
5	Illinois	290,000	6.57%	1,643,618
6	New Jersey	135,000	3.06%	765,133
7	Arizona	115,000	2.61%	651,780
8	Massachusetts	85,000	1.93%	481,750
9	Virginia	55,000	1.25%	311,721
10	Washington	52,000	1.18%	294,718
11	Colorado	45,000	1.02%	255,044
12	Maryland	44,000	1.00%	249,377
TOTAL		4,411,000	100.0%	25,000,000

***Source**: November 24, 1997 letter to State Medicaid Directors from Sally K. Richardson, Director, Center for Medicaid and State Operations, Health Care Financing Administration.*

NOTE: The states listed above were the twelve with the highest number of undocumented immigrants.

Relevant INS Policy

A number of provisions within the Immigration and Naturalization Service (INS) statutes and regulations directly affect the level of uncompensated care experienced by border hospitals and emergency medical services (EMS) providers. One of the most important provisions is "prosecutorial discretion." Prosecutorial discretion is the authority given to every law enforcement agency to decide whether to exercise its enforcement powers in a given setting. When exercising this authority and before deciding whether to take someone into custody an officer may consider numerous factors including the subject's current immigration status, length of residency in the U.S., and resources available to the INS. An officer also may weigh "humanitarian concerns."

Although an officer may pursue someone with the intent of detaining or removing them, if the person becomes injured the officer has the authority to decide whether to remove that person from custody. The officer may consider the person's condition ("humanitarian concerns") and the resources available to care for the individual within a detention facility or secure someone at a medical facility and choose not to take the person into custody. Once the person has been released from INS custody, the INS no longer has responsibility for that individual's well-being and they become the medical facility's charge.

Sections 562 and 563 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 states that reimbursement for emergency treatment rendered to undocumented immigrants will be made to state and local governments that provide emergency medical treatment through public hospitals, other public facilities, or contracted hospitals or facilities after January 1, 1997. These sections also direct the Attorney General to reimburse states for the costs of emergency transportation services resulting from an injury incurred while attempting to cross the border illegally. The INS will only provide reimbursement under the following conditions:

- The state has verified the immigration status of the individual.
- The costs are not reimbursed by another federal program.
- The alien cannot cover the costs.
- Funds have been appropriated and are available.

Another provision directly affecting undocumented immigrants' access to healthcare is INS "parole" authority. Generally this authority allows the INS to grant temporary entry to immigrants who otherwise appear to be inadmissible. There are numerous categories of "parolees." However, the category relevant for this study is the "humanitarian parole." This category is limited to immigrants admitted temporarily for medical reasons. In federal fiscal year 1997, 8 percent of all parolee were "humanitarian" parolees. Of that 8 percent, almost 81 percent or 8,437 came from Mexico.[7]

[7] Report to Congress on the Attorney General's Parole Authority Under the Immigration and Nationality Act, http://www.ins.gov/graphics/aboutins/repsstudies/report.htm.

Major Federal Programs

Several federal programs contain provisions that may help states cover some costs related to providing medical care to undocumented immigrants. These programs are available in all states, including the four southwest border states. Programs briefly reviewed below include:

- Medicaid.
- Disproportionate Share Hospital (DSH) Program.
- Federally Qualified Health Centers.

Medicaid is a state-administered program jointly funded by the federal and state governments. Generally speaking, Medicaid provides medical care for low-income:

- Pregnant women and children.
- Adults and children with severe disabilities such as blindness.
- Elderly persons in need of nursing home care.
- Persons eligible for cash assistance through the Temporary Assistance for Needy Families program (TANF), and Supplemental Security Income (SSI).

The federal Medicaid law requires that all states cover the groups listed above. In addition, states have the option of covering other groups, such as the "medically needy." As described earlier in this chapter, EMTALA requires that emergency medical assistance be provided to all immigrants, regardless of their legal status. Emergency services include medical conditions with acute symptoms that could place the patient's life in jeopardy, impair bodily functions, or cause serious dysfunction of any bodily organ or part. All labor and delivery services fall within the definition of emergency medical services. Emergency Medicaid is one funding source used to pay for these services.

Each state establishes its own criteria to determine Medicaid eligibility. In the context of Emergency Medicaid, this variance among the states is relevant since states are only reimbursed for emergency health services furnished to undocumented immigrants who, except for their immigrant status, would be eligible for Medicaid under the state's rules. As such, states with more generous eligibility criteria may file claims for a wider range of patients. Table 2.3 compares Medicaid eligibility criteria in the four southwest border states.

Table 2.3
State Medicaid Eligibility Comparison

	California	Arizona	New Mexico	Texas
Examples of Other Groups Deemed by the State as Medicaid Eligible	Families with children where the parent is not able to generate a steady source of income	Families with children deprived of parental support due to absence, death, disability, unemployment, or underemployment Youths age 18-20 transitioning out of the foster care system	Most women who desire family planning services (including those who are not pregnant and do not currently have children)	Caretakers and second parents of children who meet the TANF definition of deprived children Youths age 18-20 transitioning out of the foster care system
Maximum Income Family of 3 (July 2000)	$15,708	$5,244	$8,448	$4,740
Coverage Allowed for Undocumented Aliens/Services Included under "Emergency Services"	Emergency care services Pregnancy-related services (funded by state only); Long-term care, Kidney dialysis	Emergency care services	Emergency care services	Emergency care services
Program Administration	*State:* establishes rules and criteria; provides overall governance *County:* administers operations; determines eligibility	*State:* administers operations through managed care program; various state agencies have responsibility for determining eligibility	*State*: administers operations and determines eligibility	*State*: administers operations and determines eligibility through various state agencies
State Authority	California Department of Health Services	Arizona Health Care Cost Containment System	New Mexico Human Services Department	Texas Health and Human Services Commission

Source: *Income information derived from "Expanding Family Coverage: State's Medicaid Eligibility Policies for Working Families in the Year 2000." The Center on Budget and Policy Priorities. (February 2002); Other information derived from individual state welfare authorities.*

Another federal program that provides states with some financial relief is the Disproportionate Share Hospital (DSH) Program. The Omnibus Budget Reconciliation Act of 1981 (OBRA '81) required states to identify and reimburse hospitals that provide a disproportionate level of healthcare to indigent patients. DSH differs from other types of Medicaid payments because it is not tied to a specific patient's costs. DSH payments are designed to offset the aggregated costs hospitals incur when providing care to indigent patients. Indigent patients are defined as any patient without health insurance (including Medicaid) or other third party source of payment. Therefore, services rendered to undocumented immigrants without health insurance can be counted towards a hospital's DSH payments. Almost all of the hospitals in the 24 border counties are eligible for DSH funding. However, historically DSH has offset only a small portion of a hospital's uncompensated costs.

Healthcare services also are delivered through Federally Qualified Health Centers. These centers receive grants from the federal government to provide healthcare services to underserved populations without regard to their ability to pay. According to the *Access Project*, all centers must provide basic health services (e.g., primary care, lab and radiology services, diseases screenings, immunizations, family planning, emergency medical and dental services), as well as support services that help ensure access to basic health and social services (e.g., case management, referrals, outreach, transportation).

Pending Federal Legislation

The issue of how to pay for emergency health services for undocumented immigrants is not a new one. Nearly a decade ago, for example, the Clinton administration wrestled with the issue during its attempts to reform the nation's healthcare system. In fact, one proposal set aside a billion dollar fund to compensate states for providing federally mandated emergency and maternity care to undocumented immigrants.[8]

Not surprisingly, funding emergency health services for undocumented immigrants is the subject of numerous bills pending before the 107th Congress. Table 2.4 highlights major legislative proposals filed as of May 2002 that deal specifically with issues related to undocumented immigrants and emergency healthcare. Legislation pertaining to legal immigrants, such as those extending Medicaid benefits to legal immigrant children, is outside the scope of this study and therefore not addressed in this chapter.

A common thread among the legislative proposals pending before Congress is that the federal government has a responsibility to extend some level of financial support to hospitals and related providers that deliver emergency health services to undocumented immigrants.

[8] "Immigrant Healthcare, Texas, California grapple with issue," November 9, 1993, American Health Line.

However, the legislative proposals vary in terms of:

- How much funding is made available.
- Who is eligible for the funds.
- How the funds are administered.

Legislative proposals range in funding from approximately $50 million to $200 million per year. Some proposals restrict the availability of funds to southwest border counties, while others distribute funds to states with the most illegal immigrants. Still other proposals make the funds available in both the southwest border counties and large metropolitan areas. One bill, S. 169 by Kyl, restricts funding to the 17 states with the highest number of undocumented immigrants. However, the legislation also requires state plans to distribute the funds to give special consideration to communities on both the Mexican and Canadian border that contain a "large number of undocumented immigrants relative to the general population." Another point of discussion is whether funds should go directly to the hospitals or be distributed through the various states' health agencies.

It also is worth noting that legislation has been filed which could have the effect of reducing the demand for emergency services by undocumented immigrants. For example, several bills have been filed to amend PRWORA to allow states and localities to provide primary and preventive care to undocumented immigrants, (without passing affirmative legislation at the state level). "The Federal Responsibility for Immigrant Health Act of 2002" (S. 2449) amends the Emergency Medicaid statute to allow federal payments to states for prenatal care, and services related to the testing and treatment of communicable diseases. The bill also specifies that treatment necessary for the prevention of an emergency medical condition (including dialysis and chemotherapy services) is covered by Emergency Medicaid.

Table 2.4

Relevant Federal Legislation Pending Before the 107th Congress

Bill Number	Author	Highlights
S.169 H.R. 823	Kyl (R-AZ) Condit (D-CA)	• Title II of the bill provides $200 million each year from 2002-2005 to reimburse local governments, hospitals, and related providers of emergency healthcare in the 17 states with the highest number of undocumented immigrants. • Directs Department of Heath and Human Services (DHHS) to compute allotments based on each state's relative share of undocumented immigrant population in 17 states. • Directs DHHS to use INS data from October 1992 (or a later date if such date is at least one year before the beginning of the fiscal year involved) to determine total numbers of undocumented immigrants in a state. • Requires states to submit plans to DHHS outlining how funds will be dispersed. • Requires State Plans to take into account payments received by eligible local government, hospital, or related providers under title XIX of the Social Security Act (Emergency Medicaid) or an appropriate proxy that measures the volume of emergency health services provided to undocumented immigrants by qualified entities. • Requires State Plans to provide "special consideration for local governments, hospitals, and related providers located along the Mexican or Canadian border and in areas where a "large number of undocumented immigrants reside relative to the general population of the area."
H.R. 519	Reyes (D-TX) et. al.	• Amends Balanced Budget Act of 1997. • Restricts special allotments for emergency health services provided to undocumented immigrants to Metropolitan Statistical Areas with populations exceeding 1 million or counties along the U.S. or Mexico border. • Extends emergency health services funding for two additional fiscal years under the new "formula."
H.R. 2256	Kolbe (R-AZ)	• "Border Hospital Survival Act and Illegal Immigrant Care Act." • Directs DHHS to establish a five-year pilot program to reimburse hospitals and emergency transportation providers directly for emergency care provided to certain qualified immigrants. • Defines "qualified immigrants" as persons in the U.S. illegally or "medical parolees" (persons allowed into the U.S. by the INS to receive medical treatment for humanitarian reasons). • Authorizes $50 million annual transfer from INS to Health Resources and Services Division at DHHS for each of five years following the year in which the Act is enacted.
H.R. 2704 H.R. 2728 H.R. 2635	Lee (D-TX) Lee (D-TX) Green (D-TX)	• Amends PRWORA to retroactively allow states and localities to provide primary and preventive care to all individuals, in addition to emergency care.

Table 2.4 *(Continued)*
Relevant Federal Legislation Pending Before the 107th Congress

Bill Number	Author	Highlights
H.R. 3776	Kolbe (R-AZ)	• "Illegal Immigrant Emergency Care Reimbursement Improvement Act." • Amends 1996 Immigration Reform and Immigrant Responsibility Act to provide direct federal payment to hospitals and emergency ambulance service providers of emergency medical care and certain transportation services for undocumented immigrants.
S. 2449	Bingaman (D-NM) et. al.	• "Federal Responsibility for Immigrant Health Act of 2002". • Amends Social Security Act to amend Emergency Medicaid to allow federal payments to states for providing pregnancy-related care or services for the testing or treatment for communicable diseases to undocumented immigrants. • Extends 1997 BBA Emergency Services funding for fiscal years 2003-2007, and doubles the amount of funding available from $25 million per year to $50 million per year. • Limits funding to 15 states with highest percentage of undocumented immigrants. • Expressly authorizes states and localities to provide healthcare to all individuals, regardless of immigration status.
H.R. 4063	Reyes (D-TX)	• "Border Economic Recovery Act." • Amends and extends 1997 BBA to provide $100 million annually to hospitals along the border and their related providers who furnish emergency health services to undocumented immigrants for each of the five consecutive fiscal years beginning in 2003.

***Source**: Thomas Legislative Information Web Site.*

Indigent Healthcare and Emergency Health Services for Undocumented Immigrants in the Four Border States

Overview

The following section provides a brief overview of the indigent healthcare systems in the four southwest border states, with an emphasis on what each of the states has done to address issues related to undocumented immigrants. The purpose of this section is two-fold. First, to provide information on the various nuances in each state's system that need to be recognized when developing federal-level public policy recommendations to address the issue of uncompensated care and undocumented immigrants. Second, to highlight some of the supplemental programs states have developed and financed to pay for emergency health services, as well as some preventive care.

ARIZONA

Indigent Arizona immigrants (both legal and illegal) that reside in the state, but lack health insurance have access to the following "safety net" providers for healthcare:

- Public Hospitals and Affiliated Clinics.
- Community Health Centers.
- Tobacco Tax Primary Care Clinics.
- County Public Health Services.
- School Based & School Linked Clinics.[9]

In 1982, Arizona created the first Medicaid managed care program in the country, the Arizona Health Care Cost Containment System (AHCCCS). Before AHCCCS was created, indigent healthcare was largely a county responsibility. Through the 1980's and 1990's, indigent healthcare remained a "residual" county responsibility to provide healthcare to any indigent patient not enrolled in AHCCCS.

In November 2000, Arizona voters approved a ballot initiative (Proposition 204) to increase the income eligibility threshold for AHCCCS from approximately 33 percent to 100 percent of the federal poverty guidelines (FPL). Following approval by the Centers for Medicare and Medicaid Services (CMS), the Arizona State Legislature enacted legislation to address some long-standing issues involving the state's medically needy/medically indigent program, county's responsibilities and eligibility determinations. As a result of the AHCCCS expansion, the Legislature eliminated the counties' residual responsibility for indigent emergency healthcare services. As of October 1, 2001, the county role in providing indigent care has been limited largely to public health services such as immunizations and treatment/prevention of communicable diseases.

Healthcare for Undocumented Immigrants

Undocumented immigrants do not receive emergency healthcare services through AHCCCS. Instead, they receive care through the State Emergency Services Program (SES) or Emergency Medicaid (referred to as Federal Emergency Services or FES in Arizona).[10] Other healthcare services, such as primary care, are available at federally funded clinics.

SES was a 100 percent state-funded program, which covered emergency room patients not covered by FES—specifically single adults and couples without children that do not meet the state's Medicaid eligibility criteria, but earn 40 percent or less of the FPL. According to Arizona Health Futures, SES served 227 immigrants in FY 2000-01 at a state cost of $18.5 million.[11]

[9] "Magnet Force: Aliens, Health, and Social Policy in Arizona." Arizona Health Futures. Barbara Burkholder. February 2002, page. 11-12.
[10] As described later in this section, SES was recently replaced by a new hospital payment program.
[11] Ibid, page 19.

The SES program captured the limelight during the Fall of 2001 when the Arizona Legislature was forced to resuscitate the program during a special session. Arizona legislators passed HB 2001 in September 2001, which restored $20 million in state funding for SES for each of FY 2001-2002 and 2003-2004. The emergency reinstatement was necessary because of an administrative oversight with CMS related to a Medicaid waiver it received following the passage of Proposition 204.[12]

Emergency Medicaid or FES, on the other hand, helps pay for emergency services delivered to illegal and qualified immigrants that, except for their immigration status, would qualify for AHCCCS. According to Arizona Health Futures, in FY 2000-01, the federal government paid Arizona $7.99 million for emergency services provided to 7,705 immigrants.[13]

During the current legislative session, Arizona lawmakers were forced to make additional budget cuts for FY 2001-2002 due to lower than anticipated revenues. As a result, the Legislature replaced the SES program with a new disproportionate share hospital payment program that reimburses hospitals for uncompensated care based on FES reimbursement. The Legislature is currently debating the FY 2002-2003 budget, which includes a plan to continue the uncompensated care pool for emergency hospital services.

CALIFORNIA

Of the four southwest border states, California offers the most complex web of indigent healthcare programs. California counties have a major responsibility for providing healthcare to indigents. Larger counties administer “Medically Indigent Adults” (MIA) programs, while smaller counties call their MIA programs “County Medical Services Program” (CMSP). Under California law, counties have statutory discretion to provide aid to nonresidents, including undocumented persons.

Healthcare for Undocumented Immigrants

Issues surrounding undocumented immigrants and public services like healthcare were fiercely debated in California well before the passage of federal welfare reform in 1996. The state’s infamous Proposition 187 passed in 1994, which among other things, banned undocumented immigrants from receiving non-emergency care. A U.S. District Judge overturned the ballot proposition in 1999.

Perhaps ironically, among the four border states, California offers the most generous array of benefits for undocumented immigrants. It is the only southwest border state that allows non-qualified and undocumented immigrants to pre-qualify for Emergency Medicaid and receive a restricted benefit Medi-Cal card. According to a study by the Urban Institute, undocumented immigrants in California are ten times more

[12] In November 2000 Arizona voters approved Proposition 204 expanding the eligibility for AHCCCS to 100 percent of the federal poverty level. Because AHCCCS differs from traditional Medicaid, the state was required to obtain a waiver that authorized the federal funding portion beginning October 1, 2001. The waiver required Arizona to cover persons who are not eligible for traditional Medicaid. Based on that agreement the legislature passed SB 1577 to repeal all 100 percent state funded programs, including SES. In July 2001, however, the Center for Medicare and Medicaid Services informed Arizona officials that federal funds are not permitted to be used for "non-categorical undocumented persons under a waiver agreement."

[13] “Magnet Forces.” Page 16.

likely to utilize emergency care than immigrants in the other 49 states. However, the same study found that the cost of serving undocumented immigrants was lower in California than in the rest of the states. [14]

Medi-Cal is also the only Southwest border program that uses state-only funds to cover pre-natal care for undocumented immigrants. In 1988, California enacted SB 175 that required California to use state funds to provide non-emergency pregnancy related care (including prenatal care, labor, delivery, and postpartum care) to undocumented immigrants. Additional limited Medi-Cal benefits for undocumented immigrants include nursing home care, and kidney dialysis.

Undocumented immigrants are not eligible for coverage through California's Childrens Health Insurance Program. Healthy Families, however, another state-funded program, the Child Health and Disability Prevention Program (CHDP) provides health screens and immunizations to poor, uninsured children, including undocumented immigrants.

California also has created a number of programs to help reimburse hospitals for uncompensated costs. For example, the California Healthcare for Indigents Program (CHIP) allocates Proposition 99 (Tobacco Tax and Health Protection Act of 1988) funds to larger counties to reimburse uncompensated care by hospitals and physicians and to provide health services for indigent patients. Counties have statutory discretion to provide aid to non-residents, including undocumented immigrants. The Rural Health Services (RHS) Program allocates Proposition 99 funds to smaller counties to reimburse uncompensated care by hospitals and physicians and to provide health services for indigent patients, including at the county's discretion, undocumented immigrants.

Two other programs provide supplemental payments to California hospitals that serve disproportionate numbers of low-income individuals. Under the SB 855 program, public entities that operate disproportionate share hospitals, such as counties, special districts, and the University of California system, are required to transfer funds to the state by means of intergovernmental transfers. These funds are combined with matching federal funds and redistributed as supplemental payments to all eligible disproportionate share hospitals, including private hospitals.[15] Under the SB 1255 program, the California Department of Health Services provides supplemental payments to eligible DSH hospitals that demonstrate need. Intergovernmental transfers by public entities are voluntary under this program.

[14] "Welfare Reform and the Devolution of Immigrant Policy,: Micheal E. Fix and Karen Tumlink. The Urban Institute. New Federalism: Issues and Options for States. Series A, No. A-15. October 1997, page 148.

[15] A hospital may receive DSH payments if its Medi-Cal inpatient utilization rate exceeds an established threshold or it uses a minimum percentage of its revenues to provide healthcare to Medi-Cal and uninsured patients.

NEW MEXICO

Counties in New Mexico serve as one of the lead "safety net providers in the state." The basic statutory framework for New Mexico's indigent healthcare system is contained in the following two statutes:

- The Indigent Hospital and County Health Care Act (NMSA 27-5-1).
- The County Local Option Gross Receipts Tax Act (NMSA 7-20E-9).

The statutes cited above have established County Indigent Funds (CIFs) as a primary vehicle for financially supporting the delivery of healthcare to indigent New Mexico residents. The county-imposed gross receipts tax is the major funding source (other sources include the mill tax and general appropriations) for CIFs. New Mexico law sets relatively broad guidelines for collecting funds and reimbursing healthcare providers for services furnished to indigent residents. However, state law requires the establishment of *County Indigent Hospital and Health Care Boards* to provide oversight over CIFs and set criteria for both eligibility (e.g., income, residency, and immigrant status qualifications) and covered medical services.

Although creating a County Indigent Fund is not mandatory, in 2001, 30 of the state's 33 counties had created such a fund.[16] In 2001, total expenditures under the CIF program were approximately $28.4 million, with a median per county expenditure of approximately $570,000.[17] CIF administrators have recently expressed concerns about declining gross receipts revenue and the budgetary implications for their programs and services.

As in other states, the healthcare safety net in New Mexico also includes publicly supported primary care clinics financed by fees, local, state, and federal subsidies. These clinics do not screen for immigration or citizenship status. The same holds true for the state provided system of public health services and programs (e.g., immunizations, communicable diseases).

Healthcare for Undocumented Immigrants

In 2001, 17 of the 25 CIF counties that responded to the state's annual survey indicated that they reimburse providers for healthcare delivered to qualified undocumented immigrants. According to reports filed with the New Mexico Health Policy Commission, all three of New Mexico's border counties (Hidalgo, Luna, Doña Ana) reimburse emergency and non-emergency providers for healthcare delivered to undocumented immigrants. The state's major safety net hospital, the University of New Mexico Health Science Center (UNMHSC), provides emergency care, immunizations, communicable disease diagnosis and treatment to undocumented immigrants. However, UNMHSC considers undocumented immigrants "self-pay" and requires that they provide partial payment before receiving non-emergency care.[18]

[16] New Mexico Health Policy Commission.: "County Funded Health Care Report – State Fiscal Year 2001." Santa Fe, NM. New Mexico Health Policy Commission, January 2002.
[17] Ibid, page 6.
[18] New Mexico Department of Health, Health Policy Commission., Human Services Department., Senate Joint Memorial 52 Workgroup.: An Evaluation of the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). On Access to Health Care and Public Benefits for Immigrants in New Mexico. Albuquerque. New Mexico Department of Health Public Health Division, Nov. 2001.

As in all four border states, the issue of undocumented immigrants and their access to various healthcare services is of great interest to New Mexico policymakers and health advocates. In 2001, the New Mexico Legislature issued Joint Memorial 52 (SJM 52). The memorial asked the New Mexico Department of Health, the New Mexico Health Policy Commission, and the New Mexico Human Services Department to evaluate the provision of healthcare to immigrants in the post welfare reform era, with an emphasis on legal immigrants in the United States for fewer than five years and undocumented immigrants. SJM 52 also asked the various state agencies to identify "the means by which indigent persons, regardless of their immigration status, can receive healthcare and other public benefits for which they are now ineligible."[19] SJM 52 was reportedly sparked in part by the UNMHSC' decision to stop providing non-emergency care to undocumented immigrants nearly five years after the passage of the 1996 welfare reform law and subsequent concern that CIFs would be required to follow suit.[20]

A work group was established to study the issue with the New Mexico Department of Health as the lead agency. The group released a report in November 2001 that essentially endorsed the provision of both emergency and preventive healthcare services to indigent immigrants, regardless of their legal status, but stopped short of making a specific recommendation due to financial and political concerns. One excerpt from the report reads as follows: "Most members of the SJM 52 Workgroup feel that investing in preventive, primary, and secondary care offers an affordable and more humane and responsive policy option."

The task force and the Legislative Health and Human Services Committee endorsed a proposal to work with the New Mexico congressional delegation to repeal the sections of PRWORA that deny benefits to non-qualified immigrants.[21] Consequently, the "Federal Responsibility for Immigrant Health Act of 2002" filed by New Mexico Senator Bingaman contains a provision that permits states and localities to provide healthcare to all individuals, regardless of immigration status.

[19] Ibid.
[20] "Official Says Law May Hurt Health Care Services for New Mexican Illegal Aliens." August 8, 2001. Las Cruces Sun-News. Rene Ruelas.
[21] New Mexico Health Policy Commission's Health Happenings. January 2002.

TEXAS

As required by the Indigent Healthcare and Treatment Act of 1985,[22] Texas counties provide the "safety net" for indigents or persons *not* covered by private health insurance or public health insurance programs like Medicare, Medicaid, and the State Children's Health Insurance Program (about 25 percent of the Texas population in 1999).[23] Texas law provides counties with three basic options for structuring the delivery of indigent healthcare, including:

- Hospital districts.
- Public hospitals.
- County Indigent Health Care Programs (CIHCP).

Hospital districts are special taxing entities that levy a property tax of up to 75 cents per $100 property valuation to fund indigent healthcare. State law requires that hospital districts serve persons with incomes below 24 percent of the federal poverty line, however, most districts have established higher income thresholds. In addition to property tax revenues, hospital districts may also receive financing from the state's Tertiary Care Fund (a pool of unclaimed lottery revenue), the Disproportionate Share Hospital program (federal funding for hospitals that provide a large proportion of charity care), and the Graduate Medical Education program (supplemental Medicaid and Medicare payments to teaching hospitals). According to the Texas Department of Health, hospital districts cover about 120 of Texas' 254 counties.[24]

Public hospitals are funded by sales and use taxes, and are eligible for the same type of funding as hospital districts. A public hospital is defined in Texas law as "a hospital owned, operated, or leased by a county or municipality."[25] According to the Texas Department of Health, public hospitals are legally liable for serving residents in more than 30 Texas counties.[26]

The third option is a *County Indigent Health Care Program (CIHCP)*. Under this arrangement, counties pay providers for services delivered to eligible patients. These programs are paid for with a combination of local and state funds. The level of state funding depends on the level of local funding (as a percent of their annual budget). In fiscal 2000-2001, the state set aside $32 million to reimburse counties through the CIHCP state assistance fund. To qualify for state funding, counties must spend more than eight percent of their general revenue tax levy on qualified healthcare expenditures. According to the Texas Department of Health, all or some portion of 138 Texas counties are mandated to operate a CIHCP.[27]

[22] Senate Bill 1, 69th Legislature, First Called Session, Texas Health and Safety Code, Chapter 61.
[23] Caton M. Fenz. "Providing Health Care to the Uninsured in Texas: A Guide for County Officials." The Access Project. September 2000.
[24] "County Indigent Health Care Program Provider Manual," Texas Department of Health, September 2001, page 2.
[25] Texas Health and Safety Code, Chapter 61, Sec. 61.002 (6)-(10).
[26] Ibid.
[27] "County Indigent Health Care Program Provider Manual," Texas Department of Health, September 2001.

Other sources of healthcare for Texas indigents include free clinics, public health services, charitable and private organizations, state entities such as the prison system, and Texas Department of Mental Health and Mental Retardation. The *Access Project* reported that Texas counties spent an estimated $940 million on all indigent healthcare in 1999.[28]

During the 1999 legislative session, Texas lawmakers passed HB 1398, which overhauled the state's indigent healthcare system. One of the most significant provisions of HB 1398 is that it provided $40 million in financial incentives to counties to provide healthcare to the medically indigent.[29]

Healthcare for Undocumented Immigrants

As in other states, Texas hospitals are reimbursed for emergency healthcare provided to qualified undocumented immigrants (i.e., individuals who would have otherwise qualified for the state's Medicaid program) by the Texas Department of Human Services through the federal Emergency Medicaid program. Texas has not established any special state-funded programs to supplement any federal payments.

The issue of providing *preventive* healthcare for undocumented immigrants has recently garnered a great deal of attention in Texas. In January 2001, the Harris County Hospital District (HCHD) asked the Texas Attorney General to determine whether PRWORA precluded the District from providing preventive care to poor Harris County residents without regard to their immigration status. The Harris County Hospital District, located in Houston, is the third busiest public healthcare system in the nation. An estimated 23 percent of the district's patients are reported to be undocumented immigrants, costing $330 million over the past three years.[30]

On July 10, 2001, the Texas Attorney General issued an opinion stating that PRWORA authorizes public hospitals and clinics to provide emergency services, immunizations, and communicable disease treatment to undocumented immigrants, but that the Texas Legislative must pass "affirmative" legislation if local governments want to provide primary or preventive care. The Texas Attorney General found that the Texas Legislature had not enacted a law that would allow local healthcare providers to bypass federal law. The legal opinion has stirred debate across the state regarding the interpretation of the PRWORA and its implications for public health.[31] Since the opinion was issued, most hospital districts in Texas have opted to continue providing preventive services until otherwise directed by a court of law or legal counsel, although a few have discontinued providing such care.

[28] The Access Project is a national healthcare policy initiative supported by the Robert Wood Johnson Foundation and the Anne E. Casey Foundation. For a more lengthy discussion of indigent healthcare in Texas, see "Providing Health Care to the Uninsured in Texas: A Guide for County Officials," Caton M. Fenz, The Access Project, September 2000.

[29] House Bill 1, 76th Legislature, Regular Session.

[30] "Health Care for Undocumented Aliens: Who Pays," House Research Organization, Texas House of Representatives, October 29, 2001.

[31] For a more lengthy discussion of the Attorney General Opinion, see, for example, "Health Care for Undocumented Aliens: Who Pays," House Research Organization, Texas House of Representatives, October 29, 2001.

Comparing the Border States

Healthcare services are (both emergency and primary) for undocumented immigrants a serious, high profile public policy issue in all four southwest border states. The issue concerns state and local policymakers, hospital administrators, and healthcare advocates alike. In New Mexico, the Legislature passed a joint resolution last summer creating a work group to study issues related to healthcare access and immigrants. In Arizona, the Legislature met in emergency session to restore the state's SES program in Fall 2001, only to replace it several months later with a new disproportionate share hospital payment program. In California, hospitals are facing serious budget problems. According to the California Medical Association 82 percent of emergency rooms in the state reported losing money in 2000.[32] In Texas, a recent Attorney General Opinion stirred debate over the legality and desirability of local hospital districts providing preventive care to undocumented immigrants.

Another commonality among all four border states is that to varying degrees, state or local government bodies have stepped up to help pay for some of the costs related to providing care to undocumented immigrants. Until the enactment of recent legislative changes, Arizona had established a 100 percent state funding source (SES) to pay both public and private hospitals for some of the emergency health services furnished to persons who do not qualify for financial aid under Federal Emergency Medicaid. Arizona has recently replaced SES with a new disproportionate share hospital payment program that reimburses hospitals for uncompensated care based on FES reimbursement. California has established several programs that provide supplemental funds to public and private hospitals that provide large amounts of uncompensated care. California also uses state funds to cover prenatal care, dialysis, and long-term care through its Medicaid program, and also allows undocumented immigrants to pre-qualify for a restricted Medi-Cal card.

Table 2.5 compares the border states in terms of their indigent healthcare delivery systems and public policies related to undocumented immigrants.

Table 2.5
Comparison of Border State Indigent Healthcare Policies

State	Counties Primarily Responsible for Indigent Care?	Hospitals Reimbursed by State for Emergency Services to Undocumented Immigrants?	Preventive Care through Medicaid?	Undocumented Immigrants Pre-Qualify for Emergency Medicaid?
Arizona	No	Yes	No	No
California	Yes	Yes*	Yes	Yes
New Mexico	Yes	No	No	No
Texas	Yes	No	No	No

** See discussion under California for clarification.*

[32] "Health care faces budget ax." November 26, 2001. Sacramento Bee.

CHAPTER 3:

Estimated Cost of Providing Emergency Medical Services to Undocumented Immigrants

CHAPTER 3: ESTIMATED COST OF PROVIDING EMERGENCY MEDICAL SERVICES TO UNDOCUMENTED IMMIGRANTS

Overview

The negative financial impact of undocumented immigrants on southwest border counties has been an issue for some time. Anecdotal evidence suggests that border hospitals and other emergency medical service providers deliver significant levels of uncompensated care to non-citizens. However, there has been little systematic effort to measure the size and scope of this problem, making it difficult for policymakers to develop a meaningful policy response.

The first step in crafting effective policy reform, including the possible allocation of additional resources, is to determine the size of the problem. This study undertook systematic measurement of the problem and determined undocumented persons cost border hospitals $189.6 million in uncompensated emergency medical costs during 2000. To put this figure in context, total reported uncompensated costs at border hospitals were $831.6 million, meaning that costs attributable to undocumented immigrants comprised almost 23 percent of the unpaid care provided. In addition, we estimate that emergency medical service (EMS) providers had $13 million in uncompensated costs during 2000.

These figures do not represent the full cost incurred by southwest border counties and the healthcare providers serving them. As noted in the executive summary and introduction of this report, our scope was limited to emergency medical services only and did not include emergency medical services delivered by physicians when those physicians billed for their services separately from hospital charges. Both physician services and extended care arising out of a qualified medical emergency are substantial in cost. Further, our estimate does not capture indirect costs hospitals and other emergency medical providers necessary for these entities to operate their businesses.

The methodology used to derive estimates for hospital and EMS providers is described below.

Overall Methodological Approach

Measuring the financial impact of undocumented persons who do not pay for their emergency medical treatment in border counties can be approached in a variety of ways. The ideal process would involve each organization clearly reporting its level of uncompensated care attributable to undocumented immigrants. However, hospital officials expressed concerns about the legal consequences of asking undocumented persons about their immigration status, particularly in the emergency room. Many of those interviewed believed to do so would violate federal law.

As an alternative form of primary research, we designed and distributed surveys to all hospitals and emergency medical providers in the 24 southwest border counties in an effort to obtain an estimate of the costs of providing uncompensated care to undocumented immigrants. As discussed in Chapter four, this effort by itself did not generate robust results. While both surveys and interviews yielded valuable insights into the nature and scope of the problem,[33] they did not provide information that was statistically valid on a stand-alone basis. This is not surprising. Given the small universe of providers and uncertainty about response rates, the research team expected, when the study methodology was designed, that a combination of primary and secondary research would be necessary, and that the secondary research would actually form the "primary" line of inquiry.

Data Issues

In light of the lack of statistically valid data from the survey effort, an alternative secondary source of information on uncompensated costs was needed. Fortunately, the American Hospital Association (AHA) annual survey[34] contains financial information at the county level on net patient revenues and uncompensated costs.[35] We used this data to calculate each facility's ratio of uncompensated costs as a percentage of net revenue thereby allowing us to compare counties regardless of size.

While AHA data allowed the development of a methodology to estimate relevant costs for hospitals, we found no comparable source of financial information for EMS providers. As a result, we were unable to generate comparable estimates of uncompensated costs attributable to undocumented immigrants for these emergency medical service providers. A different and less robust methodology was applied to an estimate of EMS provider's uncompensated costs and is discussed elsewhere in this chapter.

Hospital Modeling Methodology: Background

A theoretical approach to quantitative analysis of the available secondary data would mimic the methods of the experimental sciences and cast the question in terms of "treatment" and "control" groups." To do this we would have to identify a "control" county elsewhere in the United States that is identical to the border "treatment" county in every relevant respect apart from its location on the border. Unfortunately, this was not possible since no two U.S. counties are identical to each other in every relevant respect.

[33] For example, interviews confirmed that, for practical purposes, all uncompensated care attributable to undocumented persons originates in the emergency room.

[34] The AHA annual survey covers approximately 80 percent of American hospitals, with data imputed for organizations that do not report in a given year. Data is suppressed by AHA for counties with only one hospital, although the same information can often be obtained from the relevant state hospital association.

[35] Uncompensated costs are defined to include both bad debt and charitable care. Since the policy environment in each state varies, it is possible that uncompensated care relate to undocumented persons could be classified in either category, depending on the institution and the state in which it is located. As a result, the combination of both charitable care and bad debt was used as a basis of analysis.

A more workable alternative was to identify *sets* of non-border counties that capture the essential characteristics of each border county with respect to the demand for emergency medical services. We exploited the law of averages, or what financial analysts refer to as the "portfolio" effect, to carefully construct a collective "counterfactual" for each border county. This approach plausibly accounts for what the level of uncompensated care would look like in the matched border county had it not been located on the border.

Under this scenario, a comparison of actual levels of uncompensated care versus expected average values for each counterfactual set were subtracted from the observed value for the associated border county. This difference was then multiplied by the net level of patient revenues in the border county to estimate the excess burden of uncompensated care attributable to its location on the border.

Challenges and Limitations

A major challenge in implementing this methodological approach is the fact that almost all of the 24 counties lying along the U.S./Mexican border are, on many important dimensions, strikingly different from most of the remaining 3,118 counties in the United States. For example, half the border counties fall below or very near the lowest 10 percent of median household income in the United States and half have populations that are over 70 percent Hispanic.[36]

There are also significant differences among the border counties themselves. For example, San Diego County, one of the five most populous counties in the United States – accounts for nearly half of the more than six million people living in southwestern border counties. Its dominant presence on the border notwithstanding, San Diego shares far fewer affinities with its fellow border counties than it does with dynamic, populous regions elsewhere in the United States. Factors like these greatly reduce the potential pool of non-border counties that can serve as credible candidates for constructing sets of counterfactual matches for the border counties.[37]

A major challenge in implementing this approach is the fact that almost all of the 24 counties lying along the U.S./Mexican border are, on many important dimensions, strikingly different from most of the remaining 3,118 counties in the United States.

We addressed this challenge by carrying out an iterative series of cluster and discriminant analyses on a set of more than sixty descriptive variables for all counties in the United States. Cluster analysis uses a wide variety of socio-economic data to identify counties that are comparable, while discriminant analysis allows the use of probabilities of a given county residing in each group of counties to borrow strength from the overall comparison data set (see **Appendix F** for more detail on each). Combining this quantitative analysis with progressively updated qualitative assessments of differences and similarities both within the set of border counties and between border counties and non-border counties, led to the identification of 107 non-border counties

[36] Ten border counties were in the bottom decile of U.S. median household income in 1993. All but one were in Texas. From lowest to highest, they are: Starr, Presidio, Maverick, Zapata, Luna (NM), Kinney, Hidalgo, Culberson, Cameron, and Hudspeth. Imperial County (CA) and Webb County (TX) were just outside the tenth decile in 1993.

[37] Including a highly Hispanic non-border county in a counterfactual set will bias the final calculation of excess uncompensated costs borne by border counties downward. This is true to the extent that the percent Hispanic population is positively correlated with the presence of undocumented immigrants and that this, in turn, is linked to higher rates of uncompensated emergency care.

that, in unique combinations, served as a counterfacutal for each of the 17 border counties with hospitals that offer emergency healthcare services.[38]

Calculation of Uncompensated Hospital Costs Attributable to Undocumented Immigrants

Once a workable set of non-border counties was identified, a linear regression model was constructed that expresses uncompensated hospital costs per dollar of net patient revenue for every county in the dataset as a function of:

(1) whether the county lies on the border;

(2) the probabilities of membership in the border clusters;

(3) population;

(4) median household income, and;

(5) the interaction of population with probabilities of membership.

The results show that the coefficient for the border indicator variable was 0.035, positive and statistically significant at the conventional 5 percent level. This coefficient is, statistically speaking, the "maximum likelihood estimate" of the gap between what U.S.-Mexico border counties, on average, bear in uncompensated costs per net revenue and what they would likely bear were they not located on the border.

In other words, uncompensated costs at border hospitals as a percentage of net patient revenue would be 3.5 percentage points lower if they were not located on the border. Multiplying this figure by total net patient revenues for each border county with hospital facilities provides a county-by-county estimate of excess costs of uncompensated care. Summing these figures across border counties with hospitals yields an estimate of approximately $190 million in excess uncompensated costs.

[38] Seven of the 24 U.S. counties on the U.S./Mexican border do not have hospitals and are therefore not included in the assessment of excess uncompensated costs of emergency hospital care. They are: Hidalgo (NM); Hudspeth (TX); Jeff Davis (TX); Presidio (TX); Terrell (TX); Kinney (TX); and, Zapata (TX).

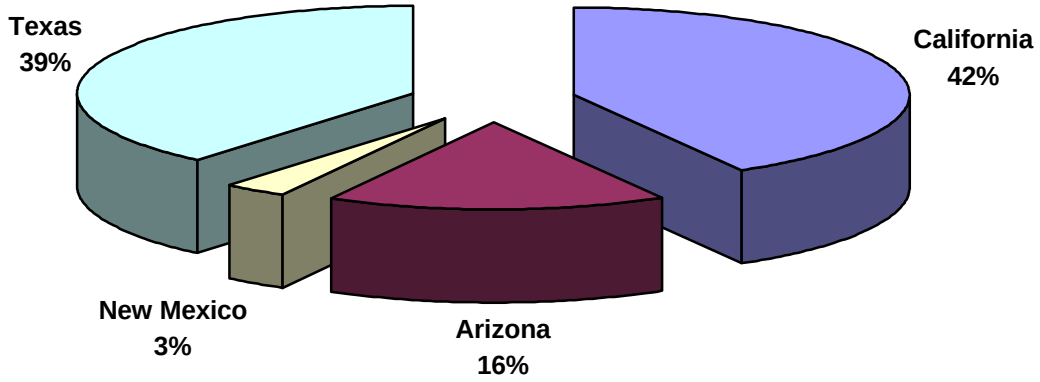
Table 3.1
Estimated Uncompensated Costs by Border County in 2000

	Net Patient Revenue ($000)	Total Uncompensated Costs ($000)	Estimated Amount Uncompensated Costs due to Undocumented Immigrants ($000)
San Diego, CA	2,178,568	284,451	76,185
Imperial, CA	81,182	10,995	2,839
Pima, AZ	704,887	75,934	24,650
Santa Cruz, AZ	11,014	1,612	385
Yuma, AZ	117,373	13,952	4,105
Cochise, AZ	48,542	5,925	1,698
Doña Ana, NM	155,981	43,678	5,455
Luna, NM	16,103	1,752	563
El Paso, TX	860,783	185,393	30,102
Culberson, TX	1,758	905	61
Brewster, TX	9,486	1,599	332
Val Verde, TX	28,414	5,342	994
Maverick, TX	25,765	4,625	901
Webb, TX	180,737	46,357	6,320
Starr, TX	11,608	1,942	406
Hidalgo, TX	562,354	91,055	19,666
Cameron, TX	426,160	56,047	14,903
TOTALS:	**$5,420,715**	**$831,564**	**$189,565**

***Source**: MGT of America, May 2002.*

Not surprisingly, the estimated uncompensated costs tend to be concentrated in the major urban areas of the border, with San Diego, Pima, El Paso and Rio Grande Valley accounting for the vast majority.

Figure 3.1
Percent of Total Estimated Uncompensated Costs by State



***Source**: MGT of America, May 2002.*

Summary of Approach

The fact that border counties are strikingly distinct in many ways from most non-border counties increased the difficulty of estimating the excess costs of uncompensated hospital emergency care in southwest border counties. Technical and sometimes complicated as some of the steps taken in this analysis were, all were guided by a commitment to avoid imposing excessive structure on the problem by making unnecessary simplifying assumptions. Simplifying assumptions, of course, always have to be made, but they should be made without treating border counties, even subsets of similar counties, as homogeneous and perfectly inter-changeable.

Technicalities aside, the final estimates follow a logical progression of quasi-experimental thinking about how to structure a credible empirical study that can shine light on the question of the costs of uncompensated care along the border using aggregated secondary data sources. The logical progression, from ideal to most practical, is as follows:

1. Differences between actual uncompensated costs between perfectly matched pairs of border/non-border counties. This is a one-to-one matching of border and non-border counties. If it were possible to match each border county with a non-border county that was equivalent in all relevant respects to the border county, calculating the excess costs of being on the border would be a trivial matter of taking the difference in total actual uncompensated costs between the two. The notion of "equivalent in all relevant respects," however, is an elastic, subjective abstraction that statisticians refer to as "exchangeability." Unfortunately, the unique character of border counties – including marked contrasts among border counties themselves – is such that it is effectively impossible to identify a meaningful non-border counterpart for every border county.

2. Differences between actual uncompensated costs in border counties and the average costs of a set of near-equivalent non-border counties. This one-to-many approach in matching acknowledges the fact that there may be no single perfectly matching non-border county for each county on the border. Substituting the average costs from a set of counties that are *nearly* exchangeable with a given border county for the actual costs of a single perfectly exchangeable county is a statement to the effect that any differences that remain among the non-border counties, after controlling for scale,[39] cancel each other out in the averaging. It is extremely difficult to identify a set of exchangeable non-border counties that meaningfully match each, or indeed any, county along the border.

3. Differences between average uncompensated costs in clusters of similar border counties and the respective averages of non-border equivalents. This is a many-to-many approach that matches sets of border counties with sets of non-border near-equivalents with respect to uncompensated costs. This approach becomes more attractive as the lack of one-to-many equivalents becomes more pronounced. It is no longer the *actual* uncompensated costs that are compared between border and non-border counties as in the ideal one-to-one matching, but averages of border-county costs, cluster-by-cluster, and averages of equivalent non-border costs (all controlling for scale).[40]

4. Replicate #3, but now explicitly controlling for relevant exogenous factors. This is a many-to-many approach matching with controls. Regression analysis makes it possible to control explicitly for the effects of other factors that may be relevant to the determination of uncompensated costs rather than to assume that the effects of these factors "wash out on average." The need to conserve degrees of freedom in light of the relatively small number of counties in the United States that share attributes with border counties severely limits the number of exogenous explanatory variables that can be included in a meaningful regression analysis. Population was the salient exogenous factor that we controlled for in this manner. In the interests of flexibility, it can enter not only by itself, but also in interaction with the dummy variable that indicates the clusters of counties. This makes it possible to distinguish cluster-specific population effects on the costs of uncompensated hospital emergency care.

5. Replicate #4, but now accommodating "degrees of membership" in each cluster. Rather than insist that counties, whether on the border or not, identify with just a single cluster, this modification of the previous approach allows each county to express a degree of affiliation with each cluster via posterior probabilities. Making this modification greatly strengthens the analysis by making it possible for observations with partial membership in any cluster to contribute to the estimation and to the precision of the estimates. This is the framework adopted by the research team for estimating hospital's uncompensated costs.

[39] Since counties may differ significantly in the scale of net patient revenues received, it is at this stage that the focal variable, uncompensated emergency hospital care, is usually manipulated in per net patient revenue terms.

[40] This approach could be operationalized as a linear regression with the dependent variable being uncompensated costs per dollar of net patient revenue and the independent variables consisting of an indicator for border counties along with a set of additional 1/0 indicator variables designating membership in a particular border cluster.

Emergency Medical Transportation Providers Estimate

Unlike hospitals, no centralized source of data on overall financial performance of EMS providers across the country exists. This lack of centralized data limits our ability to estimate the impact of undocumented immigrants on the uncompensated care levels of border EMS firms and prevents us from using the methodology that was applied to estimated hospital costs.

In spite of this limitation, an "order of magnitude" estimate of the impact can be derived. The County Business Patterns data set maintained by the Census Bureau contains information, at the county level, on the number of employees and annual payroll by detailed industrial sector. In spite of some suppression, data is available for Cameron, Hidalgo, El Paso, and Webb County, Texas; Doña Ana County in New Mexico; Pima and Yuma County, Arizona; and Imperial and San Diego County, California. Collectively, wages paid at EMS firms in these counties were $70.7 million during 2000. These counties represent 94.5 percent of the population base of the southwest border counties with hospitals included in our study. A proportionate estimate for the counties where data has been suppressed would put total ambulance payroll at just under $75 million. Nationwide, wages paid represent 42.2 percent of total receipts for EMS providers. Assuming this relationship holds true on the southwest border, total EMS company receipts for 2000 would be $177.2 million.

Seven of the 82 border emergency medical transportation companies surveyed provided information on the level of uncompensated care attributable to undocumented immigrants as a percentage of their total revenue. These estimates ranged from one to fifteen percent (although most were clustered between five and ten percent), and the average was 7.35 percent. Applying this figure to the $177.2 million in total EMS revenues yields an estimate of $13 million in uncompensated EMS care attributable to undocumented immigrants.

Unlike our estimate related to uncompensated emergency care provided by hospitals, the estimate for EMS providers should be viewed as providing an order of magnitude, as the simplifying assumptions and limited data undermine its precision. However, the result is consistent with expert judgment solicited over the course of the project, as well as the prior expectations of members of the research team.

Conclusions

The modeling exercise suggests that approximately one in four dollars of uncompensated emergency services costs for border hospitals can be attributed to undocumented immigrants. This estimate is consistent with the anecdotal information gathered through interviews and surveys, and is indicative of the tremendous burden that their geographic location places on border counties. Already serving a local population that is significantly more low-income than the nation as a whole, the additional burden of cross-border uncompensated care puts further pressure on the hospitals and the communities they serve.[41] For example, one for-profit hospital reported

[41] According to the Bureau of Economic Analysis, the cost of total public assistance medical care for the border counties (which includes Medicaid and other payments to medical vendors) was $3.89 billion during 2000, or $62.29 per capita. By contrast, the national figure for the same period was $72.76. The lower level on the border is largely a function of more stringent eligibility standards for Medicaid, which serves to put further pressure on already disadvantaged counties.

in an interview that the impact of a large volume of undocumented immigrant uncompensated care had forced them to raise local health insurance rates, costing the community more money directly and making the town potentially less attractive for business retention and expansion. Seen in this light, uncompensated care for undocumented immigrants serves to exacerbate an already difficult situation for many institutions and communities, and merits serious consideration at the federal level.

The modeling exercise suggests that approximately one in four dollars of uncompensated emergency services costs for border hospitals can be attributed to undocumented immigrants.

CHAPTER 4:

Field Research Methodology and Results

Overview

The purpose of this chapter is to describe the methodology for conducting our field research and to present our results. The project team conducted field research to gather primary data from the individuals who deliver emergency medical and transportation services in the 24 southwest border counties. This primary, qualitative data bolsters and serves as a reality check for the results of the statistical model described in the preceding chapter. The field research also provided the project team with an opportunity to identify public policy challenges and discuss possible solutions with individuals working on the front lines of this issue.

Methodology

Methods used to gather primary data included fax, mail and e-mail surveys, in-person interviews, telephone surveys, completely self-administered surveys, and focus groups. The project team used two of these methods:

- Personal field interviews.
- Combined fax, e-mail, and web-based surveys.

Both of these data collection methods have strengths and weaknesses. Personal interviews can be time consuming and costly. However, they are lauded by many social science researchers because they often yield information that cannot be obtained by other means. Surveys are less expensive and can be relatively more convenient for the respondent. However, issues related to sampling and low-response rates can affect the validity of the responses received.

We combined personal interviews and written surveys for both hospital and EMS providers ensuring the results would provide the broadest range of responses possible within a relatively short period of time. However, it is important to note that the results of the personal interviews and surveys are not representative of the universe of providers, nor are they statistically significant. Our field research included the following four steps, which are discussed in more detail below:

- Respondent selection.
- Survey instrument development and pilot test.
- Field research.
- Data compilation and analysis.

Respondent Selection

The project team reviewed telephone directories, the Internet, and association directories and developed a comprehensive list of all the hospitals and emergency medical services (EMS) providers in the 24 southwest border counties. The project team called each of the identified hospitals to confirm that they operated an emergency department. The final list included 77 hospitals and 82 EMS providers. The project team sent every identified provider's Chief Financial Officer a written survey by either fax or email, depending on the stated preference of the respondent.

The survey goal was to determine the experience of southwest border county providers with regard to providing uncompensated emergency care to undocumented persons. In selecting hospitals and EMS providers, we hypothesized that the hospitals with the greatest amount of uncompensated care would be the most likely to treat the greatest percentage of indigent, undocumented immigrants in their emergency rooms. We also hypothesized that a facility's incorporation status (i.e., for-profit, non-profit, public) would influence the degree to which it sees indigent, undocumented persons. Therefore, in counties with multiple hospitals, we attempted to interview at least one public, non-profit, and for-profit facility. When selecting which for-profits, non-profits or public hospitals to interview, we reviewed their level of reported uncompensated care and Disproportionate Share Hospital program payments and then selected those with the highest levels of reported uncompensated care. In addition, we attempted to interview facilities from diverse geographic locations within a county, if multiple facilities were present. However, many of the counties along the border have only one hospital. Specifically, seven of the 24 counties (six in Texas and one in New Mexico), have no hospital that provides emergency medical services at all.

At completion, the field research provided a range of respondents from across the four states as follows:

Table 4.1
Field Research Total Contacts

	Totals	Arizona	California	New Mexico	Texas
In-Person Interviews	32	11	9	2	10
Hospital Survey	14	2	9	0	3
Ambulance Survey	15	9	1	1	4
Overall Total &Totals by State	61	22	19	3	17

***Source**: MGT of America, May 2002.*

Survey Instrument Development and Pilot Test

In November 2001, the project team drafted separate hospital and EMS provider surveys. The questions included in these surveys were based on our initial research and policy analysis, as well as conversations with health department and state agency officials in Arizona, California, New Mexico and Texas with expertise in either border health or hospital or EMS operations. The project manager approached sites that were familiar with the project and asked them to review and complete the pilot survey. Pilot surveys were sent to one hospital and one EMS provider in each of the four states in early December 2001.

Only two hospitals provided substantive comments: Thomason Hospital in El Paso, Texas and the University Medical Center in Tucson, Arizona. They suggested ways to modify the hospital survey so that it would be easier to understand and produce more meaningful results. No EMS providers submitted any substantive suggestions.

The hospital recommendations focused on the need to use a proxy for the number of undocumented immigrants, since hospitals are not allowed to ask whether someone is a U.S. resident when they arrive seeking medical attention at an emergency department. After considerable discussion, the survey was revised to include a question regarding the number of persons admitted without Social Security Numbers (SSN). The facilities piloting the survey believed this could provide "an approximation" of the number of adults who in fact are not residents of the United States. Other minor modifications related to question wording were made to the survey

The project team sent surveys to 77 hospitals and 82 EMS providers. The breakdown is as follows:

Table 4.2
Survey Response Breakdown

State	Hospitals	Emergency Medical Services Providers
Arizona	24	26
California	31	19
New Mexico	3	3
Texas	19	34
TOTAL	**77**	**82**

**Eleven (11) of the 31 hospitals in California belong to two major hospital systems. Sharp Healthcare operates seven (7) hospitals in San Diego County and Scripps operates five (5). Consolidated interviews were conducted with each hospital system. Both Scripps and Sharp had representatives from all of the hospitals within their systems that provide emergency medical services present at the interview.*

Concurrent with the development of the written survey, the project team developed the interview guides for hospitals and emergency services providers for use by the team members who would be conducting in-person interviews. The interview guides were designed to engage respondents in a discussion about the issue of uncompensated care and to discuss public policy challenges or possible solutions. Copies of the interview guides and survey instruments are included in **Appendix C** and **D** of this report.

Field Research

Once the pilot survey was completed in early December 2001, MGT distributed the survey and initiated our field interviews. Team members traveled to Arizona, California, New Mexico and Texas to meet with hospitals and EMS provider executives and their staffs beginning in December 2001 and continuing through early March 2002. The schedule for these individual meetings is provided in **Appendix E** of this report. In total, the team conducted 32 in-person interviews. During these in-person visits, team members explained the goals of the study and the importance of the respondents' participation in achieving these goals, particularly the goal of identifying relevant public policy issues and possible solutions. Respondents were forthcoming and willing to provide helpful and relevant information during the interviews.

The written survey was distributed to all the institutions included in the list of providers. The survey was sent via fax or email, depending on the preference of the potential respondent. In addition, the project team informed respondents that the survey also was available on the MGT website. Respondents were directed to enter a code (1893H for hospitals and 1893A for EMS providers) to obtain a PDF copy of the survey to print.

Because the survey was sent close to the December holiday season, we re-transmitted the survey to participants in early January 2002 to ensure that no institution missed the survey. Follow-up calls occurred weekly to all institutions to encourage participation. In early March 2002, the data collection period ended, and the team began to analyze the data using a Microsoft Access database.

Most respondents completed the majority of the questions in the survey for which they had responses. In total, the project team received surveys from 14 out of a possible 77 hospitals and 15 out of a possible 82 EMS providers.

While the response rate of approximately 18 percent for both surveys was lower than anticipated, this result is consistent with survey research industry standards.[42] Some institutions, particularly private hospitals, were reluctant to share financial information that could be considered proprietary in nature or of benefit to competitors. Other institutions, both hospitals and EMS providers, noted that they did not track information related to undocumented persons and were not comfortable estimating the percentage of bad debt or charitable care that could be attributable to serving that population.

Survey respondents represented the breadth of hospitals and EMS providers, in terms of size and incorporation status, including for-profit, public and non-profit institutions. Respondents ranged in size from 119 beds to 529 beds in the case of hospitals and two ambulance units to 12 ambulance units in the case of EMS providers.

[42] A recent study by DSS, a full-service marketing research and consulting firm specializing in health care, stated that response rates are often lower than anticipated. Response rates often depend on the research topic and the research subject. For example, mail response rates of one percent to two percent can mean a highly successful mailing for some credit card offers. Market and policy research surveys are usually much higher, but ten to 15 percent response rates are common. Surveys covering high involvement products or socially relevant issues typically have response rates of 30 to 35 percent.

Of the 32 in-person interviews, 25 were of hospitals and seven were of EMS providers. Of the 29 surveys completed and submitted, 14 of these surveys were of hospitals: nine non-profit or community hospitals, three for-profit hospitals and two public hospitals. The 15 EMS provider surveys included five fire district authorities, three city/county governments, three investor-owned emergency transport agencies, two for-profits, and two not-for-profits.

Four team members conducted in-person interviews. All team members conducting interviews used the same interview guide. Interviewers wrote up discussion notes after returning from the field. For the purposes of this report, those interview transcripts were reviewed to identify common and recurrent themes. The results from the analysis of both the survey data and the themes from the in-person interviews are presented below.

Field Research Insights

Emergency room visits attributable to undocumented immigrants hard to estimate

One of the hypotheses in this study was that hospitals with the highest level of uncompensated emergency care also would have higher levels of emergency care attributable to undocumented persons. Therefore during interviews, the project team asked hospital officials to estimate both the number of emergency room visits and the percentage of those visits that could be attributed to undocumented persons.

Hospital officials could easily report their annual number of emergency room visits. The number of visits varied depending on the size of the facility, the facility's trauma designation, and location (rural versus urban) rather than by state. Hospitals interviewed reported as few as 7,000 to as many as 60,000 emergency room visits per year. When asked to estimate the number of these emergency room visits attributable to undocumented immigrants, hospital officials were less certain. Repeatedly, hospital staff informed interviewers that it was illegal to ask immigration status under the Emergency Medical Treatment and Active Labor Act (EMTALA) prior to rendering services in an emergency room. When pressed, the responses to this question ranged from less than 5 percent to 30 to 40 percent and in one case as high as 80 percent. In most instances, this estimate was based on the hospital officials' knowledge of the service area and a gut reaction from experience in the institution. One Arizona institution performed zip code tracking to identify patients linked to uncompensated care and one in California had tried tracking based on patient addresses.

STATE ISSUES HIGHLIGHTED

ARIZONA

The Arizona border has recently found itself squeezed as border crossing enforcement is tightened in San Diego and El Paso forcing human smugglers and border crossers to move to more remote desert areas. Our interviews, not to mention Arizona newspaper headlines, have detailed the medical emergencies that result: dehydration, hypothermia, snake bites, and various orthopedic injuries resulting from individual's trying to jump the 18 foot border fence. Major traumas from human smuggling van rollovers and other vehicular injuries have clogged Arizona border emergency rooms. Some of the hospitals in the rural counties report that in order to continue to pay for the uncompensated care to undocumented immigrants, they have had to scale down or entirely discontinue some services for the general population.

CALIFORNIA

San Diego County is the largest U.S./Mexico border county both in terms of population and number of border crossings. One unique circumstance affecting the level of uncompensated care related to undocumented immigrants is the county-level administration of the state's Medicaid program. County eligibility workers process undocumented immigrants' Medicaid and public benefit applications, interpret state and federal law, and determine whether an application is to be approved. Some California hospital staff believe the county workers made it more difficult for undocumented immigrants to obtain benefits.

California's two counties also had the largest variance related to uncompensated care of any of the counties in the study. At least one institution indicated that the percent of uncompensated care related to the delivery of emergency medical treatment for undocumented immigrants was close to zero while others thought the amount of uncompensated care related to treating undocumented immigrants was closer to 50 percent.

NEW MEXICO

As the smallest of the four southwest border states, New Mexico's experience with uncompensated care was the most pronounced of all the counties interviewed. Since the New Mexico-Mexico portion of the border is not very densely populated and has no major urban center, medical facilities on the U.S. side of the border offer the only alternative for emergency medical care. As a result, respondents reported that Immigration and Naturalization Service (INS) agents frequently waved patients who arrived at their emergency rooms through at the border as "humanitarian parolees." Humanitarian parolees are individuals who are allowed into the country for "humanitarian" purposes including medical treatment.

TEXAS

As the state with the longest section of the U.S./Mexico border, the phenomenon of uncompensated care varies widely from region to region. As with other states, proximity to the border was a determining factor in terms of which hospital and EMS provider is likely to get the call or treat the patient.

Texas hospitals and EMS providers receive county indigent health care program (CIHCP) funds. These funds cover undocumented immigrants. However, Texas CIHCP programs require proof of county residency as an eligibility criteria. Therefore, many undocumented immigrants seeking emergency medical services in the county do not meet eligibility requirements for CIHCP. Further, these funds are extremely limited and often set income eligibility well below the state's Medicaid income eligibility levels. No other state or local programs or funds offer coverage for emergency medical treatment rendered to undocumented immigrants.

Some hospital officials were reluctant to estimate at all. One respondent expressed frustration, saying, "We just can't ask, and it's hard to tell. The reality is this border is pretty fluid. People go back and forth. Families live on both sides." Since hospital staff are legally prohibited from asking immigration status prior to providing emergency treatment, most respondents had no standardized means of tracking patient immigration status. Hospital officials believed being able to track this information in a consistent and ethical manner would help measure the degree to which undocumented persons access medical services and assist lawmakers in developing a coherent policy response.

While it was difficult to ascertain exactly how many undocumented persons entered any given emergency room, hospital officials, particularly in larger urban areas, suggested that proximity to the border was the single most important contributing factor to their level of uncompensated care attributable to the undocumented. Hospitals further away from the border reported having a "distance filter" when there were other facilities between them and the nearest border crossing.

Similarly, when asked about the number of ambulance calls attributable to undocumented persons, EMS providers could not produce a clear-cut answer. They provided anecdotes about major trauma incidents involving border crossers that they believed involved undocumented immigrants. However, it was much more challenging for EMS providers to distinguish between patients who are uninsured versus undocumented and uninsured.

Limited care provided to undocumented persons outside emergency rooms

During the in-person interviews, hospitals also were asked whether they provided non-emergency services to undocumented persons. Without exception, hospital officials reported that it was cost-prohibitive to offer these type of services to undocumented immigrants. The message was clear in all the states "it's practically impossible to do much charity work anymore because the hospital is losing money." In the words of one Arizona administrator, "If they come into the emergency room, we stabilize, but we cannot provide additional services."

However, interview participants did cite some specific examples of innovative preventive programs that benefit undocumented persons, mainly in Arizona. For example, a pediatric clinic in one border community conducts basic diagnostic check-ups on a monthly basis. In addition, a partnership between a local hospital and a business association helped provide elective cataract removal surgery for undocumented persons.

Undocumented persons access care primarily for major emergencies and for childbirth services

Another question asked during the in-person interviews related to how undocumented persons accessed emergency care. Respondents cited three main ways patients entered the emergency room:

- Ambulance.
- Walk-in.
- Drop-off by the Immigration and Naturalization Service (INS).

There are some exceptions to this scenario. In New Mexico and California, hospital officials reported that pregnant women sometimes arrive at the U.S.-Mexico border shortly before delivery and are rushed to the emergency room for the birth. Similarly, one hospital in California reported that near-term pregnant women will sit in cars in the parking lot and enter the emergency room once they are in labor. In fact, one hospital in California described a bus pulling into their parking lot about three years ago full of pregnant undocumented women ready to go into labor. In Texas, there were fewer reports of this type of activity, but hospitals from Laredo to Harlingen stated that women did sometimes walk across the border so that their children could be born in the United States.

The Border Patrol recognizes that protecting the border includes an obligation to protect lives. Because undocumented persons may be injured when attempting to cross the border, the Border Patrol developed a search and rescue training program that provides agents with skills to handle medical emergencies. Every state reported car or bus wrecks or injuries resulting from excessive exposure to heat or cold involving border-crossers. Once the INS Border Patrol has "rescued" undocumented immigrants, they often take them to a nearby hospital for emergency or medical care. However, hospital and EMS providers report the INS almost never pays for care provided to these persons.

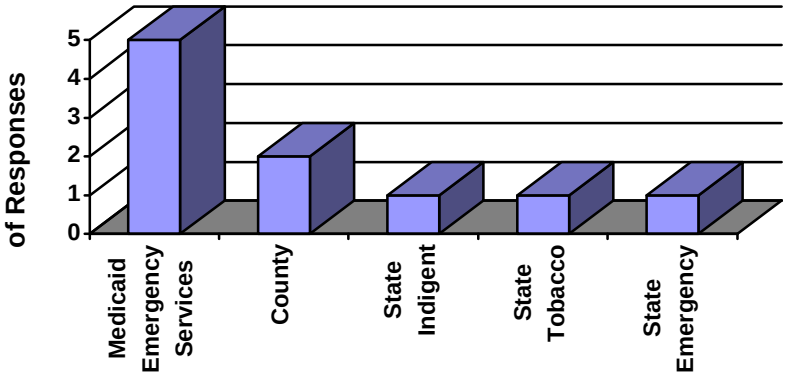
In the words of one New Mexico hospital official, "INS officers have directly told us 'I'm not going to be your banker or bill collector; I don't have time to deal with those issues.'" Rather than returning the patient directly to the Mexican authorities or to a Mexican medical facility, Border Patrol is inserting a new individual into the U.S. healthcare system without assuming financial responsibility for reimbursing the facility for the medical services rendered.

Most emergency care for undocumented persons is uncompensated

As discussed elsewhere in this report, Congress enacted EMTALA in 1996. The law requires hospitals and emergency personnel to screen, treat and stabilize anyone who seeks emergency medical care regardless of income or immigration status. As a result, virtually every hospital in the U.S. including those along the southwest border, are obligated to provide emergency medical care to undocumented immigrants.

Hospital or EMS providers face a challenge when trying to obtain payment for this care after it has been provided. Hospitals and EMS providers informed interviewers and responded in the survey that almost all of the care they provide to undocumented immigrants is not compensated. Of the hospitals that returned the written survey, ten of 14 received funds to offset uncompensated care for indigent, undocumented persons. These funds were generally from a variety of sources, as noted below in Figure 4.1.

Figure 4.1
Sources of Funding for Reimbursement for Emergency Care for Undocumented Persons



***Source**: MGT of America, May 2002.*

Uncompensated care on the rise

Nearly all hospitals and EMS providers interviewed and survey respondents reported that the cost of services provided to undocumented persons had increased since 1995. Only two hospitals and two EMS providers reported in the survey that uncompensated care had remained level.

Both hospitals and EMS providers reported increased amounts of bad debt, both in absolute terms and relative to gross revenues. Financial information is very sensitive. As a result, only six of the 14 hospitals returning surveys reported their levels of bad debt attributable to emergency medical services delivered to indigent, undocumented persons.

Similar to hospitals, EMS providers stated that bad debt had increased in recent years. On our survey, the reported bad debt percentage ranged from five percent to 30 percent of gross revenues.

Obtaining reimbursement through Medicaid and other public programs is burdensome

The providers interviewed were asked to describe how they determine if a patient is undocumented once the patient has been stabilized. If the individual is undocumented and unable to pay for the services that have been provided, hospitals attempt to enroll the patient in Medicaid or other public benefit programs in order to qualify for reimbursement from any potential public sources.

In practice, hospitals in all four southwest border states reported that demonstrating an undocumented person's eligibility is time-consuming and challenging. To qualify for federal, state, or local government benefits, an undocumented immigrant often must complete a long and complicated application. In the case of Medicaid, state or county eligibility workers review and approve the applications for benefits. The applicant must provide identification and proof of residence. At one time in California, county eligibility workers' offices had signs posted stating that information provided on an application for public benefits could be shared with the INS.

Respondents reported that most of the patients they see in the emergency department do not meet Medicaid eligibility requirements because eligibility is restricted to certain categories of persons such as single-parent families with dependent children, pregnant women, children under 19, elderly, and the disabled. Many undocumented immigrants are single men who would not meet Medicaid eligibility criteria.

Often, even when a patient qualifies for Medicaid, undocumented persons are reluctant to complete the paperwork for fear of being turned over to the INS or prevented from seeking permanent legal residency in the U.S. Despite the fact that INS has clarified in recent years that application for Medicaid or any other non-cash benefit will not be used against them when considering their immigration status, fears persist. When an undocumented immigrant does not qualify for Emergency Medicaid or other public benefits, the cost of that emergency medical service must be absorbed by state or local government programs or directly by the medical provider.

Innovative Practices

The project team asked respondents to describe any actions that they had taken to minimize the impact of uncompensated care for indigent, undocumented persons. Hospital officials described several innovative practices, which are briefly highlighted below.

Hiring eligibility workers

A few hospitals have worked directly to increase the number of patients who can be deemed eligible for Medicaid by hiring eligibility caseworkers to enroll qualified patients in Medicaid and other publicly funded benefit programs. This approach strives to overcome the fear among undocumented immigrants that the information they provide could be turned over to the INS. Hiring eligibility workers helps the hospital qualify more indigent patients for benefits which in turn increases the reimbursement the hospital receives from the federal government.

One facility in California pays for specialists to see patients in the emergency room and to provide to additional follow-up visits to ensure all the necessary paperwork is completed. A facility in Texas employs a number of bilingual staff who work to enroll indigent patients in a variety of public programs to increase the hospital's reimbursement levels.

Partnerships with Mexican counterparts

Post-stabilization care poses a significant challenge for hospitals, since they often cannot discharge an undocumented patient because they cannot find a long-term care facility that will accept a non-paying patient or they cannot locate the patient's family. One California institution developed a partnership with the Mexican Consulate to return patients home to Mexico. In this arrangement, a contractual relationship allowed for the transfer of patients to Mexican medical facilities once the patient was stable and able to be moved. In the opinion of these medical professionals, this arrangement not only placed patients closer to home and family, but also linked the patient to ongoing post-stabilization treatment, and reduced the hospital's unreimbursed costs. Similarly, an Arizona facility described an effort of working cooperatively with delivery systems on the other side of the border to improve care.

Funding community clinics

Since a large proportion of the undocumented persons seek childbirth services, hospitals have responded by funding and/or supporting community health clinics and pregnancy clinics both in the U.S. and in Mexico. A facility in Texas offers prenatal care throughout the county in a number of clinics and crisis pregnancy centers. At a minimum, hospital officials expressed the belief that preventive care resulted in simpler deliveries that reduced the cost of subsequent medical treatment. An Arizona hospital reported that professionals from across the U.S. have conducted training of 3,000 Mexican practitioners to help improve the quality of health care in Mexico. The Mexican doctors who received training became qualified to train other medical professionals.

Policy Solutions

In both the survey and the interview, hospitals and EMS providers were asked what federal, state and/or county governments could do to offset the cost of care provided to undocumented immigrants.

Increase Funding

Most frequently, hospitals and EMS providers proposed additional federal funding for all payors including hospitals, EMS, and physicians. Hospitals and EMS providers are well aware of the legal and ethical duty to treat undocumented persons. However, current federal funding levels and regulatory structures leave providers with limited vehicles for reimbursement.

Track patients receiving uncompensated care

Another recurring theme in the in-person interviews and the survey responses was hospitals' lack of a standardized method of tracking undocumented immigrants and difficulty obtaining a reliable estimate of uncompensated emergency medical services provided to this population. Hospitals and EMS providers stated repeatedly that they needed a way to easily, accurately and legally track undocumented patients in order to develop strategies that could reduce the amount of uncompensated care for this population.

Bring EMTALA in line with Emergency Medicaid

Interview participants also highlighted the inherent conflict between various federal laws such as EMTALA and Emergency Medicaid. In the words of one respondent, "We're never sure where we can stop or what's required from a legislative and ethical perspective." Emergency Medical Treatment and Active Labor Act (EMTALA) really seems to be at odds with Medicaid and other federal requirements."

Allow Presumptive Eligibility

Although presumptive Medicaid eligibility is permitted in California, it is not allowed in the other three border states. A number of hospitals in these states discussed how presumptive Medicaid eligibility would help them obtain Medicaid reimbursement for some patients, particularly pregnant women and children. Under presumptive Medicaid eligibility, an applicant's income levels and other information does not have to be confirmed before they can begin receiving services.

Enhance international partnerships

A number of hospitals and EMS providers noted the need for better collaboration with Mexico on health care issues. In the words of one respondent, "we are an integrated community. We need to train staff over there. We need to think more creatively."

Conclusions

Our field research provided insights from the hospitals and EMS providers who work on the front lines of uncompensated emergency medical care. The cost of providing emergency medical care to undocumented persons continues to rise, and it is increasingly difficult for these providers to obtain reimbursement from federal, county or state entities. Our field research provided useful insights into the challenges border counties face and possible solutions to those challenges. In addition, the anecdotal information on the level of uncompensated emergency medical care delivered to undocumented immigrants supported the estimate we derived from our statistical modeling exercise.

CHAPTER 5:

Findings, Recommendations and Areas for Future Study

Overview

The major findings and recommendations that emerged from our literature review, policy analysis, written surveys, interviews, and statistical modeling follow below. In addition, we have suggested areas for future research that were outside the scope of our study.

FINDING

States, local governments, and public and private emergency medical providers have absorbed much of the cost of providing care for undocumented immigrants.

Federal programs discussed elsewhere in this report, such as Emergency Medicaid and the Disproportionate Share Hospital (DSH) program, offer some relief to hospitals that provide emergency treatment for undocumented immigrants. However, these programs do not come close to covering all of the costs associated with the delivery of emergency medical services in southwest border counties.

In the absence of adequate federal reimbursement for emergency medical services provided to undocumented immigrants, states, local governments, and public and private providers have been forced to cover the costs of emergency services as well as related services. Some states like Arizona and California have developed state funded programs to help offset some of the costs incurred by local providers that treat the undocumented immigrant population. In Texas and New Mexico, county governments have funded emergency, and in some cases preventive, medical services for undocumented immigrants. In spite of these efforts on the parts of state and local government, public and private hospitals still absorb a considerable amount of the costs of providing medical treatment to undocumented immigrants.

FINDING

Uncompensated care for undocumented immigrants imposes a significant financial burden on U.S./Mexico border hospitals and Emergency Medical Service (EMS) providers.

The project team applied a variety of statistical methods to develop an estimate of the cost to the 24 southwestern border counties for providing emergency medical services to undocumented immigrants. Based on our statistical modeling, we estimate the cost to be over $200 million. Interviews, and survey results support this number as a reasonable estimate of the costs related to hospital and emergency medical services (EMS). This estimate does not account for losses related to extended or follow-up care or physicians who treat patients in emergency departments.

Our statistical model suggests that one in four dollars of uncompensated emergency service costs for southwest border hospitals can be attributed to undocumented immigrants. The vast majority of our interview and survey respondents believe the level of uncompensated emergency medical care they are delivering to undocumented immigrants has increased over the past five years. This belief is supported by Immigration and Naturalization Service (INS) estimates of people crossing the U.S./Mexico border over this same period. Therefore, we conclude that the provision of uncompensated emergency medical services to undocumented immigrants in southwest border counties poses a significant burden on individual providers and the region as a whole.

RECOMMENDATION 1

Congress should appropriate additional federal funding to reimburse hospitals, EMS providers, and other health providers for emergency medical care provided to undocumented immigrants.

Several proposals before Congress would provide some financial aid to border emergency health service providers. Some proposals focus on states with the highest percentage of undocumented immigrants as identified by the INS. Other proposals restrict the availability of funds to southwest border counties, while still others make the funds available in both the southwest border counties and large metropolitan areas. USMBCC should examine each of these proposals carefully to determine their potential impact on southwest border states and counties.

FINDING

No standard method for tracking the number of undocumented immigrants who receive uncompensated emergency medical care or the cost of that care currently exists.

Our literature review revealed that the absence of a standard method for tracking the amount of uncompensated care for undocumented immigrants is a perennial problem. Studies as far back as 1985 cite the lack of reliable data on uncompensated care for undocumented immigrants as a barrier to quantifying the problem and devising equitable solutions.

One 1987 GAO study proposed requiring hospitals to administer a screening instrument to all uninsured patients as part of the admissions interview process. The survey would be scored and individuals receiving above a certain score would be placed in the "undocumented" category.[43] This proposal was problematic for the purposes of estimating emergency service levels because many patients treated in a hospital's emergency department are never admitted to the hospital.

[43] *Undocumented Aliens: Estimating the Cost of Their Uncompensated Hospital Care*, Briefing Report to Congressional Requesters, Gao/PEMD-87-24BR, September 1987.

Several current legislative proposals suggest allocating money to states based on an INS estimate of the number of undocumented immigrants residing in that state. These proposals then place the burden of developing a plan to disburse funds on the states. At least one legislative proposal requires that state distribution plans take into account Emergency Medicaid payments received or to develop an appropriate proxy that measures the volume of emergency health services provided to undocumented immigrants by local entities. However, the level of Emergency Medicaid may greatly underestimate the level of undocumented immigrants because many that receive emergency services do not qualify for Medicaid and others who do qualify decline to complete the necessary forms.

The development of a uniform measure of the volume of emergency medical services is critical to ensure the appropriate disbursement of funds, to enable cross-state comparisons, and to permit the government to determine whether the level is increasing or decreasing. Other studies have used the absence of social security numbers (SSN) as a proxy for undocumented status because the vast majority of U.S. citizen adults and most U.S. citizen children have SSNs. All of the hospitals interviewed for this study collect SSN and many use the SSN as unique patient identifier.

Many EMS providers also collect SSN information. EMS providers, unlike hospitals, had no centralized data source for information related to uncompensated care levels. However, for EMS providers to participate in disbursement of federal funds they will need to document the level of uncompensated care attributable to undocumented immigrants.

FINDING

The percent of uncompensated care attributable to undocumented immigrants varies widely among hospital and EMS providers.

During interviews, hospitals reported that as little as one percent and as much as 80 percent of the uncompensated care they provide resulted from treatment delivered to undocumented immigrants. These variations can be explained by a facility's proximity to the border, its mission or organizational structure, (profit vs. non-profit vs. public), and the types of specialized treatment provided.

These varying levels of uncompensated care have direct implications for the disbursement of any funds appropriated by Congress to offset losses incurred by local providers. In order to benefit from proposed legislation, local providers will have to demonstrate in a uniform, credible fashion the level of uncompensated care that results from providing emergency medical treatment to undocumented immigrants.

RECOMMENDATION 2

The federal government should require hospitals and emergency providers seeking federal funds to offset the costs of providing emergency medical services to undocumented immigrants to approximate the number of persons provided uncompensated emergency care using the absence of a Social Security Number as a proxy.

Because the levels of uncompensated care vary so widely among providers, even within a county, it is critical that levels of emergency medical services provided by individual healthcare providers be properly identified.

Social Security Numbers (SSNs) are not a perfect proxy. SSNs can be made up or "borrowed." In some cases, SSNs will not be available for children and others who are, in fact, citizens or legal immigrants. Nonetheless, SSNs are widely collected and tracked. Providers can develop standard computer runs that identify duplicate SSNs. SSNs collected by providers can be checked against the Social Security Administration's database to identify falsified numbers. Using the absence of SSNs of persons who received uncompensated emergency treatment combined with the level of Emergency Medicaid a facility receives should provide a good approximation of the number of undocumented immigrants seen at a given facility. Once the proxy is identified, an aggregate cost associated with these individuals can be developed ensuring that funds are appropriately disbursed to the entities that have incurred the greatest related losses.

FINDING

Each border state approaches indigent health care and services for undocumented immigrants differently.

Emergency Medicaid is one of the largest sources for reimbursement of emergency medical services furnished to undocumented immigrants in all four border states. However, the amount of Emergency Medicaid a provider is likely to receive is tied to a state's eligibility criteria for Medicaid. For example, the maximum income level in California is substantially higher than in Texas. This means that far more undocumented immigrants seeking emergency services in California are potentially eligible for Emergency Medicaid than in Texas. California also permits undocumented immigrants to "pre-qualify" for Emergency Medicaid. This has resulted in substantially more Emergency Medicaid claiming by California than other states.[44]

State level agencies administer Texas' and Arizona's Medicaid programs. In California, funds pass through the state, but counties actually administer the Medicaid program. These differences have significant implications for the implementation of any potential policy solutions.

[44] *Fiscal Impacts of Undocumented Aliens: Selected Estimates for Seven States*, Rebecca L. Clark, Jeffery S. Passel, Wendy N. Zimmerman, and Michael E. Fix, The Urban Institute, September 1994, page 113.

RECOMMENDATION 3

USMBCC should pursue and support legislative funding proposals that allow enough flexibility to accommodate state variations in the administration of immigrant and indigent healthcare policies.

Because each state's approach to indigent healthcare and reimbursement for services provided to undocumented immigrants contains significant nuances, it is critical that any legislative solution considered provide enough flexibility to accommodate for these differences.

FINDING

Current Medicaid provisions increase the financial burden placed on border providers.

As discussed elsewhere in this report, Emergency Medicaid covers emergency medical services delivered to individuals that would otherwise be categorically eligible for Medicaid if it were not for their immigration status. The primary categories of Medicaid eligibility are children 19 years of age and under, pregnant women, indigent single-adult families with minor children,[45] and the aged and disabled. In addition, all applicants must prove that they are "residents" or intend to establish residency in the U.S. in the state where they are applying for benefits.[46] A significant percentage of individuals crossing the border do not fall within these eligibility categories or cannot prove they reside in or plan to reside in the U.S. As a result, many of the undocumented immigrants that arrive in border hospital emergency rooms do not qualify for Medicaid coverage.

During our field research, one hospital told a story of a migrant worker who had been crossing the border for 20 years to work illegally in this country. She was categorically eligible for Medicaid and had a home and family in the U.S. When her cancer progressed she arrived at the hospital's emergency room. However, Medicaid denied reimbursement for services because the worker only spent part of the year in the U.S. and could not "prove" she intended to remain in this country although she had been here for 20 years.

Hospitals in all four states reported that even when an undocumented immigrant falls within an eligibility category they often refuse to complete paperwork that would enable a hospital to receive reimbursement. Undocumented immigrants do not want to complete Medicaid paperwork because they fear they will be "found out" by the INS or lose a future opportunity to become U.S. citizens because of their use of "public benefits." This problem was reported most often during interviews with hospital administrators in California where signs had been posted at one time in hospitals stating that information provided on applications for public benefits would be reported to the INS.

[45] Income levels are set by the states. As noted in Chapter 2, the four border state vary widely with regard to income eligibility. See table 2.2, pg. 10.
[46] The California, Arizona, New Mexico and Texas Medicaid State Plans all limit eligibility to residents of their states.

Women in labor who arrive at an emergency department without insurance meet Medicaid categorical eligibility. California allows for "presumptive" eligibility of these women. In other words, their income levels and other information does not have to be confirmed for a hospital to receive Emergency Medicaid reimbursement, but paperwork must still be completed. Once the paperwork is completed, presumptive eligibility allows a hospital to file for Medicaid reimbursement under the "presumption" that confirmation of the information contained in the Medicaid application will show that the person was in fact eligible to receive Emergency Medicaid.

RECOMMENDATION 4

The USMBCC should lead an effort in Arizona, New Mexico, and Texas to encourage these states to follow the lead of California and encourage state legislators to allow presumptive eligibility for certain categories of patients including pregnant women and children.

Because presumptive eligibility still requires that paperwork be completed, it will not cover undocumented immigrants who are eligible but refuse to complete paperwork. However, presumptive eligibility would make it easier for hospitals to obtain reimbursement for some categories of patients like pregnant women and should be pursued at the state level as an amendment to States' Medicaid Plans.

FINDING

EMTALA requirements impose a burden on hospitals and other medical service providers that conflict with the criteria for obtaining reimbursement under Emergency Medicaid.

EMTALA affects all hospitals that accept Medicaid or Medicare payments, that is, virtually every hospital in the country. EMTALA requires that anyone who arrives at a hospital receive a medical screening to determine whether an emergency medical condition exists. The law further prevents a patient from being transferred to another institution for economic reasons and imposes a legal responsibility on the receiving facility to treat the emergency if one exists. Treatment must continue until the patient is stabilized. The decision, and potential liability, for determining when a patient is "stable" lies with the hospital and treating physician.

The definition of emergency medical condition used to determine whether a patient is eligible for coverage under Emergency Medicaid is fairly narrow and only includes medical conditions that in the absence of immediate medical attention would result in immediate harm to the patient.[47] The definition does not cover the screening required under EMTALA to determine whether an emergency medical condition exists or post-emergency stabilization treatment a facility may believe necessary to prevent deterioration in a patient's condition.

[47] Title 42, Chapter 7, Subchapter XVIII, Sec. 1395dd.

Hospitals interviewed during our field research noted that a medical screening must be performed on every patient that arrives at their facility (EMTALA is not limited to the emergency department of a hospital). Depending on the patient's complaint, the screening necessary to eliminate a diagnosis of an emergency medical condition can be quite costly. The potential liability a hospital may incur under EMTALA is substantial and encourages the use of thorough and sometimes costly medical screening. However, if after running the appropriate tests, the hospital finds no emergency the patient will not be covered by Emergency Medicaid even if the patient would have been categorically eligible for Medicaid.

None of the hospitals interviewed routinely provide non-emergency care to undocumented immigrants. However, patients often require follow up or extended care after an emergency. For instance, several hospitals interviewed indicated that they have treated undocumented immigrants in their emergency rooms, but then found themselves footing the bill for rehabilitative or convalescent care totaling thousands of dollars a month after the patient had been stabilized. One hospital official stated, "We're never sure where we can stop or what's required from a legislative and ethical perspective. EMTALA really seems to be at odds with Medicaid and other federal requirements." The costs incurred for the extended care the hospital provided originate in the emergency room, but may not fall within the federal government's definition of "emergency medical condition."

"We're never sure where we can stop or what's required from a legislative and ethical perspective. EMTALA really seems to be at odds with Medicaid and other federal requirements." The costs incurred for the extended care the hospital provided originate in the emergency room, but may not fall within the federal government's definition of "emergency medical condition."

- California Hospital Administrator

RECOMMENDATION 5

Congress should authorize Medicaid reimbursement for post-stabilization treatment for otherwise eligible individuals whose treatment needs result from a qualified emergency.

Senators Jeff Bingaman, John McCain, Robert G. Torricelli, and Jon Corzine recently introduced the "Federal Responsibility for Immigrant Health Act of 2002." This bill expressly allows states and health care providers to receive Medicaid reimbursement for dialysis and chemotherapy services, prenatal care, and the testing and treatment of communicable diseases provided to immigrants. However, this bill does not include extended care arising out of an emergency medical condition. Hospitals reported during interviews that some of their biggest losses resulted from post-stabilization treatment they were forced to provide under EMTALA because they could not locate family or a medical facility in Mexico willing to accept the patient.

FINDING

INS continues to take injured and sick immigrants out of custody to bring them to the hospital without making arrangements for patients.

The federal government, through the INS, has sole responsibility for securing the country's borders. The INS' Border Patrol recognizes that protecting the borders includes an obligation to protect lives. In 1998, the INS launched the Border Patrol Search Trauma and Rescue team (BORSTAR). BORSTAR deploys Border Patrol agents who have special emergency medical training along the entire U.S.-Mexico border. However, once an INS agent has identified an injured person as an undocumented immigrant, the agent has the authority to determine whether to take or keep the person in custody.

Federal law gives INS officers "prosecutorial discretion" that allows them to use their judgement regarding initial or continued detention of an individual. In deciding whether to take someone into or release them from custody, an officer may consider many factors including "humanitarian concerns." Humanitarian concerns include concerns related to health such as a medical emergency condition. The INS may bring injured immigrants to a hospital emergency room without assuming financial responsibility for the immigrant's medical treatment, but the cost for that treatment must be borne by someone. A 1997 California State Auditor's study concluded that U.S. Border Patrol policies cost San Diego County health care providers millions of dollars a year. [48]

Field interviews with both hospital administrators and EMS providers, particularly in California and Arizona, characterized the INS practice of bringing sick and injured individuals who have been apprehended crossing the border as an ongoing problem. However, most of those interviewed emphasized that while the costs were significant, undocumented immigrants brought by INS or seen as a result of injuries by interactions with the INS were not the majority of the undocumented immigrants who came to their facilities.

RECOMMENDATION 6

Congress should appropriate funds to the INS to reimburse local providers for emergency medical services that result from search and rescue or apprehension activities initiated by the INS.

FINDING

INS requirements and the lack of a formal process for submitting reimbursement requests make it difficult for providers to obtain payment from the INS.

[48] "U.S. Border Control: Its Policies Cause San Diego County Health Care Providers to Incur Millions of Dollars in Unreimbursed Care." California State Auditor's Office,1997

The INS requires entities seeking reimbursement for emergency medical services rendered to immigrants injured during a border crossing to:

- Verify the immigration status of the individual.
- Show the costs are not reimbursed by another federal program.
- Ensure the immigrant cannot cover the costs.

EMTALA prohibits hospital administrators from asking an individual's immigration status prior to the delivery of all treatment necessary to stabilize a patient. HHS enforces EMTALA, while immigration policy is the responsibility of INS.

RECOMMENDATION 7

The U.S. Department of Health and Human Services (DHHS) in consultation with the states and INS should develop a formal process to enable hospitals and EMS providers to ascertain an individual's immigration status and submit reimbursement requests without violating EMTALA's provision against asking a patient's status prior to treatment.

The INS and HHS should work together in consultation with the affected hospitals to develop a procedure that will enable these hospitals to seek reimbursement for undocumented immigrants brought to their facilities by the INS or who were injured as a result of a border crossing.

Congressman Kolbe has introduced legislation that would permit hospitals and EMS or ambulance providers to receive direct reimbursement from the INS if they incur an emergency medical cost resulting from an INS action. This legislation or similar legislation in combination with an officially sanctioned process for submitting a request for reimbursement should help providers obtain the funding they are entitled to more easily.

FINDING

The amount of uncompensated costs related to transporting undocumented immigrants by an EMS provider depends on its contractual arrangements.

EMS survey respondents estimated that between 5 and 50 percent of their bad debt is related to undocumented immigrants. The level of bad debt incurred by an EMS company, however, is a direct result of the contractual arrangements they have with local governments and private entities. In some cases, EMS provide are "911" or "first" responders. As a first responder, they may have contracts with a county or municipal government that pays them on a "per trip," mileage or "cost" basis. In some of these cases, this means the EMS provider may not incur substantive losses when transporting an indigent, undocumented immigrant, but the local government contracting with the company may suffer a significant loss associated with the patient's transport.

As discussed elsewhere in this chapter, EMS providers, for the most part, do not currently track uncompensated care in a uniform, systematic way nor do they track uncompensated care attributable to undocumented immigrants. However, it appears that local taxpayers are absorbing a substantial percent of the losses resulting from transporting undocumented immigrants in an emergency.

RECOMMENDATION 8

Congress should take into account the losses incurred by local governments related to the emergency transport of undocumented immigrants when developing federal funding proposals designed to offset relevant losses.

As noted elsewhere in this chapter, local governments have absorbed substantial costs resulting from the treatment and transport of undocumented immigrants. Local government also should be considered in any funding proposal that is passed to help address this problem.

FINDING

Health care providers have adopted a number of innovative practices to help reduce their losses related to providing emergency medical treatment to undocumented immigrants.

Examples of innovative practices include hospitals that have developed relationships with Mexican medical facilities and the Mexican consulate to enhance their ability to transfer undocumented immigrants home once they are medically stabilized. Others have funded prenatal clinics on the Mexican side of the border to reduce the number of high-risk pregnancies and deliveries of the border.

The hospitals and EMS providers we interviewed on the U.S. side were eager to learn what others are doing at the state and local levels to address these issues. However, to date, there has been no forum for them to do so.

RECOMMENDATION 9

USMBCC should provide opportunities for local hospitals and EMS to share innovative approaches to reducing levels of uncompensated care.

The USMBCC could sponsor a summit on uncompensated care related to the provision of emergency medical treatment to undocumented immigrants and develop an innovative practices booklet for distribution based on what they have learned during the summit. In addition, USMBCC could make forums on informational topics of interest to its constituents a regular feature of its annual membership meeting.

Areas for Future Study

Our study was limited to estimating the cost of providing *emergency* medical and transportation services to undocumented immigrants and providing policy recommendations that could minimize the burden placed on local entities that provide these services. Areas listed below for possible further research were outside the scope of this project, but have an impact on current levels of uncompensated care and potential policy solutions for the problem.

1. Cost of emergency medical services provided by physicians.

Many hospitals noted that they were having trouble recruiting and retaining physicians in their emergency departments because of liability issues related to EMTALA and the lack of reimbursement for services rendered to indigent patients including undocumented immigrants. Some hospitals expressed the fear that they would have to close their emergency departments if this trend continued. Further study should be undertaken to determine the cost of emergency medical services incurred by physicians and the extent to which emergency departments, particularly in medically underserved areas, are in jeopardy of shutting down.

2. Cost of medical care such as rehabilitation and other extended care that is not included in the current federal definition of an emergency medical condition.

Through our background research, we identified numerous articles detailing the cost hospitals incur when a patient requires extended care beyond the original emergency medical condition. This theme was echoed in interviews conducted by the project team in all four southwest border states. However, estimating costs related to these "non-emergency" services was beyond the scope of this study. Cost estimates will need to be developed in conjunction with any proposals to extend the federal definition of emergency medical condition.

3. Explore changes to Medicaid that could make it easier for hospitals and other medical providers to receive reimbursement for treating certain categories of patients who meet Medicaid categorical eligibility.

Indigent, undocumented women who are pregnant and undocumented children under 19 are likely to be categorically eligible for Medicaid even though they might not qualify for Emergency Medicaid services because of their residence status or refusal to complete an application for benefits. There may be changes to current Medicaid statutes or regulations that would make it easier for providers to receive reimbursement for these otherwise categorically eligible persons.

The need for federal action is clear. The growing medical emergency on the southwest border has far reaching implications, not only for the southwest border, but for the nation as a whole.

REFERENCES

American College of Nurse-Midwives: State Statutes Providing Prenatal Care for Undocumented Aliens. http://acnm.org. July 2001.

Arizona Health Care Cost Containment System: 2001 State Legislative Summary. Phoenix, AZ. Arizona Heath Care Cost Containment System, May 29, 2001.

Arizona Health Care Cost Containment System: 2001 AHCCCS Overview- Chapter 1: Beginnings and Future of AHCCCS. Phoenix, AZ. Arizona Health Care Cost Containment System, June 2001.

Arizona Health Care Cost Containment System: 2001 AHCCCS Overview- Chapter 2: Acute Care Program. Phoenix, AZ. Arizona Health Care Cost Containment System, June 2001.

Arizona Hospital and Healthcare Association: The Perfect Storm: Arizona Brace for Crisis. Phoenix, AZ. Arizona Hospital and Healthcare Association.

Arizona State Senate: Fact Sheet for S.B. 1001- AHCCCS; State Emergency Medical Eligibility. Phoenix, AZ. First Special Session Arizona State Senate, September 20, 2001.

Associated Press, The: Hospital sues immigration service over medical bill for suspect in slaying. Lawrence Journal: August 2001.

Associated Press, The : Yuma County Wants U.S. to Defray Border Costs. The Associated Press, September 23, 2001.

Bilchik, Gloria Shur: No Easy Answers. Hospitals and Health Networks: Vol. 75, No. 5; Pg. 58-60. Bell & Howell Information and Learning. St. Louis, MO, June 2001.

Bishop and Associates: Arizona Trauma System Finance Survey. Phoenix, AZ. Arizona Trauma System, September 2001.

Brown, E. Richard, Ph.D., Ojeda, Victoria D. MPH, Lara, Lisa M. MPH, et.al: Undocumented Immigrants: Changed in Health Insurance Coverage with Legalized Immigration Status. UCLA Center for Health Policy Research Policy Report. Las Angeles, CA. UCLA Center for Health Policy Research, June 1999.

Burkholder, Barbara: Magnet Force- Immigrants, Health and Social Policy in Arizona. Phoenix, AZ. St. Luke's Health Initiatives, February 2002.

California Department of Health Services: California Healthcare for Indigents Program and Rural Health Services Program. Sacramento, CA. California Department of Health Services, 1991.

California Department of Health Services, Office of County Health Services, Medically Indigent Care Reporting System Unit: County Indigent Health Care Services and Expenditures- Fiscal Year 1996-1997. Sacramento, CA. Medically Indigent Care Reporting System, 1998.

California Health Care Foundation: California's Uninsured- Coving Undocumented Kids. Oakland, CA. www.chcf.org/uninsured, November 2001.

California State Auditor: U.S. Border Patrol: Its Policies Cause San Diego County Health Care Providers to Incur Millions of Dollars in Unreimbursed Medical Care. Sacramento, CA. California State Auditor, October 1997.

Center for Public Policy Priorities: Inclusion of Undocumented Persons by Texas Indigent Health Care Providers. Austin, TX. Center for Public Policy Priorities, May 2000.

Committee on the Changing Market, Managed Care, and the Future Viability of Safety Net Providers: America's Health Care Safety Net-Intact but Endangered. Washington, DC. National Academy Press, 2000.

Davis, Robert.: Health Care, without question. USA Today: September 2001.

Donahue, K.G: Hospitals Left Holding the Bill for Treating Illegals. Sierra Vista, AZ. Sierra Vista Herald, March 29, 2000.

Dunkelberg, Anne: The Straight Story: Health Care for Uninsured Undocumented Immigrants in Texas. Austin, TX. Center for Public Policy Priorities, August 2001.

Feld, Peter Ph.D., Power, Britt., Global Strategy Group, Inc.: Immigrants' Access to Health Care After Welfare Reform: Findings From Focus Groups in Four Cities. Washington, DC. Kaiser Commission on Medicaid and the Uninsured, November 2000.

Fenz, Caton M.: Providing Health Care to the Uninsured in Texas- A Guide for County Officials. Boston, MA. The Access Project, September 2000.

Fischer, Howard: House Oks $20 Million for Illegal Immigrant Health Care. Phoenix, AZ. Arizona Daily Sun, September 25, 2001.

Flannery, Pat: Hospitals May Foot Migrant Bill. Phoenix, AZ. The Arizona Republic, August 9, 2001.

Fix, Michael E., Tumlin, Karen: Welfare Reform and Devolution of Immigrant Policy. Series A; No.A-15; Washington, DC. The Urban Institute, October 1997.

Hernandez, Julia M., Candidate, J.D.: Undocumented Immigrants Face Curtailed Health Care Services. Health Law and Policy Institute. www.law.uh.edu/healthlawperspectives/PublicHealth/010828Undocumented.html. January 2002.

Hope Weintraub, Sharon: Attorney General Opinion that Federal Law Bars Hospital District from Providing Health Care to Indigent Illegal Aliens Generates Potential Legislation and Lawsuits. Research Matters: September 2001.

Huff, Charlotte: Immigrants Facing Health-care Crisis; Payment Obstacles May Confront Undocumented Residents Statewide After an Attorney General's Ruling. Fort Worth, TX. August 2001.

Immigrant Policy Project, The: Medical Assistance and Health Benefits. Washington, DC. Health Policy Tracking Service, National Conference of State Legislatures, November 29, 1997.

Income information derived from Expanding Family Coverage: State's Medicaid Eligibility Policies for Working Families in the Year 2000. The Center on Budget and Policy Priorities. (February 2002); Other information derived from individual state health authorities.

Jaklevic, Mary Chris: Texas Prosecutor Probes Free Care. Chicago, IL. Crain Communications Inc, August 2001.

Kaiser Commission on Medicaid and the Uninsured: Immigrants' Health Care: Coverage and Access. Washington, DC. Kaiser Commission on Medicaid and the Uninsured, August 2000.

Kaiser Commission on Medicaid and the Uninsured: Medicaid Eligibility and Citizenship Status: Policy Implications for Immigrant Populations. Washington, DC. Kaiser Commission on Medicaid and the Uninsured, August 2000.

Kemper, Lee D.: Welfare Reform, Immigrants and Health: Policy Considerations. Sacramento, CA. California Center for Health Improvement, 1996.

King, Jack: Study Shows New Mexico Residents Pay Disproportionate Costs of Illegal Immigration. New Mexico State University, February 8, 2001.

Landa, Amy Snow: Illegal Care?- Treating Undocumented Immigrants in Texas. www.amednews.com. October 2001.

Letter to State Medicaid Directors from Sally K. Richardson, Director, Center for Medicaid and State Operations, Health Care Financing Administration. November 24, 1997

Lewis, Anne, Esq., Powell, Goldstein, Frazier and Murphy LLP: Understanding the Welfare and Illegal Immigration Reform Acts of 1996- A Guide to Assessing the Impact of Reform on Your State's Medical Program. Washington, DC. NAPH e-Publication, May 1997.

Lu, Michael C., Lin, Yvonne G., Prietto, Noelani M. M.D., et.al: Elimination of Public Funding of Prenatal Care for Undocumented Immigrants in California- A Cost/Benefit Analysis. Irvine, California. The Department of Obstetrics and Gynecology, University of California, August 1999.

Medi-Cal Policy Institute: Understanding Medi-Cal: The Basics. Second Edition. Oakland, CA. California Health Care Foundation, September 2001.

Mills, Kim I.: States Spend Millions for Aliens' Education, Health Care, Prison: Washington Dateline. Washington, DC. The Associated Press, September 1994.

National Health Law Program, and National Immigration Law Center: Health Related Provisions in the Illegal Immigration Reform and Immigrant Responsibility Act of 1996. http://www.healthlaw.org/pubs/19961008immigrant.html : October 1996.

New Mexico Health Policy Commission: General Health Provisions- Charity Care Data Reporting Requirements. Santa Fe, NM. New Mexico Health Policy Commission, January 1999.

New Mexico Department of Health, Health Policy Commission, Attorney General, et. al: Amend Indigent Hospital and County Health Care. Santa Fe, NM. The Legislative Finance Committee, February 4, 2001.

New Mexico Department of Health, Health Policy Commission, Human Services Department, Senate Joint Memorial 52 Workgroup: An Evaluation of the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) On Access to Health Care and Public Benefits for Immigrants in New Mexico. Albuquerque, New Mexico Department of Health Public Health Division, November 2001.

New Mexico Health Policy Commission: Legislation 2001- Health Care Related Bills and Memorials Introduces. Santa Fe, NM. Forty-Fifth Legislature, February 21, 2001.

New Mexico Health Policy Commission: County Funded Health Care Report- State Fiscal Year 1999. Santa Fe, NM. New Mexico Health Policy Commission, January 2000.

New Mexico Health Policy Commission: County Funded Health Care Report- State Fiscal Year 2000. Santa Fe, NM. New Mexico Health Policy Commission, January 2001.

New Mexico Health Policy Commission: County Funded Health Care Report- State Fiscal Year 2001. Santa Fe, NM. New Mexico Health Policy Commission, January 2002.

New Mexico Health Policy Commission: Health Happenings. Santa Fe, NM. New Mexico Health Policy Commission, January 2002.

Nolde, Haley: Border Hospitals on the Brink. Mother Jones Magazine, June 2000.

Page, Claudia, Ruiz, Susan: The Guide to Medi-Cal Programs- A Description of Medi-Cal Programs, Air Codes, and Eligibility Groups. First Edition. Oakland, CA. Medi-Cal Policy Institute, 1999.

Pallarito, Karen: Bridging the Gap: Healthcare Reform and Illegal Aliens have Legislators Forgotten a Billion-Dollar Minority? Modern Healthcare, pg. 24. Chicago, IL. Crain Publishing Inc., July 1994.

Richards, Ann W.: Governor's Border Working Group. Border Issues Division. Austin, TX. Office of the Governor, January 1993.

Rojas, Aurelio: Health Care Faces Budget Ax: Some Trauma Centers in California May Close as a Result, Officials Worn. Sacramento Bee. Sacramento, CA. November 26, 2001.

Rosenbaum, Sara, Harold, J.D., Hirsh, Jane Professor, et al: Medical Eligibility and Citizenship Status: Policy Implications for Immigrant Populations. Washington, DC. Kaiser Commission on Medicaid and the Uninsured, August 2000.

Ruelas, Rene: Official Says Law May Hurt Health Care Services for New Mexican Illegal Aliens. Las Cruces Sun News. Las Cruces, NM. August 8, 2001.

Sandoval, Ricardo: Mexico exploring medical aid for migrants. Workers' options are few in U.S. The Dallas Morning News: 11A, October 2001.

Schlosberg, Claudia: Not-qualified Immigrants' Access to Public Health and Emergency Services After the Welfare Law. http://www.healthlaw.org/pubs/19980112immigrant.html, January 1998.

Schlosberg, Claudia: Immigrant Access to Health Benefit- A Resource Manual. Washington, DC. The Access Project and National Health Law Program, 1999-2000.

Sheridan, Mary Beth: As Illegal Immigrant Numbers Grow, So Do Benefits. The Washington Post: A10, August 2001.

Sherwood, Robbie: Lawmakers to Aid Hospitals. Tucson, AZ. The Arizona Republic, September 22, 2001.

Sherwood, Robbie: Arizona Deficit Could Grow to $800 Million from $250 Million. Tucson, AZ. The Arizona Republic, September 24, 2001.

Sherwood, Robbie: House Oks Funds for Migrants' ER Bills. Phoenix, AZ. The Arizona Republic, September 25, 2001.

Snow Landa, Amy: Illegal care? Treating undocumented immigrants in Texas. American Medical News:
http://www.ama-assn.org/sci-pubs/amnews/pick_01/gvsa1001.htm : October 2001.

Snyder, Jodie: Migrant Care Faces Cuts. Phoenix, AZ. The Arizona Republic, July 7, 2001.

State of Arizona House of Representatives: House Bill 2001. Phoenix, AZ. Forty-fifth Legislature First Special Session, 2001.

Steinhauer, Jennifer: Money & Medicine: Who pays for Patients Without a County? The New York Times: Late Edition - Final, Section 3, Page 10, Column 4, June 2001.

Texas Department of Health: County Indigent Health Care Program Provider Manual. Austin, TX. Texas Department of Health, September 2001.
Texas House of Representatives: Health Care for Undocumented Immigrants: Who Pays? House Research Organization. Austin, Texas. October 2001

Treat, Jonathan: Debate over Immigrant Health Care Heats Up in New Mexico. Borderlines 83 volume 9, number 10. www.us-mex.org/borderlines/2001. November 2001.

Truhe, Joseph V., Jr.: Uncompensated Care for Nonresidents- an Emerging Fiscal and Policy Minefield. Corporate Counsel Children's National Medical Center.
United States General Accounting Office: Undocumented Aliens- Estimating the Cost of Their Uncompensated Hospital Care. Washington, DC. GAO, September 1987.

United States General Accounting Office: Trauma Care Reimbursement- Poor understanding of Losses and Coverage for Undocumented Aliens. Washington, DC. GAO, October 1992.

United States General Accounting Office: Benefits for Illegal Aliens- Some Program Costs Increasing, but Total Costs Unknown. Washington, DC. GAO, September 1993.

United States General Accounting Office: Illegal Aliens- Assessing Estimates of Financial Burden on California. Washington, DC. GAO, November 1994.

United States General Accounting Office: Undocumented Aliens: Medicaid-Funded Births in California and Texas. Washington, DC. GAO, May 1997.

United States General Accounting Office: INS' Southwest Border Strategy- Resource and Impact Issues Remain After Seven Years. Washington, DC. GAO, August 2001.

United States/Mexico Border Counties Coalition: Illegal Immigrants in U.S./Mexico Border Counties- The Costs of Law Enforcement, Criminal Justice, and Emergency Medical Services. Tucson, AZ. The University of Arizona, February 2001.

Warren, Jennifer: State Urged to Intervene in Hospitals' Urgent Care. www.calacep.org/issues/displayissues.html. January 19, 2001.

Zimmerman, Wendy., Tumlin, Karen C.: Patchwork Policies: State Assistance for Immigrants Under Welfare Reform- Occasional Paper Number 24. Washington, DC. The Urban Institute, May 1999.

Zimmerman, Wendy, Tumlin, Karen C., Ost, Jason: State Snapshots of Public Benefits for Immigrants: A Supplemental Report to "Patchwork Policies. Occasional Paper Number 24 Supplemental Report. Washington, DC. The Urban Institute, August 1999.

APPENDICES

APPENDIX A:

County Profiles

MGT compiled data to construct a statistical "profile" for each of the 24 border counties. The profiles include demographic, socioeconomic and health indicators that are based upon widely accepted measures. The indicators in the county profiles include the following:

Demographic Data

- Population.
- Population growth.
- Age breakdown.
- Ethnicity.

Socioeconomic Data

- Median household income.
- Per capita income.
- Unemployment rate.
- Persons living below the poverty level.
- Children living below the poverty level.
- Percentage of individuals without health insurance.
- Percentage of people eligible for Medicaid.

Health Data

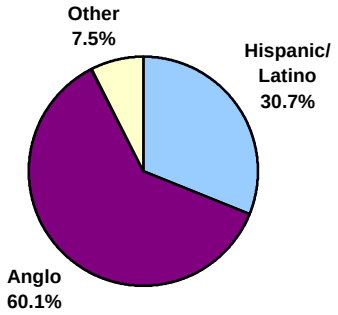
- Number of hospitals.
- Number of hospital beds per 1,000 population.
- Number of emergency room visits per 1,000 population.
- Mortality rate, including heart disease and diabetes.
- Tuberculosis morbidity rate.
- Infant mortality rate.
- Fertility rate.
- Disproportionate share payments to county hospitals.

Data sources include county, state and federal government agencies. MGT compiled data for each county and compared it to state and national averages. In addition, MGT conducted comparative analysis across the border counties to determine if any trends or patterns existed. Some data elements were difficult to obtain, and thus some county profiles are missing information for certain indicators.

Selected Facts for ***Cochise*** *County, AZ*

DEMOGRAPHIC DATA

County Population (2000)		Population Growth (1990-2000)	
County Population:	117,755	County:	20.6%
State Average:	5,130,632	State Average:	40.0%
U. S Average:	281,421,906	U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	6.8%	7.5%	6.8%
5 – 18	26.3%	26.6%	25.7%
19 – 64	59.0%	60.4%	61.9%
65 +	14.7%	13.0%	12.4%
Ethnicity (2000)[49]			
White	60.1%	63.8%	69.1%
Hispanic/Latino	30.7%	25.3%	12.5%
Other	7.5%	10.0%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$29,295	$34,751	$37,005
Per Capita Personal Income	$18,797	$25,173	$28,546
Unemployment Rate (%)	4.5%	3.9%	4.0%
Persons Living Below Poverty Level (%)	21.7%	15.5%	13.3%
Health Insurance Uninsured (%)	--	16.1%	14.0%
Medicaid Eligibility (%)	11.9%	9.7%	--
Children Living Below Poverty Level (%)	31.8%	23.2%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	5	6 2	- -
Number of Hospital Bed (Per 1,000 Pop.)	1.65	2.08	--
Emergency Room Visits (Per 100k Pop.)	--	--	378
Mortality Rate (Per 100k Pop.)	806.7	805.7	872.4
Heart Disease	120.9	127.4	257.5
Diabetes	9.6	13.5	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	4.0	5.3	6.4
Infant Mortality Rate (Per 1000 Births)	7.2	6.8	7.0
Fertility Rate (Per 1000 Women 15-44)	69.3	77.0	67.5
Total Disproportionate Care Payment ($)	--	$31,336,570	--

DATA SOURCES:

1. *1999 Data, Bureau of Public Health Statistics, AZ Department of Health Services*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. 2000 PCA Statistical Profiles, AZ Department of Health Services

[49] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for **Pima** *County, AZ*

DEMOGRAPHIC DATA

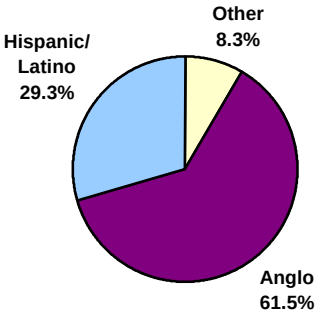
County Population (2000)

County Population:	843,746
State Average:	5,130,632
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	26.5%
State Average:	40.0%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	6.6%	7.5%	6.8%
5 – 18	24.6%	26.6%	25.7%
19 – 64	61.2%	60.4%	61.9%
65 +	14.2%	13.0%	12.4%
Ethnicity (2000)[50]			
White	61.5%	63.8%	69.1%
Hispanic/Latino	29.3%	25.3%	12.5%
Other	8.3%	10.0%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$32,544	$34,751	$37,005
Per Capita Personal Income	$23,911	$25,173	$28,546
Unemployment Rate (%)	2.8%	3.9%	4.0%
Persons Living Below Poverty Level (%)	16.2%	15.5%	13.3%
Health Insurance Uninsured (%)	--	16.1%	14.0%
Medicaid Eligibility (%)	9.7%	9.7%	--
Children Living Below Poverty Level (%)	24.4%	23.2%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	9	62	--
Number of Hospital Bed (Per 1,000 Pop.)	2.76	2.08	--
Emergency Room Visits (Per 100k Pop.)	--	--	378
Mortality Rate (Per 100k Pop.)	854.7	805.7	872.4
Heart Disease	122.3	127.4	257.5
Diabetes	13.4	13.5	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	5.4	5.3	6.4
Infant Mortality Rate (Per 1000 Births)	5.4	6.8	7.0
Fertility Rate (Per 1000 Women 15-44)	65.2	77.0	67.5
Total Disproportionate Care Payment ($)	$7,174,033	$31,336,570	--

DATA SOURCES:

1. *1999 Data, Bureau of Public Health Statistics, AZ Dept. of Health Services*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *2000 PCA Statistical Profiles, AZ Dept. of Health Services*

[50] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Santa Cruz*** *County, AZ*

DEMOGRAPHIC DATA

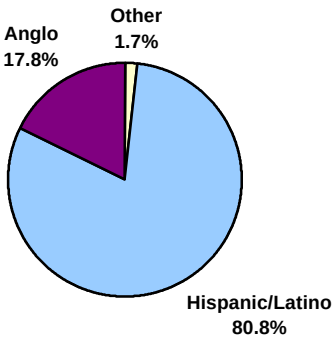
County Population (2000)

County Population:	38,381
State Average:	5,130,632
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	29.3%
State Average:	40.0%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	8.7%	7.5%	6.8%
5 – 18	33.6%	26.6%	25.7%
19 – 64	55.7%	60.4%	61.9%
65 +	10.7%	13.0%	12.4%
Ethnicity (2000)[51]			
White	17.8%	63.8%	69.1%
Hispanic/Latino	80.8%	25.3%	12.5%
Other	1.7%	10.0%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$26,512	$34,751	$37,005
Per Capita Personal Income	$16,496	$25,173	$28,546
Unemployment Rate (%)	13.8%	3.9%	4.0%
Persons Living Below Poverty Level (%)	25.8%	15.5%	13.3%
Health Insurance Uninsured (%)	--	16.1%	14.0%
Medicaid Eligibility (%)	15.9%	9.7%	--
Children Living Below Poverty Level (%)	36.4%	23.2%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	62	--
Number of Hospital Bed (Per 1,000 Pop.)	.8	2.08	--
Emergency Room Visits (Per 100k Pop.)	--	--	378
Mortality Rate (Per 100k Pop.)	503.8	805.7	872.4
Heart Disease	59.7	127.4	257.5
Diabetes	36.8	13.5	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	0.0	5.3	6.4
Infant Mortality Rate (Per 1000 Births)	4.0	6.8	7.0
Fertility Rate (Per 1000 Women 15-44)	90.5	77.0	67.5
Total Disproportionate Care Payment ($)	--	$31,336,570	--

DATA SOURCES:

1. *1999 Data, Bureau of Public Health Statistics, AZ Dept. of Health Services*
2. *2000 Census Data, "Health Insurance Coverage 2000", US Census*
3. *2000 PCA Statistical Profiles, AZ Dept. of Health Services*

[51] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for **Yuma** *County, AZ*

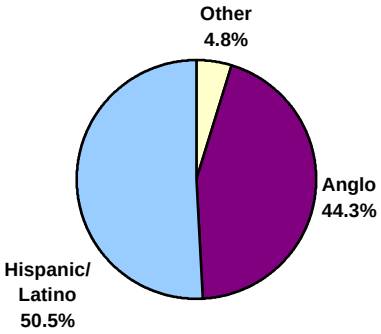
DEMOGRAPHIC DATA

County Population (2000)

County Population:	160,026
State Average:	5,130,632
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	49.7%
State Average:	40.0%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	7.9%	7.5%	6.8%
5 – 18	28.9%	26.6%	25.7%
19 – 64	54.6%	60.4%	61.9%
65 +	16.5%	13.0%	12.4%
Ethnicity (2000)[52]			
White	44.3%	63.8%	69.1%
Hispanic/Latino	50.5%	25.3%	12.5%
Other	4.8%	10.0%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$27,227	$34,751	$37,005
Per Capita Personal Income	$18,452	$25,173	$28,546
Unemployment Rate (%)	27.5%	3.9%	4.0%
Persons Living Below Poverty Level (%)	25.3%	15.5%	13.3%
Health Insurance Uninsured (%)	--	16.1%	14.0%
Medicaid Eligibility (%)	14.2%	9.7%	--
Children Living Below Poverty Level (%)	40.3%	23.2%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	62	--
Number of Hospital Bed (Per 1,000 Pop.)	1.7	2.08	--
Emergency Room Visits (Per 100k Pop.)	--	--	378
Mortality Rate (Per 100k Pop.)	664.5	805.7	872.4
Heart Disease	86.4	127.4	257.5
Diabetes	11.2	13.5	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	8.6	5.3	6.4
Infant Mortality Rate (Per 1000 Births)	6.3	6.8	7.0
Fertility Rate (Per 1000 Women 15-44)	103.5	77.0	67.5
Total Disproportionate Care Payment ($)	--	$31,336,570	--

DATA SOURCES:

1. *1999 Data, Bureau of Public Health Statistics, AZ Dept. of Health Services*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *2000 PCA Statistical Profiles, AZ Dept. of Health Services*

[52] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Imperial*** *County, CA*

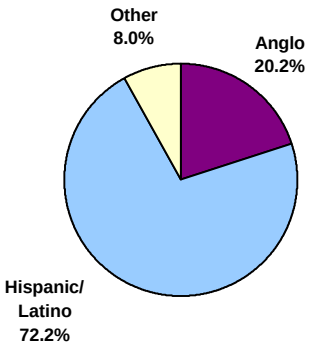
DEMOGRAPHIC DATA

County Population (2000)

County Population:	142,361
State Average:	33,871,648
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	30.2%
State Average:	13.6%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	7.7%	7.3%	6.8%
5 – 18	31.4%	27.3%	25.7%
19 – 64	58.6%	62.1%	61.9%
65 +	10.0%	10.6%	12.4%
Ethnicity (2000)[53]			
White	20.2%	46.7%	69.1%
Hispanic/Latino	72.2%	32.4%	12.5%
Other	8.0%	18.9%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$23,359	$39,595	$37,005
Per Capita Personal Income	$17,550	$29,856	$28,546
Unemployment Rate (%)	26.3%	4.9%	1.0%
Persons Living Below Poverty Level (%)	30.3%	16.0%	13.3%
Health Insurance Uninsured (%)	--	22.4%	14.0%
Medicaid Eligibility (%)	26.2%	15.0%	--
Children Living Below Poverty Level (%)	43.8%	24.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	2	450	--
Number of Hospital Bed (Per 1,000 Pop.)	1.2	2.33	--
Emergency Room Visits (Per 100k Pop.)	293	261.6	378
Mortality Rate (Per 100k Pop.)	594.7	673.1	872.4
Heart Disease	203.6	274.1	257.5
Diabetes	11.2	17.3	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	26.96	11.47	6.4
Infant Mortality Rate (Per 1000 Births)	4.9	5.4	7.0
Fertility Rate (Per 1000 Women 15-44)	70.0	70.0	67.5
Total Disproportionate Care Payment ($)	$549,331	$2,244,651,616	--

DATA SOURCES:

1. *1998 Data, CA. Dept. of Health Services, Vital Statistics*
2. *County Profiles, CA Perspectives in Healthcare 1998, CA Office of Statewide Health Planning and Development*
3. *Medi-Cal Eligibility Profile, 2000 Average (Compared to 2000 Population), DHS*
4. *State of Health Insurance in CA, UCLA Center for Health Policy Research, 2001*

[53] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***San Diego*** *County, CA*

DEMOGRAPHIC DATA

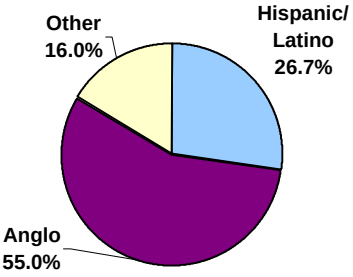
County Population (2000)

County Population:	2,813,833
State Average:	33,871,648
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	12.6%
State Average:	13.6%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	7.1%	7.3%	6.8%
5 – 18	25.7%	27.3%	25.7%
19 – 64	63.1%	62.1%	61.9%
65 +	11.2%	10.6%	12.4%
Ethnicity (2000)[54]			
White	55.0%	46.7%	69.1%
Hispanic/Latino	26.7%	32.4%	12.5%
Other	16.0%	18.9%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$39,427	$39,595	$37,005
Per Capita Personal Income	$29,489	$29,856	$28,546
Unemployment Rate (%)	3.0%	4.9%	4.0%
Persons Living Below Poverty Level (%)	14.2%	16.0%	13.3%
Health Insurance Uninsured (%)	22.0%	22.4%	14.0%
Medicaid Eligibility (%)	10.5%	16.8%	--
Children Living Below Poverty Level (%)	22.0%	24.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	23	450	--
Number of Hospital Bed (Per 1,000 Pop.)	2.2	2.33	--
Emergency Room Visits (Per 100k Pop.)	203	261.6	378
Mortality Rate (Per 100k Pop.)	663.5	673.1	872.4
Heart Disease	265.1	274.1	257.5
Diabetes	12.7	17.3	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	11.47	6.4
Infant Mortality Rate (Per 1000 Births)	5.2	5.4	7.0
Fertility Rate (Per 1000 Women 15-44)	70.0	70.0	67.5
Total Disproportionate Care Payment ($)	$101,779,858	$2,244,651,616	--

DATA SOURCES:

1. *1998 Data, CA. Dept. of Health Services, Vital Statistics*
2. *County Profiles, CA Perspectives in Healthcare 1998, CA Office of Statewide Health Planning and Development*
3. *Medi-Cal Eligibility Profile, 2000 Average (Compared to 2000 Population), DHS*
4. *State of Health Insurance in CA, UCLA Center for Health Policy Research, 2001*

[54] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Doña Ana*** *County, NM*

DEMOGRAPHIC DATA

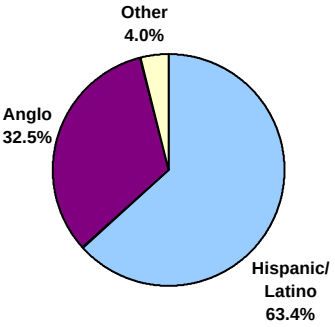
County Population (2000)

County Population:	174,682
State Average:	1,819,046
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	28.9%
State Average:	20.1%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	7.8%	7.2%	6.8%
5 – 18	29.7%	28.0%	25.7%
19 – 64	59.7%	60.3%	61.9%
65 +	10.6%	11.7%	12.4%
Ethnicity (2000)[55]			
White	32.5%	44.7%	69.1%
Hispanic/Latino	63.4%	42.1%	12.5%
Other	4.0%	12.6%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$26,379	$30,836	$37,005
Per Capita Personal Income	$17,003	$21,836	$28,546
Unemployment Rate (%)	6.5%	4.9%	4.0%
Persons Living Below Poverty Level (%)	26.6%	19.3%	13.3%
Health Insurance Uninsured (%)	20.4%	14.5%	14.0%
Medicaid Eligibility (%)	21.2%	16.2%	--
Children Living Below Poverty Level (%)	37.7%	27.5%	19.9%

HEALTH DATA

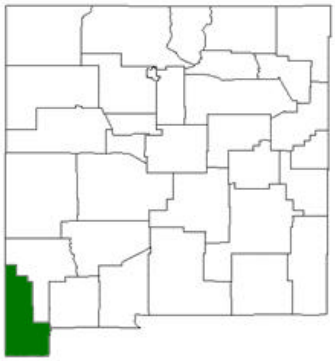
	County	State Average	U.S. Average
Number of Hospitals	4	--	--
Number of Hospital Bed (Per 1,000 Pop.)	--	2.85	--
Emergency Room Visits (Per 100k Pop.)	--	--	378
Mortality Rate (Per 100k Pop.)	582.8	722.9	872.4
Heart Disease	152.6	184.6	257.5
Diabetes	--	--	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	5.2	3.1	6.4
Infant Mortality Rate (Per 1000 Births)	5.9	6.5	7.0
Fertility Rate (Per 1000 Women 15-44)	75.1	69.5	67.5
Total Disproportionate Care Payment ($)	--	$6,886,109	--

DATA SOURCES:

1. *1998 Survey Data; "Health Care Coverage and Access in New Mexico," New Mexico Health Policy Commission, 1999*
2. *2000 Census Data, US Census*
3. *2002 New Mexico County Health Profiles, New Mexico Department of Health, Office of Vital Records and Health Statistics*
4. *Bureau of Labor Statistics, "New Mexico Profile of Employment and Unemployment," 2000*
5. *HCFA, Disproportionate Care Allotments, 1998*

[55] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Hidalgo*** *County, NM*



DEMOGRAPHIC DATA

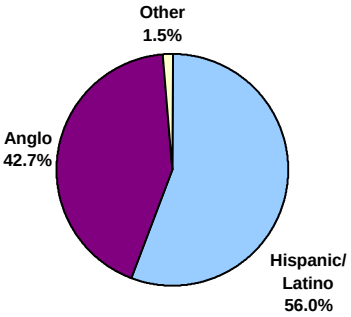
County Population (2000)

County Population:	5,932
State Average:	1,819,046
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	-0.4%
State Average:	20.1%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	7.7%	7.2%	6.8%
5 – 18	31.7%	28.0%	25.7%
19 – 64	54.7%	60.3%	61.9%
65 +	13.6%	11.7%	12.4%
Ethnicity (2000)[56]			
White	42.7%	44.7%	69.1%
Hispanic/Latino	56.0%	42.1%	12.5%
Other	1.5%	12.6%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$28,400	$30,836	$37,005
Per Capita Personal Income	$17,019	$21,836	$28,546
Unemployment Rate (%)	10.6%	4.9%	4.0%
Persons Living Below Poverty Level (%)	22.6%	19.3%	13.3%
Health Insurance Uninsured (%)	11.0-15.0%	14.5%	14.0%
Medicaid Eligibility (%)	21.0%	16.2%	--
Children Living Below Poverty Level (%)	29.1%	27.5%	19.9%

HEALTH DATA

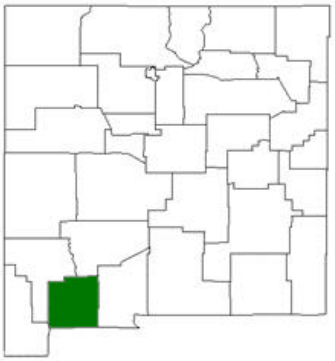
	County	State Average	U.S. Average
Number of Hospitals	0	--	--
Number of Hospital Bed (Per 1,000 Pop.)	--	2.85	--
Emergency Room Visits (Per 100k Pop.)	--	--	378
Mortality Rate (Per 100k Pop.)	826.0	722.9	872.4
Heart Disease	273.1	184.6	257.5
Diabetes	--	--	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	0.0	3.1	6.4
Infant Mortality Rate (Per 1000 Births)	7.8	6.5	7.0
Fertility Rate (Per 1000 Women 15-44)	67.0	69.5	67.5
Total Disproportionate Care Payment ($)	--	$6,886,109	--

DATA SOURCES:

1. 1998 Survey Data; "Health Care Coverage and Access in New Mexico," New Mexico Health Policy Commission, 1999
2. *2000 Census Data, US Census*
3. *2002 New Mexico County Health Profiles, New Mexico Department of Health, Office of Vital Records and Health Statistics*
4. *Bureau of Labor Statistics, "New Mexico Profile of Employment and Unemployment," 2000*
5. *HCFA, Disproportionate Care Allotments, 1998*

[56] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Luna*** *County, NM*



DEMOGRAPHIC DATA

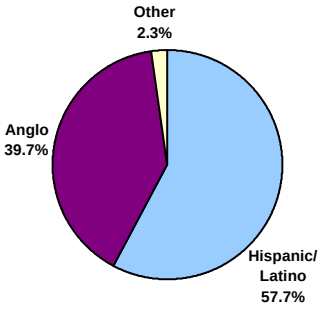
County Population (2000)

County Population:	25,016
State Average:	1,819,046
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	38.1%
State Average:	20.1%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	7.7%	7.2%	6.8%
5 – 18	30.0%	28.0%	25.7%
19 – 64	51.8%	60.3%	61.9%
65 +	18.2%	11.7%	12.4%
Ethnicity (2000)[57]			
White	39.7%	44.7%	69.1%
Hispanic/Latino	57.7%	42.1%	12.5%
Other	2.3%	12.6%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$19,349	$30,836	$37,005
Per Capita Personal Income	$14,158	$21,836	$28,546
Unemployment Rate (%)	22.9%	4.9%	4.0%
Persons Living Below Poverty Level (%)	29.8%	19.3%	13.3%
Health Insurance Uninsured (%)	11.0-15.0%	14.5%	14.0%
Medicaid Eligibility (%)	20.6%	16.2%	--
Children Living Below Poverty Level (%)	44.9%	27.5%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	--	--
Number of Hospital Bed (Per 1,000 Pop.)	--	2.85	--
Emergency Room Visits (Per 100k Pop.)	--	--	378
Mortality Rate (Per 100k Pop.)	975.4	722.9	872.4
Heart Disease	335.0	184.6	257.5
Diabetes	--	--	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	8.1	3.1	6.4
Infant Mortality Rate (Per 1000 Births)	10.1	6.5	7.0
Fertility Rate (Per 1000 Women 15-44)	82.0	69.5	67.5
Total Disproportionate Care Payment ($)	--	$6,886,109	--

DATA SOURCES:

1. 1998 Survey Data; "Health Care Coverage and Access in New Mexico," New Mexico Health Policy Commission, 1999
2. *2000 Census Data, US Census*
3. *2002 New Mexico County Health Profiles, New Mexico Department of Health, Office of Vital Records and Health Statistics*
4. *Bureau of Labor Statistics, "New Mexico Profile of Employment and Unemployment," 2000*
5. *HCFA, Disproportionate Care Allotments, 1998*

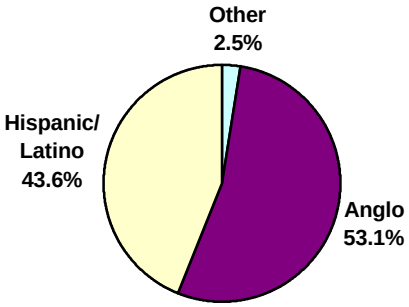
[57] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Brewster*** *County, TX*

DEMOGRAPHIC DATA

County Population (2000)		Population Growth (1990-2000)	
County Population:	8,866	County:	2.5%
State Average:	20,851,820	State Average:	22.8%
U. S Average:	281,421,906	U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	5.4%	7.8%	6.8%
5 – 18	22.2%	28.2%	25.7%
19 – 64	63.2%	61.9%	61.9%
65 +	14.6%	9.9%	12.4%
Ethnicity (2000)[58]			
White	53.1%	52.4%	69.1%
Hispanic/Latino	43.6%	32.0%	12.5%
Other	2.5%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$24,952	$34,478	$37,005
Per Capita Personal Income	$20,111	$26,834	$28,546
Unemployment Rate (%)	2.3%	4.2%	4.0%
Persons Living Below Poverty Level (%)	22.7%	16.7%	13.3%
Health Insurance Uninsured (%)	25.7%	24.2%	14.0%
Medicaid Eligibility (%)	14.9%	13.4%	--
Children Living Below Poverty Level (%)	31.5%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	472	--
Number of Hospital Bed (Per 1,000 Pop.)	4.5	3.6	--
Emergency Room Visits (Per 100k Pop.)	452.2	349.6	378
Mortality Rate (Per 100k Pop.)	677.6	897.7	872.4
Heart Disease	--	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	--	77.3	67.5
Total Disproportionate Care Payment ($)	$279,609	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[58] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Cameron*** *County, TX*

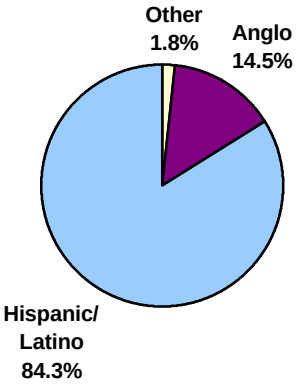
DEMOGRAPHIC DATA

County Population (2000)

County Population:	335,227
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	28.9%
State Average:	22.8%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	9.5%	7.8%	6.8%
5 – 18	33.8%	28.2%	25.7%
19 – 64	55.1%	61.9%	61.9%
65 +	11.1%	9.9%	12.4%
Ethnicity (2000)[59]			
White	14.5%	52.4%	69.1%
Hispanic/Latino	84.3%	32.0%	12.5%
Other	1.8%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$21,699	$34,478	$37,005
Per Capita Personal Income	$14,280	$26,834	$28,546
Unemployment Rate (%)	8.7%	4.2%	4.0%
Persons Living Below Poverty Level (%)	35.3%	16.7%	13.3%
Health Insurance Uninsured (%)	32.3%	24.2%	14.0%
Medicaid Eligibility (%)	31.6%	13.4%	--
Children Living Below Poverty Level (%)	45.2%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	5	472	--
Number of Hospital Bed (Per 1,000 Pop.)	3.4	3.6	--
Emergency Room Visits (Per 100k Pop.)	262.4	349.6	378
Mortality Rate (Per 100k Pop.)	659.2	897.7	872.4
Heart Disease	187.8	272.7	257.5
Diabetes	34.2	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	18.3	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	4.2	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	113.0	77.3	67.5
Total Disproportionate Care Payment ($)	$19,475,332	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[59] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for **Culberson** *County, TX*

DEMOGRAPHIC DATA

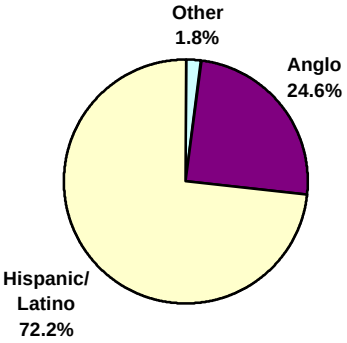
County Population (2000)

County Population:	2,975
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	-12.7%
State Average:	22.8%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	7.5%	7.8%	6.8%
5 – 18	32.2%	28.2%	25.7%
19 – 64	56.6%	61.9%	61.9%
65 +	11.2%	9.9%	12.4%
Ethnicity (2000)[60]			
White	24.6%	52.4%	69.1%
Hispanic/Latino	72.2%	32.0%	12.5%
Other	1.8%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$20,416	$34,478	$37,005
Per Capita Personal Income	$14,803	$26,834	$28,546
Unemployment Rate (%)	10.2%	4.2%	4.0%
Persons Living Below Poverty Level (%)	32.6%	16.7%	13.3%
Health Insurance Uninsured (%)	31.1%	24.2%	14.0%
Medicaid Eligibility (%)	28.6%	13.4%	--
Children Living Below Poverty Level (%)	41.5%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	472	--
Number of Hospital Bed (Per 1,000 Pop.)	8.4	3.6	--
Emergency Room Visits (Per 100k Pop.)	553.2	349.6	378
Mortality Rate (Per 100k Pop.)	731.8	897.7	872.4
Heart Disease	--	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	6.2	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	56.9	77.3	67.5
Total Disproportionate Care Payment ($)	$107,747	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[60] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***El Paso*** *County, TX*

DEMOGRAPHIC DATA

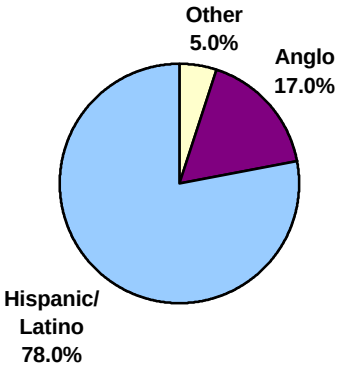
County Population (2000)

County Population:	679,622
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	14.9%
State Average:	22.8%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	8.7%	7.8%	6.8%
5 – 18	32.0%	28.2%	25.7%
19 – 64	58.3%	61.9%	61.9%
65 +	9.7%	9.9%	12.4%
Ethnicity (2000)[61]			
White	17.0%	52.4%	69.1%
Hispanic/Latino	78.2%	32.0%	12.5%
Other	5.0%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$25,866	$34,478	$37,005
Per Capita Personal Income	$17,216	$26,834	$28,546
Unemployment Rate (%)	8.2%	4.2%	4.0%
Persons Living Below Poverty Level (%)	27.8%	16.7%	13.3%
Health Insurance Uninsured (%)	31.4%	24.2%	14.0%
Medicaid Eligibility (%)	22.9%	13.4%	--
Children Living Below Poverty Level (%)	38.6%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	8	472	--
Number of Hospital Bed (Per 1,000 Pop.)	2.9	3.6	--
Emergency Room Visits (Per 100k Pop.)	286.4	349.6	378
Mortality Rate (Per 100k Pop.)	773.6	897.7	872.4
Heart Disease	203.5	272.7	257.5
Diabetes	50.5	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	8.8	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	5.2	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	89.8	77.3	67.5
Total Disproportionate Care Payment ($)	$23,238,264	$721,779,862	--

DATA SOURCES:

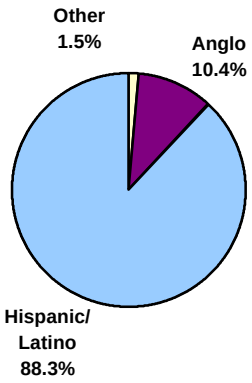
1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[61] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Hidalgo*** *County, TX*

DEMOGRAPHIC DATA

County Population (2000)		Population Growth (1990-2000)	
County Population:	569,463	County:	48.5%
State Average:	20,851,820	State Average:	22.8%
U. S Average:	281,421,906	U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)			U.S. Average
0 – 4	10.2%	7.8%	6.8%
5 – 18	35.3%	28.2%	25.7%
19 – 64	55.0%	61.9%	61.9%
65 +	9.7%	9.9%	12.4%
Ethnicity (2000)[62]			
White	10.4%	52.4%	69.1%
Hispanic/Latino	88.3%	32.0%	12.5%
Other	1.5%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$20,034	$34,478	$37,005
Per Capita Personal Income	$13,339	$26,834	$28,546
Unemployment Rate (%)	13.6%	4.2%	4.0%
Persons Living Below Poverty Level (%)	37.6%	16.7%	13.3%
Health Insurance Uninsured (%)	33.4%	24.2%	14.0%
Medicaid Eligibility (%)	32.6%	13.4%	--
Children Living Below Poverty Level (%)	47.9%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	9	472	--
Number of Hospital Bed (Per 1,000 Pop.)	2.4	3.6	--
Emergency Room Visits (Per 100k Pop.)	195.3	349.6	378
Mortality Rate (Per 100k Pop.)	681.0	897.7	872.4
Heart Disease	202.1	272.7	257.5
Diabetes	42.6	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	14.0	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	3.8	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	117.3	77.3	67.5
Total Disproportionate Care Payment ($)	$20,503,609	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[62] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Hudspeth*** *County, TX*

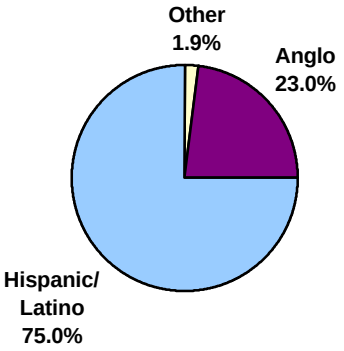
DEMOGRAPHIC DATA

County Population (2000)

County Population:	3,344
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	14.7%
State Average:	22.8%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	8.6%	7.8%	6.8%
5 – 18	34.1%	28.2%	25.7%
19 – 64	56.0%	61.9%	61.9%
65 +	9.9%	9.9%	12.4%
Ethnicity (2000)[63]			
White	23.0%	52.4%	69.1%
Hispanic/Latino	75.0%	32.0%	12.5%
Other	1.9%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$19,987	$34,478	$37,005
Per Capita Personal Income	$13,803	$26,834	$28,546
Unemployment Rate (%)	3.5%	4.2%	4.0%
Persons Living Below Poverty Level (%)	32.9%	16.7%	13.3%
Health Insurance Uninsured (%)	28.4%	24.2%	14.0%
Medicaid Eligibility (%)	22.5%	13.4%	--
Children Living Below Poverty Level (%)	44.2%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	0	472	--
Number of Hospital Bed (Per 1,000 Pop.)	--	3.6	--
Emergency Room Visits (Per 100k Pop.)	--	349.6	378
Mortality Rate (Per 100k Pop.)	--	897.7	872.4
Heart Disease	--	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	58.4	77.3	67.5
Total Disproportionate Care Payment ($)	--	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[63] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Jeff Davis*** *County, TX*

DEMOGRAPHIC DATA

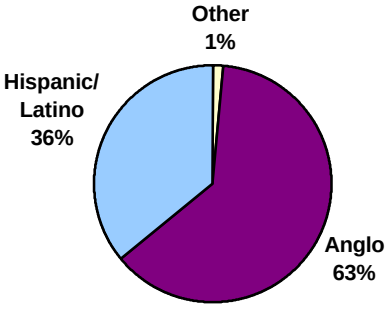
County Population (2000)

County Population:	2,207
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	13.4%
State Average:	22.8%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	4.1%	7.8%	6.8%
5 – 18	24.4%	28.2%	25.7%
19 – 64	59.3%	61.9%	61.9%
65 +	16.3%	9.9%	12.4%
Ethnicity (2000)[64]			
White	62.3%	52.4%	69.1%
Hispanic/Latino	35.5%	32.0%	12.5%
Other	1.3%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$25,895	$34,478	$37,005
Per Capita Personal Income	$14,534	$26,834	$28,546
Unemployment Rate (%)	2.1%	4.2%	4.0%
Persons Living Below Poverty Level (%)	16.6%	16.7%	13.3%
Health Insurance Uninsured (%)	22.3%	24.2%	14.0%
Medicaid Eligibility (%)	8.2%	13.4%	--
Children Living Below Poverty Level (%)	25.5%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	0	472	--
Number of Hospital Bed (Per 1,000 Pop.)	--	3.6	--
Emergency Room Visits (Per 100k Pop.)	740.1	349.6	378
Mortality Rate (Per 100k Pop.)	--	897.7	872.4
Heart Disease	--	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	--	77.3	67.5
Total Disproportionate Care Payment ($)	--	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[64] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Kinney*** *County, TX*

DEMOGRAPHIC DATA

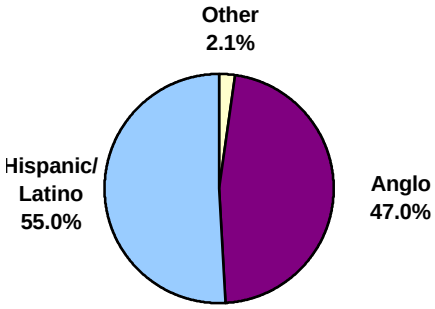
County Population (2000)

County Population:	3,379
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	8.3%
State Average:	22.8%
U. S. Average:	13.1%

POPULATION INFORMATION



Age (2000)	County	State Average	U.S. Average
0 – 4	6.2%	7.8%	6.8%
5 – 18	25.7%	28.2%	25.7%
19 – 64	--	61.9%	61.9%
65 +	24.3%	9.9%	12.4%
Ethnicity (2000)[65]			
White	47.0%	52.4%	69.1%
Hispanic/Latino	50.5%	32.0%	12.5%
Other	2.1%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$21,850	$34,478	$37,005
Per Capita Personal Income	$14,292	$26,834	$28,546
Unemployment Rate (%)	7.5%	4.2%	4.0%
Persons Living Below Poverty Level (%)	26.0%	16.7%	13.3%
Health Insurance Uninsured (%)	24.3%	24.2%	14.0%
Medicaid Eligibility (%)	16.4%	13.4%	--
Children Living Below Poverty Level (%)	41.4%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	0	472	--
Number of Hospital Bed (Per 1,000 Pop.)	--	3.6	--
Emergency Room Visits (Per 100k Pop.)	--	349.6	378
Mortality Rate (Per 100k Pop.)	602.3	897.7	872.4
Heart Disease	--	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	57.1	77.3	67.5
Total Disproportionate Care Payment ($)	--	$721,779,862	--

DATA SOURCES:

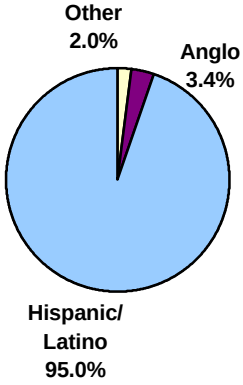
1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[65] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Maverick*** *County, TX*

DEMOGRAPHIC DATA

County Population (2000)		Population Growth (1990-2000)	
County Population:	47,297	County:	30.0%
State Average:	20,851,820	State Average:	22.8%
U. S Average:	281,421,906	U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)		State Average	U.S. Average
0 – 4	10.0%	7.8%	6.8%
5 – 18	36.6%	28.2%	25.7%
19 – 64	53.6%	61.9%	61.9%
65 +	9.5%	9.9%	12.4%
Ethnicity (2000)[66]			
White	3.4%	52.4%	69.1%
Hispanic/Latino	95.0%	32.0%	12.5%
Other	2.0%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$16,626	$34,478	$37,005
Per Capita Personal Income	$10,826	$26,834	$28,546
Unemployment Rate (%)	21.4%	4.2%	4.0%
Persons Living Below Poverty Level (%)	39.7%	16.7%	13.3%
Health Insurance Uninsured (%)	33.7%	24.2%	14.0%
Medicaid Eligibility (%)	35.6%	13.4%	--
Children Living Below Poverty Level (%)	50.7%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	472	--
Number of Hospital Bed (Per 1,000 Pop.)	1.6	3.6	--
Emergency Room Visits (Per 100k Pop.)	253.8	349.6	378
Mortality Rate (Per 100k Pop.)	823.1	897.7	872.4
Heart Disease	308.2	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	96.5	77.3	67.5
Total Disproportionate Care Payment ($)	$2,636,005	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[66] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Presidio*** *County, TX*

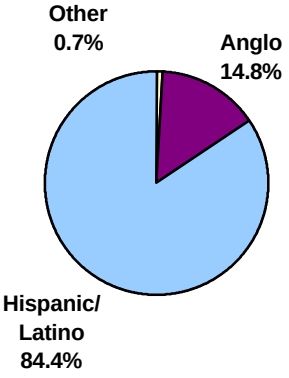
DEMOGRAPHIC DATA

County Population (2000)

County Population:	7,304
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	10.0%
State Average:	22.8%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	7.8%	7.8%	6.8%
5 – 18	32.7%	28.2%	25.7%
19 – 64	53.4%	61.9%	61.9%
65 +	13.9%	9.9%	12.4%
Ethnicity (2000)[67]			
White	14.8%	52.4%	69.1%
Hispanic/Latino	84.4%	32.0%	12.5%
Other	0.7%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$17,753	$34,478	$37,005
Per Capita Personal Income	$10,739	$26,834	$28,546
Unemployment Rate (%)	27.6%	4.2%	4.0%
Persons Living Below Poverty Level (%)	35.6%	16.7%	13.3%
Health Insurance Uninsured (%)	30.2%	24.2%	14.0%
Medicaid Eligibility (%)	73.5%	13.4%	--
Children Living Below Poverty Level (%)	48.1%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	0	472	--
Number of Hospital Bed (Per 1,000 Pop.)	--	3.6	--
Emergency Room Visits (Per 100k Pop.)	--	349.6	378
Mortality Rate (Per 100k Pop.)	580.2	897.7	872.4
Heart Disease	--	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	80.4	77.3	67.5
Total Disproportionate Care Payment ($)	--	$721,779,862	--

DATA SOURCES:

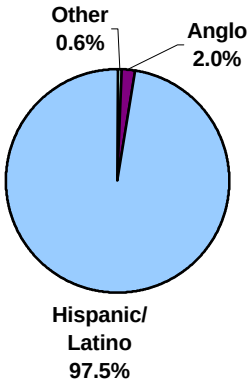
1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[67] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Starr*** *County, TX*

DEMOGRAPHIC DATA

County Population (2000)		Population Growth (1990-2000)	
County Population:	53,597	County:	32.3%
State Average:	20,851,820	State Average:	22.8%
U. S Average:	281,421,906	U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	10.4%	7.8%	6.8%
5 – 18	37.4%	28.2%	25.7%
19 – 64	54.4%	61.9%	61.9%
65 +	8.2%	9.9%	12.4%
Ethnicity (2000)[68]			
White	2.0%	52.4%	69.1%
Hispanic/Latino	97.5%	32.0%	12.5%
Other	0.6%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$14,178	$34,478	$37,005
Per Capita Personal Income	$8,588	$26,834	$28,546
Unemployment Rate (%)	22.3%	4.2%	4.0%
Persons Living Below Poverty Level (%)	46.7%	16.7%	13.3%
Health Insurance Uninsured (%)	35.0%	24.2%	14.0%
Medicaid Eligibility (%)	44.3%	13.4%	--
Children Living Below Poverty Level (%)	56.4%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	472	--
Number of Hospital Bed (Per 1,000 Pop.)	8.2	3.6	--
Emergency Room Visits (Per 100k Pop.)	190.4	349.6	378
Mortality Rate (Per 100k Pop.)	689.5	897.7	872.4
Heart Disease	223.6	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	120.3	77.3	67.5
Total Disproportionate Care Payment ($)	$1,464,480	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[68] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Terrell*** *County, TX*

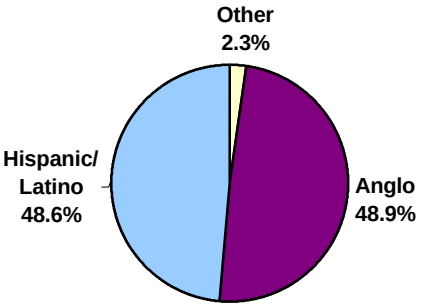
DEMOGRAPHIC DATA

County Population (2000)

County Population:	1,081
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	-23.3%
State Average:	22.8%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	5.6%	7.8%	6.8%
5 – 18	26.5%	28.2%	25.7%
19 – 64	55.9%	61.9%	61.9%
65 +	17.6%	9.9%	12.4%
Ethnicity (2000)[69]			
White	48.9%	52.4%	69.1%
Hispanic/Latino	48.6%	32.0%	12.5%
Other	2.3%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$24,682	$34,478	$37,005
Per Capita Personal Income	$21,887	$26,834	$28,546
Unemployment Rate (%)	2.6%	4.2%	4.0%
Persons Living Below Poverty Level (%)	20.9%	16.7%	13.3%
Health Insurance Uninsured (%)	24.8%	24.2%	14.0%
Medicaid Eligibility (%)	12.4%	13.4%	--
Children Living Below Poverty Level (%)	26.2%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	0	472	--
Number of Hospital Bed (Per 1,000 Pop.)	0	3.6	--
Emergency Room Visits (Per 100k Pop.)	0	349.6	378
Mortality Rate (Per 100k Pop.)	--	897.7	872.4
Heart Disease	--	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	N/A	77.3	67.5
Total Disproportionate Care Payment ($)	$0	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[69] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Val Verde*** *County, TX*

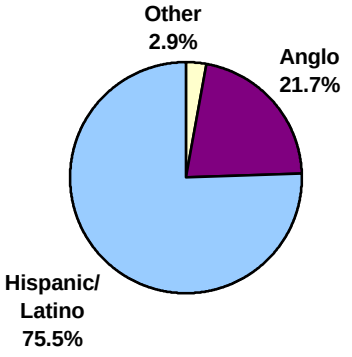
DEMOGRAPHIC DATA

County Population (2000)

County Population:	44,856
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	15.8%
State Average:	22.8%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	8.9%	7.8%	6.8%
5 – 18	32.1%	28.2%	25.7%
19 – 64	56.9%	61.9%	61.9%
65 +	11.0%	9.9%	12.4%
Ethnicity (2000)[70]			
White	21.7%	52.4%	69.1%
Hispanic/Latino	75.5%	32.0%	12.5%
Other	2.9%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$23,774	$34,478	$37,005
Per Capita Personal Income	$15,926	$26,834	$28,546
Unemployment Rate (%)	6.9%	4.2%	4.0%
Persons Living Below Poverty Level (%)	29.5%	16.7%	13.3%
Health Insurance Uninsured (%)	29.7%	24.2%	14.0%
Medicaid Eligibility (%)	24.9%	13.4%	--
Children Living Below Poverty Level (%)	38.6%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	1	472	--
Number of Hospital Bed (Per 1,000 Pop.)	2.07	3.6	--
Emergency Room Visits (Per 100k Pop.)	227.4	349.6	378
Mortality Rate (Per 100k Pop.)	898.8	897.7	872.4
Heart Disease	282.4	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	105.2	77.3	67.5
Total Disproportionate Care Payment ($)	$1,952,772	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[70] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Webb*** *County, TX*

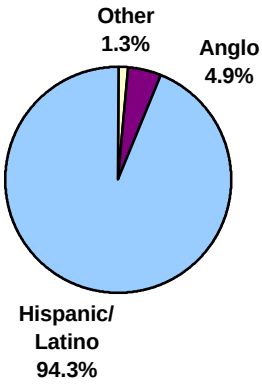
DEMOGRAPHIC DATA

County Population (2000)

County Population:	193,117
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	44.9%
State Average:	22.8%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	10.6%	7.8%	6.8%
5 – 18	36.2%	28.2%	25.7%
19 – 64	56.2%	61.9%	61.9%
65 +	7.6%	9.9%	12.4%
Ethnicity (2000)[71]			
White	4.9%	52.4%	69.1%
Hispanic/Latino	94.3%	32.0%	12.5%
Other	1.3%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$23,386	$34,478	$37,005
Per Capita Personal Income	$14,112	$26,834	$28,546
Unemployment Rate (%)	7.0%	4.2%	4.0%
Persons Living Below Poverty Level (%)	32.6%	16.7%	13.3%
Health Insurance Uninsured (%)	33.3%	24.2%	14.0%
Medicaid Eligibility (%)	29.2%	13.4%	--
Children Living Below Poverty Level (%)	42.3%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	2	472	--
Number of Hospital Bed (Per 1,000 Pop.)	2.3	3.6	--
Emergency Room Visits (Per 100k Pop.)	306.1	349.6	378
Mortality Rate (Per 100k Pop.)	728.2	897.7	872.4
Heart Disease	204.3	272.7	257.5
Diabetes	47.5	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	14.2	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	5.7	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	121.4	77.3	67.5
Total Disproportionate Care Payment ($)	$11,113,914	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[71] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

Selected Facts for ***Zapata*** *County, TX*

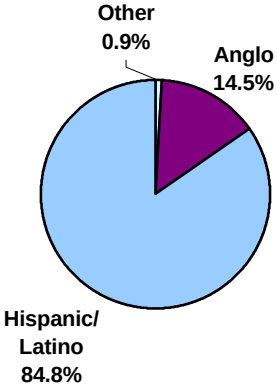
DEMOGRAPHIC DATA

County Population (2000)

County Population:	12,182
State Average:	20,851,820
U. S Average:	281,421,906

Population Growth (1990-2000)

County:	31.3%
State Average:	22.8%
U. S. Average:	13.1%



POPULATION INFORMATION

Age (2000)	County	State Average	U.S. Average
0 – 4	9.2%	7.8%	6.8%
5 – 18	33.0%	28.2%	25.7%
19 – 64	52.7%	61.9%	61.9%
65 +	14.3%	9.9%	12.4%
Ethnicity (2000)[72]			
White	14.5%	52.4%	69.1%
Hispanic/Latino	84.8%	32.0%	12.5%
Other	0.9%	16.1%	16.9%

SOCIOECONOMIC DATA

	County	State Average	U.S. Average
Median Household Income	$20,905	$34,478	$37,005
Per Capita Personal Income	$12,494	$26,834	$28,546
Unemployment Rate (%)	8.9%	4.2%	4.0%
Persons Living Below Poverty Level (%)	32.1%	16.7%	13.3%
Health Insurance Uninsured (%)	31.8%	24.2%	14.0%
Medicaid Eligibility (%)	33.0%	13.4%	--
Children Living Below Poverty Level (%)	40.6%	23.6%	19.9%

HEALTH DATA

	County	State Average	U.S. Average
Number of Hospitals	0	472	--
Number of Hospital Bed (Per 1,000 Pop.)	0	3.6	--
Emergency Room Visits (Per 100k Pop.)	0	349.6	378
Mortality Rate (Per 100k Pop.)	850.4	897.7	872.4
Heart Disease	293.1	272.7	257.5
Diabetes	--	30.4	24.9
Morbidity (Per 100k Pop.)	--	--	--
Tuberculosis	--	8.2	6.4
Infant Mortality Rate (Per 1000 Births)	--	6.2	7.0
Fertility Rate (Per 1000 Women 15-44)	106.2	77.3	67.5
Total Disproportionate Care Payment ($)	$0	$721,779,862	--

DATA SOURCES:

1. *2000 American Hospital Association Survey Data*
2. *2000 Census Data, "Health Insurance Coverage 2000," US Census*
3. *Texas Department of Health – County Health Profiles, 1999*

[72] "Ethnicity data is based upon new categories used by the U.S. Department of the Census in its 2000 census. The concept of Race is separate from the concept of Hispanic origin. The proportions of Hispanic, White, and Other populations presented here are extrapolations meant for illustrative purposes only. Hispanic origin is the only set of data used for comparative analysis in other sections of this report. Therefore, percentages on graphics may not add to 100 percent."

APPENDIX B:

Selected Literature Review

ARTICLE OR STUDY	ORGANIZATION	DATE	HIGHLIGHTS
"Fiscal Impacts of Undocumented Aliens: Selected Estimates for the Seven States."	The Urban Institute	1994	• Study commissioned by the Office of Management and Budget, along with the Departments of Justice/Education/Health & Human Services. • First time federal government attempted to estimate the Medicaid, education, and correction costs imposed by states through illegal immigration. • Study focused on seven states including Texas, California, Arizona, Florida, New Jersey, New York, and Illinois. • States spent an estimated $422 million on their Medicaid costs.
	Texas Governor's Office	1993	• Study concluded that Texas pays an estimated $122 million annually to treat the state's 550,000 undocumented aliens.
"Benefits for Illegal Aliens: Some Program Costs Increasing, But Total Costs Unknown."	General Accounting Office	September 1993	• Reviewed costs of benefits provided to illegal aliens and their citizen children, including K-12 Education, AFDC, Medicaid, State Prisons and Food Stamps. • Various factors limit the availability of cost data, including restrictions on asking applicants about their immigration status. • State and local government appears to pay the greatest share of costs, with California paying the most. • Benefits for illegal aliens and their citizen children represent a small, but rising percentage of some program costs.
"Illegal Aliens Assessing Estimates of Financial Burden on California."	General Accounting Office	November 1994	• Study evaluated various cost estimates developed in California. • Concluded that cost estimates were questionable due to limited data and various assumptions. • Concluded that: "while it probably will be difficult to obtain better data on the illegal alien population, greater agreement about appropriate assumptions and methodologies could help narrow the range of estimated costs and revenues."
"Illegal Aliens National Net Cost Estimates Vary Widely."	General Accounting Office	July 1995	• Reviewed various national studies on the national net costs of illegal aliens, as well as state efforts to estimate the fiscal impact of providing services to illegal aliens. • Concluded that "considerable uncertainty" remains regarding the national fiscal impact of illegal aliens.

ARTICLE OR STUDY	ORGANIZATION	DATE	HIGHLIGHTS
"Illegal Aliens National Net Cost Estimates Vary Widely." ***(cont'd)***			• Concluded that better data on the illegal aliens population and clearer explanation of which costs and revenues are appropriate to include would help improve the usefulness of national estimates. • Medicaid cost impacts ranged from a low of $463 million (Urban Institute 1992 estimate) to $509 million (Huddle's updated estimate).
"Trauma Care Reimbursement Poor Understanding of Losses and Coverage for Undocumented Aliens."	General Accounting Office	October 1992	• Reviewed Medicaid access and estimated cost of providing trauma care to undocumented aliens in four hospitals in California, Texas and New Mexico. • Revealed that New Mexico had not issued any Medicaid payments for emergency treatment of undocumented aliens. • Concluded that individual hospitals did not use the same methodology for estimating the costs of providing health care to undocumented aliens (one hospital had not attempted to estimate costs). • Reviewed the advantages and disadvantages of both direct and indirect methods of identifying undocumented aliens and linking them to unpaid costs. • Concluded that direct methods were expensive and potentially inaccurate because of the patient's incentive to conceal their actual immigration status. • Concluded that "an objective procedure for using routinely collected information to make an assessment of immigration status with measured accuracy is a potentially fruitful strategy that might be implemented at modest cost in a variety of settings." (page 9).
"Paying the Costs of Medical and Public Safety Services for Undocumented Immigrants: Revisiting the Unfunded Federal Mandates Issue."	James D. Riggle School of Public Policy George Mason University	April 2001 (Revised June 2001)	• Cited several relevant public opinion polls that suggest most Americans believe undocumented immigrants should be entitled to receive emergency medical care and that the federal government (as opposed to local) should foot the bill. • In reference to uncompensated emergency medical care for undocumented immigrants, suggested that "the complexities of fiscal federalism make fully accurate apportionment of these costs extremely difficult."

ARTICLE OR STUDY	ORGANIZATION	DATE	HIGHLIGHTS
"INS' Southwest Border Strategy: Resource and Impact Issues Remain After Seven Years."	General Accounting Office	August 2001	• Concluded that the Southwest Border Strategy's effect on reducing overall illegal entry is unclear, but that the INS border control initiatives have had both positive and negative community impacts. • Reported that border control efforts have resulted in surges in illegal alien traffic in some border communities like Nogales, Arizona or Calexico, California.
"Illegal Immigrants in U.S./Mexico Border Counties: The Costs of Law Enforcement, Criminal Justice, and Emergency Medical Services."	U.S Mexico Border Counties Coalition	February 2001	• Conducted under a grant from the U.S. Department of Justice. • Estimated the cost of providing law enforcement, criminal justice, and emergency medical services to undocumented aliens in the 24 southwest border counties in 1999.
"U.S. Border Control: Its Policies Cause San Diego County Health Care Providers to Incur Millions of Dollars in Unreimbursed Care."	California State Auditor's office	1997	• Reviewed the impact of U.S. Border Patrol policies on the San Diego health care system. • Concluded that U.S. Border Patrol policies cost San Diego County health care providers millions of dollars in unreimbursed health care costs. • Concluded that San Diego County health care providers are negatively affected by the Border Patrol's policy to pay only for emergency care charges for unauthorized immigrants that are already in their custody at the time of treatment. • Recommended the California Legislature memorialize the U.S. Congress to require the federal government to pay the full costs of emergency medical services provided to undocumented persons who would have been taken into custody had it not been for their injuries.
"Births to Undocumented Aliens."	General Accounting Office	1997	• Provided data on Medicaid funded births to undocumented aliens in California and Texas. • Number of Medicaid funded births to undocumented aliens declined significantly in California between 1992 and 1995, but increased significantly during that same period in Texas.

ARTICLE OR STUDY	ORGANIZATION	DATE	HIGHLIGHTS
"Undocumented Aliens Estimating the Cost of Their Uncompensated Hospital Care."	General Accounting Office	1987	• Response to 1986 congressional request for the GAO to review the methodological and conceptual bases of estimating the costs of uncompensated health care provided to undocumented aliens and to develop an improved approach. • Found that most methods used to estimate the costs of care provided to undocumented aliens were flawed because of the lack of accurate data and the use of "tenuous" assumptions. • Reviewed various approaches used to identify undocumented patients and their use of medical services. • Developed "an alternative method to involving an empirically based analysis of indicators of probable immigration status."

APPENDIX C:

Interview Guides

Hospitals

Provide some general background about our study as an introduction. We have been hired by the US/Mexico Border Counties Coalition (USMBCC) to quantify the cost to local communities, including hospitals, of providing emergency medical services to undocumented persons. County Commissioners and Supervisors who preside in counties contiguous to the US/Mexico Border govern USMBCC. The USMBCC Supervisor from your county is _____. USMBCC is committed to informing federal policy makers about the high cost of delivering emergency medical services in border communities.

We will be asking that you complete a written survey that I will leave with you. However, now I'd like to ask a few questions to get a feel for the challenges facing your hospital.

1. How many patients come through the emergency department each year? Of these, how many would you estimate are undocumented aliens (make sure you get an estimate)? What do base your estimate on (Gut? Patient tracking?)

2. How do most of the undocumented aliens that are treated for emergencies in your facility pay for the services they receive? (Ask them to be specific: insurance?, federal Medicaid emergency services money?, out-of-pocket? Local government (county, city) funds, etc.)

3. If your facility receives local county indigent health care funds, what percent of those funds are used to cover treatment for undocumented aliens?

4. How do these patients end up at your facility? (e.g. Referrals from other facilities, INS brings them in, ambulance, family, self-referral, in an accident?)

5. Generally, what kinds of emergency services do undocumented aliens seek? (Again ask that they be as specific as possible: labor & delivery? Trauma? Heart attacks?)

6. The federal and state government require you to provide emergency services to undocumented aliens. Does your facility also provide any non-emergency services to indigent undocumented aliens such as elective surgeries or other hospital-based non-emergency services?

7. Once a patient has been stabilized, how do you determine they are undocumented?

8. Once you've determined they are undocumented, how is eligibility for Medicaid or other local, state or federal funding sources determined? (Have them walk you through the process)

9. What happens if the patient does not qualify for any public funding sources? Are there any other sources of funds for your organization?

10. Once all sources of funding have been exhausted, what is your organization's policy? Are these services written off as bad debt or charitable care?

11. What percent of the bad debt and charitable care is attributable to treatment delivered to undocumented aliens?

12. Do you track the uncompensated care provided by your organization to undocumented aliens? What is that dollar amount? Has it declined, stayed level or increased since 1995?

13. What do you think should be done to address the challenges your facility faces? In particular, what do you think the federal government should do? The state?

14. What are you doing currently to address these issues?

Emergency Transportation Providers

Provide some general background about our study as an introduction. We have been hired by the US/Mexico Border Counties Coalition (USMBCC) to quantify the cost to local communities, including EMS, of providing emergency medical services to undocumented persons. County Commissioners and Supervisors who preside in counties contiguous to the US/Mexico Border govern USMBCC. The USMBCC Supervisor from your county is _____. USMBCC is committed to informing federal policy makers about the high cost of delivering emergency medical services in border communities.

We will be asking that you complete a written survey that I will leave with you. However, now I'd like to ask a few questions to get a feel for the challenges facing your hospital.

1. What counties does your EMS company serve?

2. How many ambulance units (vehicles) does your emergency transport agency currently operate?

3. How many employees currently work in your emergency transport agency?

4. How many calls to international bridges did your emergency transport agency receive during FY 2000?

5. Does your emergency transport agency have contracts with local governments to pay for emergency transportation provided to undocumented aliens?

6. How do you get these calls? (911, INS brings them in, ambulance, family, other?)

7. What was your organization's bad debt in fiscal year 2000?

8. What percent of your bad debt (relative to gross revenues) resulted from transporting indigent, undocumented aliens?

9. Do you think this level has increased or decreased over the past five years?

10. Do you track revenues and expenditures for emergency transportation of undocumented aliens?

11. What do you think should be done to address the challenges your company faces? In particular, what do you think the federal government should do? The state?

12. What are you doing currently to address these issues?

APPENDIX D:

Survey Instruments

HOSPITALS IN U.S. BORDER COUNTIES
FALL 2001

INSTRUCTIONS: The purpose of this survey is to analyze current demands and resources needed to cover the cost of providing emergency medical services provided to indigent, undocumented aliens. The results of the survey will be used by policy makers to address federal funding and policy issues regarding emergency medical services for undocumented aliens.

Please read each question carefully and respond based on your firsthand knowledge of uncompensated health care services provided to undocumented aliens by your hospital. Please submit your completed survey by January 11, 2002 to:

Joanne Urena
MGT of America, Inc.
502 East 11th Street Suite 300
Austin, Texas 78701
FAX (512) 476-4699

Additional copies of the survey are available as a PDF file on line. You may download this survey and print it. At www.mgtamer.com/surveys. When prompted, enter 1893H. This will bring you to the PDF file with the survey. We are asking that you return it by fax to (512) 476-4699 by January 11, 2001.

If you have any questions, please contact Joanne Urena (email address: jurena@mgtamer.com) or Robin Herskowitz at (512) 476-4697 (e-mail address: rherskow@mgtamer.com). Thank you for your assistance with this important survey.

BACKGROUND INFORMATION

1. Name of Hospital

_____

2. Name of Person Completing Survey: _____ **Job Title:** _____

3. Address:

_____

City: _____ **State** _____ **Zip Code** _____

Telephone: _____ **FAX** _____

E-Mail: _____

4. Since 1995, do you think the cost of services (as a percent of the hospital's gross revenue (i.e. topline) provided by your hospital to indigent, undocumented aliens has:

☐ 1 Declined
☐ 2 Stayed level
☐ 3 Increased

5. Does your hospital receive any funds to offset uncompensated care for indigent, undocumented aliens?

☐ 1 Yes

☐ 2 No (if no, skip to question 7)

If yes, check all current funding sources for health care provided to indigent, undocumented aliens in your hospital (check all that apply)

☐ 1 Federal Medicaid Emergency Services

☐ 2 Local city government

☐ 3 Local county government

☐ 4 State general revenue funds

☐ 4 State indigent health care funds

☐ 5 State tobacco funds

☐ 6 State Emergency Funds for Undocumented Aliens

☐ 7 Other State Funds (specify _____)

☐ 8 Donations

☐ 9 Self-pay

☐ 10 Private Health Insurance

☐ 11 Other (specify _____)

6. Please indicate the amount of funding your hospital received in fiscal years 1999 and 2000 to offset uncompensated care for indigent, undocumented aliens.

Sources of Funding	**FY 1999**	**FY 2000**
Federal Medicaid Emergency Services	_____	_____
Local city government	_____	_____
Local county government	_____	_____
State general revenue funds	_____	_____
State indigent health care funds	_____	_____
State tobacco funds	_____	_____
State Emergency Funds for Undocumented Aliens	_____	_____
Other State Funds(specify_____)	_____	_____
Donations	_____	_____
Self-pay	_____	_____
Private Health Insurance	_____	_____
Other (specify _____)	_____	_____
Other (specify _____)	_____	_____
TOTAL	**$**_____	**$**_____

7. Please provide the top five ICD-9 codes in order of expenditures for uncompensated care provided by your facility in fiscal year 2000. Please include the amount of uncompensated care associated with each of the ICD-9 codes listed.

a.	_____	**Amount**	**$**_____
b.	_____	**Amount**	**$**_____
c.	_____	**Amount**	**$**_____
d.	_____	**Amount**	**$**_____
e.	_____	**Amount**	**$**_____

8. What were your hospital's gross revenues (i.e. topline) for in FY 2000?_____

9. Please list the amount for each of the categories listed below attributable to emergency services delivered to indigent, undocumented aliens.

Please provide the two most recent fiscal years available for your hospital

	FY _____	FY _____
Bad Debt	$_____	$_____
Charity Care	$_____	$_____
Local Indigent Health Care Funds	$_____	$_____
Total Cost of Emergency Services for Undocumented Aliens	$_____	$_____

10. Do you use Social Security numbers as a unique patient identifier or to track patients at your hospital? If so, please indicate the number of people who received care in your facilities by gender, age, and race/ethnicity for FY 2000 who did NOT have social security numbers.

Gender	Age	Race/Ethnicity
_____ Male	_____ Child, 0 – 18 years	_____ White, non-Hispanic
_____ Female	_____ Adult, 19 to 64 years	_____ Hispanic
	_____ Adult, 65 years or older	_____ Black, African-American
Total _____	**Total** _____	_____ American Indian
		_____ Other
		Total _____

11. Please briefly summarize specific issues regarding costs, resources, and/or funding for emergency care for undocumented aliens that your hospital faces.

12. What can the government do to address the financial challenges facing your hospital as it relates to providing emergency medical services to undocumented aliens.

Federal
State

Thank you very much for completing and returning this survey.

SURVEY OF EMERGENCY TRANSPORTATION PROVIDERS IN U.S. BORDER COUNTIES FALL 2001

INSTRUCTIONS: This purpose of this survey is to analyze current demands and resources for emergency transportation services provided to indigent, undocumented aliens. The results of the survey will be used by policy makers to address federal funding and policy issues regarding emergency medical services and undocumented aliens.

Please read each question carefully and respond based on your firsthand knowledge of uncompensated health care services provided to undocumented aliens by your agency. Please submit your completed survey by January 11, 2002 to:

Joanne Urena
MGT of America, Inc.
502 East 11th Street Suite 300
Austin, Texas 78701
FAX (512) 476-4699

Additional copies of the survey are available as a PDF file on line. You may download this survey and print it. At www.mgtamer.com/surveys. When prompted, enter 1893A. This will bring you to the PDF file with the survey. We are asking that you return it by fax to (512) 476-4699 by January 11, 2002.

If you have any questions, please contact Joanne Urena (email address: jurena@mgtamer.com) or Robin Herskowitz at (512) 476-4697 (e-mail address: rherskow@mgtamer.com). Thank you for your assistance with this important survey.

BACKGROUND INFORMATION

1. **Name of Emergency Transportation Provider**
   _____

2. **Name of Person Completing Survey:** _____**Job Title** _____

3. **Address:**
   _____

   City: _____ **State** _____ **Zip Code** _____

   Telephone: _____ **FAX** _____

   E-Mail: _____

4. Indicate (X) the type of organization that owns your emergency transportation agency. CHECK ONLY ONE

- ☐ 1 Fire district or authority
- ☐ 2 City/County Government
- ☐ 3 Hospital district or authority
- ☐ 4 City/County Hospital
- ☐ 5 Not-For Profit
- ☐ 6 For-Profit
- ☐ 7 Emergency Transport Agency, Investor Owned, For-Profit
- ☐ 8 Other (specify) _____

5. Please list the counties served by your emergency transportation agency.

_____ _____ _____
_____ _____ _____
_____ _____ _____

6. How many ambulance units (vehicles) does your emergency transport agency currently operate? _____

7. How many employees currently work in your emergency transport agency? _____

8. How many calls to international bridges did your emergency transport agency receive during FY 2000? _____

9. Does your emergency transport agency have contracts with local governments to pay for emergency transportation provided to undocumented aliens?

- ☐ 1 Yes
- ☐ 2 No

If yes, please list the contractee (city, county etc) and describe the payment methodology utilized (amount per run, fixed amount per year, etc).

_____

_____

_____

10. Does your emergency transport agency have contracts with local hospitals to pay for emergency transportation provided to undocumented aliens transported to their hospital?

☐ 1 Yes

☐ 2 No

If yes, please list the contractee and describe the payment methodology utilized (amount per run, fixed amount per year, etc).

_____

_____

_____

11. What was your organization's gross (i.e. topline) revenues in fiscal year 2000? _____

12. What was your organization's bad debt in fiscal year 2000? _____

13. What percent of your bad debt (relative to gross revenues) resulted from transporting indigent, undocumented aliens? Would you say:

☐ 1 **None**
☐ 2 **less 5 percent**
☐ 3 **5 to 10 percent**
☐ 4 **10 to 25 percent**
☐ 5 **25 to 50 percent**
☐ 6 **50 to 75 percent**
☐ 7 **more than 75 percent**

14. In the past five years, do you think the total amount of revenues for uncompensated emergency transportation provided to undocumented aliens by your emergency transport agency has:

☐ 1 Declined

☐ 2 Stayed level

☐ 3 Increased

15. Do you track revenues and expenditures for emergency transportation of undocumented aliens?

☐1 Yes, data is tracked.

☐2 No, data is not tracked.

If yes, please provide the amount of revenues your agency received from the following funding sources for emergency transportation services provided to undocumented aliens in fiscal years 1999 and 2000?

	FY 1999	FY 2000
Federal Medicaid Emergency Services	_____	_____
Local city government	_____	_____
Local county government	_____	_____
State indigent health care funds	_____	_____
State Emergency Funds for Undocumented Aliens	_____	_____
Local Hospitals	_____	_____
Donations	_____	_____
Self-pay	_____	_____
Private Health Insurance	_____	_____
Other (specify _____)	_____	_____
Other (specify _____)	_____	_____

16. Please estimate the percent of your agency's gross (i.e. topline) revenues from emergency transportation services provided to undocumented aliens? _____ percent

17. Please estimate your agency's total costs for uncompensated emergency transportation services provided to undocumented aliens? _____ percent

18. Please briefly summarize specific issues regarding costs, resources, and/or funding for emergency care for undocumented aliens that your agency faces.

19. What can the government do to address the financial challenges facing your emergency transport agency as it relates to providing emergency medical services to undocumented aliens?

Federal
State

Thank you very much for completing this survey.

APPENDIX E:

List of Providers Visited

Date	Provider	Location
December 5, 2001	Membres Memorial Hospital	Deming, NM
	Memorial Medical Center	Las Cruces, NM
	Tucson Medical Center	Tucson, AZ
	University Medical Center	Tucson, AZ
December 6, 2001	Cooper Queen Community Hospital	Bisbee, AZ
	Southeast Arizona Medical Center	Douglas, AZ
	Sierra Vista Regional Health Center	Sierra Vista, AZ
	Sierra-Providence Memorial	El Paso, TX
	Las Palmas – Del Sol Medical Center	El Paso, TX
	Thomason General Hospital	El Paso, TX
	Arizona Ambulance Transport/Arizona Ambulance of Douglas	Tucson, AZ
	Rural/Metro Southwest Ambulance	Tucson, AZ
December 7, 2001	Carondelet Holy Cross Hospital	Nogales, AZ
	Kino Community Hospital	Tucson, AZ
	Life Ambulance Service	El Paso, TX
	Nogales Ambulance Service	Nogales, AZ
December 17, 2001	Harlingen EMS	Harlingen, TX
	Dolly Vinsant Memorial Hospital	San Benito, TX
	Valley Baptist Medical Center	Harlingen, TX
December 20, 2001	McAllen Medical Center	McAllen, TX
	Knapp Medical Center	Weslaco, TX
	Mission Hospital	Mission, TX
March 6-8, 2001	Yuma Regional	Yuma, AZ
	Pioneers	Brawley, CA
	Palomar Medical Center	Escondido, CA
	Paradise Valley Hospital	National City, CA
	Scripps Memorial Hospital at Encinitas	Encinitas, CA
	Sharp Coronado Hospital and HealthCare Center	Coronado, CA
	Tri-City Medical Center	Oceanside, CA
	UCSD Medical Center - Hillcrest	San Diego, CA
	El Centro Regional Medical Center	Imperial, CA
	Pioneers Memorial Healthcare District	Brawley, CA

APPENDIX F:

Detailed Modeling Methodology

The Cluster Analysis

Cluster analysis is a popular descriptive multivariate statistical technique for grouping objects according to their similarities and differences with respect to a set (or vector) of pre-selected characteristics. Automobiles, for example, can be classified in terms of their horsepower, number of cylinders, average miles per gallon, the number of doors, body type, type of brakes, price, etc. Instead of classifying automobiles on a purely theoretical, subjective basis *a priori*, cluster analysis permits the data themselves to suggest an empirically appropriate one-dimensional or possibly hierarchical taxonomy. Sports cars, minivans, luxury sedans, etc, can all be distinguished from, and related to, one another as in a family tree. The many variations on cluster analysis and related techniques collectively comprise what is known as "cladistics," the science of classification, an important subfield of the social and natural sciences, particularly biology and, more recently, artificial intelligence.

In the context of the present study, cluster analysis assisted in fulfilling three objectives which together led to the selection of a "training set" of clusters of border counties and key socio-economic variables that will be used in the discriminant analysis to measure the similarity of every county in the United States to the borderlands. The three objectives are:

1. To identify a provisional set of "archetypal clusters" of border counties. In some sense, it would be ideal to be able to identify one discrete set of non-border counties to serve as a counterfactual for each border county. However, since border counties are statistical outliers when viewed from the perspective of the United States as a whole, and since they often exhibit as many contrasts among them as similarities, this is not feasible. The alternative is to group border counties that share significant commonalities with one another (e.g., small Texas counties) while still permitting unusual border counties to stand alone as single-member clusters if need be (e.g., San Diego). Cluster analysis, combined with expert judgment, identifies the effective number and composition of sets of border-county archetypes. Following the discriminant analysis, we will be able to relax our provisional understanding of these artificial archetypal clusters as "ideal types" or distilled images of one or more specific border counties and gain greater statistical power in doing so.[73]

2. To identify additional "core counties" to serve as further exemplars of each archetypal cluster. The purpose here is to gather a sufficient number of counties – whether they lie on the border or not – to help define each archetypal cluster. Operationally, this means identifying at least as many core counties for each cluster as there are variables in the final determination of archetypes.[74] This is driven by the desire, on the one hand, to conduct a subsequent non-parametric discriminant analysis (i.e., one that avoids having to impose the untenably strong

[73] We will ultimately be able to interpret them more correctly (at least from a formal mathematical point of view) as "characteristic vectors" that "span the space" of socio-economic profiles that border counties potentially take on with respect to the demand for emergency health care services.

[74] Having fewer counties than variables within any given cluster will, technically speaking, cause the covariance matrix of variables for that cluster ("**V**") to be singular and, consequently, uninvertible. The **V** matrix needs to be inverted in order to calculate the correlation-correcting Mahalanobis distance measure used in the non-parametric discriminant analysis.

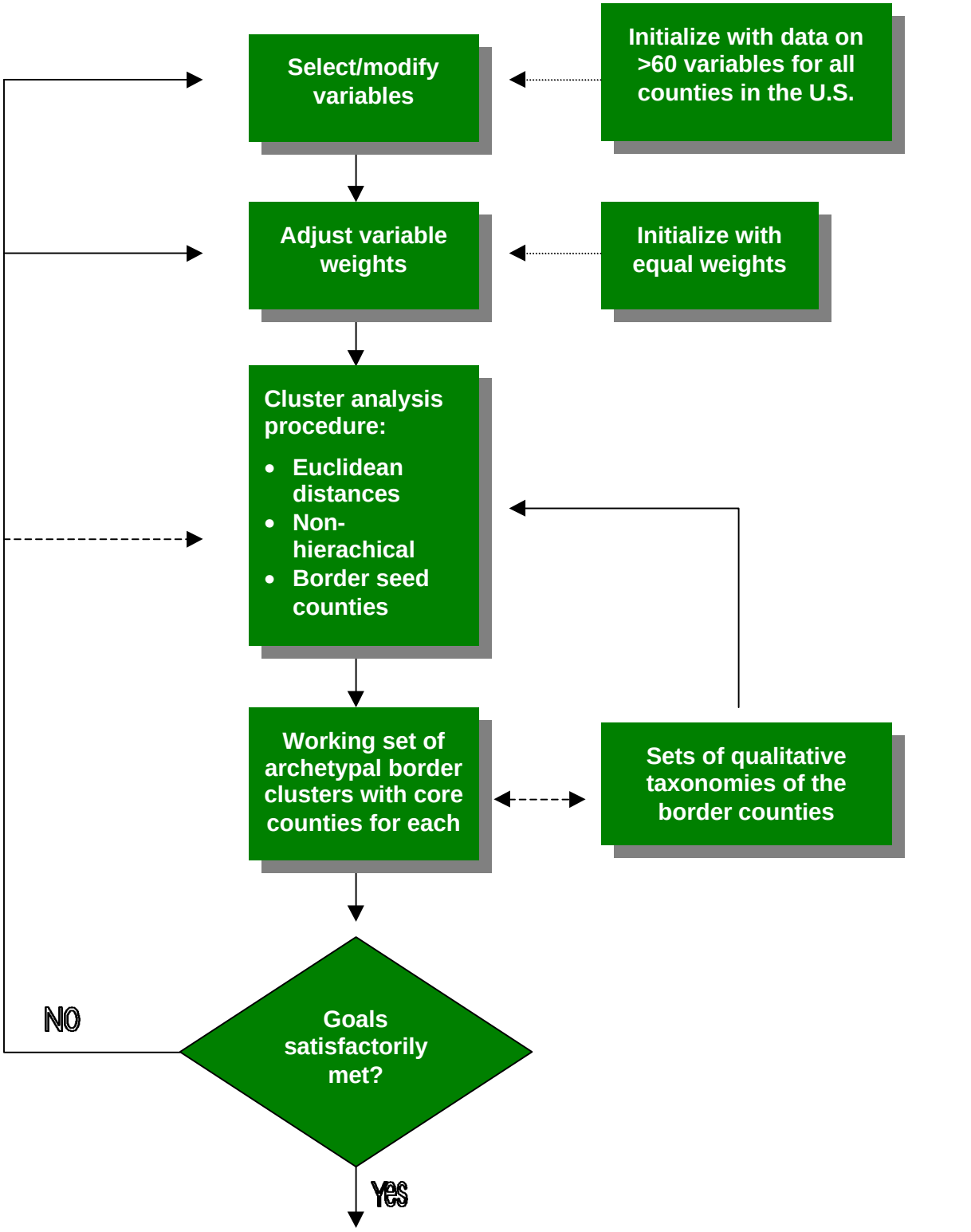
assumption that the variables describing the counties follow a multivariate normal probability distribution) and, on the other hand, to be able in that discriminant analysis to correct for the fact that many of the characteristics used in defining the archetypal clusters tend to be highly correlated with one another (something that standard cluster analysis fails to take into account).

3. To identify a meaningful, robust, and manageable subset of the more than 60 variables used to characterize U.S. counties with respect to their demand for emergency health care services. As noted above, the number of key variables ultimately employed in the discriminant analysis is constrained by the paucity of non-border counties that closely match their counterparts on the border. Judgment and a series of cluster analyses are used iteratively to strike a balance between the desire to improve the precision with which counties are characterized (by including more variables) and the need to have a fewer number of variables than there are counties within each cluster (to make it possible to conduct a non-parametric discriminant analysis that avoids having to accept the dubious assumption that county characteristics are normally distributed).[75]

The logic of the cluster analysis is outlined in Figure F.1.

[75] Systematically exploring all combinations of a dozen to one-and-a-half dozen of these 60-odd variables would require over *2 quadrillion* separate cluster analyses. Assuming that it takes two minutes to study each printout, a feat like this would require more than a quarter of a million years of 24-hour days to complete. This is the main reason that judgment, with an eye to the appropriateness and sensitivity of the results, is essential in carrying out an intelligent cluster analysis.

Figure F.1
The Cluster Analysis



A set of archetypal clusters, core counties for each, & key variables
= The training set for the discriminant analysis

The final product at the end of this process is a "training dataset" used later in the discriminant analysis to assign a measure of "distance" between every county in the United States and each of the border archetypes with respect to the key variables ultimately selected to characterize county-level demand for hospital emergency health services.

The Data

The first step in the cluster analysis of U.S. counties was to construct a set of salient socio-economic variables that characterize key features of U.S. counties, paying special attention to those that plausibly correlate with the demand for health care within their boundaries. Data for all counties in the United States were drawn from a number of government agencies, principally the Bureau of the Census, the Bureau of Economic Analysis, the Social Security Administration, the Bureau of Labor Statistics, and the National Center for Health Statistics.

The variables selected cover a variety of socio-economic characteristics of U.S. counties, especially those relating to the level of economic well-being, wealth and income inequality, size of population vulnerable to greater health care needs, population receiving federal assistance, educational attainment, and demographic change. Twenty-one of these variables (or linear combinations and/or transformations thereof) were chosen to be the initial base for the cluster analysis, some dropping and the remaining 40 variables entering in accord with the quality of the results over the various iterations of the cluster algorithm.

Two of the variables that mark border counties as outliers with respect to the rest of the United States – the percent of the population that is Hispanic and (with an eye to San Diego) the size of the population – were not included in the cluster analyses except as qualitative input in some of the sensitivity analyses. The Hispanic variable was suspected of being potentially too highly correlated with the presence of undocumented immigrants and, consequently, of their demand for emergency health services. The size of county population was not included in the cluster analysis mostly in the interests of facilitating matches for San Diego (population is controlled for afterwards in the econometric analysis).

Variable Weights

The most straightforward and most easily interpretable form of a cluster analysis is one in which all the variables used to classify observations are standardized (by subtracting the mean from each observation and dividing by the standard deviation, variable by variable) and in which the variables are, for whatever reason, perfectly uncorrelated with one another. When these conditions hold, cluster analysis gives equal weight to all the variables in calculating the distance measures that ultimately lead to the identification of clusters of relationships. Cluster analysis is quite sensitive to differing scales or magnitudes among the variables, so it is almost always good practice to standardize the variables beforehand so that they share the same scale. All variables were standardized in this study before submitting them to the cluster analysis.

By standardizing the variables they also share a common standard deviation of one. In general, variables with larger dispersion (variance or standard deviation) implicitly enjoy greater weight in calculating the measure of similarity or difference used

to classify the observations. This feature can be fruitfully exploited if some subset of the uncorrelated variables is deemed, on substantive grounds, to merit greater influence in determining the outcomes.

Rescaling the standard deviation of one or more variables can also be used in subsequent sensitivity analysis to explore the robustness of the final results.

The issue of correlation among the variables is more problematic than that of standardization or explicit weighting of variables. Correlation among the variables causes its own form of weighting. This follows from the fact that two (or more) highly correlated variables can be interpreted as two (or more) manifestations of a single common underlying factor, or "latent variable." Including both (or more) of the correlated variables in a cluster analysis implicitly gives that common underlying factor two (or more) times the influence of an uncorrelated variable in the final determination of distances and clustering.[76] This complication requires some attention in this study since many subsets of our sixty-odd variables are highly correlated with one another. This is, of course, to be expected in a setting like ours in which we are using secondary data that only imperfectly capture important abstract dimensions of the social economy of U.S. counties, latent variables like "poverty," "inequality," "need," and "demand for health services."[77]

There is, in other words, no avoiding the need to pay attention to the asymmetries in the weighting of variables that is implicitly imposed in cluster analysis by the choice to include or exclude correlated variables. The important point is to be aware of the implications and to manage them as best one can. Explicitly compensating for asymmetries in weighting, either by including additional correlated variables or by rescaling standard deviations for selected variables, however, is not straightforward. There are no simple rules to assist in translating the weighting that occurs, for example, by including two variables with a correlation of 0.8 into some form of compensatory rescaling of the standard deviations for the remaining variables. But, like the selection of variables itself, the two levers of "multiple inclusion of correlated variables" and "rescaling standard deviations" are used in this study's iterated series of cluster analyses to generate a broad range of archetypal clusters to submit for evaluation and for consideration in sensitivity analysis.

The Cluster Analysis Procedure

There are three elements to the cluster analysis procedure used in this study. The first concerns how to measure "distance" or "similarity" between observations and clusters. Few statistical software packages offer a cluster analysis routine that measures distance in a way that accounts for the inter-correlations among the variables used to classify the observations (as mentioned earlier, we correct for this in the discriminant analysis). Accordingly, we adopted the most commonly used metric, the Euclidean distance.

[76] A good reference on this and other technical details of cluster analysis is Joseph F. Hair, Rolph E. Anderson, Ronald Tatham, and William C. Black (1995), *Multivariate Data Analysis,* 4th Edition (Englewood Cliffs: Prentice Hall).

[77] There are alternative multivariate statistical techniques that could be used to measure socio-economic distances" between U.S. counties that take advantage of the necessary inter-correlation of measurable variables. Techniques like principle components analysis and factor analysis were rejected in this study, however, because they impose excessive structure on the problem and throw away information by reducing natural variability in the underlying variables to that of a selected set of common underlying factors. Cluster and discriminant analyses, in contrast, preserve the natural variability of the variables describing the social economy of U.S. counties.

The second element of the cluster procedure concerns the choice of a hierarchical clustering method versus a non-hierarchical method. As the names suggest, hierarchical clustering provides a tree-like structure that relates groups of observations while non-hierarchical clustering works by grouping observations around an initial set of seed values, shifting them as needed until all observations are assigned to a group or until a pre-specified number of groups is achieved. Hierarchical methods are not amenable to very large datasets like the 3,142 counties considered in this study, so we employed a non-hierarchical clustering procedure, FASTCLUS, part of the SAS statistical package.[78] Non-hierarchical clustering tends to be more sensitive to the presence of outlying values as hierarchical methods are, so judgment and sensitivity analysis were used in the various iterations of the cluster procedure to identify them and minimize their effect on the final results.

The third element of the cluster procedure is the choice of seed values for a non-hierarchical analysis. The logical choice in this setting is the 24 border counties themselves. These were the initial seeds we selected, although we conducted sensitivity analyses that entertained salient subsets of the 24.

The product of each iteration of the cluster procedure was a working set of anywhere from 40 to 80 clusters of U.S. counties. The first pass in interpreting the results was to examine where the various 24 border counties were located and with which other U.S. counties they were clustered. The interpretation was guided by a set of qualitative taxonomies of border counties we developed independently of the cluster analysis based on our own knowledge of the border. To Illustrate, one qualitative taxonomy consisted of seven border-county groupings: (1) San Diego; (2) Pima; (3) the larger heavily agricultural counties of Imperial, Doña Ana, Yuma, Cameron, Hidalgo [TX]; (4) the Arizona counties of Cochise and Santa Cruz, both with economies based historically on mining; (5) the New Mexican counties of Hidalgo and Luna; (6) the large commercial gateways of El Paso and Webb (Laredo), and; (7) the remaining Texas border counties. Other taxonomies separated Maverick and Val Verde from the last category or merged San Diego with Pima or separated Imperial and Yuma from the Texas agricultural counties, and so on. The largest cluster in both the quantitative and the qualitative analyses, of course, was the "Other" category, counties that bear little or no resemblance to any of the border counties. The cluster analysis lent empirical content to each of the qualitative taxonomies and helped make it possible to define empirically a broad group of "Other" counties that are expected to characterize most non-border counties in the United States.

The final determination of an acceptable archetypal taxonomy, set of core counties, and set of key variables was judged in terms of how well it met a set of pre-established goals and how robustly the results stood up to a series of sensitivity analyses.

Goals Established for Selecting the Training Set

The computational and theoretical complexity of grouping border counties into meaningful clusters of "mutual kinship," identifying sufficiently large, yet parsimonious, sets of closely matched counties for each, and determining the key variables to use is not a matter of following a simple recipe. Judgment enters into the iterated cluster

[78] SAS Institute, Inc (1989), *SAS/STAT User's Guide, Version 6, 4th Edition, Volume 1,* Cary, NC: SAS Institute, Inc.

analysis in several ways. Selecting variables, adjusting variable weights, choosing seed counties, and developing qualitative taxonomies to assist in interpreting the results have already been mentioned. The most important judgment, however, was to select a training set from among the nearly one hundred options produced by the iterative process outlined above. To guide this judgment, we established the following four goals – some of them at odds with one another – that a credible solution needs to address satisfactorily:

1. The set of archetypal clusters used as a training set for the discriminant analysis needs to possess substantial "face validity." In other words, the groupings need to make prima facie sense to people familiar with the borderlands.
2. Maximize the homogeneity of counties within each archetypal cluster (with the exception of the "Other" category). The more crisply distinguishable the archetypes are, the better the distinction we will be able to achieve in the discriminant analysis. At the same time, counties within a cluster should not be identical, as some degree of variation among them is necessary in order to define the characteristics of a cluster. This goal will tend to minimize the number of counties within each border cluster.
3. Maximize the number of variables used to define each cluster. Given the need to have as many counties within each cluster as there are variables, this goal will tend to push the number of counties within each cluster upward at the expense of homogeneity.
4. The final training set should be reasonably robust to small changes in underlying features such as the selection of variables, variable weights, and choice of initial seed counties. This is worthy of some attention, not only on its own merits, but also in light of the sensitivity of non-hierarchical clustering to the presence of outlying observations.

The Training Set Selected

The most robust taxonomy for the border counties, and one that does well in meeting the "face validity" test, defines five archetypal clusters which we have designated Clusters A, B, C, D, and E:

A. San Diego [CA]. One very large, economically diverse, dynamic metropolitan border county with a relatively small Hispanic population (27 percent according to the 2000 Census) and with extensive economic ties to the rest of the nation that overshadow its links to Mexico.

B. Pima [AZ]. One relatively large, distinctive U.S. border county whose dominant city, the university town of Tucson, lies some 60 miles from the Mexican border. Pima is not as economically disadvantaged as the rest of the border, but shares a similarly low proportion of the population that identifies itself as Hispanic.

C. Medium-to-large Texas border counties with significant social, commercial, and manufacturing ties to Mexico: El Paso, Webb, Hidalgo, and Cameron.

D. Small-to-medium size border counties whose economies are largely agriculturally based and/or historically linked to mining: Imperial [CA]; Yuma [AZ]; Santa Cruz [AZ]; Cochise [AZ]; and; Doña Ana [NM].

E. Small, rural border counties, all but one of which lie along the Texas border with Mexico: Luna [NM]; Culberson [TX]; Brewster [TX]; Val Verde [TX]; Maverick [TX], and; Starr [TX]. The rest of the border counties that aligned themselves with this category do not have hospitals. They are included in the final training set only to the extent that they help increase the number of counties in any given cluster: Hidalgo [NM]; Hudspeth [TX]; Jeff Davis [TX]; Presidio [TX]; Terrell [TX]; Kinney [TX]; and Zapata [TX].

It is interesting to note that, despite the fact that county population was not included in the set of variables used to define the clusters, the training set for the border counties reveals a structure that is clearly distinguishable by population size.

The tradeoffs among the goals (especially between the second and third) eventually resulted in selecting thirteen of the original 61 descriptive variables as being the most robust and discriminating in identifying the five archetypal clusters for the border counties. In no particular order, the thirteen key variables were:

- Median age in 1990 (from the U.S. Bureau of the Census)
- Proportion of population less than 5 years old plus the proportion greater than 65 years old in 1996 (U.S. Bureau of the Census)
- Percent population change 1990-1997 (U.S. Bureau of the Census)
- Net international migration 1990-1997 (U.S. Bureau of the Census)
- Net domestic migration 1990-1997 (U.S. Bureau of the Census)
- Percent of persons 25 years or older in 1990 who had graduated from high school (U.S. Bureau of the Census)
- Percent of persons 25 years or older in 1990 who had graduated from college (U.S. Bureau of the Census)
- Percent of population receiving Supplemental Security Income in 1996 (Social Security Administration)
- Percent of people of all ages in poverty in 1993 (U.S. Bureau of the Census)
- Percent of related children ages 5-17 in families in poverty in 1993 (U.S. Bureau of the Census)
- Median household income in 1993 (U.S. Bureau of the Census)
- Land in farms as percent of total land in 1992 (U.S. Bureau of the Census)
- Total transfer payments received (U.S. Bureau of Economic Analysis)

While this is a smaller number of variables than originally anticipated, even thirteen variables failed to identify a sufficient number of core matching counties for Clusters A, C, and D (see discussion below). Reducing the number of variables to broaden the potential pool of matching counties in these clusters posed unacceptable threats to the face validity and to the within-cluster homogeneity of the results at this initial stage of the analysis.

Each cluster is defined by one or more border counties (boldfaced in the Table).[79] San Diego was robustly distinguishable from the remaining border counties throughout the various rounds of cluster and sensitivity analysis. Pima was notably distinct as well, although to a lesser extent than San Diego. Some subsets of the border counties were difficult to separate (e.g., Val Verde, Maverick, Starr, and the smaller Texas counties without hospitals). Others, while always robustly identified with border-county cousins, slipped from one border cluster to another depending on the choice of variables, weights, or cluster seeds (e.g., Luna, Doña Ana, Imperial, Yuma, Cochise, and Santa Cruz). El Paso, Webb, Cameron, and Hidalgo [TX] were usually closely linked but each occasionally emerged in a small satellite cluster.

It will not be surprising to anyone familiar with the singular characteristics of the U.S./Mexican borderlands and with the many contrasts that exist among the counties along the border, to learn that it was a challenge identifying counties elsewhere in the United States that clustered robustly with border counties. Almost all the additional core counties used to define the archetypal clusters lie in the southwestern United States (there are three exceptions, two in Colorado and one in Florida). To remedy the problem mentioned earlier of falling short of core counties in Clusters A, C, and D, we introduced two (three in the case of San Diego) "stochastically perturbed" versions of the key border counties in each. This heightens the distinctiveness of each cluster and makes it possible to construct archetypes that support a discriminant analysis that compensates for the inter-correlation of the thirteen variables while avoiding having to make the untenable assumption that U.S. counties fall around the cluster means in accord with the multivariate normal probability distribution defined in terms of these variables.[80]

To the list of five archetypal clusters of border counties, of course, should be added a sixth category, "Other," to account for counties that neither lie on (or near) the border nor share significant characteristics with the border counties. We label this group of counties "Cluster X." It is as important to establish the distinctions among border counties as it is to distinguish them collectively from the rest of the counties in the United States. Indeed it is with this cluster that we expect most of the 3,118 non-border counties in the United States to be identified in the discriminant analysis. A wide variety of 63 non-border counties were drawn from clusters that fell outside the five border clusters to define Cluster X. The broad, heterogeneous nature of this list of counties lends it sufficient variance to offer some degree of attraction to almost all counties in the United States.

Having identified a training set of six archetypal clusters, core counties for each, and a set of thirteen key variables, the analysis moved to its second stage, the discriminant analysis.

[79] It is not essential that core counties for each cluster all be border counties, nor is it essential that they have hospitals. Indeed, with only 24 counties lying along the border, it would be impossible to insist on defining clusters in terms of border counties with hospitals and still meet the goal of identifying as many counties as there are meaningful key variables. The purpose of the cluster analysis is not to identify matching non-border counties, it is to create a training set that will be used in the discriminant analysis. It is there that we develop measures that allow us to select non-border counterfactuals for each of the border counties.

[80] A "stochastic perturbation" of a given key county entails adding a small, independent, and identically distributed, random disturbance to the value of each of the variables that characterizes that county. Augmenting clusters that fall short of the necessary number of counties with stochastically perturbed variants may smack suspiciously of "inventing data" or "cooking the books" to favor a particular final outcome. But, in fact, the opposite is the case. In this preliminary stage of the analysis, including near-replicates of the key counties in an archetypal cluster places more weight on those key counties, reduces the within-group variation, and makes it perforce more difficult to attract matches with non-border counties in the subsequent discriminant analysis.

The Discriminant Analysis

Discriminant analysis is a multivariate statistical technique for classifying observations into pre-defined groups based on the values they exhibit for a set of pre-defined variables. It should not be confused with cluster analysis. Discriminant analysis requires prior knowledge of the groups, cluster analysis is used to discover or define the groups. Both techniques employ distance measures to gauge the similarity of any pair of observations or groups, but their implementation in statistical software packages is typically more sophisticated in discriminant analysis.

The primary purpose of the discriminant analysis in this study is to produce a dataset that assigns to every county in the United States a probability of membership in each of the six archetypal clusters. Using the thirteen key variables identified in the rounds of cluster analyses, the socio-economic "distance" between each county in the United States and each cluster is translated into a probability of membership in each cluster.[81] Non-border counties that identify strongly with one or more of the border clusters and weakly with Cluster X ("Other") become candidates for membership in counterfactual sets whose average cost of uncompensated emergency care will be compared to that of a corresponding border county in the quasi-experimental analysis that follows.

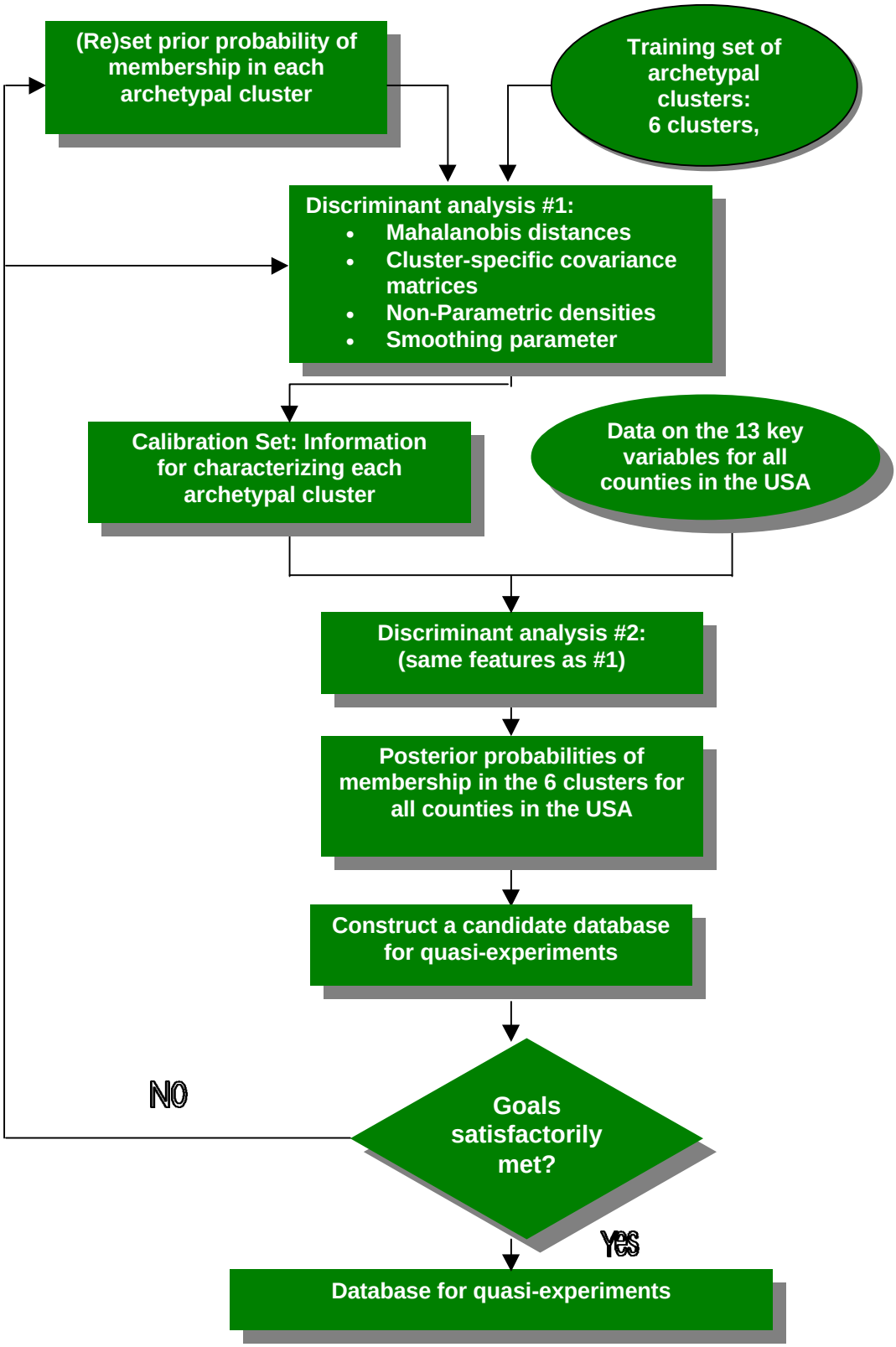
A second objective of the discriminant analysis was to reduce the number of explanatory variables that needed to enter the econometric exercise. In light of the difficulty of identifying sufficient numbers of counterfactual non-border counties to closely match the border counties, it is important to conserve degrees of freedom (i.e., minimize the number of explanatory variables and maximize the number of counties in the dataset). The discriminant analysis effectively boils the thirteen key socio-economic variables down into a set of probabilities of membership in six archetypal clusters.[82] By reducing the number of variables needed in the econometric exercise, we gain degrees of freedom and increase the precision of the econometric results.

The discriminant analysis was carried out in two phases a calibration phase and then a second phase in which the probabilities are assigned.

[81] The term “probability of membership” used in this study is equivalent to the concept of “propensity score” used more generally in matching treatment units to nonexperimental comparisons in quasi-experimental research. This is a new and rapidly growing area of research in applied statistics. For a recent discussion and review of the literature, see Rajeev H. Dehajia and Sadek Wahba (2002), “Propensity Score-Matching Methods for Nonexperimental Causal Studies”, *The Review of Economics and Statistics*, 84(1): 151-161.

[82] In this sense, the discriminant analysis here is similar to a factor analysis, a multivariate statistical technique for condensing an inter-correlated set of variables into a smaller set of "factors" that parsimoniously explain most of the variation in the original set of variables. The probabilities assigned to the archetypal clusters in this study can, in a practical sense, be interpreted in much the same way that factor loadings are in a factor analysis.

Figure F.2
The Discriminant Analysis



In the first phase, the training set of six archetypal clusters, the core counties, and key variables are submitted to a discriminant analysis that statistically characterizes each archetypal cluster, benchmarking it so that other counties in the United States can be compared to it. The second phase takes as its input the calibration information from the first phase along with data on the thirteen key variables for all counties in the United States, calculates distances, and translates them into probabilities. The entire process was iterated multiple times to assess the robustness of the results to changes in the value of two control parameters of the SAS discriminant analysis routine (DISCRIM).[83] The final step was to evaluate the results and select non-border counterfactual counties on the basis of six goals (discussed below).

Technical Features of the Discriminant Routine

Discriminant analysis comes in many flavors. There are five technical features of the particular discriminant routine we employed that are worth highlighting. Two of them are refinements that improve on the distance measure that had to be employed in the cluster analysis, one preserves important distinctions among the six archetypal clusters, and two serve as "levers" in conducting a battery of sensitivity analyses to evaluate the robustness of the outcomes:

- Mahalanobis distances. The sheer size of the U.S. county dataset made it necessary to employ a non-hierarchical cluster analysis routine that relied on a Euclidean measure of distances between observations or groups. This metric does not adjust for the rather high degree of correlation that exists among the socio-economic variables describing U.S. counties. The Mahalanobis distance measure used in the discriminant analysis provides a more general measure of difference or similarity that corrects for these correlations by weighting squared distances by the variance-covariance matrix of the variables.
- Cluster-specific variance-covariance matrices. The option exists to use a single pooled variance-covariance matrix of the thirteen variables for all the clusters. This reduces the need to have as many core counties within each cluster, but does so at the cost of imposing greater uniformity on border counties than seems warranted. In recognition of the distinctiveness of the border clusters, we opted to use six within-group variance-covariance matrices rather than a common matrix for all clusters.
- Non-parametric estimates of group-specific probability densities. The most popular form of discriminant analysis is a parametric one in which observations (U.S. counties in this case) are assumed to be distributed around the archetypal clusters according to the multivariate normal probability density function. There seems to be little empirical support for imposing this assumption upon our county data. We therefore adopt a non-parametric "kernel method" to estimate the density of a cluster at each observation, a vector of values on the thirteen variables for an individual county. The kernal function we selected incorporates the Mahalanobis distance measure and is known as the "Epanechnikov kernel". Non-parametric approaches like the one adopted here permit the data themselves to determine the local probability density of an observation within a predefined radius of each cluster. This typically leads to more flexible and robust density estimates than parametric methods. The mathematical details are presented in Figure F.3.

[83] SAS Institute, Inc. (1989), *SAS/STAT User's Guide, Version 6, 4th Edition, Volume 1,* Cary, NC: SAS Institute, Inc.

Figure F-3
The Mathematics of the Non-Parametric Kernel Method Used In The Discriminant Analysis

Euclidean Distance

Let p represent the number of variables characterizing each observation (or county), and let **x** and **y** be the p-dimensional vectors for two of these observations. Using matrix notation, the Euclidean distance between observations **x** and **y** is given by:

$$d^2(\mathbf{x},\mathbf{y}) = (\mathbf{x}-\mathbf{y})'(\mathbf{x}-\mathbf{y})$$

This is the sum of the squared differences, dimension by dimension, between **x** and **y**. If **y** is the mean of Cluster g ("g" => "group"), instead of a second observation, then the distance should carry a subscript, g, $d_g^2(\mathbf{x},\mathbf{y})$.

Mahalanobis Distance

The non-parametric approach taken in our discriminant analysis adopts the Mahalanobis distance measure instead of the simpler, but more rigid, Euclidean measure. The Mahalanobis distance measure abandons the Euclidean assumption that the p variables are independent of one another and instead takes into consideration the correlations that exist among the p variables that describe the observations. Let $\mathbf{V}_g$ be the p x p variance-covariance matrix for counties in the training set for Cluster g. The Mahalanobis distance between observations **x** and **y** in Cluster g is defined as:

$$d_g^2(\mathbf{x},\mathbf{y}) = (\mathbf{x}-\mathbf{y})'\mathbf{V}_g^{-1}(\mathbf{x}-\mathbf{y})$$

Kernel Density

The kernel method used in the discriminant analysis is one of a number of non-parametric approaches people use to estimate the "density" or affinity of individual observations with respect to a set of predefined clusters. Non-parametric densities are less sensitive to the presence of unusually outlying observations than those calculated by imposing a parametric probability distribution on the data (e.g., by assuming that they are multivariately normally distributed). Calculating the density non-parametrically requires a kernel function that "smoothes" densities within a pre-defined bandwidth, or radius, which we denote in what follows by "r". The specific function chosen for this study, the Epanechnikov kernel, is a general form of a family of kernel functions (including the biweight and triweight kernels) that incorporate Mahalanobis distances. The Epanechnikov kernel density for observation **x** with respect to Cluster g is:

Figure F-3 *(Continued)*
The Mathematics of the Non-Parametric Kernel Method Used In The Discriminant Analysis

$$K_g(\mathbf{x},\mathbf{y}) = c_g[1-(\mathbf{x}-\mathbf{y})'\mathbf{V}_g^{-1}(\mathbf{x}-\mathbf{y})/r^2] \quad \text{if } (\mathbf{x}-\mathbf{y})'\mathbf{V}_g^{-1}(\mathbf{x}-\mathbf{y}) \le r^2$$
$$= 0 \quad \text{elsewhere}$$

where c_g, a constant specific to each cluster, is defined as:

$$c_g = (1+p/2)\left(r^p |V_g|^{1/2} \left[\frac{\pi^{p/2}}{\Gamma(1+p/2)} \right] \right)^{-1}$$

The constant c_g uses the gamma function (a statistical generalization of the factorial function), π, and the group-specific variance-covariance matrix **V** to measure the volume of a p-dimensional ellipsoid bounded by Mahalanobis distances with values less than r^2.

Posterior Probabilities

The empirical probability density (or *likelihood*) for observation **x** with respect to Cluster g is estimated by:

$$f_g(\mathbf{x}) = \frac{1}{n_g} \sum_y K_g(\mathbf{x}-\mathbf{y})$$

where the summation is over all of the n_g observations, **y**, in the training set for Cluster g.

Finally, given a prior probability, q_g, of membership in Cluster g, Bayes' Rule is used to calculate the posterior probability of membership in g for each observation **x:**

$$p(g|\mathbf{x}) = \frac{q_g f_g(\mathbf{x})}{f(\mathbf{x})}$$

where $f(\mathbf{x}) = \sum_g q_g f_g(x)$, is a constant that represents the estimated unconditional density across all clusters. With equal prior probabilities across all clusters (i.e., assuming U.S. counties in general have an equal probability of belonging to each cluster – border and "Other" alike), the posterior probabilities, $p(g|\mathbf{x})$, will be equal to the likelihoods, $f_g(\mathbf{x})$.

- Smoothing parameter. The radius, r, controls the bandwidth of the kernel function by defining the neighborhood within which non-zero densities are smoothed. Increasing r makes the density function smoother, decreasing r causes the function to become more jagged. The radius was employed in the various rounds of sensitivity analysis to settle on a stable and meaningful set of probabilities of cluster membership.
- Prior probabilities. The ability to incorporate prior probabilities of membership in the six archetypal clusters into the analysis provides a second lever for sensitivity analysis. Bayes' Rule is used to mix prior probabilities with the non-parametric density estimates (likelihoods) to derive the final posterior probabilities used in the quasi-experiments. Assigning a high prior probability of membership in Cluster X had the effect of generating only a few non-border counties that aligned with the border clusters. A low prior probability for Cluster X led to many implausible non-border counties revealing an affinity to all the border clusters. By adjusting the prior probabilities we were able to identify and judge the robustness of the affinities various non-border counties held to the five border clusters.[84]

Several rounds of sensitivity analysis were performed until a satisfactory set of posterior probabilities of membership in the six clusters were assigned to all counties in the United States. The cluster procedure, incidentally, goes beyond calculating posterior probabilities and actually assigns each county to an archetypal cluster, namely the cluster with the highest posterior probability.

Criteria for Incorporating Counties in the Database

With posterior probabilities in hand, the next step was to identify non-border counties that revealed a strong association with one or more of the archetypal border clusters. Non-border counties ultimately included in the dataset are the ones that will, in various linear combinations, ultimately play the role of counterfactuals for each of the border counties with hospitals in the subsequent quasi-experiments. Six criteria – some occasionally at odds with others – were established to guide our decisions as to which counties, in addition to the border counties with hospitals, to include in the database:

1. The probability of membership in Cluster X should be low. Since the point of this part of the study is to identify non-border counties that share significant affinities with border counties, candidate non-border counties should have a high probability of belonging to one or more of the border clusters and a low probability of being aligned with the "Other" category. The average (and median) posterior probability of belonging to Cluster X calculated across all the counties ultimately selected for the database was a tiny 0.016.
2. To the extent possible, counties selected should not possess characteristics that would notably bias estimates of the utilization of uncompensated hospital emergency care services by undocumented immigrants. To take an

[84] Assigning equal probabilities to all six clusters sounds like the neutral or fair thing to do (it allows the empirical likelihoods to set the posterior probabilities), but in fact it is not. We know a priori that the vast majority of counties in the United States do not share many affinities with the border counties, so the probability associated with Cluster X ought to be significantly larger than the priors for each of the border clusters. Since there is no objective way to know how much larger the prior probability for Cluster X should be, we experiment with alternative priors in the sensitivity analyses until a significant number of implausible non-border counties begin to associate with the border clusters.

example, Ventura County [CA] made a perfectly fine core county for defining Cluster A (San Diego), but it makes a poor non-border counterfactual because of its elevated population of migrant workers, a proxy – however imperfect – for the presence of undocumented migrants. Counties in Iowa and Illinois with high concentrations of Hispanic immigrants employed in the meatpacking industry or counties in North Carolina with heavy Hispanic employment in the poultry processing industry were also not included in the dataset for these same reasons. There were other strong candidates that lacked face validity. Aleutians West County in Alaska, for example, had a 100% probability of membership in Cluster C (defined by El Paso, Webb, Hidalgo, and Cameron Counties in Texas). Yet it simply lacked the face validity (and population size) to be included in this cluster notwithstanding the difficulty we encountered in identifying non-border counties that aligned with Cluster C.

3. All other things being equal in the selection, we favor selecting non-border counties from border states over counties from non-border states. Doing so helps control, in some measure, for differences in the legal, institutional, and policy environments in which border counties and their non-border counterfactuals operate. Middlesex County (Boston and Lowell), Massachusetts, had a posterior probability of over 0.98 of belonging to Cluster A (San Diego), yet the legal, institutional, and policy environments in Middlesex were deemed too different from those of the San Diego border with Mexico to warrant including it in the dataset.[85]

4. Working initially from archetypal cluster to archetypal cluster, the counties selected should have population sizes that "bracket" the population of the defining county or counties of that cluster. The ideal – almost impossible to attain – would be to have the mean of the non-border counties' populations be nearly equal to the mean of the population of the border counties that define each cluster and, at the same time, for the non-border county populations to exhibit reasonably broad variation about this mean.[86] Recall that population did not enter explicitly into either the cluster analysis or the discriminant analysis. Since there is reason to believe that counties with larger populations attract a greater proportion of hospital care subject to uncompensation, the first step in correcting for this is to attempt to create a dataset that will permit population to be incorporated formally in the econometric exercise.

5. All other things being equal, we maximize the number of non-border counties selected. As noted earlier, it is no surprise to learn that it is difficult to find non-border counties that share close similarities with counties along the U.S.-Mexican border. With an eye to the econometric analysis, it is important to maximize the statistical "degrees of freedom" that strengthen the precision of the results by bringing as many qualifying non-border counties into the analysis as possible in light of the other goals and constraints. Non-border counties with high posterior probabilities of membership in any one cluster are, *ceteris paribus*, the most obvious candidates for inclusion in the

[85] Since "The Border" never actually begins or ends at the border counties, favoring the selection of non-border counties in border states will tend to lend a downward bias to subsequent estimates of excess costs of uncompensated hospital emergency care in border counties.

[86] Higher variation in population values will improve the precision of the estimates of population effects in the econometric analysis.

database. Perhaps less obviously important is the contribution made by non-border counties that spread their posterior probabilities across two or more border clusters while evidencing a low probability of membership in Cluster X. Including counties of this sort not only increases the degrees of freedom for the econometric analysis, it helps link archetypal clusters which, after all, were never conceived to be completely independent of one another. This is a particularly critical consideration in the cases of Clusters C and D where the discriminant analysis, like the cluster analysis before it, failed to identify many closely matching non-border counties, in that a non-border U.S. county that splits its posterior probability of border affinity across several border clusters "borrows strength" from each cluster in ways that help compensate for shortfalls in degrees of freedom.[87]

6. Counties included in the dataset must have at least one hospital that offers emergency medical services.[88] As mentioned earlier, this eliminates seven of the 24 border counties as well as a number of non-border counties that were otherwise attractive candidates for inclusion into the dataset.

The process of squaring these selection criteria with the results of the discriminant analysis led to a dataset consisting of 17 border counties with hospitals and 90 non-border counties that closely matched one or more border counties in terms of their socio-economic profile, for a total of 107 observations.

[87] The term "borrowing strength" in statistics arose in the literature on empirical Bayesian methods. It has become increasingly prominent in applied research, most prominently in small area statistics and meta-analysis. See National Research Council (1992), *Combining Information: Statistical Issues and Opportunities for Research.* Washington DC: National Academy Press.

[88] More narrowly, these are counties with hospitals who respond to the American Hospital Association's *Annual Survey of Hospitals,* the source of our data on uncompensated costs and net patient revenues at the county level.

Table F.1
Cluster Tables

COUNTIES PRIMARILY AFFILIATED WITH CLUSTER A								
	Population	P(A)	P(B)	P(C)	P(D)	P(E)	P(X)	Dep. Var.
Morris, NJ	454,154	1.000	0.000	0.000	0.000	0.000	0.000	0.129
Montgomery, MD	826,766	1.000	0.000	0.000	0.000	0.000	0.000	0.080
Santa Clara, CA	1,609,037	1.000	0.000	0.000	0.000	0.000	0.000	0.063
San Mateo, CA	694,006	1.000	0.000	0.000	0.000	0.000	0.000	0.127
Contra Costa, CA	899,258	1.000	0.000	0.000	0.000	0.000	0.000	0.070
Nassau, NY	1,303,686	1.000	0.000	0.000	0.000	0.000	0.000	0.080
Norfolk, MA	639,243	1.000	0.000	0.000	0.000	0.000	0.000	0.055
Orange, CA	2,674,091	1.000	0.000	0.000	0.000	0.000	0.000	0.076
Bergen, NJ	851,344	1.000	0.000	0.000	0.000	0.000	0.001	0.172
Monmouth, NJ	596,250	0.999	0.000	0.000	0.000	0.000	0.001	0.133
Oakland, MI	1,166,512	0.998	0.001	0.000	0.000	0.000	0.001	0.048
Alameda, CA	1,371,067	0.996	0.004	0.000	0.000	0.000	0.000	0.099
Fairfield, CT	833,315	0.992	0.000	0.000	0.000	0.000	0.007	0.081
Sonoma, CA	428,609	0.991	0.008	0.000	0.000	0.000	0.002	0.047
Napa, CA	119,269	0.985	0.003	0.000	0.000	0.000	0.012	0.029
Santa Cruz, CA	240,488	0.976	0.014	0.000	0.000	0.000	0.009	0.069
Santa Barbara, C	390,199	0.971	0.026	0.000	0.001	0.000	0.002	0.135
Solano, CA	371,020	0.969	0.029	0.000	0.000	0.000	0.002	0.090
King, WA	1,632,852	0.943	0.033	0.000	0.000	0.000	0.023	0.072
San Diego, CA	2,722,650	0.938	0.055	0.000	0.002	0.000	0.005	0.131
Sacramento, CA	1,125,976	0.914	0.084	0.000	0.001	0.000	0.002	0.075

Table F.1 *(Continued)*
Cluster Tables

COUNTIES PRIMARILY AFFILIATED WITH CLUSTER B								
	Population	P(A)	P(B)	P(C)	P(D)	P(E)	P(X)	Dep. Var.
Travis, TX	693,606	0.002	0.995	0.000	0.001	0.000	0.002	0.145
Hays, TX	86,284	0.000	0.994	0.000	0.006	0.000	0.000	0.190
Midland, TX	118,662	0.007	0.987	0.001	0.001	0.004	0.001	0.149
Williamson, TX	210,477	0.001	0.984	0.003	0.010	0.000	0.002	0.055
Coconino, AZ	113,719	0.001	0.982	0.000	0.011	0.006	0.001	0.294
El Paso, CO	480,041	0.001	0.981	0.000	0.010	0.000	0.008	0.117
Brazos, TX	133,008	0.000	0.978	0.000	0.003	0.019	0.000	0.179
Pima, AZ	780,150	0.003	0.971	0.000	0.019	0.000	0.007	0.108
Bernalillo, NM	526,088	0.020	0.966	0.000	0.005	0.001	0.008	0.168
Fulton, GA	722,540	0.032	0.959	0.000	0.001	0.000	0.009	0.177
Denton, TX	365,058	0.050	0.949	0.000	0.001	0.000	0.000	0.121
Brazoria, TX	225,406	0.031	0.917	0.000	0.007	0.000	0.045	0.156
Coryell, TX	77,438	0.000	0.916	0.014	0.066	0.000	0.004	0.104
McLennan, TX	202,983	0.004	0.883	0.001	0.034	0.023	0.055	0.174
Bexar, TX	1,332,547	0.000	0.880	0.015	0.061	0.007	0.037	0.223
Rockwall, TX	35,923	0.162	0.833	0.000	0.002	0.000	0.003	0.083
Curry, NM	46,737	0.000	0.809	0.117	0.053	0.011	0.011	0.093
Ector, TX	124,727	0.000	0.800	0.071	0.061	0.044	0.024	0.234
Tarrant, TX	1,327,332	0.160	0.798	0.000	0.003	0.000	0.039	0.200
Randall, TX	98,922	0.217	0.780	0.000	0.000	0.000	0.003	0.060
Yolo, CA	152,797	0.263	0.725	0.000	0.010	0.000	0.002	0.063
Canyon, ID	116,675	0.000	0.713	0.003	0.256	0.003	0.025	0.104
Utah, UT	328,142	0.011	0.710	0.132	0.122	0.018	0.008	0.063
San Joaquin, CA	542,504	0.206	0.695	0.000	0.043	0.000	0.056	0.090
Osceola, FL	142,128	0.000	0.659	0.001	0.268	0.000	0.072	0.157
Walker, TX	54,528	0.001	0.603	0.000	0.053	0.318	0.026	0.140
Seward, KS	20,154	0.003	0.595	0.076	0.320	0.000	0.005	0.102
Fort Bend, TX	321,149	0.408	0.591	0.000	0.001	0.000	0.000	0.234
Kings, CA	115,489	0.001	0.587	0.066	0.328	0.005	0.013	0.071
Finney, KS	35,909	0.003	0.578	0.217	0.158	0.001	0.044	0.132
Atascosa, TX	35,268	0.000	0.533	0.064	0.136	0.231	0.036	0.093
Fresno, CA	754,396	0.327	0.510	0.037	0.112	0.007	0.008	0.050
Cache, UT	84,818	0.008	0.505	0.386	0.046	0.037	0.019	0.054
Sutter, CA	77,754	0.013	0.472	0.000	0.433	0.000	0.082	0.008
Bell, TX	222,302	0.000	0.436	0.385	0.065	0.003	0.112	0.133

Table F.1 *(Continued)*
Cluster Tables

COUNTIES PRIMARILY AFFILIATED WITH CLUSTER C								
	Population	P(A)	P(B)	P(C)	P(D)	P(E)	P(X)	Dep. Var.
Christian, KY	73,229	0.000	0.000	1.000	0.000	0.000	0.000	0.170
Liberty, GA	60,017	0.000	0.000	0.999	0.000	0.000	0.000	0.170
Geary, KS	25,321	0.000	0.000	0.999	0.000	0.001	0.000	0.095
Webb, TX	183,219	0.000	0.000	0.998	0.001	0.001	0.000	0.256
Onslow, NC	143,013	0.000	0.000	0.998	0.000	0.002	0.000	0.147
Norfolk, VA	229,386	0.000	0.000	0.994	0.000	0.003	0.003	0.101
Vernon, LA	51,832	0.000	0.000	0.993	0.000	0.007	0.000	0.085
Hidalgo, TX	510,922	0.000	0.000	0.982	0.001	0.017	0.000	0.162
Cameron, TX	320,801	0.000	0.000	0.886	0.006	0.108	0.000	0.132
Starr, TX	55,560	0.000	0.000	0.829	0.001	0.171	0.000	0.167
Val Verde, TX	43,115	0.000	0.012	0.800	0.014	0.175	0.000	0.188
Gaines, TX	14,985	0.000	0.024	0.795	0.086	0.061	0.034	0.158
El Paso, TX	701,576	0.000	0.010	0.786	0.202	0.002	0.000	0.215
Maverick, TX	47,877	0.000	0.000	0.553	0.033	0.414	0.000	0.179

COUNTIES PRIMARILY AFFILIATED WITH CLUSTER D								
	Population	P(A)	P(B)	P(C)	P(D)	P(E)	P(X)	Dep. Var.
Imperial, CA	143,706	0.000	0.000	0.001	0.998	0.000	0.001	0.135
Hendry, FL	31,634	0.000	0.003	0.012	0.985	0.000	0.000	0.223
Yuma, AZ	130,016	0.000	0.008	0.010	0.977	0.004	0.001	0.119
Franklin, WA	47,027	0.000	0.030	0.037	0.933	0.000	0.000	0.078
De Soto, FL	26,259	0.000	0.006	0.004	0.919	0.018	0.053	0.179
Adams, WA	15,541	0.000	0.047	0.012	0.906	0.004	0.031	0.124
Washington, UT	78,614	0.000	0.034	0.158	0.790	0.000	0.018	0.090
Luna, NM	23,922	0.000	0.002	0.088	0.762	0.148	0.000	0.109
Santa Cruz, AZ	37,870	0.000	0.001	0.329	0.670	0.000	0.000	0.146
Tulare, CA	353,175	0.004	0.163	0.144	0.580	0.043	0.066	0.058
Cochise, AZ	112,248	0.000	0.380	0.003	0.555	0.021	0.040	0.122
Potter, TX	109,243	0.000	0.344	0.023	0.553	0.023	0.058	0.155
Pinal, AZ	143,341	0.000	0.386	0.015	0.535	0.022	0.042	0.074
Dona Ana, NM	168,470	0.000	0.322	0.202	0.457	0.019	0.000	0.280
Merced, CA	196,123	0.002	0.264	0.282	0.418	0.006	0.028	0.166

Table F.1 *(Continued)*
Cluster Tables

COUNTIES PRIMARILY AFFILIATED WITH CLUSTER E								
	Population	P(A)	P(B)	P(C)	P(D)	P(E)	P(X)	Dep. Var.
San Juan, UT	13,688	0.000	0.000	0.000	0.000	0.999	0.000	0.143
Culberson, TX	3,136	0.000	0.000	0.001	0.000	0.999	0.000	0.515
Frio, TX	15,875	0.000	0.000	0.002	0.001	0.997	0.000	0.232
Crosby, TX	7,375	0.000	0.000	0.001	0.001	0.997	0.002	0.097
Dawson, TX	14,793	0.000	0.002	0.003	0.001	0.992	0.003	0.150
Cochran, TX	3,978	0.000	0.000	0.028	0.001	0.971	0.001	0.189
McCulloch, TX	8,778	0.000	0.006	0.000	0.005	0.956	0.034	0.166
Lynn, TX	6,591	0.000	0.008	0.011	0.007	0.932	0.042	0.112
Castro, TX	8,307	0.000	0.000	0.069	0.000	0.930	0.000	0.132
Bailey, TX	6,831	0.000	0.001	0.014	0.006	0.922	0.058	0.249
Upton, TX	3,815	0.000	0.003	0.048	0.002	0.901	0.046	0.138
Madison, TX	11,932	0.000	0.053	0.000	0.059	0.885	0.003	0.204
Navajo, AZ	94,917	0.000	0.168	0.014	0.030	0.788	0.000	0.099
Socorro, NM	16,250	0.001	0.187	0.002	0.035	0.774	0.002	0.098
Hale, TX	36,603	0.000	0.082	0.093	0.043	0.730	0.052	0.173
Dawes, NE	9,038	0.000	0.251	0.000	0.022	0.720	0.007	0.055
Bee, TX	28,054	0.000	0.319	0.005	0.034	0.639	0.003	0.228
Hill, MT	17,538	0.001	0.352	0.000	0.020	0.611	0.016	0.061
Cherokee, OK	38,295	0.000	0.374	0.001	0.030	0.555	0.041	0.114
Brewster, TX	9,039	0.001	0.357	0.000	0.018	0.554	0.069	0.169
Lea, NM	56,387	0.001	0.292	0.047	0.067	0.526	0.068	0.114
Graham, AZ	31,097	0.000	0.225	0.001	0.279	0.488	0.008	0.094

NOTE: Border counties within each cluster are boldfaced. P(A), P(B), P(C), P(D), P(E), and P(X) are the posterior probabilities of membership in clusters A, B, C, D, E, and X. The dependent variable is the total uncompensated hospital costs per dollar of net patient revenues.

The Regression Analysis

The exact model specification is:

$$\begin{aligned} Y_i = {} & \beta_1 + \beta_2 \mathrm{BORD}_i \\ & + \beta_3[\mathrm{P(A)}_i] + \beta_4[\mathrm{P(B)}_i] + \beta_5[\mathrm{P(C)}_i] + \beta_6[\mathrm{P(D)}_i] \\ & + \beta_7 \mathrm{POP}_i + \beta_8 \mathrm{MEDINC}_i \\ & + \beta_9[\mathrm{P(A \cup B)}_i \times \mathrm{POP}_i] + \beta_{10}[\mathrm{P(C)}_i \times \mathrm{POP}_i] + \beta_{11}[\mathrm{P(D)}_i \times \mathrm{POP}_i] + \varepsilon_i \end{aligned}$$

- Y — The dependent variable, uncompensated costs per dollar of net patient revenues at the county level.
- β_1-β_{11} — Regression coefficients.
- BORD — An indicator ("dummy") variable to separate border counties with hospitals (BORD=1, the "treatment group") from non-border counties (BORD=0, the "control group"). This is the key inferential variable in the model, the rest of the variables are essentially control

variables. We expect the coefficient for BORD, β_2, to be positive; border counties bear higher uncompensated costs per net patient revenue than non-border counties.

- P(A)-P(D) The probabilities of membership in border clusters A through D. The effects of membership in Group E are captured by the intercept term, β_1. We have no prior opinions on the signs of the associated coefficients.

- POP County population (1997). We expect the associated coefficient, β_7, to be positive (larger counties are poles of attraction for people unable to cover the costs of their emergency care). We recognize, however, that the actual sign of this coefficient will be mediated by the values of the coefficients for the interaction terms.

- MEDINC County median household income (1993). It is included to test how effective the discriminant analysis was in controlling for income-related effects. We expect the coefficient for this variable, β_8, to be indistinguishable from zero.

- P(g)xPOP A set of multiplicative interactions between population size and probability of membership in Clusters g=A, B, C, and D. The interaction effect for Group E is absorbed by the intercept term. Incorporating these terms in the model allows for the possibility that population effects may vary across clusters. The expected signs of the associated coefficients are difficult to anticipate since they are confounded by the presence of POP.[89]

- ε A stochastic term of independently and identically distributed errors which is minimized in the estimation.

The model was estimated using ordinary least squares regression. As expected, the sign of the coefficient for the border indicator variable was positive (0.0629) and significant (t=3.15, p-value=0.002). The anticipated lack of significance for the coefficient of median household income (almost exactly zero) was confirmed (t=0.16, p-value=0.876), strong evidence that the posterior probabilities from the discriminant analysis had effectively accounted for effects related to income and poverty. Population and its interaction terms, while statistically insignificant suggested that larger population does have a positive impact on uncompensated costs in the clusters most identified by the counties of Pima, El Paso, Cameron and Hidalgo [TX].

[89] The interaction terms are highly correlated with POP and with the posterior probabilities. This attenuates the statistical significance of the individual statistics but does not affect the forecasting power of the model or the significance of the coefficient for BORD.

The model evidenced an acceptable goodness of fit for a cross-sectional data set, explaining 28 percent of the variation in uncompensated costs per revenue. Residual plots failed to indicate problems of heteroskedasticity, eliminating the need to abandon the ordinary least squares regression estimation technique in favor of one that is more refined. A series of sensitivity analyses revealed that one of the observations, Culberson County [TX], had an inordinate influence on the regression results.[90] The outlying value of the dependent variable, combined with an extremely low population, lent Culberson County undue leverage on the outcomes so it was dropped from the regression analysis.

Table F.2
OLS Regression Results

Dependent Variable (Y): Uncompensated Costs per $ Net Patient Revenue

Explanatory Variable	Parameter Estimate	t Value
Intercept	0.16269	9.18
Border Indicator (1/0)	0.03497	2.06
P(A)	-0.07393	-2.75
P(B)	-0.04285	-1.79
P(C)	-0.03010	-1.08
P(D)	-0.03461	-1.09
Population	-0.61305 per million	-0.98
P(A)xPopulation	0.60925 per million	0.97
P(B)xPopulation	0.67237 per million	1.07
P(C)xPopulation	0.68087 per million	1.07
P(D)xPopulation	0.40790 per million	0.60

N = 107, df = 96
R^2 = 0.24, Adjusted R^2 = 0.16
F Value = 3.03, (p = .0022)

The model was re-estimated without Culberson County and without the statistically insignificant test variable MEDINC. The terms involving population were retained despite their statistical insignificance since the directions of their effects seemed plausible and retaining them was a conservative choice. The results (Table F.1) were, in broad terms, similar to those of the initial run. The coefficient for the border indicator variable dropped in magnitude (to 0.035) and in significance (t=2.06, p-value=0.042), but remained positive and statistically significant.

[90] The standardized residual was over five standard deviations beyond the mean. This gave it substantial influence on the estimates of goodness of fit and of the coefficient for the border indicator variable.

The results, including a 95 percent confidence interval, follow below.

Table F-3
Estimated Excess Uncompensated Costs Borne by Border Counties with Hospitals

	Uncompensated Costs ($000)	Net Patient Revenue ($000)	Y (%)*	Estimated Excess Uncompensated Costs** ($000)	95% Confidence Interval	
San Diego, CA	284,451	2,178,568	13.06	76,185	2,623	149,746
Imperial, CA	10,995	81,182	13.54	2,839	98	5,580
Yuma, AZ	13,952	117,373	11.89	4,105	141	8,068
Pima, AZ	75,934	704,887	10.77	24,650	849	48,451
Santa Cruz, AZ	1,612	11,014	14.64	385	13	757
Cochise, AZ	5,925	48,542	12.21	1,698	58	3,337
Luna, NM	1,752	16,103	10.88	563	19	1,107
Doña Ana, NM	43,678	155,981	28.00	5,455	188	10,722
El Paso, TX	185,393	860,783	21.54	30,102	1,037	59,167
Culberson, TX	905	1,758	51.48	61	2	121
Brewster, TX	1,599	9,486	16.85	332	11	652
Val Verde, TX	5,342	28,414	18.80	994	34	1,953
Maverick, TX	4,625	25,765	17.95	901	31	1,771
Webb, TX	46,357	180,737	25.65	6,320	218	12,423
Starr, TX	1,942	11,608	16.73	406	14	798
Hidalgo, TX	91,055	562,354	16.19	19,666	677	38,654
Cameron, TX	56,047	426,160	13.15	14,903	513	29,292
TOTALS:	**$831,564**	**$5,420,715**	**n.a.**	**$189,565**	**$6,526**	**$372,599**

* Y is uncompensated costs as a proportion of net patient revenue. It is the dependent variable in the econometric analysis.

** Excess uncompensated costs are calculated by multiplying net patient revenue by the estimated coefficient for the "border effect", 0.03497.

APPENDIX G:

Glossary

Alien: Any person not a citizen or national of the United States.

Bad Debt: Bad debt is the unpaid dollar amount billed for services rendered for which a healthcare provider expected payment but was not received from a patient or third-party payer.

Border Patrol: A division of the Immigration and Naturalization Service.

Charity Care: Charity care is the cost to a healthcare provider who renders free or discounted care to persons who cannot afford to pay, who are not eligible for public programs, and for which the provider did not expect payment.

CMS: Centers for Medicare and Medicaid Services, a division of the U.S. Department of Health and Human Services. CMS is responsible for the development and enforcement of regulations related to Medicare and Medicaid programs and the enforcement of EMTALA regulations.

DSH: Disproportionate Share Hospital. A DSH hospital is one that serves a higher than average number of Medicaid and other low-income patients.

Emergency Condition: An emergency condition is a medical condition manifesting itself by acute symptoms of sufficient severity, including, but not limited to, severe pain, psychiatric disturbances and/or symptoms of substance abuse such that a prudent layperson possessing an average knowledge of medicine and health, could reasonably expect the absence of immediate medical attention to result in: placing the health of the afflicted individual or in the case of a pregnant woman, the health of the woman or the unborn child, in serious jeopardy; serious impairment to bodily functions; or serious dysfunction of a bodily organ or part.

Emergency Medicaid: A program created by Congress in 1986, which authorized the federal government to reimburse healthcare providers for emergency medical services and childbirth care delivered to immigrants who, except for their immigration status, would otherwise qualify for a state's Medicaid program.

EMTALA: The Emergency Medical Treatment and Active Labor Act (EMTALA). Law passed by Congress in 1996 that requires hospitals and emergency personnel to screen, treat and stabilize anyone who seeks emergency medical care regardless of income or immigration status.

Federal Poverty Level (FPL): Income guidelines established annually by the federal government. Public assistance programs usually define income limits in relation to FPL. The 2001 FPL was $17,650 for a family of four.

Humanitarian Parolee: A specific type of "parolee" (see definition) who is granted entry into the U.S. for urgent humanitarian reasons including medical reasons.

INS: Immigration and Naturalization Service. The INS is a Federal agency within the U.S. Department of Justice that administers and enforces the nation's immigration laws. The Border Patrol is a division of the INS.

Medicaid: A joint federal-state entitlement program that pays for medical care on behalf of certain groups of low-income persons. The program was enacted in 1965 under Title XIX of the Social Security Act.

Parolee: A parolee is an alien, appearing inadmissible to an inspecting INS officers, but allowed into the U.S. for urgent humanitarian reasons or when that alien's entry is determined to be for significant public benefit. Parole does not constitute a formal admission to the U.S. and confers temporary status only, requiring parolees to leave when the conditions supporting their parole cease to exist.

PRWORA: Personal Responsibility and Work Opportunity Reconciliation Act of 1996. Otherwise known as Welfare Reform. The law, among other things, limits Medicaid benefits for undocumented immigrants to emergency health services and non-Medicaid funded public health assistance (e.g., immunizations, communicable disease treatment). In addition, PRWORA requires states that want to provide non-emergency medical assistance to "non-qualified" immigrants pass affirmative legislation before providing such services, even if the state already had such a law in place prior to the federal Act's passage.

TANF: Temporary Assistance for Needy Families. Time-limited public assistance payments made to poor families, based on Title IV-A of the Social Security Act. Commonly referred to as "welfare." TANF replaced the Aid to Families with Dependent Children program (AFDC) when the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) was signed into law in 1996.

Uncompensated Care: Uncompensated care is the unreimbursed or uncollectable costs to a medical provider of providing healthcare services. Bad debts and charity care are two distinct types of uncompensated care.

Undocumented Immigrant: An undocumented immigrant is a person who is not a U.S citizen or national, who has entered the United States (or has remained in the United States) without proper documentation and who lacks legal status for immigration purposes.