



Mitias, Marcus J., An Analysis of Texas Hospitals: Assessing the Association between Charity Care, Uncompensated Care, & Community Benefits. Master of Public Health (Health Management & Policy), May 2007, 47 pp., 5 tables, 11 illustrations, references, 45 titles.

The question of whether not-for-profit hospitals are meeting their charitable obligations is once again starting to intensify. Congress is calling for increased scrutiny of not-for-profit hospitals. Similarly, pressure is mounting in Texas where the not-for-profit hospital sector struggles to justify the contributions they make to the community. This cross-sectional study examines the county level association between charity care, uncompensated care expenditures, and community benefits, and hospital structure, hospital market structure, and the number of uninsured. Descriptive and multi-linear regression analyses are used to compare hospital charity care and uncompensated care expenditures for hospitals in Texas. Results indicate the number of uninsured is significantly associated with charity care expenditures and uncompensated care expenditures.

**AN ANALYSIS OF TEXAS HOSPITALS: ASSESSING THE ASSOCIATION
BETWEEN CHARITY CARE, UNCOMPENSATED
CARE, AND COMMUNITY BENEFITS**

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THESIS

Presented to the School of Public Health

University of North Texas Health Science Center at Fort Worth

in Partial Fulfillment of the Requirements

for the Degree of

Master of Public Health

By

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May 2007

ACKNOWLEDGEMENTS

This thesis would not have been possible without the wisdom, patience, and encouragement of many people. I would like to especially thank my advisor and committee chair, Dr. Nuha Lackan who read my numerous revisions and helped me navigate through the confusion. Many thanks to the members of my committee, Jeff Talbert, PhD, Douglas Mains, PhD, and Kathryn Cardarelli, PhD, who offered support and constructive criticism. Special thanks to Dr. Elizabeth Trevino, Parag Kunte, and Zeida Rojas for their tremendous support with the data. I would also like to thank Benjamin Witt and Nicol & Associates, Inc., whose maps helped to illustrate my analysis. Thanks to my parents, my sister, and friends who endured this long process with me. And finally, I would like to thank Dr. Michael H. Mitias; may philosophy continue to be a source of inspiration in my work.

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CHAPTER I

INTRODUCTION

The Internal Revenue Service requires not-for-profit hospitals and charitable organizations in the U.S. to demonstrate they provide substantial community benefits under the Internal Revenue Code, section 501 (c)(3) (Owens, 2005). In particular, the Internal Revenue Code stipulates that not-for-profit hospitals must provide community benefits in return for tax-exempt status (Texas Health and Safety Code, 311.045(b)). Over the years, however, not-for-profit hospitals have become synonymous with charity care in the eyes of the public. Yet, the contributions that not-for-profit hospitals make to the communities in which they serve are extensive and complicated. At the center of the debate is the growing perception that not-for-profit hospitals are not doing enough for their communities to justify tax-exemption.

Currently, policymakers, regulators, hospital administrators, and the public are intensely reexamining this issue yet again. One member of Congress in particular, Senator Grassley (R-Iowa), ranking minority leader of the U.S. Senate Finance Committee, is leading the charge. In June of 2006, he called for the IRS to expand its scrutiny of the not-for-profit sector, particularly the not-for-profit hospitals because of concerns about “pricing, billing and debt collection, use of tax-exempt bond proceeds, excessive executive compensation, and the definition and calculation of charity care and community benefit” (Sandrick, 2006, p. 8). In yet another letter to the American Hospital Association (AHA) in March of 2006,

Senator Grassley explicitly expressed the need to improve financial assistance to uninsured; to improve AHA data collection on charity care; to work with AHA and not-for-profits for clarity on legality of discounts; and to draft a uniform community benefit reporting. Many argue that the problem is as Grassley puts it, "It's important that the public and policymakers have a clear understanding through standard reporting of the level of charitable care and community benefits that tax-exempt hospitals offer. Right now, reporting standards are all over the map, and it's nearly impossible to know what's real and what's accounting gimmickry" (Grassley, 2006). In other words, it seems as though not-for-profit hospitals are not doing enough for their communities to justify their tax-exemption. Grassley is not alone as many policymakers are beginning to argue that there is no difference between not-for-profit and for-profit hospitals, such that not-for-profit hospitals are deserving of tax-exempt status.

This debate has particular resonance in the state of Texas where in 2004, the state ranked number one among all other states in the percentage of the population uninsured, with 25.1 percent of Texans uninsured (U.S. Census Bureau, 2005). In addition, Texans paid an estimated \$1,551 annually in higher insurance premiums for a family of four than other states (Families USA, 2005). In fact, about 3 percent (8.5 million) of non-elderly Texans were without coverage for all or part of 2002-2003 (Stoll, 2005). Texas also led the nation in the percentage of uninsured adults, the number of uninsured working adults, and the percentage and number of uninsured children (Code Red Report, 2006). These trends have had a rippling effect with every major city in Texas having a higher uninsured rate than the national average (Combs, 2005). In light of these trends in both Texas and throughout the nation, the uninsured, by all accounts, have the most to lose and are driven deeper into

poverty and ill health by lack of financial protection against health care expenses. Yet, one of the most difficult and sadly neglected questions in the extant spectrum of this debate is the lack of understanding concerning how charity care affects the uninsured. Previous scholarship conventionally recognizes the importance of examining the uninsured and charity care. However, this study aims to bring a fresh perspective to the discourse by focusing its attention on hospitals solely located in Texas.

Rationale

The question as to what factors drive community benefits is important, since understanding this relationship would provide not-for-profit hospitals, policy makers, practitioners, and academics alike with information that could assist not-for-profits in meeting their social obligations to the community.

Statement of Purpose

The purpose of this cross-sectional study is to investigate Texas hospitals' community benefits by examining the factors that are associated with charity care expenditures, uncompensated care expenditures, and community benefit. In an effort to understand the benefits provided by not-for-profit hospitals, this paper examines whether not-for-profit hospitals provide levels of charity care, uncompensated care, and other types

of community benefits that differ from other for-profit and public hospitals. This study assumes that there is an association between charity care, uncompensated care, and community benefit and the health of the poor and uninsured exists. What then are the implications of this proposition for health policy in Texas? It is not enough to theorize on this question; these ideas must be articulated and examined along with their implications on the lives of Texans.

Research Question

This study accordingly asks is there an association between hospital characteristics: organizational structure and hospital market characteristics and charity care, uncompensated care, and community benefits in hospitals throughout Texas?

Hypothesis

Charity care expenditures, uncompensated care expenditures will be significantly associated with the number of uninsured in Texas counties.

Delimitations

The study was delimited by excluding the facilities that provide only rehabilitation services. Some 34 physical rehabilitation facilities were excluded from the dataset. The Texas Department of State Health and Human Services defines healthcare facilities as teaching, acute care, psychiatric, skilled nursing facilities, long-term acute care, and other long-term care services. The hospitals in this dataset vary as to the degree and the kinds of services they provide and were included in this analysis.

Moreover, this analysis is the synthesis of many datasets, thus the hospitals that were selected were included and represented in each of the sources of data.

Data Limitations

The data in the 2004 Texas Health Care Information Council (THCIC) public use data file (PUDF) are subject to many limitations. One data limitation is that the hospitals in the data set are required to submit discharge data to the state no later than 60 days after the close of a calendar quarter (THCIC Manual, 2005). Depending on the hospital's collection and billing cycles, not all discharge data may have been reported during the designated quarter. This implies that the data for each quarter are subject to some inconsistencies. As a result, this can affect the accuracy of variables like source of payment data, specifically self-pay and charity that may later qualify for Medicaid or other payment sources (THCIC Manual, 2005).

The 2004-2005 Cost Report Data provides data on over 500 hospitals in Texas and is based upon the Medicare cost report information obtained from the Centers for Medicare and Medicaid Services. A limitation of these data is that not all hospitals consistently report at the same time during 2004. For example, some hospitals in this dataset reported data from May 1, 2003 to May 1, 2004. Since this data set does not include all hospitals in Texas, it will not be possible to generalize the outcomes of the study to all hospitals in Texas.

Study Design Limitations

The first limitation of this cross-sectional study design is that it is a snapshot of the selected population at a point in time for 2004. As a result, any inferences drawn can only be considered for 2004. Thus, we are unable to draw conclusions about future or previous years concerning the association between charity care expenditures, uncompensated care expenditures, and community benefits. Moreover, since the information on all facilities is collected simultaneously, this study design makes it impossible to establish an acknowledged cause and effect relationship.

This study also admits selection bias. The THCIC 2004 data includes information on 456 hospitals in Texas. This data set excludes hospitals located in a county with a population less than 35,000, or those located in a county with a population of more than 35,000 and with fewer than 100 licensed hospital beds and excludes hospitals categorized as an “urbanized” area by the United States Bureau of the Census. For the purposes of this study and in accordance with the Texas Health Care Information Collection for Health

Statistics' definition, 34 hospital facilities specializing primarily in physical rehabilitation were excluded from the target population. According to the U.S. 2002 Economic Census, there were 512 established hospitals in Texas (North American Industry Classification System Definitions [NAICS], 2002). A hospital is defined as an organization that "provide[s] medical, diagnostic, and treatment services that include physician, nursing, and other health services to inpatients and the specialized accommodation services required by inpatients" (NAICS Definitions, 2002). Furthermore, the U.S. 2002 Economic Census defines an established hospital as "a single physical location at which business is conducted and/or services are provided. [A hospital] is not necessarily identical to a company or enterprise, which may consist of one establishment or more" (NAICS Definitions, 2002).

Assumptions

For purposes of this study, the following assumptions were made. The first assumption this study makes is that the number of uninsured is associated, at least in part, by the effectiveness of the Texas State Medicaid program. According to Sutton and Stensland (2005), the more effective the state insurance and/or indigent public health insurance program, the less demand there is on hospitals to provide charity care (p. 240). Moreover, this paper assumes that the rate of uninsured is constant.

Definition of Terms

Charity care is the care given with no expectation of payment (Lutz, 1996). It refers to the amounts written off when it is determined that a patient is unable to pay. In other words, charity care is the amount for which hospitals never expected to be reimbursed. Charity care results from the hospital's policy to provide healthcare services free of charge to individuals who meet certain financial criteria. Charity care differs from bad debt in that it is not included as a category that is reported to the Texas Department of State Health Services. Charity care is the unreimbursed costs of providing, funding, and otherwise financially supporting healthcare services that never are expected to result in cash inflows and based on the hospital's adopted charity care policy to provide services free of charge to individual who meet the hospital's financial criteria. Uncompensated care, according to the American Hospital Association, is the "overall measure of hospital care provided for which no payment was received from the patient or insurer" (2005, p. 1).

Uncompensated care charges equals bad debt charges plus charity care charges (2005, p. 3). For instance, this excludes other voluntary or involuntary discounts or "reductions in revenue," like underpayment from Medicaid and Medicare or discounts to private payers (2005, p. 1). Uncompensated care costs equal uncompensated care charges multiplied by cost-to-charge ratio (2005, p. 3). The cost-to-charge ratio equals total expenses divided by (gross patient revenue + other operating revenue). Stated differently, the cost-to-charge ratio is the quotient of cost (total operating expenses minus other operating revenue) divided by charges (gross patient revenue) expressed as a percentage. This variable is included in the 2004 THCIC data set.

Bad debt results when care is given with the expectation of payment but no payment is made (Lutz, 1996). Bad debt may or may not necessarily be due to indigent care; it may be the case that the hospital is lenient about its collections. A hospital incurs bad debt when it cannot obtain reimbursement for care provided and occurs when patients are unable or unwilling to pay their bills (Gapenski, 2002). These are the services rendered for which payment is anticipated and credit is extended to the patient. Expenses are estimated and recognized when providing an allowance for such amounts to be written off at the time that the accounts are deemed uncollectible (Gapenski, 2002).

Community benefit is defined as the “programs or activities that provide treatment and/or promote health and healing as a response to identified community needs” (Sandrick, 2006, p. 8). Stated differently, it is the planned, managed, organized, and measured approach to healthcare organizations’ participation in meeting the identified health needs of the poor, ethnic and cultural minorities, and other underserved groups by improving their health status and quality of life, community benefit, and is ultimately the fundamental difference between a not-for-profit and a for-profit hospital (MacStravic, 1999). According to Texas law, community benefit is the “unreimbursed cost to a hospital of providing charity care, government-sponsored indigent healthcare, donations, education, government-sponsored program services, research, and subsidized health services” (Texas Health and Safety Code 311.042). Broadly speaking, community benefits may also be defined as the total unreimbursed costs of providing care to patients unable to pay and to patients covered under government funded programs and for medical education training.

Importance of Study

In a recent study analyzing the overall trends from 1990-2000 in Texas, it was projected that the population of Texas will increase to 46 million by 2040, an increase of 117 percent (Murdock, White, Hoque, & Pecotte, 2003). As the population increases in number so does the complexity of the health challenges, which has a direct implication for providers that provide care to the uninsured. This makes an examination of charity care, uncompensated care, and community benefit relevant and timely because this analysis may shed light on how the uninsured and poor are affected.

CHAPTER II

THE LITERATURE

The literature on community benefits is abundant. The literature that pervades community benefit is divided into four categories. The first involves literature that describes community benefit such as in Lutz, Bilton and Barnett, Nicholson, et al, and Trocchio. Sandy Lutz's 1996 article provides a summary of the status of charity care in the early 1990's concerning Texas hospitals. She argues that what accounted for the dramatic increase in Texas not-for-profit hospitals' charity care was better tracking of the dollars (1996, p. 36). Lutz gives many necessary definitions of key terms as well as a synopsis of some of the effects of the 1993 charity law in Texas. In "Community Benefit Tools for Success," Bilton and Barnett define community benefit in accordance with five core principles that transcend traditional views about charity care (2006). Nicholson, and colleagues develop a new method of identifying activities that should qualify as community benefits and of determining a benchmark for the amount of community benefits a not-for-profit hospital should be expected to provide (2000). Afterwards, they compare estimates of not-for-profits' current level of community benefits with a benchmark and show that actual provision appears to fall short. Either not-for-profit hospitals as a group ought to provide more community benefits, or they are performing activities that cannot be measured. Thus, they conclude that what is needed is a better measurement and accounting of community benefits as a public policy. J. Trocchio asks the question what are true community benefits.

The author gives examples of services provided by not-for-profit hospitals that may be defined as true community benefit charitable contributions (Trocchio, 1998).

For a discussion on the history of community benefit legislation, readers would do well to examine Rubinstein, Potter and Longest, Spencer and Friedman, Hattis, and Bogue. Rubinstein's work gives a history of hospitals, IRS codes, state actions, and current reform initiatives, and how it relates to the changing definition of community benefit. After a thorough analysis, the author makes the case for a tiered exemption structure system that distinguishes hospitals by the Revenue Ruling 69-545 and other not-for-profits would be defined by the terms of section 501(C)(3) (Rubinstien, 1997). Friedman, Hattis, and Bogue provide a concise summary of the legal rulings and historical context on not-for-profits. Additionally, these authors discuss federal, state, and local public sector exemptions and confer the implications of tax exemption elimination on not-for-profits (Friedman, Hattis, & Bogue, 1998). Potter and Longest discuss ways that federal tax regulations during this period changed in ways that match these federal health programs and the federal interests in encouraging efficiency and performance uniformity among hospitals. They also make the case that states and local governments, have different interests, and these may favor a strict set of tax exemption standards that disregard efficiency and elevate the importance of a measurable level of charitable service. They conclude that the essence of the debate lies in the question of whether or not not-for-profit hospital care is intrinsically charitable (Potter & Longest, 1994).

Buchmueller and Feldstein, Hansmann, Montoya, and Kane and Wubbenhorst have all investigated policy implications for community benefits. Buchmueller and Feldstein (1996) conducted a survey of California hospitals to evaluate policies associated with

community benefits other than charity care. The authors found that there was a lack of standardized data and a lack of strategic investment in charitable purpose from 100 hospitals. As a result, they called for increased quantitative information and universal standards for reporting (Buchmueller and Feldstein, 1996). Hansmann provides an overview of the progression of legal statutes and their relationship to the not-for-profit sector. Categorical in nature, this article makes the case that not-for-profits must be accountable since they are charitable organizations exempt from taxes (Hansmann, 1998). The article by Montoya outlines the tax exemptions that impact not-for-profit healthcare organizations (1998). Kane and Wubbenhorst compare tax benefits with uncompensated care that not-for-profit hospitals provide and observe the geographic distribution of tax benefits in surplus of uncompensated care expenditures. These authors found that hospitals with excess tax benefits located in area with few low-income individuals are less likely to be accessible to communities with greater needs. As a result, they conclude that health public policy needs to reallocate resources across local area as a way to match excess benefits to areas in most need of charity care (Kane & Wubbenhorst, 2000).

The final group of authors make pivotal contributions to the literature of community benefit concerning a variety of determinants or causal factors of community benefits Sanders, Hultman, Bryce, Norton and Staiger, and Sutton and Stensland. This paper recognizes and seeks to build upon the work of academic scholars and leading practitioners in the field. Nevertheless, no comprehensive analysis of their work has currently been advanced concerning community benefit specifically in Texas; yet such an analysis is urgently needed. This study differs in that it actually takes a more refined approach and provides updated empirical data specific to Texas hospitals by focusing on understanding the possible

determinants of charity care, uncompensated care, and community benefit.

While Sutton and Stensland (2004) study dealt with alternative state approaches for ensuring hospital accountability to the community affects charitable expenditures and access to care for the uninsured, this study specifically examines hospitals in Texas with various and current data sets. In fact, a distinguishing characteristic of this study is that it takes a regional approach.

Sutton and Stensland used data in Medicare Cost Reports to derive foregone charges, the operating cost-to-charge ratios which were applied to charity or uncompensated care charges as a way to “deflate expenditures to hospitals’ costs” (2004). These authors also defined charity care as “the proportion of net patient revenue incurred in charity care costs” (Sutton & Stensland, 2004).

Sutton and Stensland estimated the community need by using the number of uninsured in and the corresponding counties based on Census data from the Current Population Survey (2004). Additionally, these authors noted that another way of measuring community need is the percent of households in each county with income under 200% of the FPL (Sutton & Stensland, 2004). Norton and Staigers used instrumental variable estimates to predict the percentage of patients who are uninsured as a way of measuring community need (1994).

Hultman measured the effects of hospital ownership on inpatient uncompensated care using a nonequivalent group design (Hultman, 1991). Results of this study indicated that not-for-profit and for-profit hospitals are becoming more similar in levels of uncompensated care provided (2004, p. 616-617). Sutton and Stensland also measured hospitals based on their organizational structure. In their study, hospitals were classified as

'For-Profit', 'Not-for-Profit', and 'Public' (2004). In another study, Norton and Staiger (1994) examined the relationship between hospital ownership on the delivery of service to the uninsured patients and found that the close proximity of for-profit and not-for-profit was a predictor for servicing an equivalent number of uninsured patients, but that for-profit hospitals "indirectly avoid the uninsured by locating more often in better-insured areas" (Norton & Staiger, 1994, p. 184).

The structure of a hospital's local market is measured by the presence of a for-profit, public, and not-for-profit in the local market as well as the managed care penetration rates (Sutton & Stensland, 2004). These authors measured on the ratio of hospital beds located in the county in which the differing hospitals reside. Bryce's study used the number of licensed beds as a measure of a hospital's physical capacity (2001, p. 30). Moreover, Bryce admits that "Hospitals commonly limit the number of beds they dedicate to serve indigent patients or those who are on Medicare or Medicaid...for obvious economic reasons, hospitals customarily ration the amount of licensed beds available" (2001, p. 30). Managed care penetration rates were used as an indicator of a hospital's local market, because they may impact the ability of hospitals to provide care for the uninsured (Sutton & Stensland, 2004). Managed care penetration rates are based on data provided in the 2005 Area Resource File. This data is useful because it contains 1998 (most recent data available) county-level health maintenance organization penetration rates.

Not-for-profit Status, Community Benefit, & Charity Care Legislation

Prior to the precedent 69-545 ruling in 1969, the IRS determined in ruling 56-185 that for a hospital to maintain tax exempt status, it must “be operated to the extent of its financial ability for those not able to pay for service rendered and not exclusively for those who are able and expected to pay” (Owens, 2005, p. 239). Later, in the Revenue Ruling 69-545, which created the “Community Benefit Standard,” the IRS sought to use community benefit as a way to determine whether a hospital should be granted tax-exempt status (Owens, 2005). At that time, the IRS established five factors for this criteria: 1) whether a board of trustees control the hospital; 2) whether a hospital extends privileges to all qualified physicians in the area; 3) whether the hospital operates an active and accessible emergency room, irrespective of patients’ ability to pay; 4) whether the hospital provides medical care to all persons able to pay; and 5) whether surplus funds, improve the quality of patient care (Owens, 2005).

Since then, states like Texas have enacted additional requirements to the federal IRS requirements complete with fee exemptions and state-level tax that established standards for hospital provision of charity care services linked to community need and financial ability. By 1993, hospitals in Texas were required to provide community benefits that include charity care (Shortell, et al., 1995). According to Texas Health and Safety code 311.044(c), not-for-profit hospitals were required to develop a community benefit plan that includes: 1) measurable objectives to be achieved within a specified time interval; 2) mechanisms to evaluate the community benefit plan’s effectiveness; and 3) a budget for the community benefit plan. In 1995, the Texas Legislature allowed multi-hospital networks to consolidate

their charity care spending and then average them for all hospitals in the system, which, according to Lutz helps hospitals in high income areas that report lower charity care spending (Lutz, 1996).

Not-for-profit hospitals are required under Texas Law to provide: 1) charity and government sponsored unreimbursed care in an amount equal to or greater than the benefits that the provider obtains through its tax exempt status; 2) charity and community benefits equal to 5 percent of net patient revenue with the provision that at least 4 percent of net patient revenue is provided in charity and government sponsored unreimbursed care; and 3) charity care services or government sponsored unreimbursed care in an amount reasonable in relation to community needs, the hospital's financial resources, and tax exempt benefits (Texas Health and Safety Code, 311.042).

Not-for-profit hospitals in Texas have a legal obligation to "provide healthcare services to the community and shall comply with all federal, state, and local government requirements for tax exemption" (Texas Health and Safety Code 311.043). In particular, not-for-profit hospitals in Texas must provide "community benefits, which include charity care and government-sponsored indigent healthcare" (Texas Health and Safety Code 311.045). Second, charity care and government-sponsored indigent healthcare reductions that not-for-profit hospitals provide must equal an amount that is "reasonable when the financial reserves of the hospital are reduced to such a level that the hospital would be in violation of any applicable bond covenants..." (Texas Health and Safety Code 311.043). Third, not-for-profit hospitals in Texas must provide "for the admission of financially indigent and medically indigent persons pursuant to its charity care requirements" (Texas Health and Safety Code 311.043).

During the 77th Texas Legislature, House Bill 2419 outlined the basis for calculating charity care, which allows the addition of unreimbursed costs incurred in providing direct care for indigent care services. In Texas, hospitals report charity care charges, instead of charity care costs. In other words, according to Texas state law, not-for-profit hospitals classify all uncompensated care as charity care rather than separating “true” charity care from bad debt (Lutz, 1996).

As for reporting, not-for-profit hospitals must submit an annual report of their respective Community Benefit Plan to the Bureau of State Health Data and Policy Analysis (Texas Health and Safety Code, 311.046). The annual report of the community benefits plan includes the following: 1) the hospital’s mission statement; 2) disclosure of the healthcare needs of the community that were developed in the hospital’s community benefit plan; and 3) disclosure of the amount and categories of community benefits, including charity care (Texas Health and Safety Code, 311.046(a)-(d)). In 2002, changes were made relating to the duties of Texas not-for-profit hospitals and charity care and community benefits obligations; hospital systems were allowed to submit a consolidated compliance report.

According to IRS ruling 69-545 (1969) and IRS Ruling 83-157 (1983) community benefit is the promotion of health for class of beneficiaries sufficiently large enough to constitute benefit for the community as a whole. Community benefit activities are hospital programs that provide treatment and/or promote health in response to an identified community need. The criteria include:

- Generates a low or negative margin,
- Involves education or research that improves overall community’s health,

- Responds to the needs of special populations like those living in poverty, &
- Supplies a service or program that would likely be discontinued if based on financial criteria.

CHAPTER III

DATA SOURCES

The first data source of this study is the 2004 Texas Hospital Inpatient Discharge Public Use Data File (PUDF). This data are comprised of 1) “Base Data File” and 2) “Charges File”. Created in 2004, the Texas Health Care Information Council (THCIC), a division of the Texas Department of State Health Services, was the organization tasked with the responsibility for the collection and release of hospital discharge data (THCIC, 2004). The THCIC codes identifiers, bed counts, geographical location, and ownership status. This study also used the Charity Care Charges and selected financial data for acute care Texas hospitals, 2004 were collected and distributed by the Hospital Unit, Center for Health Statistics, DSHS, 2004.

Another data source for this study was the U.S. Census Bureau’s “Small Area Health Insurance Estimates: Model-based Estimates for Counties and States”. This resource helped to distinguish health insurance coverage for Texas counties for 2000 and provided the variable data for the numbers of uninsured for each of the 254 Texas counties in 2000.

The 2005 Area Resource file, compiled by the Health Resources and Services Administration Department of Health and Human Services, was the next data source used in this study. This data source is a collection of county-level data pertaining to health care resources from more than 50 sources that includes American Medical Association, American Hospital Association, US Census Bureau, Centers for Medicare & Medicaid Services, Bureau

of Labor Statistics, and National Center for Health Statistics. The variable used from this dataset is the 1998 Health Maintenance Organization (HMO) penetration rate (the most recent data available) for all 254 counties in Texas.

The 2004-2005 Cost Report Data originated from Cost Report Data Resources, LLC, in association with the American Hospital Directory, the Allegro Group, and the Centers for Medicare and Medicaid. The variable used in this study from this dataset is uncompensated care expenditures.

Population & Sample

The principal data source that this study is based on is from the 2004 Texas Hospital Inpatient Discharge Data (the latest year for which the data were available). Approximately 456 hospitals are included in the 2004 THCIC PUDF files. Hospitals exempt from this data include those located in a county with a population less than 35,000, or hospitals that are located in a county with a population more than 35,000 and with fewer than 100 licensed beds not in an urbanized area (THCIC Manual, 2004). Other hospitals excluded from this data include those that do not seek insurance payment or government reimbursement (THCIC Manual, 2004). For the purposes of this study, 34 hospitals specializing primarily in physical rehabilitation as defined by the Texas Health Care Information Collection for Health Statistics in the "Indicators of Inpatient Care in Texas Hospitals, 2004 Hospital Characteristics," were not included in the sample population (THCIC Manual, 2004). Particular aggregates were created by THCIC to account for hospital facilities with fewer

than 50 discharges or “Low Discharge Volume Hospital” to represent a single hospital (THCIC Manual, 2004).

Protection of Human Participants

A waiver of informed consent was requested and approved by the Institutional Review Board (IRB) at the University of North Texas Health Science Center prior to the execution of the study. Moreover, THCIC ensures that the appropriate safeguards to protect physician and patient confidentiality have been met while creating the public use data file through the use of a uniform identification number for physicians in practice (THCIC Manual, 2004). This study used pre-existing hospital discharge data for public use purposes contained in a database with no identifiers.

Data Collection Procedures

These data are hospital level data and not information directly pertaining to patients. According to the provisions of Chapter 108, Section 108.011 through 108.0135 of the Texas Health and Safety Code (THSC), the Texas Healthcare Information Council (THCIC) was created to collect hospital discharge data from all state licensed hospitals barring those that are statutorily exempt from reporting (THCIC Manual, 2004). As of September 1, 2004, THCIC became a part of the Texas Department of State Health Services. Although

hospitals have been reporting since the 1990s, this paper draws on the 2004 data. In particular, this dataset includes 456 reported hospitals in Texas.

Definition of Variables

For this cross-sectional study, average charity care expenditures throughout Texas were calculated for each hospital in the 2004-2005 Cost Report dataset. Average charity care expenditures were also based upon hospital characteristics that included hospital financial status and organizational ownership. In an effort to identify factors that are associated with charity care, this study measured individual hospital markets, which is defined as the county in which the provider operates, uninsured in hospital market, managed care penetration rates, public hospital beds (% of all beds), non profit-owned beds (% of all beds), and for profit-owned beds (% of all beds).

This study defines charity care as the ratio of net patient revenue divided by charity care expenditures (Gapenski, 2002). In other words, it is the proportion of net patient revenue incurred in charity care expenditures.

The hospitals in the THCIC dataset, Cost Report data, and Charity Care Charges dataset were classified as 'For-Profit', 'Not-for-Profit', and 'Public' (Sutton and Stensland, 2005). A not-for-profit hospital is a hospital that is eligible for tax-exempt bond financing; exempt from state franchise, sales, or other state or local taxes; and, is organized as a not-for-profit corporation or a charitable trust under state and federal laws (Texas Health and Safety Code 311.042). The Texas Department of State Health Services (DSHS) defines a

for-profit hospital as “a hospital owned on a for-profit basis by an individual, a partnership, or a profit-making corporation” (Center for Health Statistics, DSHS, 2005). On the other hand, DSHS defines a public hospital as one that is owned by an “agency of the city, country, or state government and includes hospital districts, hospital authorities, county and city facilities and state owned/operated facilities.

To assess community need, this study measured the proportion of individuals in a hospital’s market who are uninsured and the percentage of households in each county in Texas with an income below 200% of the FPL in 2004. Uninsured rates were derived from the U.S. Census Bureau’s Health Insurance Coverage for Texas Counties (2000), to identify county-level rates for the uninsured.

For this study, hospital level data was aggregated into county-level data, which was based on the geographic physical location of the hospitals’ county. This was then aggregated into thirteen economic regions previously established by the Texas State Comptroller at the Department of State Health Services (See Appendix B, Map 1). This is used as an indicator designed to capture differences in regional and county-level and hospital-level charity care. These variables were compared among different geographical markets throughout Texas oriented around major population centers each with different mixes of industry and economic factors (Combs, 2002). Please see (Appendix B, Map 1) of thirteen economic regions in Texas.

The structure of a hospital’s local market is measured by the presence of a for-profit, public, and not-for-profit in the local market as well as the managed care penetration rates (Sutton & Stensland, 2004). In particular, the hospitals’ local market was measured as the ratio of hospital beds located in the county in which not-for-profit, for-profit, and public

hospitals reside. Hospital bed counts were derived from the 2005 Area Resource File, as well as a data set provided by the THCIC. Additionally, health maintenance organization penetration rates are based on data provided in the 2005 Area Resource File (2005). The HMO penetration rate for the counties in Texas is the total HMO enrollment divided by the total population in the respective county (2005).

Measures

Descriptive analysis was conducted to determine the degree of charity care, uncompensated care, and community benefit provided by for-profit and not-for-profit hospitals in Texas. Quantitative in nature, the data analysis consisted of frequency distributions and binary correlations. Utilizing the SPSS 14.0 for Windows, bivariate analysis in the form of cross tabulations was performed to generate proportions of differences among variables of interests. Charity care expenditures from 2004 were described according to a set of hospital characteristics that include organizational structure, profit status, financial performance, geographic location, hospital market structure, and the bed size of the facility (Sutton & Stensland, 2005). These variables were selected because they are proven to affect the level of charity care, uncompensated care, and community benefits.

In addition, a multi-linear regression analysis was conducted to identify the association with charity care expenditures, uncompensated care expenditures, and community benefit in hospitals' market, which is defined as the county in which the provider operates (Sutton & Stensland, 2005).

CHAPTER IV

RESULTS

As indicated in Appendix A, Table 1, 456 hospitals in Texas were included in this analysis. Of these, 40% were for-profit, 30% were not-for-profit, and 30% were public hospitals. Although the majority of hospitals represented in this study were for-profit hospitals, the proportion of hospitals types varied by geographical economic region.

Differences also occurred throughout the state in market conditions. The health maintenance organization (HMO) market penetration rate for Texas averaged an overall 7.19%, however, this varied by region and county (Appendix B, Map 2). Map 8 illustrates the total number of beds at the county level in Texas. In general, Texas hospitals were located in markets where the proportion of for-profit, not-for-profit, and public owned beds, was 33.89%, 37.27%, and 28.84%, respectively (Appendix A, Table 1). Maps 9, 10, 11 graphically illustrate the number of beds (at the county level) for for-profit, not-for-profit, and public in 2004, respectively (Appendix B). The hospital markets (economic regions) that had a higher proportion of not-for-profit owned beds were Capital (57.94%), Central Texas (51.89%), Coastal Bend (42.19%), Gulf Coast (39.13%), Metroplex (50.65%), and Southeast Texas (64.90%) regions (Appendix A, Table 1). The hospital markets that had a higher proportion of for-profit owned beds were the Alamo (66.22%), South Texas Border (61.45%), and Upper Rio Grande (100%) regions (Appendix A, Table 1). The hospital markets that had a higher proportion of public owned beds were the High Plains (58.01%),

Upper East (29.36%), Northeast (85.75%), and West Texas (77.61%/%) regions (Appendix A, Table 1).

The average percentage of uninsured for Texas, based on the 2000 Census was 19% and ranged from a low of .14.40% for the Capital region to a high of 32.63% for the South Texas Border region for study hospitals in Texas. Map 3 illustrates the variation of rate of uninsured per county in Texas for 2000 (Appendix B). Map 4 indicates a regional variation of the rate of uninsured per 13 economic regions (Appendix B).

Results From Descriptive Analyses

Charity Care Expenditures for 2004 varied throughout the counties in Texas (Appendix B, Map 5). Of the hospitals included in this analysis, only 82 did not incur or report charity care charges for 2004. As indicated in Appendix A, Table 2, hospitals provided an average charity and uncompensated care equal to 21.8% and 34.04% of net patient revenue, respectively. Not-for-profit hospitals spent 3.19 times as much on charity care as did for-profit hospitals. Differences in uncompensated care charges were smaller; not-for-profit hospitals spent 1.54 times more than for-profit hospitals. Ranges were created for the charity care and uncompensated care expenditures (in dollar amounts) into natural breaks using SPSS 14.0 (Appendix A, Table 2). Map 6 indicates the total amount of uncompensated care expenditures for 2004 measured at the county level. Ranges indicated in Appendix A, Table 2, indicate the dollar amount for charity care and uncompensated care expenditures. Map 7 indicates charity care expenditures for 2004 divided by uncompensated

care expenditures for 2004 as measured at the county level for all the counties in Texas.

Results From Multi-linear Analyses

Appendix A, Table 3 presents the results of multiple linear regression analysis predicting charity care expenditures at the county level in 2004 for all 254 counties in Texas. Results of the regression analysis as shown in Appendix A, Table 3, indicate that not-for-profit hospital structure ($p=0.01$) ($\beta=0.51$), the HMO penetration rate ($p=0.00$) ($\beta=0.21$), and the community need (measured as the number of uninsured) ($p=0.00$) ($\beta=0.94$) are associated with the amount of charity care the hospitals offer. The most powerful predictor of charity care was the number of uninsured. Moreover, it was twice as important as not-for-profit hospital structure. The HMO penetration is only one-fifth as powerful as the number of uninsured and less than 0.51 as important as not-for-profit structure as a predictor.

Appendix A, Table 4 indicates the results of multiple linear regression analysis predicting uncompensated care expenditures at the county level in 2004 for all 254 counties in Texas. The results of the regression analysis in Appendix A, Table 4, indicate that not-for-profit hospital structure ($p=0.00$) ($\beta=0.60$), the HMO penetration rate ($p=0.00$) ($\beta=0.23$), and the community need (measured as the number of uninsured) ($p=0.00$) ($\beta=0.94$) are associated with the amount of uncompensated care expenditures that hospitals provide. The most powerful predictor of uncompensated care expenditures was the number of uninsured, however, the not-for-profit structure variable was more of a

predictor for uncompensated care expenditures than charity care expenditures. The HMO penetration is only one-fifth as powerful as the number of uninsured and nearly 30% less important as not-for-profit structure as a predictor.

Appendix A, Table 5 indicates the results of multi-linear regression analysis predicting the proportion of charity care expenditures to uncompensated care expenditures at the county level in 2004 for all 254 counties in Texas. The results of the regression analysis in Appendix A, Table 5, indicate that community need (measured as the number of uninsured) ($p=0.00$) ($\beta=0.28$), is associated with the proportion of charity care expenditures to uncompensated care expenditures.

CHAPTER V

DISCUSSION

The results indicate that there is a significant association between charity care expenditures and not-for-profit hospital structure, the number of uninsured, and the HMO penetration rate. The number of uninsured is strongly associated with charity care expenditures. Additionally, this study found that uncompensated care expenditures are associated with not-for-profit hospital structure, the number of uninsured, and the HMO penetration rate. The number of uninsured is strongly associated with uncompensated care expenditures for 2004. The proportion of charity care expenditures to uncompensated care expenditures is significantly associated with the number of uninsured for 2004.

These results confirm previous studies that hospital characteristics, market characteristics, and community need, as well as charity care expenditures and uncompensated care expenditures are associated. This study differs in that it emphasized an examination of hospitals in Texas.

Conclusion

As more Texans lose their health insurance, an increasing volume of uncompensated care is absorbing millions of dollars of limited resources of the state's hospitals, health

systems, and other provider organizations. As yet, no provider organization has developed a comprehensive management approach to address this growing challenge. Currently, the resources spent on uncompensated care are viewed as a drain on institutional bottom lines rather than as a fund dedicated to improving the health of uninsured patients and prospective patients. The case for community benefit is a viable option for managing this problem. There is reason to hypothesize that with effective management, a significant amount of the resources currently absorbed by uncompensated care could be shifted from excessive inpatient care to more productive, innovative community benefit initiatives.

The research reported here examines the association between hospital characteristics and market characteristics with charity care, uncompensated care, and hospital characteristics. Perhaps the most important finding this study shows is that even after controlling for difference in the characteristics of hospitals operating in each region and differences in rates of the uninsured, not-for-profit hospitals spent a larger percentage of net patient revenue on charity care than for-profit and public hospitals. This study sheds light on the factors that contribute to charity care and how they impact uninsured and uncompensated care. Recommended are further studies to test the feasibility and net cost or cost savings of such an approach, preferably starting in one-hospital towns.

Implications

The present findings have implications for theories regarding the impact of the numbers of uninsured on charity care expenditures, uncompensated care expenditures, and

community benefits. As the rates of uninsured increase in Texas, hospital charity care and uncompensated care expenditures should increase; further enhancing the challenges hospitals, policymakers, and the public face. As policymakers consider current and future Texas charity care policies, it would be wise to consider how a hospital's organizational structure and community need conditions impact the community. Current and future health policies that address the rate of uninsured in Texas should take into account these factors.

APPENDIX A

Table 1

Characteristics of THCIC Hospitals Reporting in Texas, 2004

Economic Regions	Texas	Alamo	Capital	Central Texas	Coastal Bend	Gulf Coast	High Plains	Metroplex	Northeast Texas	South Texas Border	Southeast Texas	Upper East Texas	Upper Rio Grande	West Texas
n =	456	32	23	24	19	80	37	88	35	23	23	31	12	29
Hospital Characteristics														
For-profit %	40.13	62.5	26.1	25	31.6	47.5	27	52.3	11.4	60.9	34.8	19.4	91.7	27.6
Not-for-profit %	30.26	15.6	65.2	54.2	26.3	36.3	18.9	34.1	2.9	17.4	47.8	54.8	0	3.4
Public %	29.61	21.9	8.7	20.8	42.1	16.3	54.1	13.6	85.7	21.7	17.4	25.8	8.3	69
Market Characteristics														
Uninsured in hospital county %	18.88%	19.39%	14.40%	17.21%	20.38%	18.79%	18.94%	16.38%	16.58%	32.63%	16.49%	16.85%	27.25%	19.61%
Managed care penetration rate														
Mean	7.19%	16.97%	18.10%	17.67%	7.57%	13.62%	3.05%	2.55%	3.14%	0.52%	2.74%	1.83%	3.10%	1.21%
Standard Deviation	10.30%	13.12%	10.74%	3.84%	8.85%	8.52%	7.32%	11.11%	4.79%	1.27%	3.84%	5.57%	7.12%	2.92%
For-profit owned beds (% of all beds)														
Mean	33.89%	66.22%	7.29%	35.35%	34.19%	34.70%	19.08%	32.06%	13.56%	61.45%	26.60%	19.21%	100.00%	18.42%
Not-for-profit owned beds (% of all beds)														
Mean	37.27%	13.44%	57.94%	51.89%	42.19%	39.13%	22.91%	50.65%	0.69%	26.42%	64.90%	51.43%	0.00%	3.98%
Public owned beds (% of all beds)														
Mean	28.84%	20.34%	34.77%	12.76%	23.62%	26.17%	58.01%	17.29%	85.75%	12.14%	8.50%	29.36%	0.00%	77.61%

Table 2

*Average Charity & Uncompensated Care as a Percent
of Net Patient Revenue, THCIC Hospitals in Texas, 2004*

Ranges	Charity Care Expenditure Ranges										Totals
	1		2		3		4		5		
Hospital Structure											
For-profit	32	0.24	60	0.45	27	0.20	7	0.05	7	0.05	133
Not-for-profit	89	0.49	23	0.13	55	0.30	14	0.08	0	0.00	181
Public	6	0.04	25	0.18	58	0.42	47	0.34	1	0.01	137
Totals	127		108		140		68		8		451

Hospital Structure	Charity Care	Uncompensated Care
	Mean	Mean
For-profit	3.02%	14.02%
Not-for-profit	9.64%	21.56%
Public	59.69%	73.93%
All Hospitals	21.80%	34.04%

Ranges	Uncompensated Care Ranges										Totals
	1		2		3		4		5		
Hospital Structure											
For-profit	19	0.14	49	0.36	56	0.41	58	0.43	0	0.00	135
Not-for-profit	4	0.03	11	0.08	48	0.35	66	0.48	9	0.07	138
Public	4	0.02	38	0.21	69	0.38	17	0.09	7	0.04	182
Totals	27		98		173		141		16		455

Ranges: Dollar Amount

- 1 \$0 -- 99,999
- 2 \$100,000 -- \$999,999
- 3 \$1,000,000 -- \$9,999,999
- 4 \$10,000,000 -- \$99,999,999
- 5 \$100,000,000 -- \$999,999,999

Table 3

*Coefficients for Models of Charity Care Expenditures
(% of Net Patient Revenue) for THCIC Hospitals in Texas, 2004*

Independent variables		Standardized beta Coefficient	t	p value
Model 1				
Hospital Structure				
For-profit		0.27	1.39	0.21
Not-for-profit		0.51	3.55	0.01
Public		0.30	1.62	0.15
Model 2				
Community Need				
# of Uninsured		0.94	37.38	0.00
Model 3				
Hospital Market				
Public hospital beds		-0.30	-0.73	0.50
For-profit-owned hospital beds		0.17	0.33	0.76
Not-for-profit-owned hospital beds		0.54	0.97	0.37
HMO penetration rate		0.21	2.98	0.00

Table 4

*Coefficients for Models of Uncompensated Care Expenditures
(% of Net Patient Revenue) for THCIC Hospitals in Texas, 2004*

Independent variables	Standardized beta Coefficient	t	p value
<u>Model 1</u>			
Hospital Structure			
For-profit	0.22	1.25	0.25
Not-for-profit	0.60	4.66	0.00
Public	0.26	1.55	0.17
<u>Model 2</u>			
Community Need			
# of Uninsured	0.94	37.57	0.00
<u>Model 3</u>			
Hospital Market			
Public hospital beds	-0.29	-0.71	0.51
For-profit hospital beds	0.10	0.21	0.84
Not-for-profit hospital beds	0.60	1.10	0.32
HMO penetration rate	0.23	3.20	0.00

Table 5

Coefficients for Models Predicting the Proportion of Charity Care to Uncompensated Care Expenditures for THCIC Hospitals in Texas, 2004

Independent variables	Standardized beta Coefficient	t	p value
<u>Model 1</u>			
Hospital Structure			
For-profit	0.32	0.52	0.62
Not-for-profit	0.07	0.15	0.88
Public	0.14	0.23	0.82
<u>Model 2</u>			
Community Need			
# of Uninsured	0.28	4.00	0.00
<u>Model 3</u>			
Hospital Market			
Public hospital beds	-0.66	-1.82	0.13
For-profit hospital beds	0.12	0.28	0.79
Not-for-profit hospital beds	-0.15	-0.30	0.78
HMO penetration rate	0.07	1.01	0.31

APPENDIX B

Susan Combs, Texas Comptroller of Public Accounts, 2002
<http://www.window.state.tx.us/ecodata/regional/regions.html>

1979	1980	1982	1983	1984
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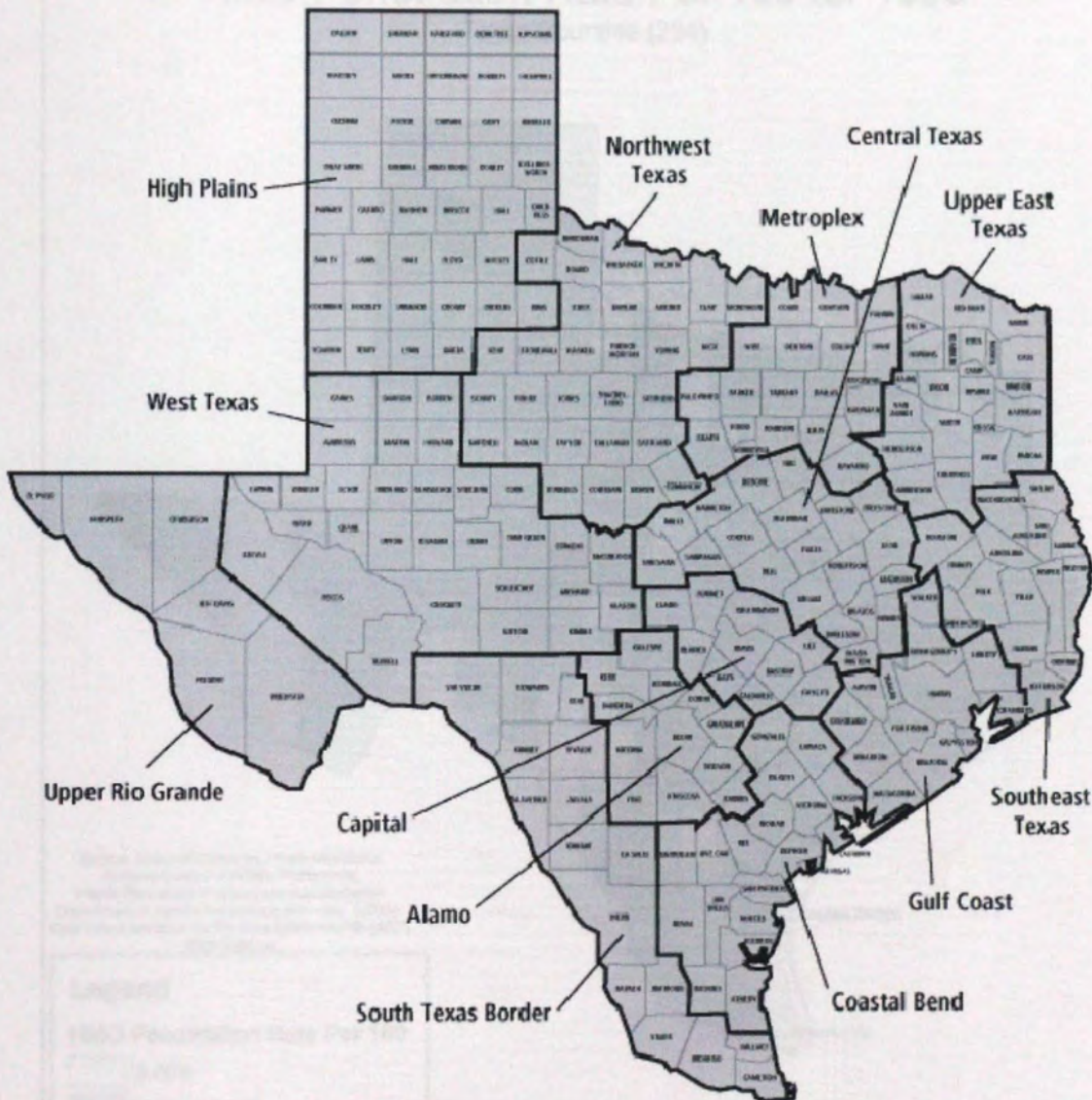


Figure 2.

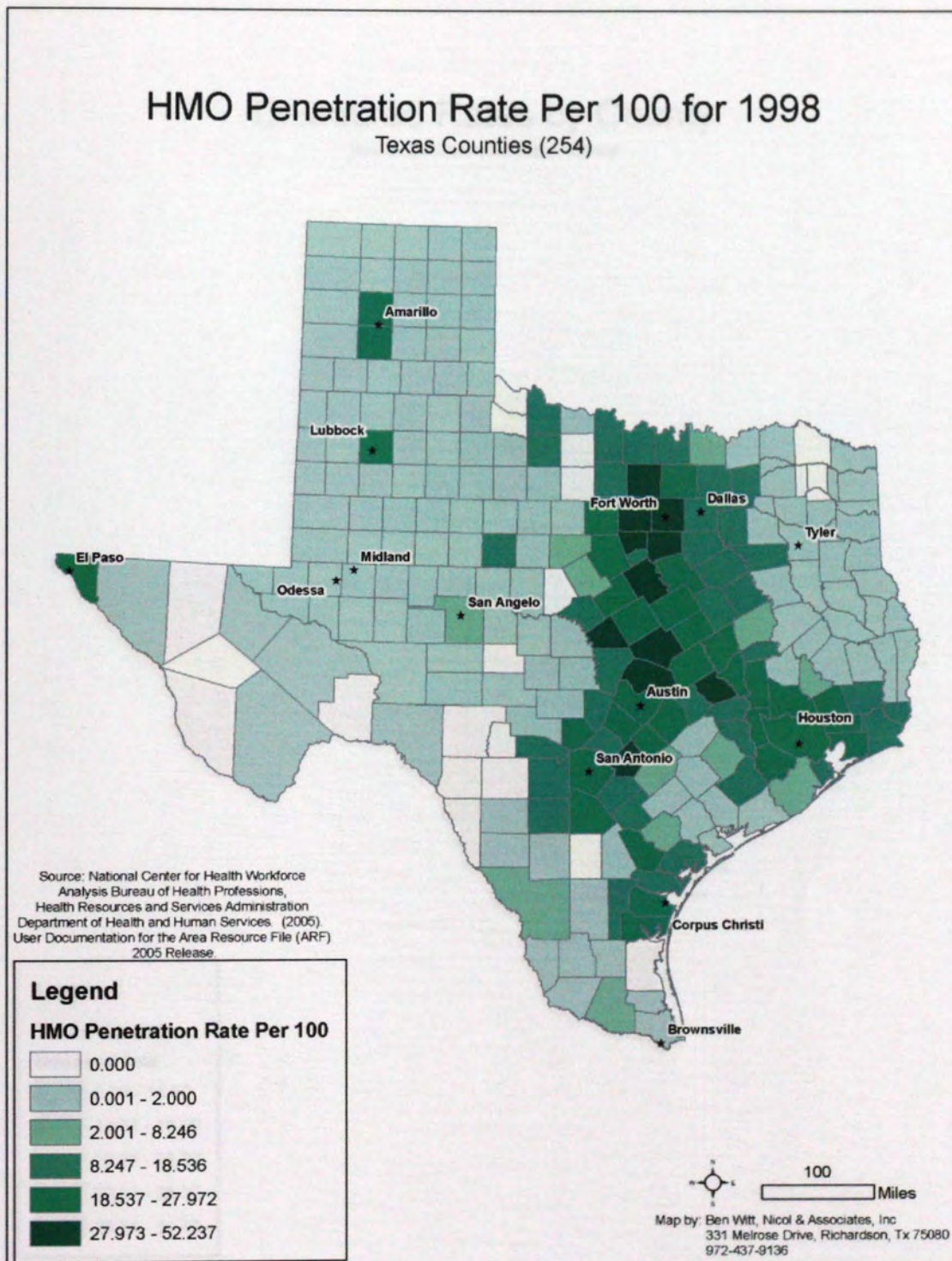


Figure 3.

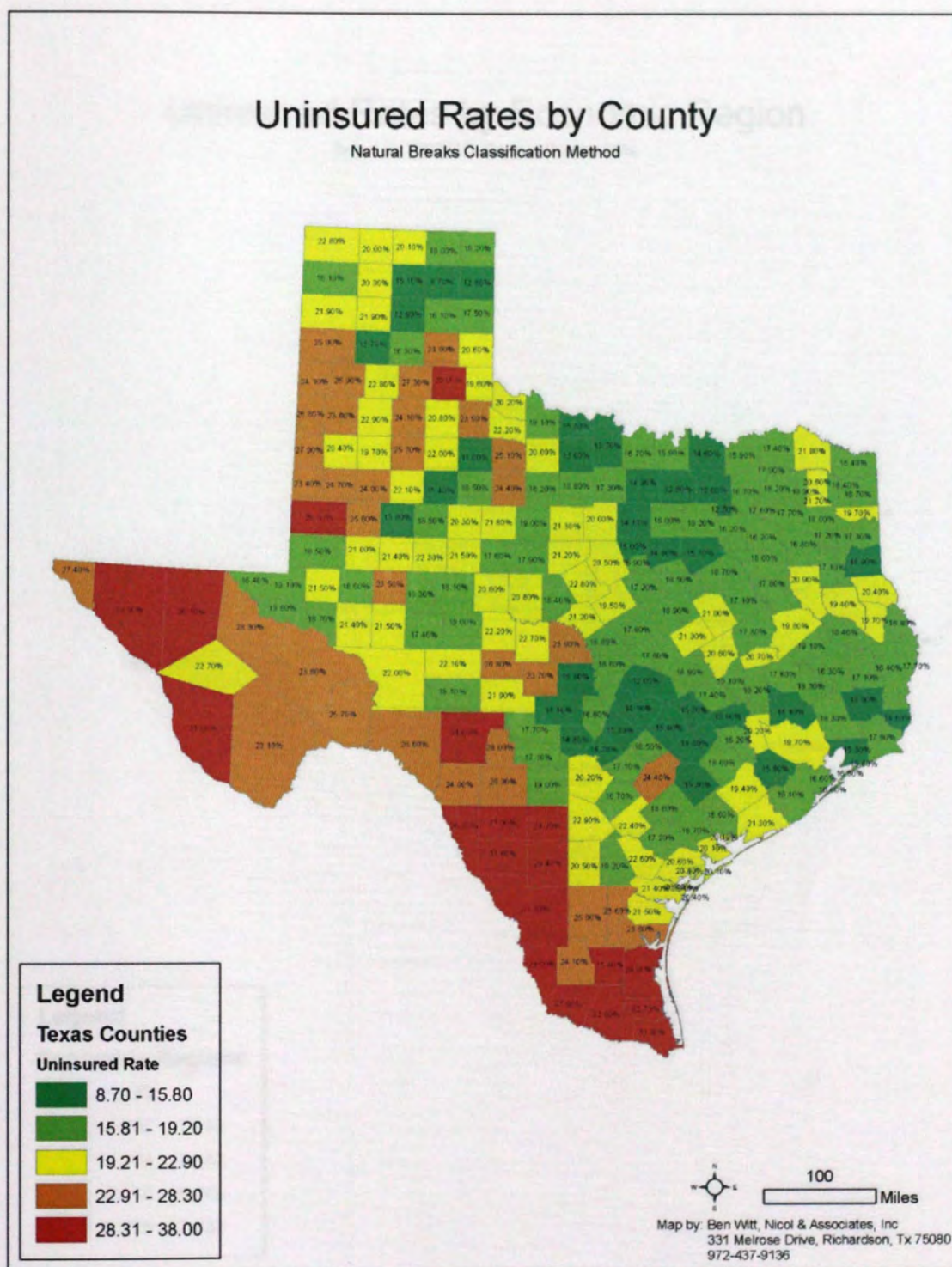


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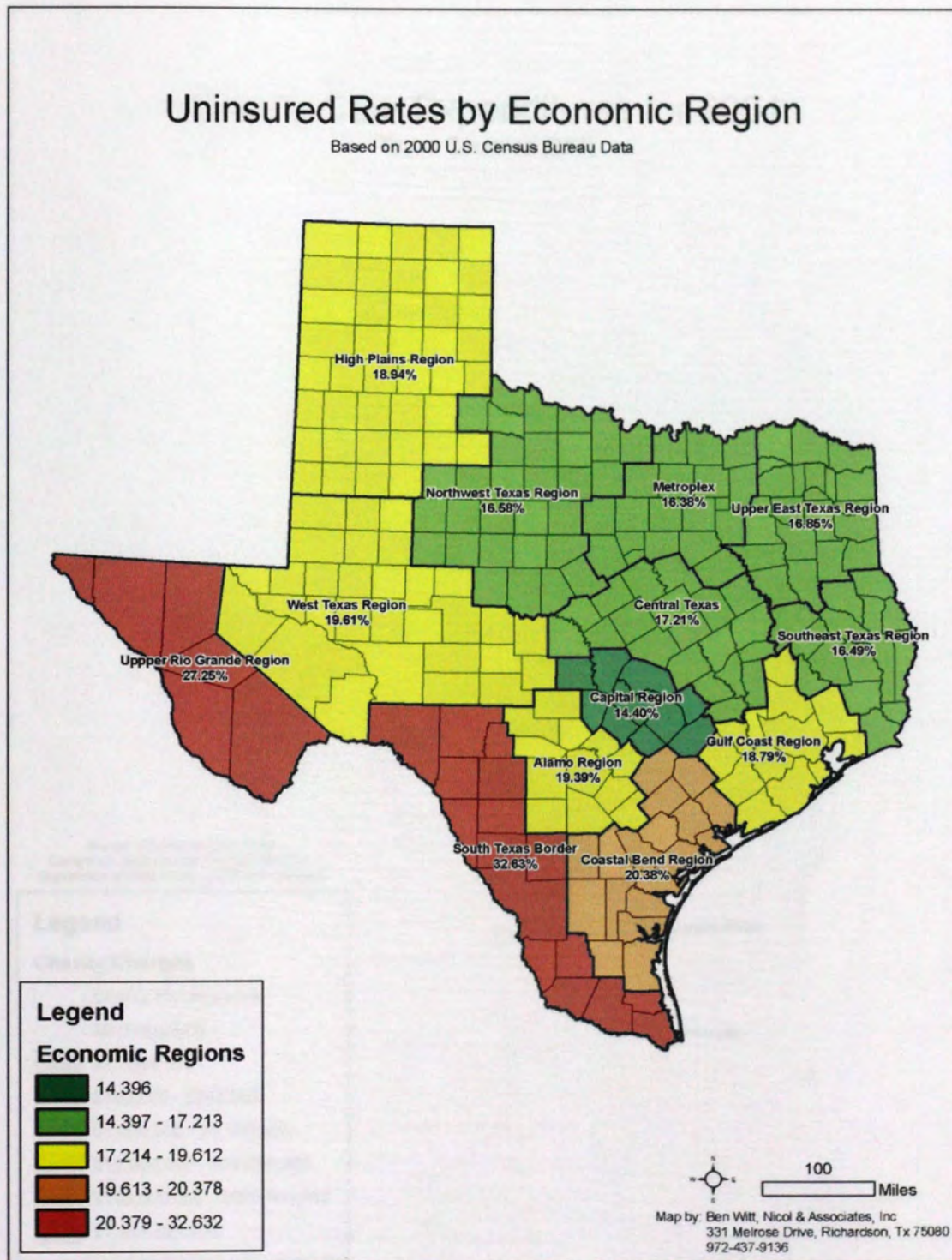


Figure 5.

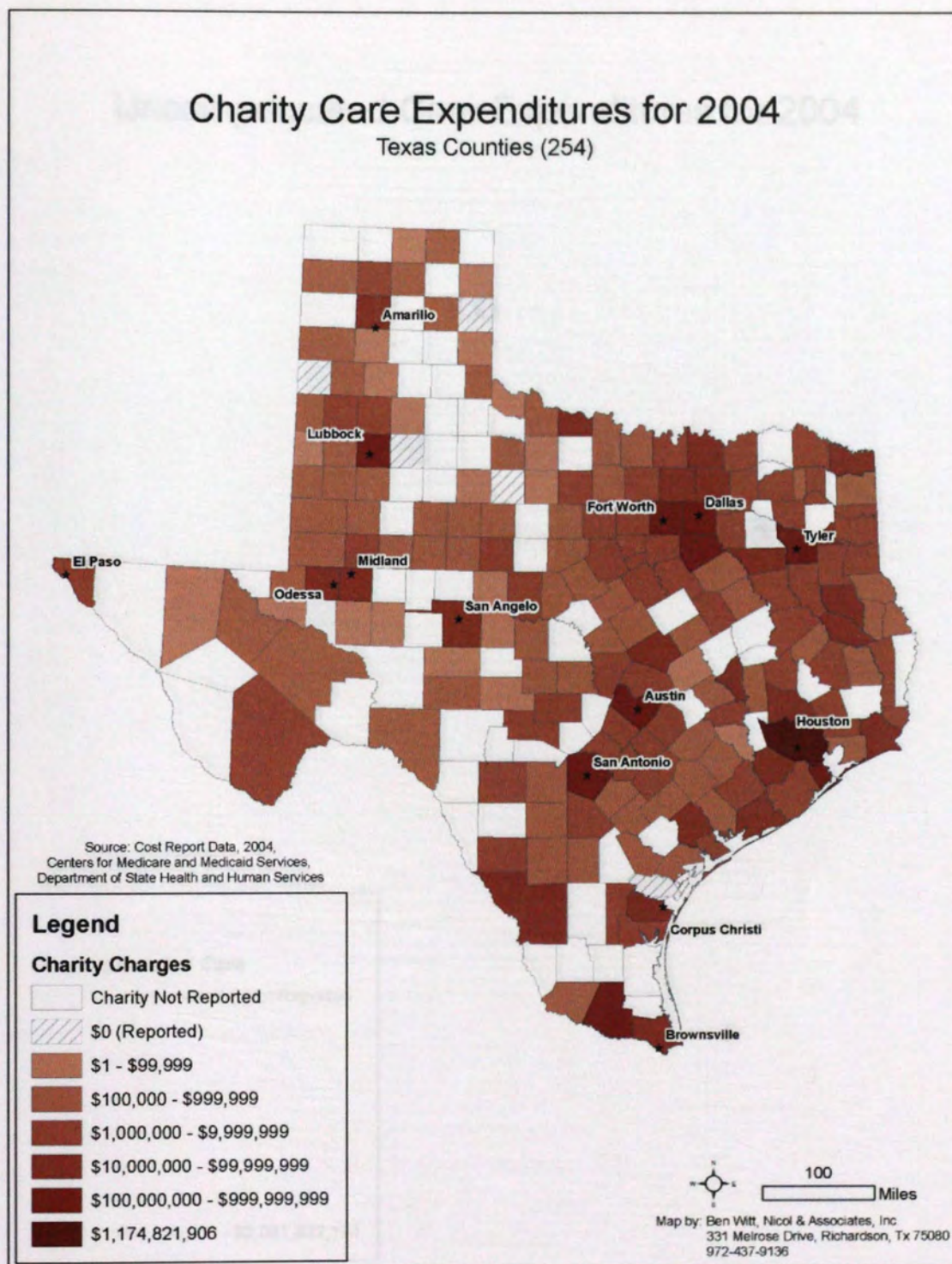


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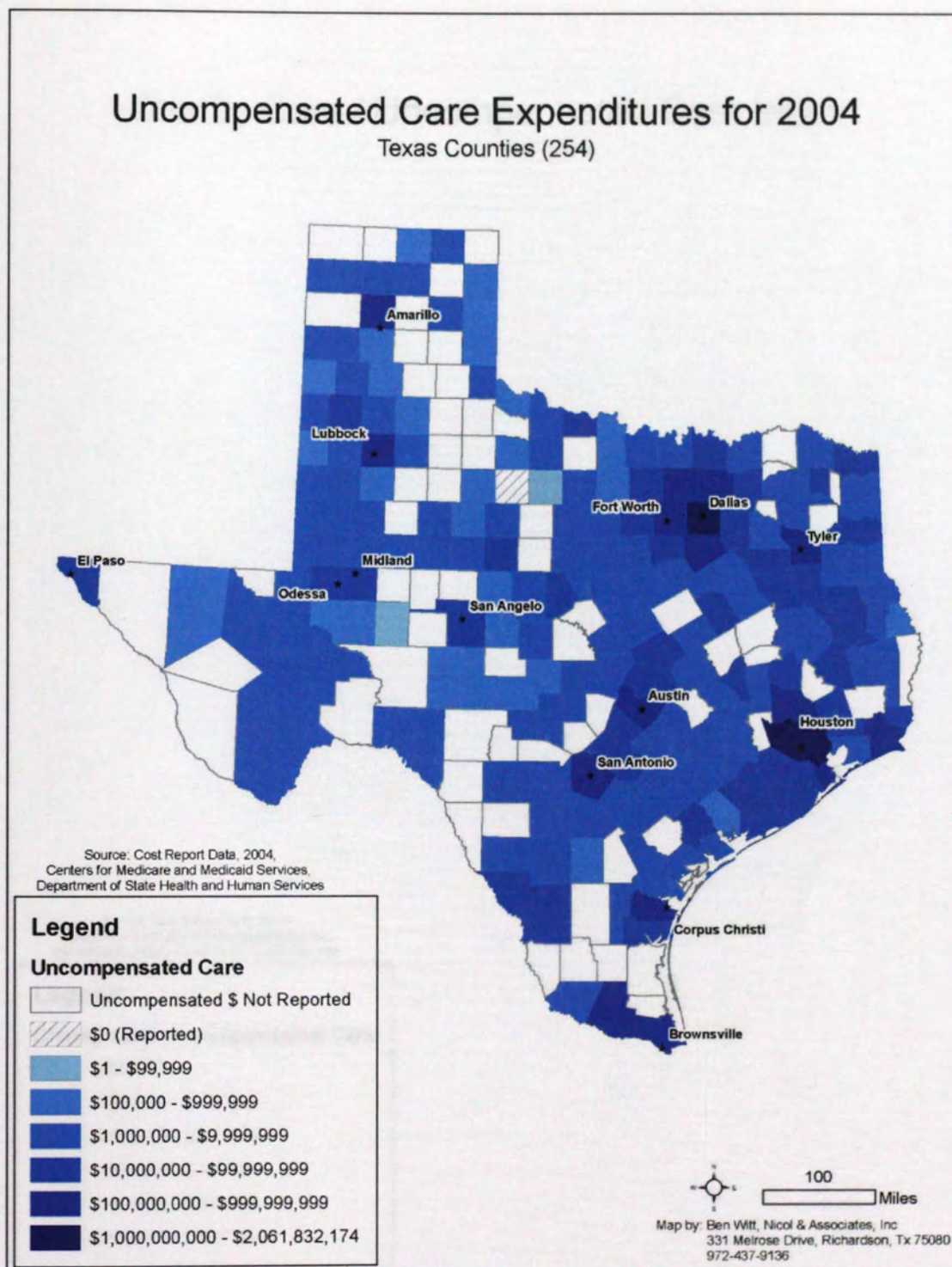


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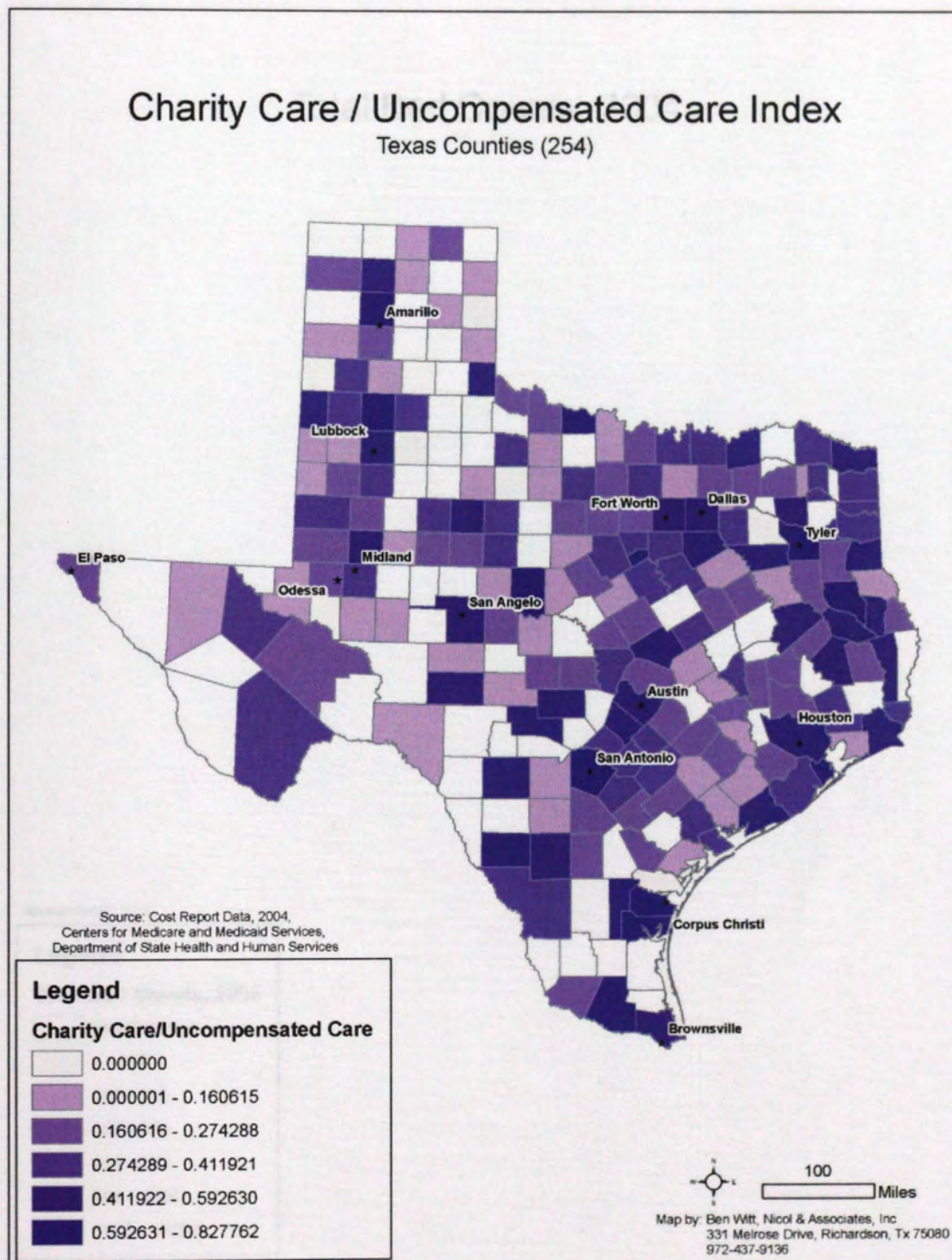


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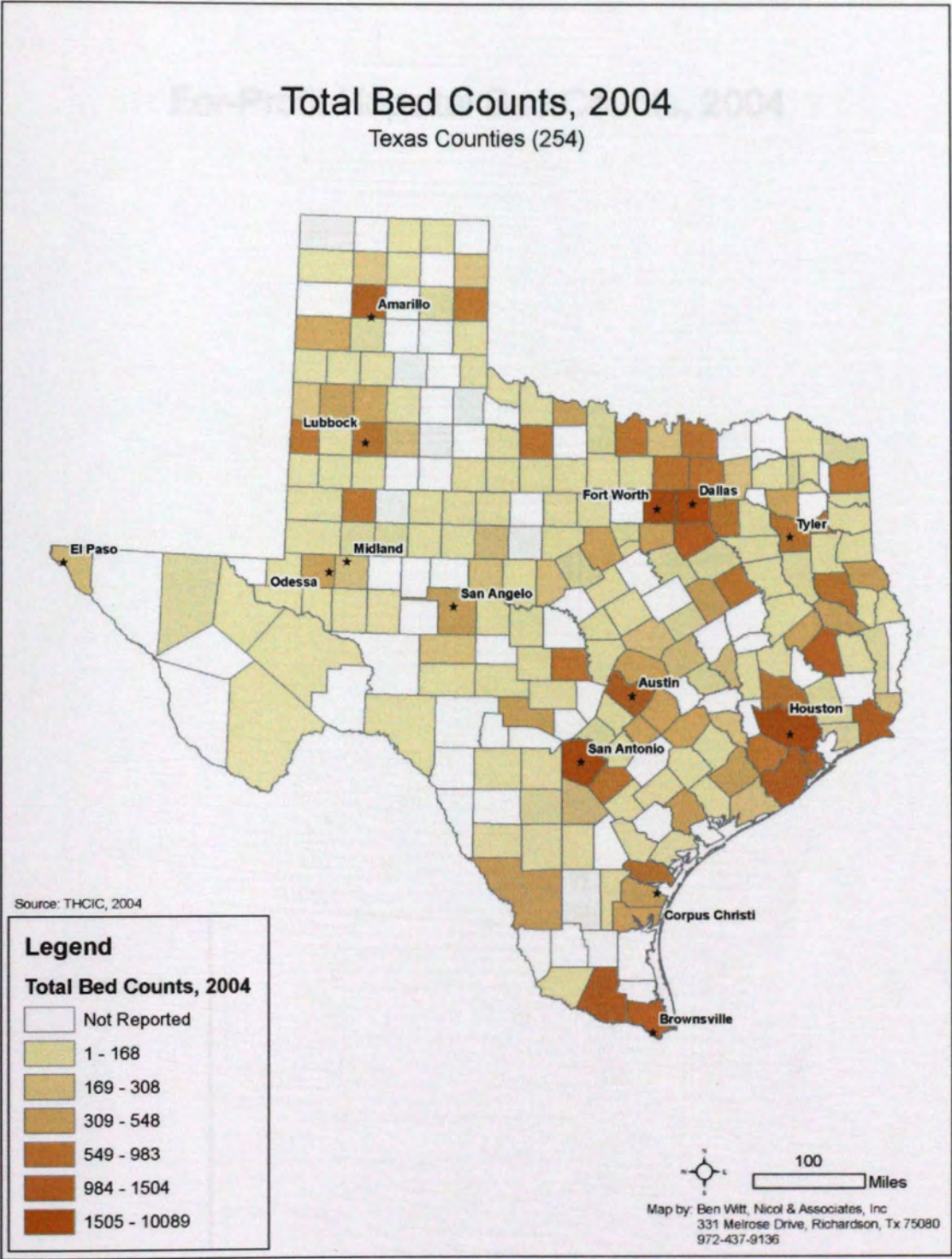


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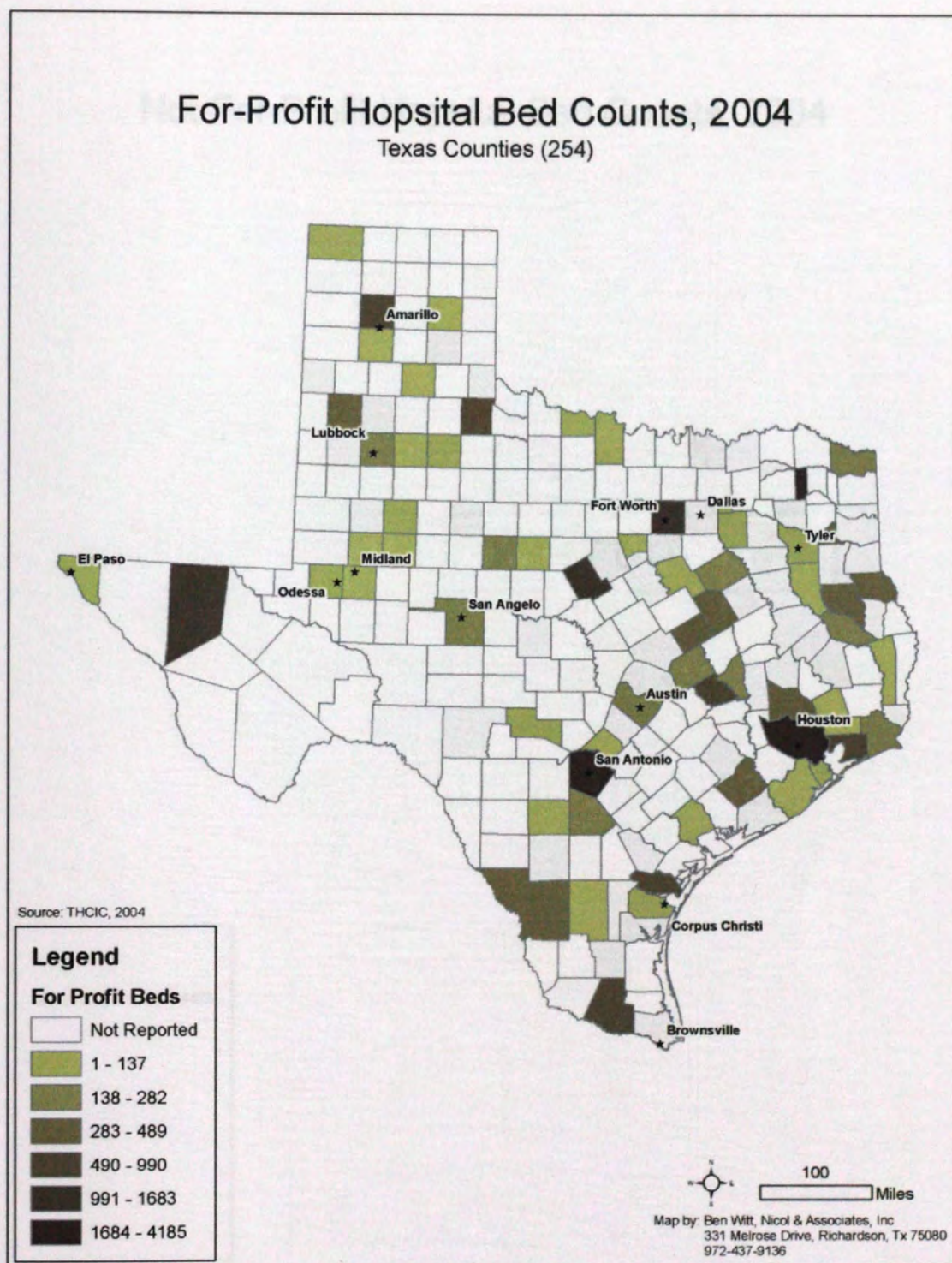


Figure 10.

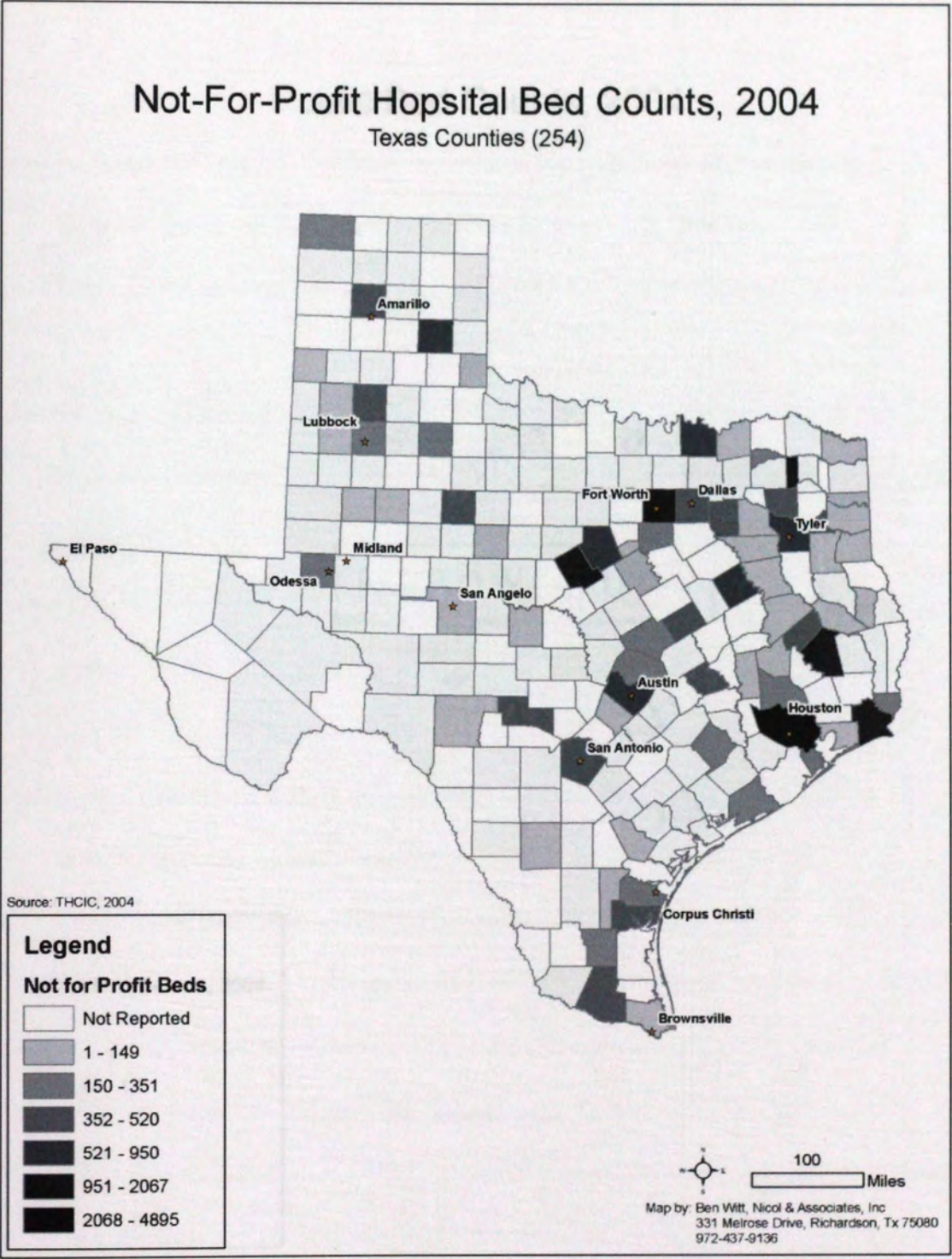
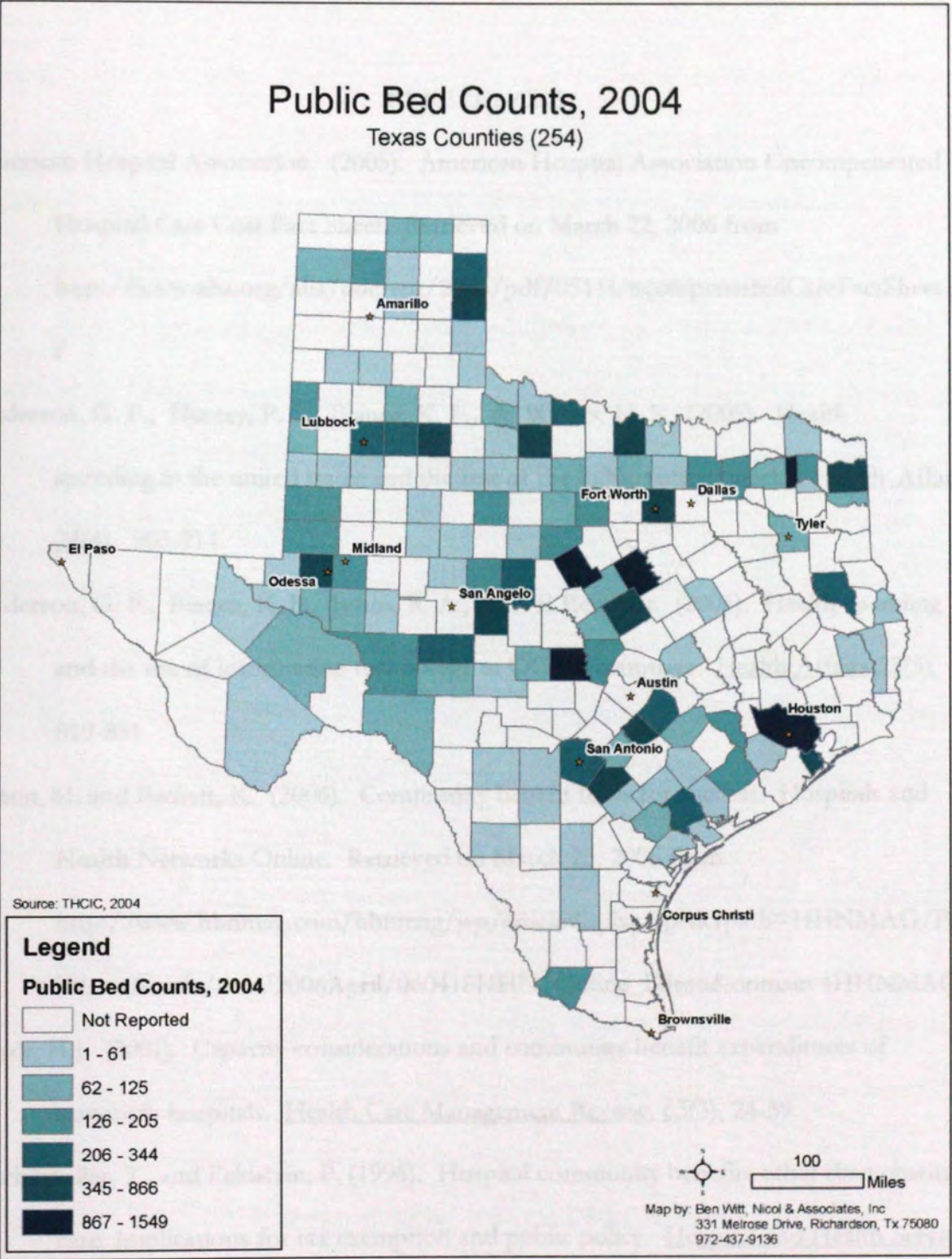


Figure 11.



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