



U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy



NURSING HOME OWNERSHIP TRENDS AND THEIR IMPACT ON QUALITY OF CARE

August 2009

Office of the Assistant Secretary for Planning and Evaluation

The Office of the Assistant Secretary for Planning and Evaluation (ASPE) is the principal advisor to the Secretary of the Department of Health and Human Services (HHS) on policy development issues, and is responsible for major activities in the areas of legislative and budget development, strategic planning, policy research and evaluation, and economic analysis.

ASPE develops or reviews issues from the viewpoint of the Secretary, providing a perspective that is broader in scope than the specific focus of the various operating agencies. ASPE also works closely with the HHS operating divisions. It assists these agencies in developing policies, and planning policy research, evaluation and data collection within broad HHS and administration initiatives. ASPE often serves a coordinating role for crosscutting policy and administrative activities.

ASPE plans and conducts evaluations and research--both in-house and through support of projects by external researchers--of current and proposed programs and topics of particular interest to the Secretary, the Administration and the Congress.

Office of Disability, Aging and Long-Term Care Policy

The Office of Disability, Aging and Long-Term Care Policy (DALTCP), within ASPE, is responsible for the development, coordination, analysis, research and evaluation of HHS policies and programs which support the independence, health and long-term care of persons with disabilities--children, working aging adults, and older persons. DALTCP is also responsible for policy coordination and research to promote the economic and social well-being of the elderly.

In particular, DALTCP addresses policies concerning: nursing home and community-based services, informal caregiving, the integration of acute and long-term care, Medicare post-acute services and home care, managed care for people with disabilities, long-term rehabilitation services, children's disability, and linkages between employment and health policies. These activities are carried out through policy planning, policy and program analysis, regulatory reviews, formulation of legislative proposals, policy research, evaluation and data planning.

This report was prepared under contract #HHSP23320084300EC between HHS's ASPE/DALTCP and the Harvard Medical School. For additional information about this subject, you can visit the DALTCP home page at http://aspe.hhs.gov/_/office_specific/daltcp.cfm or contact the ASPE Project Officer, Susan Polniaszek, at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C. 20201. Her e-mail address is: Susan.Polniaszek@hhs.gov.

NURSING HOME OWNERSHIP TRENDS AND THEIR IMPACT ON QUALITY OF CARE

David Stevenson, PhD
David Grabowski, PhD
Jeffrey Bramson, BA

Harvard Medical School

August 2009

Prepared for
Office of Disability, Aging and Long-Term Care Policy
Office of the Assistant Secretary for Planning and Evaluation
U.S. Department of Health and Human Services
Contract #HHSP23320084300EC

The opinions and views expressed in this report are those of the authors. They do not necessarily reflect the views of the Department of Health and Human Services, the contractor or any other funding organization.

TABLE OF CONTENTS

INTRODUCTION.....	1
DATA	3
METHODS	7
RESULTS	9
DISCUSSION.....	38
APPENDIX A. Data Tables for Report Figures	43

LIST OF FIGURES AND TABLES

FIGURE 1:	Ownership Types Over Time.....	13
FIGURE 2:	OMT Ownership Changes by Year	15
FIGURE 3:	OMT Management Changes by Year.....	15
FIGURE 4:	Management/Ownership Relationships.....	16
FIGURE 5:	Management Company--Relationship to Ownership.....	17
FIGURE 6:	Management Ownership Relationships.....	17
FIGURE 7:	NH Ownership Complexity	18
FIGURE 8:	NH Ownership Complexity--Levels Grouped.....	19
FIGURE 9a:	Senior Living Properties, 2000	20
FIGURE 9b:	Senior Living Properties, 2007	20
FIGURE 9c:	Texas Services, Keystone Services, 2000	21
FIGURE 9d:	P&M Enterprises, 2007	21
FIGURE 9e:	Mariner Health Care, 2000.....	22
FIGURE 9f:	Sava Senior Care, 2007.....	22
FIGURE 9g:	Texas Health Enterprises, 2000	23
FIGURE 9h:	Daybreak Healthcare/Ventures, 2007	23
FIGURE 9i:	Nexion Health, 2007.....	24
TABLE 1:	Top 20 Top-Level Nursing Home Owners Based on Texas OMT Data, 2007.....	9
TABLE 2:	Top 20 Nursing Home Chains in Texas Based on OSCAR Data, 2000-2007	11

TABLE 3:	Top 21 Final-Level Nursing Home Owners Based on Texas OMT Data, 2007.....	14
TABLE 4a:	Partnership Structure and Various Nursing Home Traits, 2000-2007	25
TABLE 4b:	Limited Liability Company Structure and Various Nursing Home Traits, 2000-2007	25
TABLE 4c:	Other Company Structure and Various Nursing Home Traits, 2000-2007	26
TABLE 5:	Description of Regression Models.....	27
TABLE 5a:	Regression of RN Staffing on Ownership Traits of Interest.....	28
TABLE 5b:	Regression of Nurse (RN+LPN) Staffing on Ownership Traits of Interest	29
TABLE 5c:	Regression of Aide Staffing on Ownership Traits of Interest.....	30
TABLE 5d:	Regression of Deficiencies of Ownership Traits of Interest.....	31
TABLE 5e:	Regression of Serious Deficiencies on Ownership Traits of Interest	32
TABLE 5f:	Regression of Percent Medicare on Ownership Traits of Interest	33
TABLE 5g:	Regression of Percent Medicaid on Ownership Traits of Interest	34
TABLE 6:	Top Real Estate Owners of Texas Nursing Homes, 2007	35
TABLE 7:	Nursing Home Traits Across Real Estate Status, 2007	37
TABLE A-1:	Ownership Types Over Time.....	43
TABLE A-2:	OMT Ownership Changes by Year	43
TABLE A-3:	OMT Management Changes by Year.....	43
TABLE A-4:	Management/Ownership Relationships.....	44
TABLE A-5:	Management Company--Relationship to Ownership.....	44

TABLE A-6:	Management Ownership Relationships.....	44
TABLE A-7:	NH Ownership Complexity	45
TABLE A-8:	NH Ownership Complexity--Levels Grouped.....	45

INTRODUCTION

The role of ownership in the provision of nursing home care has long been a challenging issue for policymakers and researchers. Historically, much of the focus in this area has been on for-profit providers, which have played a prominent role in the nursing home sector for decades. Nearly two-thirds of facilities in the United States currently operate on a proprietary basis, and many of these facilities operate as part of multi-facility chains. In the context of recurring quality of care problems, the role of for-profit companies has often been investigated as a possible contributing factor, and a large body of research has compared care delivered by for-profit and not-for-profit facilities.¹

In recent years, the simple description of “for-profit” or “not-for-profit” has become less useful in describing nursing home ownership. For instance, as detailed in a 2007 account in the *New York Times*, nursing homes can use complex management structures that might obscure the entities responsible for delivering care and hamper the ability of residents and families to seek recourse through litigation.² Although the findings of the *Times* were presented in the context of exploring private equity investment in nursing homes, the ability to structure ownership in ways that separate real estate from operations and decentralize ownership across distinct sub-companies have relevance for the nursing home industry as a whole. In other words, knowing the proprietary status of a nursing home provider is insufficient to discern how organizational assets are structured and the operational approach of the company managing the delivery of nursing home services.

In the wake of the *New York Times* article, the immediate attention of Congressional policymakers and other stakeholders centered on private equity investment in the nursing home sector, specifically focusing on its impact on the quality of resident care. At the same time, policy attention to the issue played out in multiple state legislatures, as advocates and labor organizations raised concerns about the purchase of the nation’s largest nursing home chain, HCR Manor Care, by the private equity firm the Carlyle Group.³ Importantly, the empirical evidence of the quality impact of private equity investment in the nursing home industry has been mixed to date. Research by consumer advocates and labor union representatives found that staffing and quality decreased after private equity firms purchased nursing homes from national chains.⁴ In contrast, the Florida Agency for Health Care Administration reviewed the impact of similar transactions in the state of Florida and did not find a drop in quality

¹ Hillmer MP, Wodchis WP, Gill SS, Anderson GM, Rochon PA. Nursing home profit status and quality of care: Is there any evidence of an association? *Med Care Res Rev.* April 2005; 62(2):139-166.

² Duhigg C. At many homes, more profit and less nursing. *New York Times.* September 23, 2007; A1.

³ Heath T. Under pressure, Carlyle issues patient promise: Buyout of nursing-home chain sparks worries on staffing levels. *Washington Post.* October 22, 2007; D1.

⁴ Testimony before the U.S. House Committee on Ways and Means by Charlene Harrington and Arvid Mueller. November 15, 2007.

following facilities' purchase.⁵ Similarly, a review of these transactions nationally, conducted by this study's authors, did not find a negative impact of private equity purchase on nursing home quality of care.⁶ The same study emphasized that its findings presented an early snapshot only and that the long-term impact of these types of transactions could vary substantially depending on the organizational structures and capitalization of the resulting companies, the length of time the assets were held, and the exit strategies that were employed.

Perhaps reflecting the reality that for-profit investment, both privately and publicly held, will likely play a continued role in the nursing home sector, policymakers have focused increasingly on broader issues of ownership transparency and accountability. A key example of this attention is the re-introduction of the *Nursing Home Transparency and Improvement Act* by U.S. Senators Charles Grassley (R-IA) and Herb Kohl (D-WI) (companion legislation has been proposed in the U.S. House of Representatives). The proposed legislation seeks to increase transparency of and accountability for nursing home care through a variety of measures. Provisions include ownership-focused components such as requiring the Department of Health and Human Services (HHS) to identify entities that either have a significant ownership interest (greater than 5 percent) in a nursing home or that play an important role in its management, financing, or operations. In addition, provisions would equip the HHS to address corporate-level quality and safety problems in nursing home chains through development of a national monitoring program to analyze and address chain-wide issues.

Seeking greater understanding of the ownership structures of nursing homes, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) contracted with Harvard Medical School to study the trends in organizational structures of nursing homes and their impact on quality of care. This current work builds on previous research funded by ASPE. Specifically, ASPE funded a study of nursing home liability issues and a study on the divestiture and corporate restructuring of national nursing home chains in response to liability issues and payment changes. This study furthers the knowledge base from the previous two studies by describing specific corporate structures and the relationship between ownership trends and indicators of nursing home quality. The overall objectives of this project were: (1) to describe the corporate structures of nursing homes and trends over the past decade; and (2) to analyze the effect of corporate structure on quality of care and staffing in nursing homes.

⁵ Florida Agency for Health Care Administration. *Long Term Care Review: Florida Nursing Homes Regulation, Quality, Ownership, and Reimbursement*. Tallahassee, FL: AHCA; 2007.

⁶ Stevenson DG, Grabowski DC. Private equity investment and nursing home care: Is it a big deal? *Health Aff (Millwood)*. September-October 2008; 27(5):1399-1408.

DATA

The key lynchpin in researching and enforcing policy directives around nursing home ownership is having timely, detailed data about ownership structures and management arrangements. Importantly, federal datasets are not yet able to facilitate these tasks adequately. *Online Survey and Certification Automated Record (OSCAR) data* offer only cursory information about ownership, including for-profit and chain status and, where relevant, the name and organizational type of the parent company. Even the very straightforward task of identifying facilities with the same chain owner can be difficult with OSCAR data, as this field in the database is an open-ended text-field subject to slight variations and errors in data entry. In addition, the *Provider Enrollment, Chain, and Ownership System (PECOS) data* have faced multiple implementation challenges to date and have not yet fulfilled their purpose to provide detailed information on ownership structures and changes over time. PECOS data may ultimately fulfill their potential and prove to be a reliable national tool for ownership-related inquiry. At this time, however, the most viable option to pursue these types of questions is to seek ownership data from state licensure agencies, which play an important regulatory role in nursing home oversight.

To this end, we obtained detailed nursing home ownership data from the State of Texas. Based on our assessment, the State of Texas and a few other states (e.g., New Jersey, Illinois, and California) seemed to be ahead of the curve in its nursing home tracking systems, potentially offering a useful example for federal policymakers and other states to consider. In particular, the *Ownership Management and Tracking System (OMT)*, maintained by the Texas Department of Health, includes information on ownership of nursing homes multiple layers deep to the level of the individual person. These data, available back in time, are collected when nursing home entities apply for licensure (at inception and every two years subsequently) and when ownership structures change. The data also include information about management companies used by operators (e.g., for staffing or payroll) as well as limited, cross-sectional information about property ownership, an emerging area of interest for policymakers.

Using these data, we sought first to understand the evolution of Texas nursing home ownership structures over time, including the use of limited liability structures (e.g., limited liability companies or LLCs); the role of management companies; and the overall complexity of corporate structures. Second, we sought to understand the relationship between corporate structure and a range of facility characteristics, including quality of care and staffing.

The core analyses in this project were conducted based on a comprehensive dataset compiled from the Texas OMT dataset and merged with data from the OSCAR system. The former is managed by the Texas Department of Health, while the latter falls under federal jurisdiction in the Centers for Medicare and Medicaid Services (CMS). The design and roles of these data sources are discussed below.

OMT Data. The Texas OMT system is a large database that summarizes the ownership and management details of health facilities in Texas over time, roughly from 2000 through 2007. Analyses of this dataset focus on two types of entries: *facilities*, which refer to the brick-and-mortar buildings in which nursing home services are provided, and *entities*, which are the businesses and people with controlling stakes in either the ownership of the facility's license or in the management of these facilities. The roles of these entities are complex and are explained in the table descriptions below, as well as in the section on the compilation of the master dataset.

The OMT data were obtained through a Data Use Agreement with the State of Texas and were accessible in Microsoft Access as a series of tables that are linked together through various facility and entity identifiers. Our analyses used seven of the available tables:

1. Facility Demographics -- Shows the address, contact and licensure information for all Texas facilities. This table also categorizes the facilities based on type (Nursing, Assisted Living, Intermediate Care Facility for the Mentally Retarded, or Unlicensed), though our analyses were limited to nursing homes.
2. Facility Ownership -- Details the various controlling entities for each facility in the OMT database. Facility ownership refers specifically to ownership of the facility's license to operate (e.g., as a provider in the Medicare and Medicaid programs). Each entry is specific to the controlling entity and the ownership stake. For example, a facility with four separate controlling entities--such as, for instance, four companies that each owns a 25 percent stake--would have four entries only if the stake amounts were constant over the whole time range. If, however, the ownership stake of any of the controlling entities changed during the time range, each distinct stake amount for that entity would have its own entry. To facilitate the analysis, these ownership stakes (and the start and end dates of their incidence) are included in the table. These numbers generally sum to 100 percent at any given time, but due to errors in data accumulation and entry this is not always the case.
3. Facility Management -- Details the various managing entities for each facility in the OMT database. This table is analogous to that for facility ownership.
4. Hierarchy -- Explores the complex hierarchical arrangements of the entities listed in Table 2 and Table 3. In the previous two tables, only top-level owners and managers are listed, whereas this table shows the deeper levels of ownership. For example, if the owner of a nursing home was a limited partnership, only the name of that company would be shown in Table 2; each limited partner would be listed as a controlling party of that partnership in Table 4, however. Similarly, if a corporate structure had five branching levels of ownership, each of these entities would have its own entry in the hierarchy table. As with the other tables, each entry also has both the stake amount and the start and end dates. This allows identity down to the individual level. Importantly, the entire structure cannot be

seen from any individual entry. Thus, to explore the complete structure of any given entity, the entire file would have to be searched iteratively for every incidence of the various players in either the entity or controlling party columns. This process is explored in the Methods section.

5. Facility Provider Numbers -- Connects the OMT facility identifiers, which are specific to this database, to the Medicare provider IDs which are used in systems like the OSCAR. This table was used extensively for merging files.
6. Owner Table -- This table gives identifying and contact information for all of the entities of Table 2, Table 3 and Table 4. The table also categorizes each entity based on whether it is a person or business, as well as by its function, as in Table 7.
7. Type Codes -- Translates the controlling entity and entity type codes given in Table 4 and Table 6. For businesses, these codes generally referred to Limited Partnerships (LPs), Limited Liability Partnerships (LLPs) and Corporations (LLCs), General Partnerships (GPs), sole proprietorships, for-profit corporations, not-for-profit corporations, etc. For individuals, these tended to be general partners, limited partners, presidents and chairmen of the board, major stockholders, directors and secretaries, etc. Detailing the features of these different ownership types is beyond the scope of this report; however, it is important to note that some of these structuring options have varying degrees of liability for controlling entities. Sole proprietorship has the greatest liability for the owner, as this business arrangement is characterized by the owner and business being recognized as the same entity (i.e., profits and losses are classified as personal taxes, not corporate taxes, and the normal rules about corporate liability not extending to individual owners do not apply). In contrast, for-profit and not-for-profit corporations are distinct legal entities from their shareholders. For-profit and not-for-profit corporations refer to the corporate structures and not solely to the proprietary status. For instance, a for-profit nursing home may use a for-profit corporate structure, an LLC structure, an LP structure, etc. At the same time, however, under a for-profit corporate structure, liabilities from part of the corporation (e.g., a nursing home) extend to the corporation as a whole. GPs--a group of 2+ general partners who all share the risks, liabilities, debts and profits of a company--share some of the same features of sole proprietorship. However, in the Texas data, this corporate structure is used almost exclusively in combination with the limited partnership model. The LP model limits the liability of investors up to their level of investment, and they receive a dividend-like payment instead of a percentage of the profits. The LLP model is used rarely in the Texas data. Unlike a limited partnership where there are some GPs and some LPs, the LLP structure limits the liabilities of all partners. Each investor takes an active role in management, but they are each insulated from any liability due to misconduct by another member. Finally, the LLC is an entity with features of both a corporation and a partnership (especially a LLP). Like a corporation, LLC owners have limited personal liability for the debts and actions of the LLC. Like a

partnership, the LLC provides management flexibility and the benefits of pass-through taxation.

Real Estate Data. A separate Texas dataset shows, for each facility, the owner of the brick-and-mortar facility and the land on which the facility is located, which often differed from the owner of the facility's license itself (i.e., the licensee and the real estate owner were not always the same). Unlike the tables in the main OMT database, this table provided information only on the most recent owner (i.e., it is cross-sectional), so these data were not useful for our longitudinal analyses. This table also shows the type of real estate ownership as a series of dummy variables: lease, sublease, mortgage, lien, note, deed of trust, warranty or other. Some of these correspond to ownership, while others refer to renting.

The real estate file is imperfect in two main respects. First, several facilities have more than one owner listed even though the table is supposedly designed to show a single top-level owner. Second, the categories listed above are not mutually exclusive, thus making it very complicated to designate an entity, as we intended, as either an owner or a renter.

OSCAR Data. For several of our analyses, we merged OMT data for facilities with widely-used data from the OSCAR system. OSCAR contains survey and certification data for all Medicaid and Medicare-certified facilities in the United States.⁷ Collected and maintained by CMS, the OSCAR data include information about whether homes are in compliance with federal regulatory requirements. Nursing homes submit facility, resident, and staffing information. Deficiencies are entered into OSCAR by survey agencies when facilities are found to be out of compliance with federal regulatory standards (regular inspections occur every 9-15 months; complaint investigations can occur at any time). Each deficiency is categorized into one of 17 areas and rated by scope and severity (on an ascending scale ranging from "A" to "L" in order of increasing severity). OSCAR data have important limitations that should be noted, including a lack of explicit auditing procedures of facility-reported information, potential variation in the survey process across states, and possible under-reporting of serious quality problems.^{8,9}

⁷ For more information on the OSCAR database, see http://www.longtermcareinfo.com/about_oscar.html.

⁸ U.S. Government Accountability Office. *Federal Monitoring Surveys Demonstrate Continued Understatement of Serious Care Problems and CMS Oversight Weaknesses* (US GAO-08-517). Washington, DC: GAO; 2008.

⁹ U.S. Institute of Medicine. *Committee on Improving Quality in Long-Term Care*, Wunderlich GS, Kohler PO. *Improving the Quality of Long-Term Care*. Washington, DC: National Academy Press; 2001.

METHODS

Layout of the Master Database. The final database is designed primarily around the OSCAR observations, which originally has a single entry for each survey of each facility. In the final version, we expand the OSCAR such that every entity that has a substantial (at least 5 percent) stake of either the ownership or management (or both) has its own entry for each survey, giving a facility-survey-entity structure. Unlike in the original OMT tables, however, only the final owners are described here--in other words, the GP would not show up, but instead each partner would have its own entry. Each observation includes several of the most important OSCAR variables, which are shown in later tables, as well as the name and category information for the entities just described. Furthermore, we include the total percentage of the management and ownership that these entities control, and the number of levels deep that such control exists--from 1 to 7, as denoted in the Hierarchy description of the Data section. Finally, for each facility survey we generate variables explaining the average complexity level (number of layers deep), whether the management and ownership companies are controlled by the same people, and the type of real estate arrangement that exists.

File Preparation. OSCAR file preparation primarily consisted of abridging the dataset by limiting it to Texas facilities in operation from 2000 forward. Some additional variables were generated from existing data. These included occupancy levels, a count of the number of g-level deficiencies, a sum of the total number of facilities owned by a particular chain in any given year, and nurse staffing based on full-time equivalents (FTEs) per resident. Finally, we manually cleaned the names of the chains, which often varied substantially among data sources and entry.

For the Facility Ownership (OMT Table 2), Facility Management (OMT Table 3) and Hierarchy (OMT Table 4) files, substantial data cleaning was necessary due to data entry errors. For example, many ownership incidences had durations of -1, 0 or 1 day, often indicating a placeholder entry while other changes were being made; all such entries had to be deleted and the corresponding true entries manually corrected. Duplicate entries were deleted, and missing entries were often generated based on a complex series of decision rules.

The remaining OMT files required little internal cleaning, although much preparation was still required to allow for the proper merging of these files to the OSCAR. Even though Medicare IDs were provided in the OMT Facility Provider Numbers file (Table 1), this field alone contributed to a mere 50 percent merge rate. A later file provided by the OMT office gave some additional help, but ultimately we had to attempt an unreliable text-field merge based on address information. We attempted four separate merges (in decreasing order of priority) based on combinations of facility name, address and zip code: all three, just name and address, just address and zip, and just name and zip. These processes yielded a 90 percent merge rate overall.

Dataset Construction. As mentioned earlier, OSCAR data were the core of the master data file. To the base OSCAR file, we added the edited versions of OMT Table 2 and Table 3, such that the top-level owners and managers of each facility were entered. By design, each of these top-level entities, which ranged in frequency from one to six, was marked by a separate entry. The merge was done through the facility ID information described in the above section. Overall, the merge had an approximately 90 percent success rate. The homes that did not merge correctly did not significantly differ from those that did and were discarded from further analysis.

Merging the Hierarchy file was a complex exercise, as its original form had no direct way of linking a top-level entity to its final controlling entities--each entry, as described above, only links two adjacent ownership levels (1 to 2, 4 to 5, etc.). As such, our first step was to iteratively expand each top-level entry from the previous step to include all of its subsequent owners; this was done through a loop command that merged based on entity ID. Ultimately, the process created one entry for each final branch of the ownership tree. Because our master database required only the top-level and final-level entities, all connecting steps were removed for simplicity. Finally, since many individuals owned pieces of multiple higher-level ownership entities, ownership stakes were summed for each top-level/final-level combination, while those with cumulative shares less than 5 percent were ultimately dropped. Obvious outliers and errors (those with stakes >125 percent) were tagged and disregarded from subsequent analyses. These steps were done separately, but identically, for both ownership and management.

The next merge involved adding the real estate information based on the OMT facility IDs. There was near complete merge success for these two datasets since both came from the OMT office. Nonetheless, the target file was longitudinal while the real estate file was cross-sectional, thus causing a loss of some information in the process. Therefore, each facility had a single real estate entity based on the most recent information.

The final two merges consisted of adding coding information from the Type Codes and Owner files. The former, merged by the codes themselves, helped to classify the entities according to their role in the organization, as explained above. The latter, merged through the entity IDs, gave provider names and basic information about all the top-level and final-level entities contained within. Both of these processes had 100 percent success due to the identical origins of the merging and target files.

A final variable was generated to express the relationship between the ownership and managing entities. Three classifications were possible: Self-Managed, meaning that no managing company was hired to run the facility; Separate Owner, implying the ownership and management entities were separate; or Same Owner, meaning the owner and manager could reasonably be thought of as the same or connected parties. This final designation was given if at least one entity had a 10 percent or greater stake in both aspects of the nursing home.

RESULTS

Facility-Level or Chain-Level Information. Based on the master file created above, we generated descriptive tables to summarize the available data. First, we sought to list the owners of the largest number of nursing homes in Texas. This can be done two ways: first, through the top-level controlling entity provided by the OMT data (Table 1), which is shown for the most recently available data; and second, by the multi-facility organization field of the OSCAR (Table 2), which is presented by year.

TABLE 1: Top 20 Top-Level Nursing Home Owners Based on Texas OMT Data, 2007				
Rank	Company	Number of Facilities	Beds	Type
1	Senior Living Properties	50	4530	Limited Liability Company
2	Pyramid Healthcare Corporation	10	999	For-Profit Corporation
3	Advanced Living Technologies	7	737	Not-For-Profit Organization
4	Evangelical Lutheran Good Samaritan Society	6	502	Not-For-Profit Organization
5	State of Texas Veterans Land Board	6	960	State
6	HCRA of Texas	6	779	For-Profit Corporation
7	Pinnacle Health Facilities	6	1004	Limited Partnership
8	Four Seasons Nursing Centers Inc.	5	690	For-Profit Corporation
9	Senior Care Consultants Inc.	5	809	For-Profit Corporation
10	Living Centers of Texas Inc.	5	621	For-Profit Corporation
11	Conifer Care Inc.	5	459	For-Profit Corporation
12	Grace Care of Texas Inc.	5	616	For-Profit Corporation
13	Missionary Baptist Foundation of America	5	348	Not-For-Profit Organization
14	Senior Care Management	5	573	For-Profit Corporation
15	Honor Services Inc.	4	424	For-Profit Corporation
16	Buckner Retirement Services	4	226	Not-For-Profit Organization
17	Diversicare Leasing Corporation	4	320	For-Profit Corporation
18	BMW Healthcare Inc.	3	524	For-Profit Corporation
19	Southwest LTC	3	450	Limited Partnership
20	Christian Care Centers Inc.	3	407	Not-For-Profit Organization

SOURCE: Texas Ownership Management and Tracking Data (OMT).

In Table 1, perhaps the most interesting feature is the absence of many large national chains operating in the Texas market, as well as the small number of facilities in the top ownership entities in the Texas market. Indeed, only two entities have ten or more facilities. The primary reason for these features is that many chains use a top-level ownership structure that is a facility-level company, as opposed to a chain level company. That is, each facility is technically its own company (e.g., an LLC), even though it is also own and managed under a larger multi-facility organization. The exception in the list is Senior Living Properties which operates as chain level company by creating a limited liability entity that owns all the nursing homes. Other large chain companies changed to a facility-level structure by creating a limited liability structure for each nursing home. This becomes clearer in the context of the corporate structure

figures (Figures 9a-9i). The other top-level owner structures are for-profit corporations, not-for-profit corporations, and LPs.

Information in Table 2 is from OSCAR and is based on facility self-reported information on the multi-facility organization affiliation provided during the annual survey. The information provides context for where to focus analyses of the OMT data. The top 20 multi-facility organizations are listed for each year from 2000 to 2007. Unfortunately, end-of-year 2007 facility numbers from OSCAR are not available to us, as we only have the first two quarters of data from that year; however, the trends from earlier in the decade were consistent over time. These tables demonstrate the large amount of change within the top 20 companies in Texas between 2000 and 2007. A large portion of this change is due to sales, while some is due to restructuring. Mariner Health Care/Sava Senior Care demonstrates this trend over time. Mariner Health Care owned 62 nursing homes in 2002; Mariner went through a bankruptcy and was purchased in 2004 by a private equity firm, North America Senior Care. Beginning in 2005, these facilities transitioned to operate under the name of Sava Senior Care, and the conversion was completed in 2006. At that time, Sava operated 47 nursing homes in the Texas market according to the OSCAR data, with each being operated as a facility-specific limited liability entity. Sava does not show up on the top 20 top-level owners in the OMT list in Table 1, since the controlling entity of these facilities is at the facility level. Similarly, according to OSCAR data, Daybreak Healthcare operated 40 facilities in 2002 and by 2006 had 77. In growing its company, Daybreak was buying facilities from Texas Health Enterprises and others. Similar to Sava, Daybreak does not show up on the OMT list of top-level owners because Daybreak structured the company to have facility-level ownership instead of chain-level by creating a facility-specific limited partnership entity for each nursing home.

Corporate Structure and Ownership Type. Concurrent with the turnover among nursing home ownership is a change in the ownership types of Texas nursing homes. Figure 1 uses an ownership type field available in the OMT data to indicate whether facilities are owned by a for-profit corporation, not-for-profit corporation, LLC, GP, LP, LLP, or other (e.g., government owned) structure. As can be seen in the figure, the percent of facilities that use the for-profit corporate structure decreases over the study period (from 51 percent in 2000 to 28 percent in 2007), while the percent owned by an LLC and a partnership of some kind (the vast majority use the LP structure in particular) goes up substantially--from 12 percent in 2000 to 23 percent in 2007 for LLCs, and from 13 percent to 33 percent for partnerships. The incidence of facilities using the not-for-profit corporate structure, meanwhile, was relatively stable over the observation period. Both for-profit and not-for-profit facilities in Texas used structures such as LLCs and LPs, but for-profit facilities tend to employ these structures to a much greater extent (65 percent of for-profit facilities used either a LLC or LP structure in 2007, compared to 21 percent of not-for-profit facilities). Similarly, although chain and non-chain facilities used these alternate structures, chain facilities use them to a greater extent (66 percent of chain facilities used either a LLC or LP structure in 2007, compared to 48 percent of non-chain facilities).

TABLE 2: Top 20 Nursing Home Chains in Texas Based on OSCAR Data, 2000-2007					
2000	Chain Name	Number	2001	Chain Name	Number
1	Texas Health Enterprises	69	1	Texas Health Enterprises	60
2	Mariner Health Care	40	2	Senior Living Properties	45
3	Senior Living Properties	39	3	Mariner Health Care	45
4	Integrated Health Services	26	4	Integrated Health Services	34
5	Living Centers of Texas	19	5	Summit Care Corp	18
6	Columbia HCA Healthcare	18	6	Living Centers of America	16
7	Summit Care Corp	18	7	Living Centers of Texas	16
8	Living Centers of America	18	8	Pyramid Health Care	14
9	Cantex Healthcare Centers	13	9	Cantex Healthcare Centers	14
10	Autumn Hills Convalescent	11	10	Texas Partners LP	13
11	Texas Partners LP	11	11	Complete Care Services	12
12	Pyramid Health Care	11	12	Senior Care Consultants	9
13	Sunrise Healthcare	10	13	Ballantrae Healthcare	8
14	Healthcare Centers of Texas	8	14	Autumn Hills Convalescent Center	8
15	Keystone Services	7	15	Sunrise Healthcare	8
16	Paragon Health Network	7	16	Manorcare	8
17	Complete Care Services	7	17	Columbia HCA Healthcare	8
18	Senior Care Consultants	7	18	Preferred Care Inc.	6
19	Sun Healthcare Corporation	6	19	Advanced Living Technologies	6
20	BMW Healthcare	6	20	Evangelical Lutheran Good Samaritan Society	6
2002	Chain Name	Number	2003	Chain Name	Number
1	Mariner Health Care	62	1	Mariner Health Care	59
2	Senior Living Properties	46	2	Daybreak Healthcare	53
3	Daybreak Healthcare	40	3	Senior Living Properties	47
4	Integrated Health Services	30	4	Nexion Health	23
5	Nexion Health	21	5	Integrated Health Services	18
6	Senior Health Properties of Texas	16	6	Cantex Healthcare Centers	14
7	Manorcare	14	7	Pyramid Health Care	13
8	Pyramid Health Care	14	8	Manorcare	13
9	Ballantrae Healthcare LLC	14	9	Ballantrae Healthcare LLC	11
10	Summit Care	14	10	Senior Health Properties of Texas	11
11	Cantex Healthcare Centers	13	11	Living Centers of Texas	11
12	Living Centers of Texas	9	12	Senior Management Services of America	10
13	Regency Nursing and Rehab	7	13	Century Care	9
14	Keystone Services	7	14	Summit Care	9
15	Senior Care Consultants	7	15	Lyric Health Care Holdings	8
16	Triad Hospitals	7	16	Regency Nursing and Rehab	7
17	Memorial Hermann Healthcare System	6	17	Acquisition Corp	7
18	Centers for Long Term Care	6	18	Senior Center Consultants	7
19	Sun Healthcare Corporation	6	19	Fountain View	7
20	Century Care	6	20	Health of Texas Health Care and Rehab	6

TABLE 2 (continued)					
2004	Chain Name	Number	2005	Chain Name	Number
1	Daybreak Healthcare	71	1	Daybreak Healthcare	70
2	Mariner Health Care	54	2	Senior Living Properties	41
3	Senior Living Properties LLC	47	3	Nexion Health	22
4	Nexion Health	24	4	Sava Senior Care	22
5	Living Centers of Texas Inc.	16	5	Mariner Health Care	19
6	Senior Health Properties of Texas	13	6	Senior Health Properties	17
7	Pyramid Health Care	13	7	Cantex Healthcare Centers	13
8	Cantex Healthcare Centers	12	8	Centers for Long Term Care	11
9	Skilled Healthcare Group	11	9	Legacy Care Centers	11
10	Manorcare	10	10	Skilled Healthcare Group	11
11	Legacy Care Centers	9	11	P and M Healthcare Enterprises	10
12	THI Holdings	9	12	Pyramid Health Care	10
13	Century Care	8	13	Trans Health Inc.	9
14	Trans Health Inc.	8	14	Lyric Health Care Holdings	8
15	Health Mark Partners LLC	8	15	Manorcare	8
16	Senior Management Services of America	8	16	Southwest Long Term Care	8
17	Triad Hospitals Inc.	7	17	Senior Management Services of America	8
18	Lyric Health Care Holdings	7	18	Triad Hospitals Inc.	7
19	Regent Care Center	7	19	Health Services Management	6
20	Senior Care Consultants	7	20	Regency Nursing and Rehab Center	6
2006	Chain Name	Number	2007	Chain Name	Number
1	Daybreak Healthcare	77	1	Daybreak Healthcare	*
2	Sava Senior Care	47	2	Sava Senior Care	*
3	Senior Living Properties	43	3	Senior Living Properties	*
4	Nexion Health	26	4	Nexion Health	*
5	P and M Healthcare Enterprises	18	5	Cantex Healthcare Centers	*
6	Senior Health Properties of Texas	14	6	P and M Healthcare Enterprises	*
7	Cantex Healthcare Centers	12	7	Senior Health Properties of Texas	*
8	Skilled Healthcare Group	11	8	Fundamental Health	*
9	Manorcare	10	9	Skilled Healthcare Group	*
10	Preferred Care	10	10	Stone Gate Senior Care	*
11	Trisun Healthcare	10	11	Preferred Care	*
12	Southwest Long Term Care	9	12	Southwest Long Term Care	*
13	Pyramid Health Care	9	13	Pinnacle Health Facilities	*
14	Senior Management Services of America	9	14	Lyric Health Care	*
15	Centers for Long Term Care	9	15	Manorcare	*
16	Senior Care Consultants	9	16	Senior Care Consultants	*
17	Stone Gate Senior Care	8	17	Legacy Care Centers	*
18	Legacy Care Centers	8	18	Telesis	*
19	Fundamental Health	8	19	Senior Management Services of America	*
20	Lyric Health Care	8	20	THI Holdings	*

SOURCE: Online Survey and Certification Automated Record (OSCAR) data.

* Data available for only the first two quarters of 2007, however the trends from earlier in the decade were consistent over time.

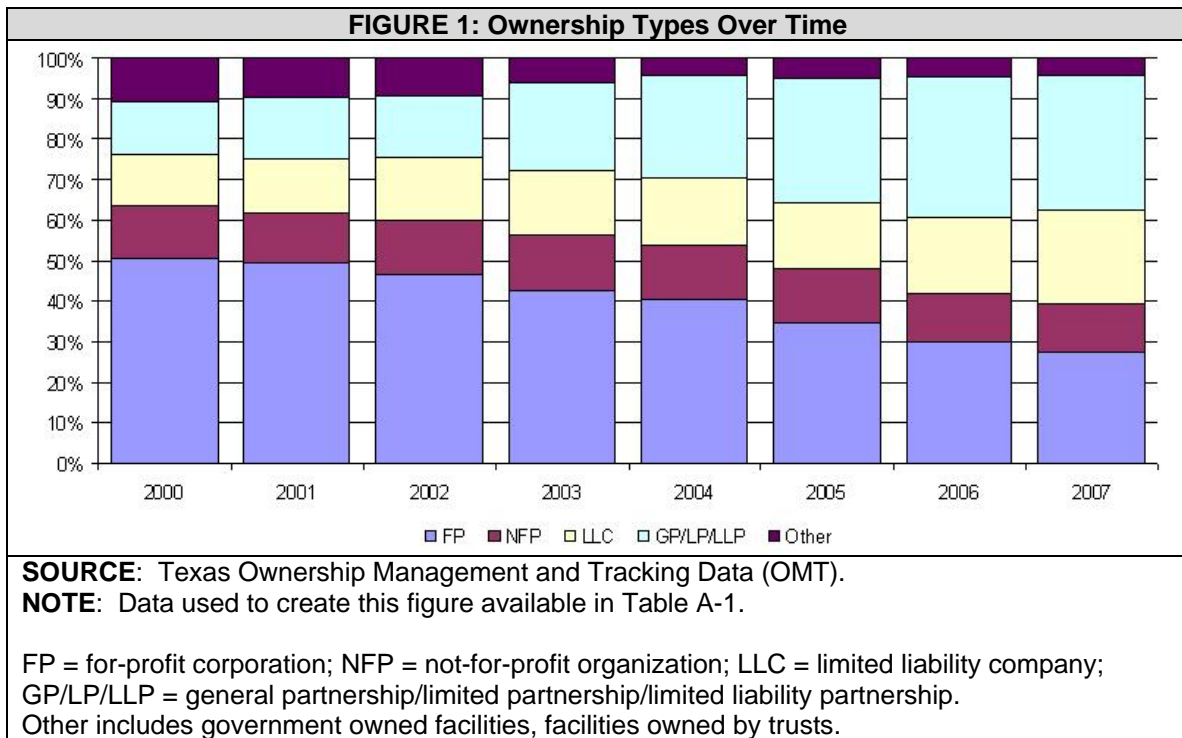


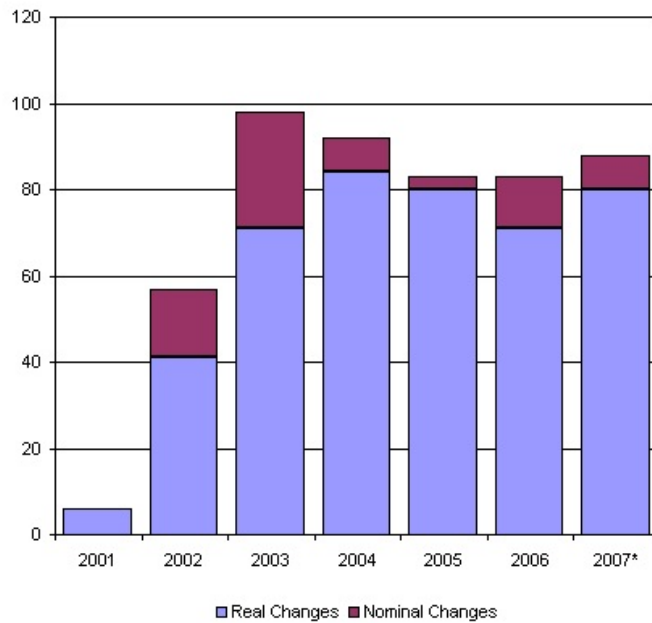
Table 3 presents 2007 final-level ownership based on the OMT data and shows the individuals with the greatest presence in the Texas nursing home market. As can be seen, the biggest players tend to be those individuals with large stakes in the biggest chains, with the exception of Onex American Holdings, a private equity company. The level of detail shown in this table far exceeds the capacity of OSCAR or even PECOS, which has no information on individual owners. Furthermore, this table demonstrates that OMT is capable of showing interesting chain interactions that OSCAR has no way of depicting. For example, in OSCAR, one could not see that *LG* and *MF* (the OMT data include individual names of investors, but we report only initials for these individuals throughout our report) have ownership stakes in both Sava Senior Care (which emerged from Mariner Health Care) and Trans Health Care (THI, which emerged from Integrated Health Services). These details offer a more detailed picture of the Texas nursing home market than previously available.

Rank	Name	Number of Facilities	Type	Associations
1	LG	78	Limited Partner	THI, Sava Senior Care
2	MF	78	Limited Partner	THI, Sava Senior Care
3	JG	60	General Partner	Daybreak Venture (Management)
4	DR	60	Limited Partner	Daybreak Venture (Management)
5	EB	60	General Partner	Daybreak Venture (Management)
6	SR	60	General Partner	Daybreak Venture (Management)
7	DM	60	Limited Partner	Daybreak Venture (Management)
8	BP	60	Limited Partner	Daybreak Venture (Management)
9	JE	50	Member	Senior Living Properties
10	LB	50	Member	Senior Living Properties
11	AE	50	Member	Senior Living Properties
12	PL	41	Limited Partner	None
13	MD	41	Limited Partner	None
14	FK	28	Sole Shareholder	Nexion Health
15	BB	28	Sole Shareholder	Nexion Health
16	DB	26	General Partner	Daybreak Venture (Management)
17	TS	25	Limited Partner	Pinnacle Health Facilities
18	Onex American Holdings	20	Limited Partner	None
19	RSH	18	Sole Member	PM Management/Trisun Health (Mgmt)
20	WD	18	Sole Member	PM Management/Trisun Health (Mgmt)
21	RP	18	Limited Partner	Southwest LTC

SOURCE: Texas Ownership Management and Tracking Data (OMT).

Ownership and Management Change. Another way of investigating changes in nursing home ownership and management is depicted in Figure 2 and Figure 3, which show the incidence of ownership and management changes by year, respectively. These figures, which derive from OMT data on both top-level and final-level entities, break down the total number of changes into those we consider real and those that are only nominal. The latter category includes changes at the top level of ownership or management that do not substantially change the core owners of the facilities. This classification is based on the presence of any entity with a 20 percent or greater stake in both the pre and post-change periods, which would indicate that the name and ID of the top entity changed while the core ownership did not. Most of the changes are indeed real, although many ownership changes and, to a lesser extent, management changes display nominal changes only. The highest rate of both real and nominal changes occurred in 2003. A full 28 percent of ownership changes were nominal changes where the top-level ownership or management changed but the core owners of 20 percent or greater stake did not change. Such occurrences are indicative of the desire to change ownership structure based on various legal and economic considerations.

FIGURE 2: OMT Ownership Changes by Year

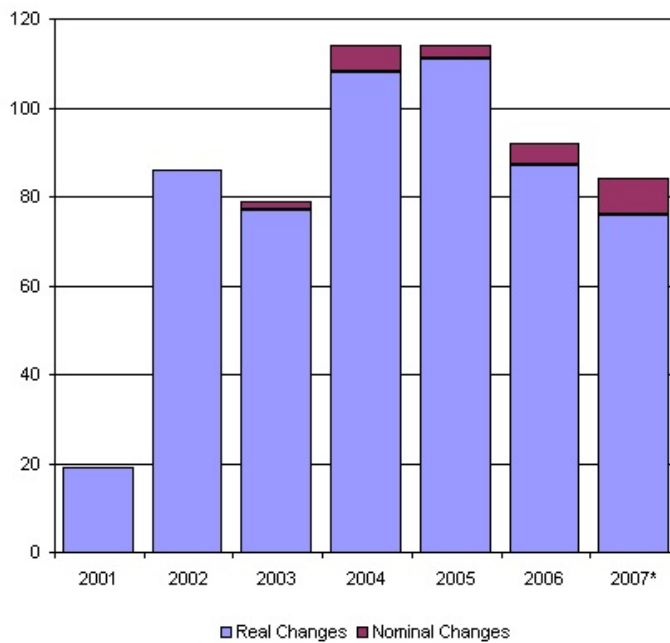


SOURCE: Texas Ownership Management and Tracking Data (OMT).

NOTE: Data used to create this figure available in Table A-2.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

FIGURE 3: OMT Management Changes by Year



SOURCE: Texas Ownership Management and Tracking Data (OMT).

NOTE: Data used to create this figure available in Table A-3.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

Use of Management Companies. The degree that nursing homes engage management companies is also directly interpretable from our dataset, according to the management-ownership relationship variable described earlier. Figure 4 shows a trend toward the use of other companies in the management of facility operations. Since 2000 the number of facilities that were self-managed has steadily decreased. Management companies are either “Separate Owner” entities or “Same Owner” entities, based on whether there is commonality in the core owners. As presented in Figure 5 and Figure 6, the use of a management company is only indicative of “outsourcing” about half the time. In 2007, for instance, around 50 percent of management companies were owned by the same entities that owned the facility. This rate has not been stable over time, but no clear trend has emerged.

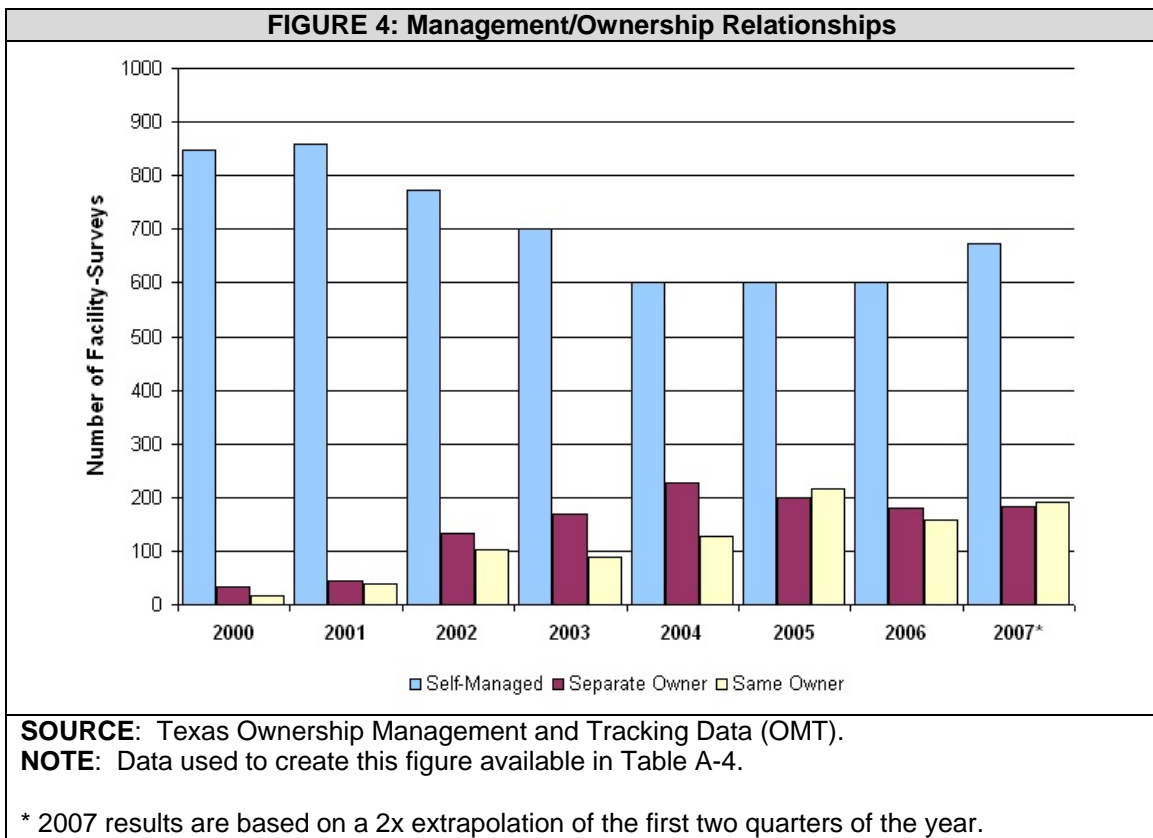
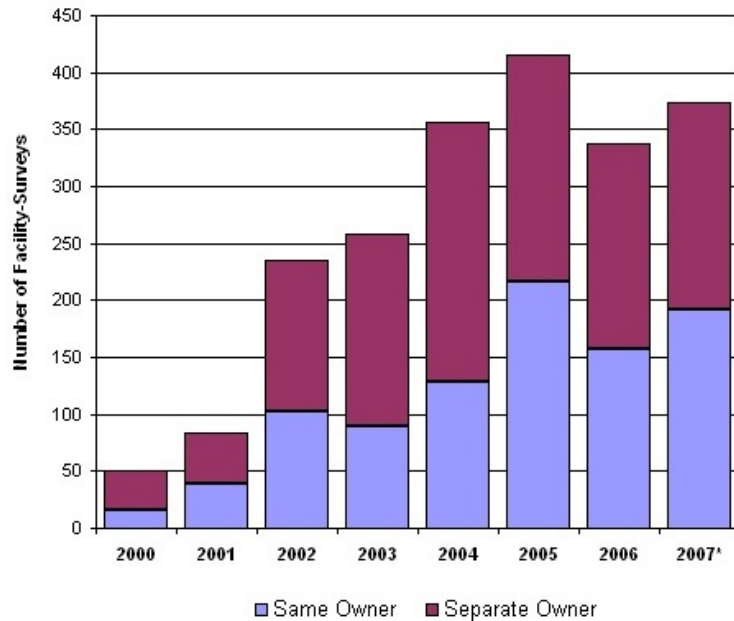


FIGURE 5: Management Company--Relationship to Ownership

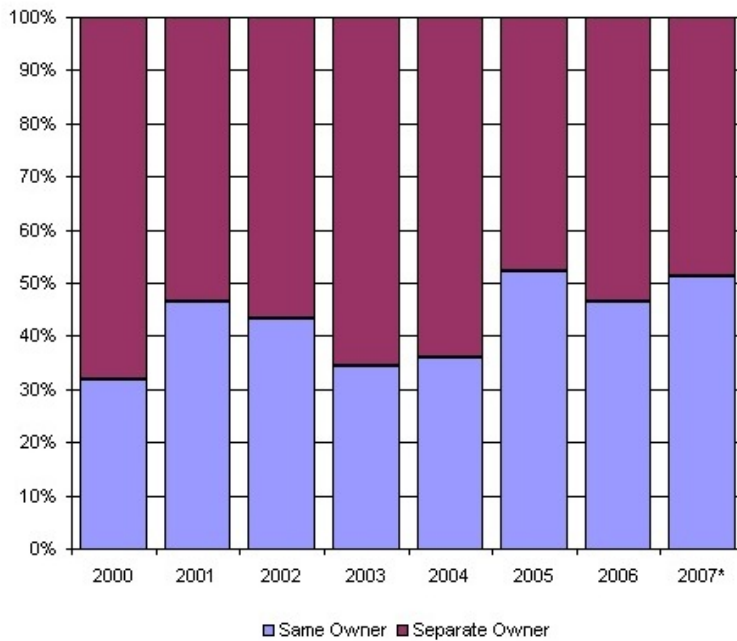


SOURCE: Texas Ownership Management and Tracking Data (OMT).

NOTE: Data used to create this figure available in Table A-5.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

FIGURE 6: Management/Ownership Relationships

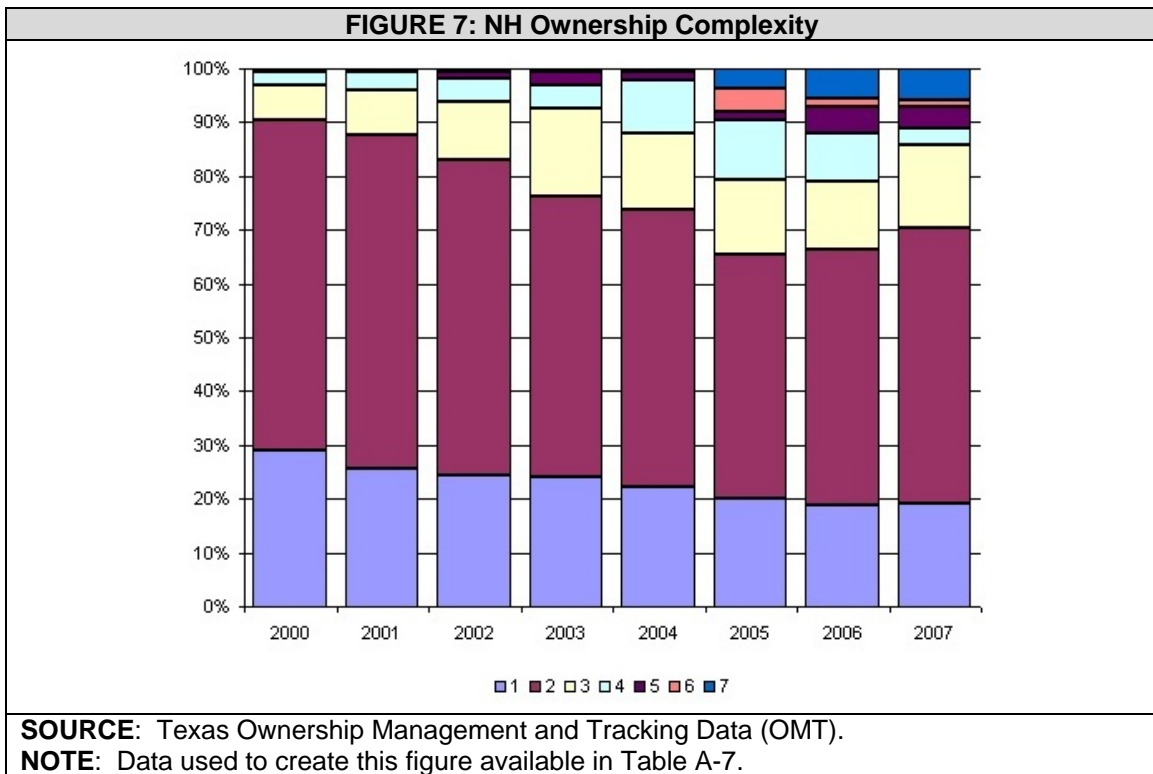


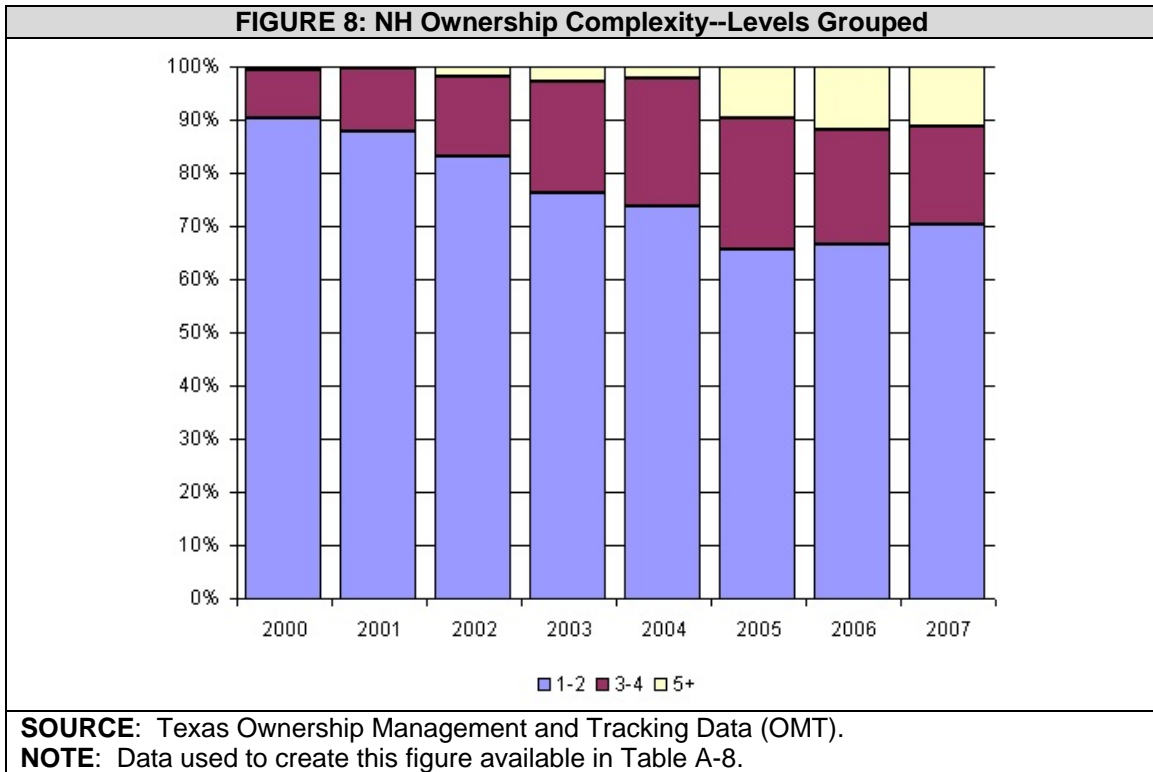
SOURCE: Texas Ownership Management and Tracking Data (OMT).

NOTE: Data used to create this figure available in Table A-6.

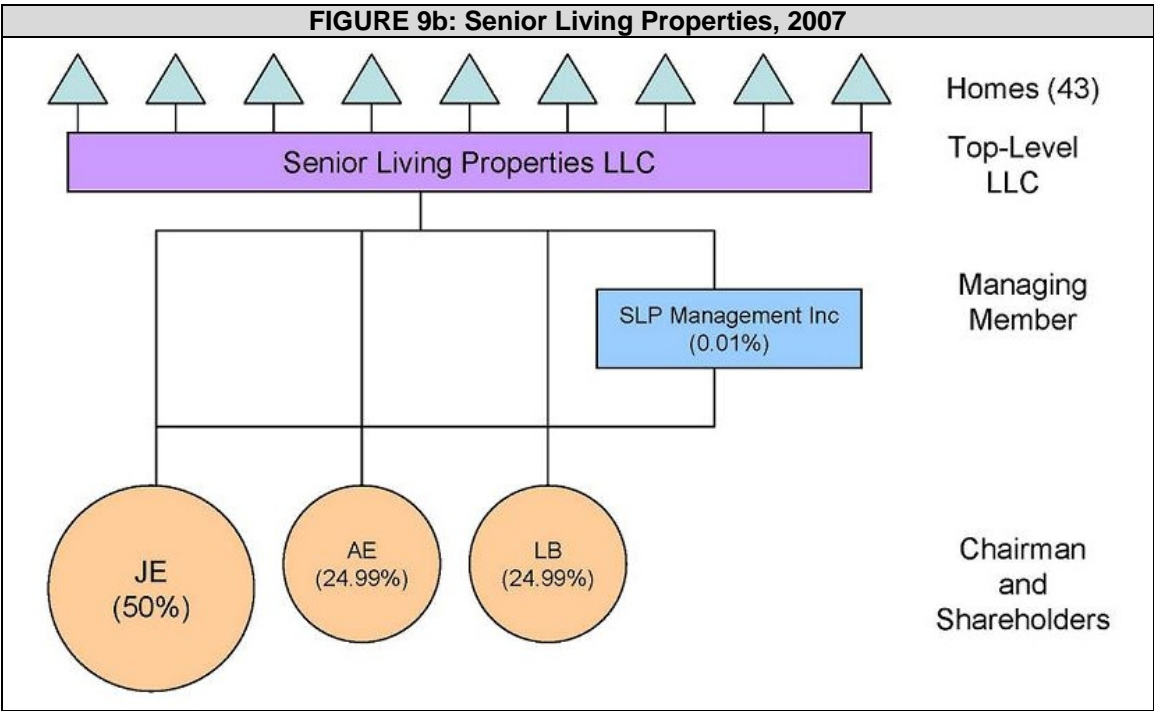
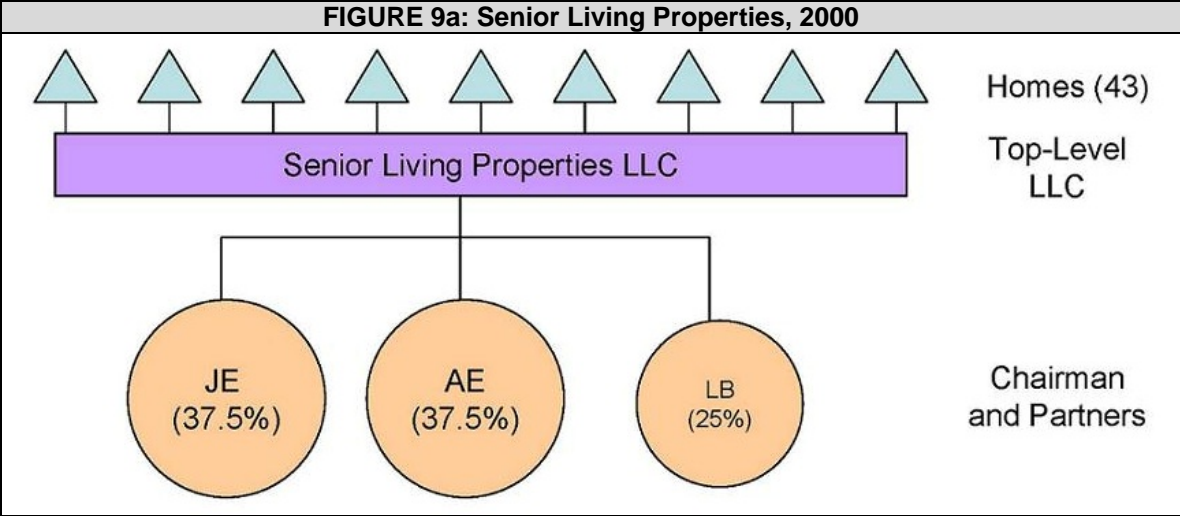
* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

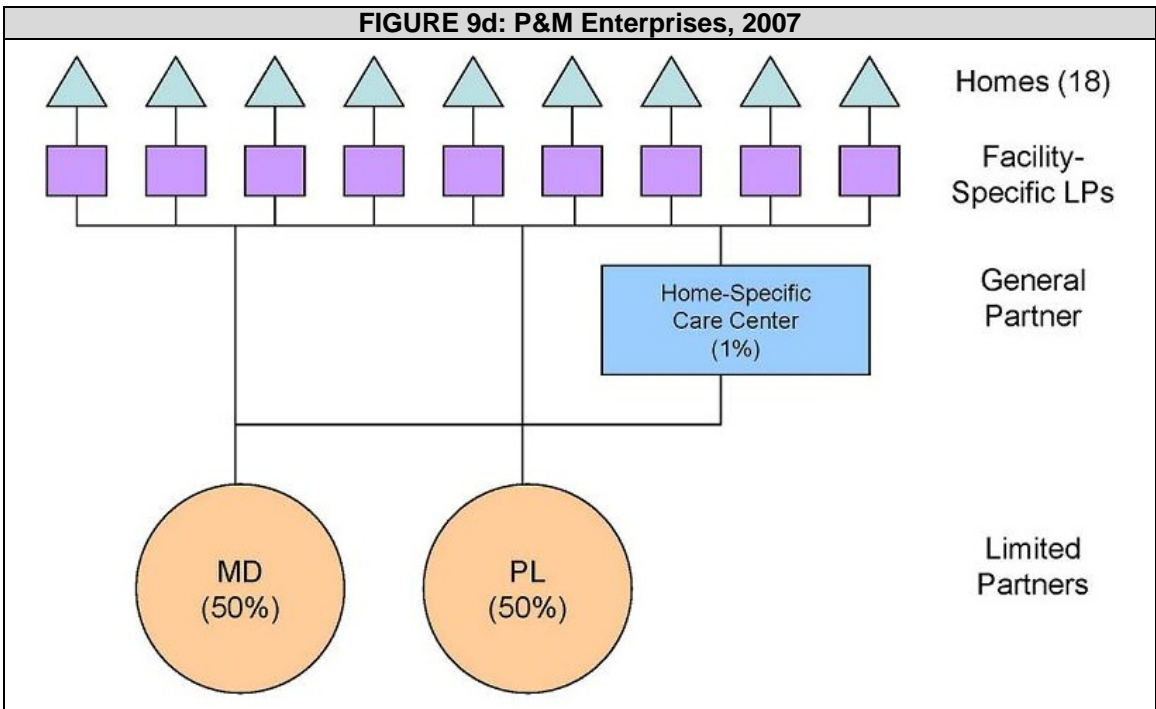
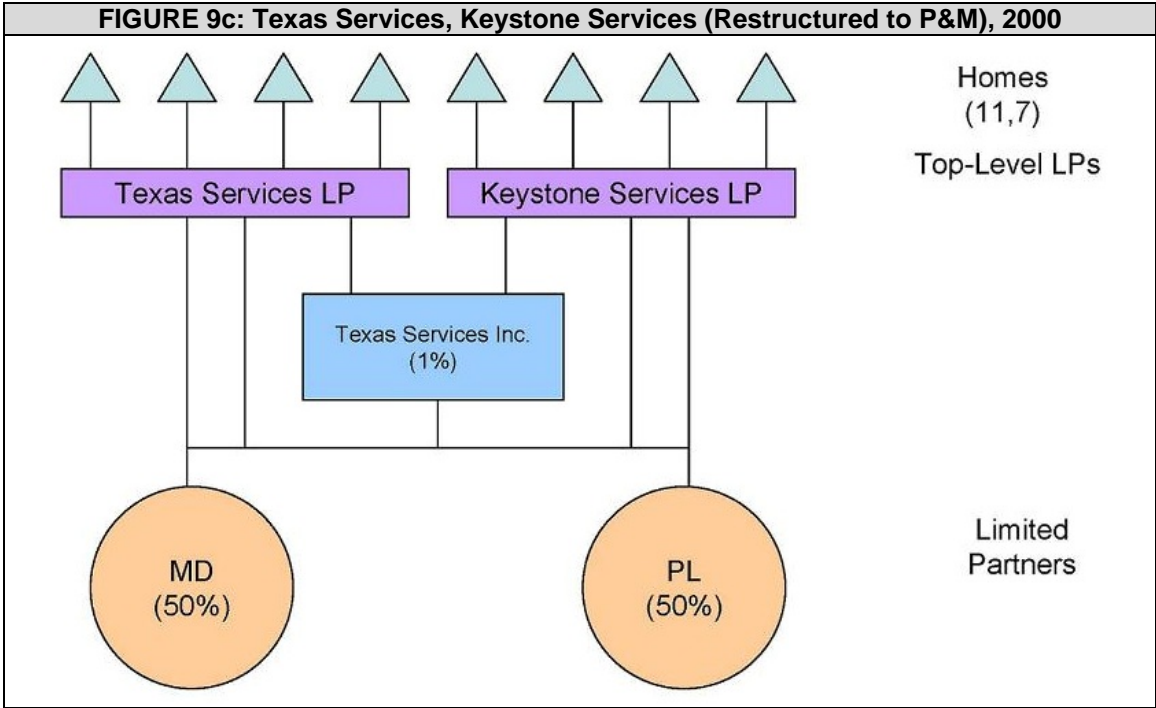
Increase in Ownership Complexity. The rate of Texas nursing home ownership changes, especially toward partnerships and LLCs, gives some sense of the changing corporate structures. However, these changes alone do not tell the whole story. Not only have there been major changes in ownership structure and management, the degree of complexity has greatly increased as presented in Figure 7 and Figure 8. We measure complexity as the number of levels deep at which the final entities maintain ownership stakes in nursing homes. As discussed earlier, this number ranged from one, if the top-level owner was the final owner, to seven, if the final owners were six layers deeper than the top-level (i.e., separated by multiple sub-entities). Note that if a facility had multiple final owners at different levels, the deepest level was recorded as the home's complexity. As demonstrated in these figures, complexity has been rising over time. The percent of individuals with ownership stakes in Texas nursing homes at least five levels deep increased from 0.6 percent in 2000 to 11 percent in 2007. Meanwhile, the percent of individuals with ownership at 1-2 levels deep went down from 90 percent in 2000 to 70 percent in 2007. Finally, although the most common option in any given year was two levels deep, final ownership at three levels deep is now almost as frequent as one level (whereas in 2000 there was a 7-29 percent split); the more complex levels have grown from almost nothing to being a small minority of facilities. Put differently, the overall level of complexity has increased from final ownership being almost two levels deep to final ownership being three levels deep, on average.

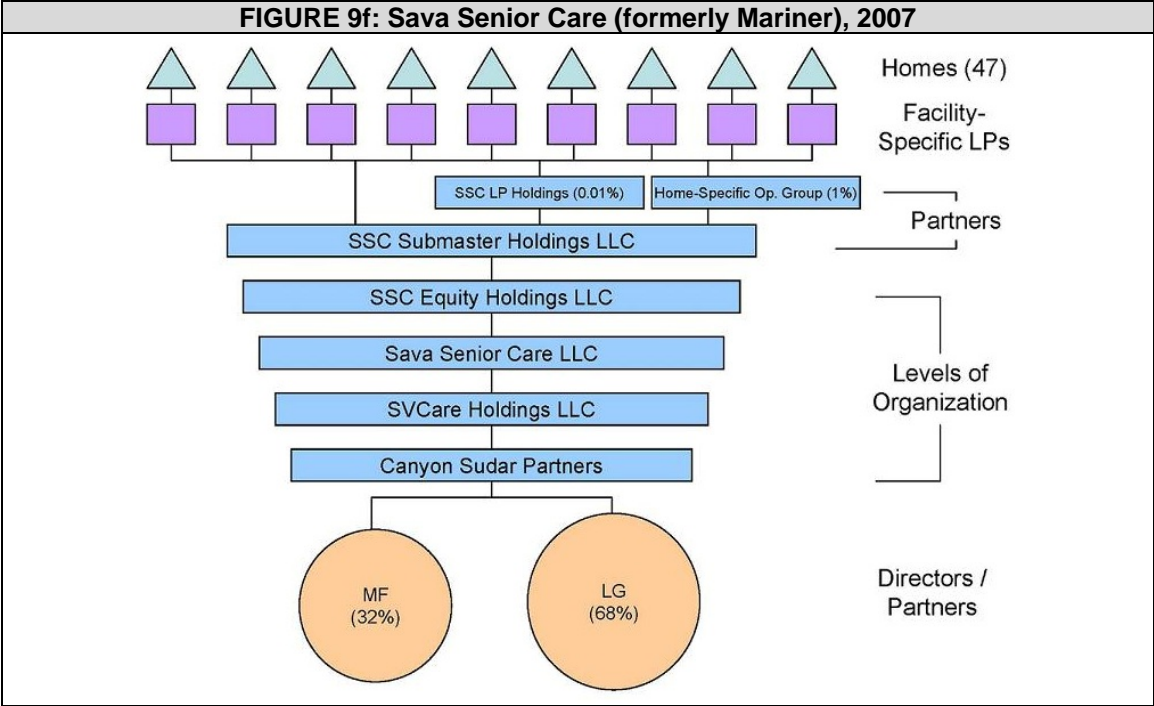
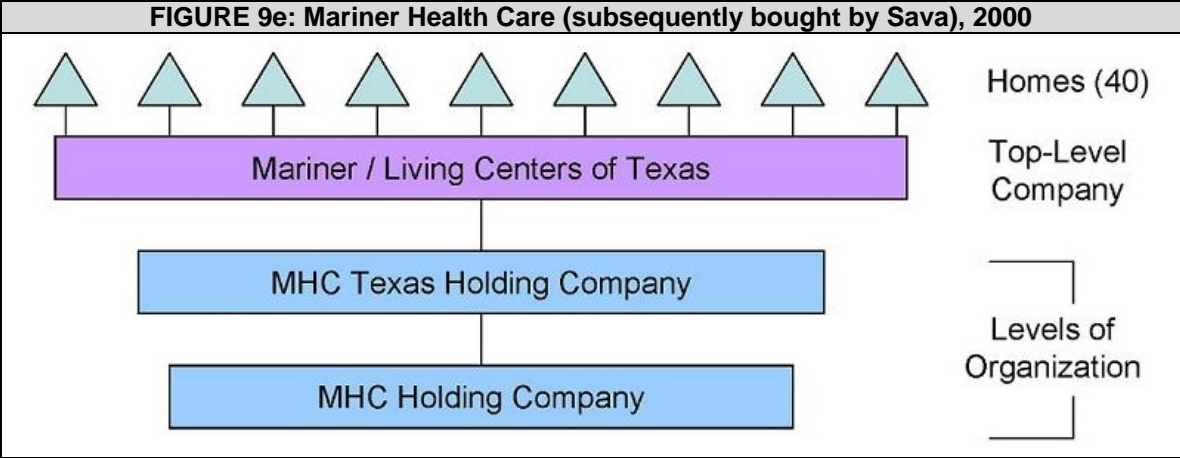


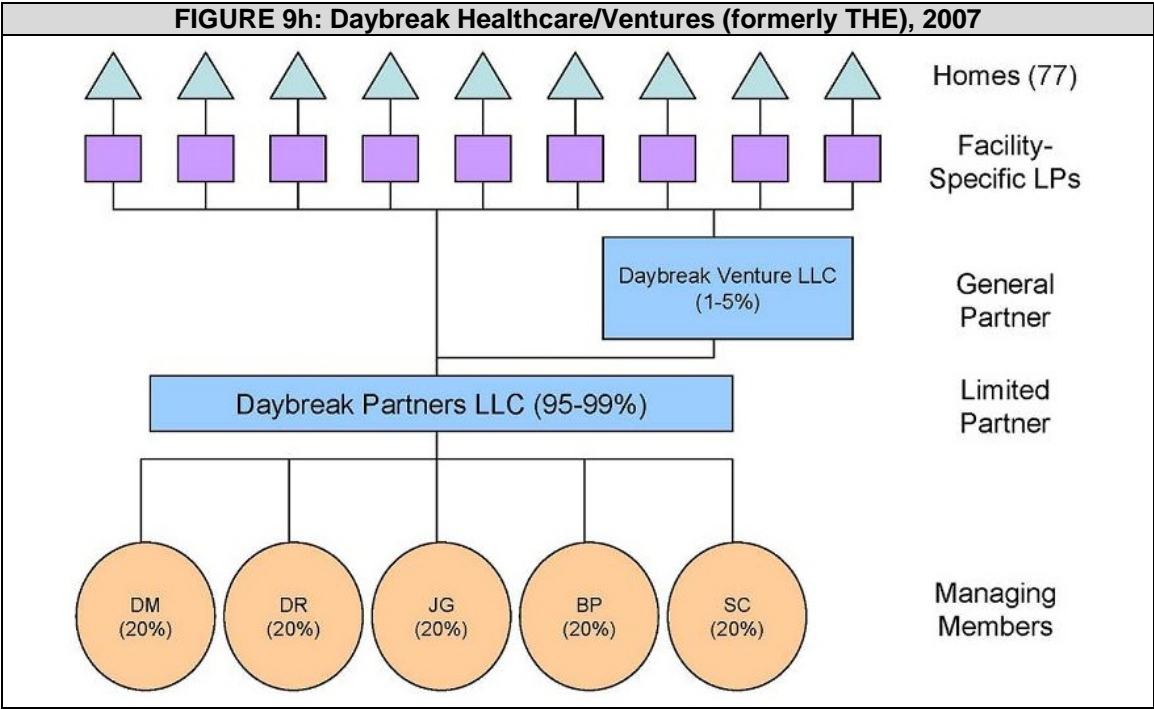
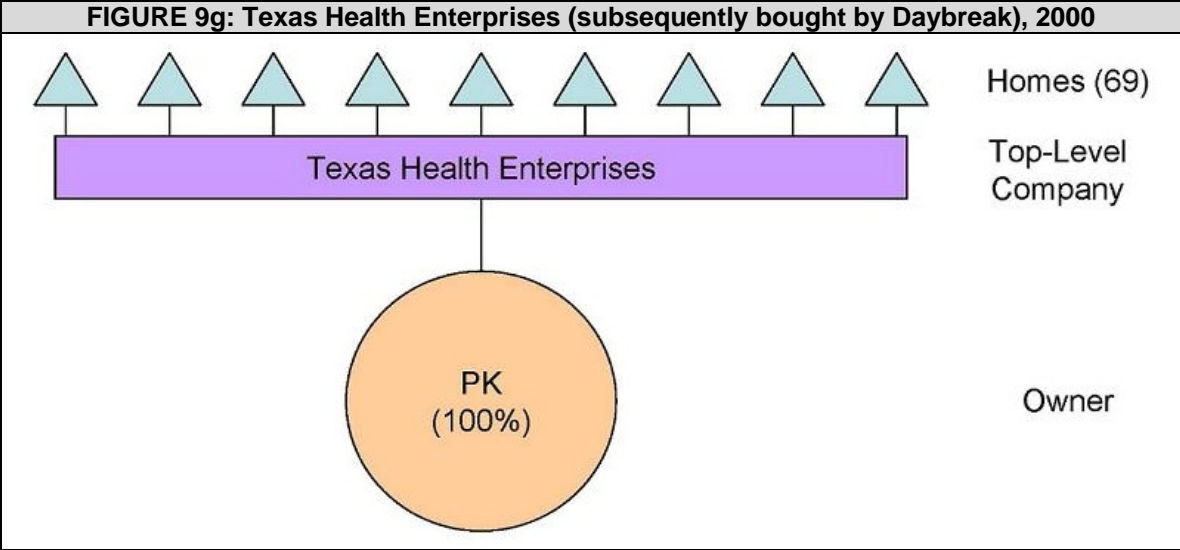


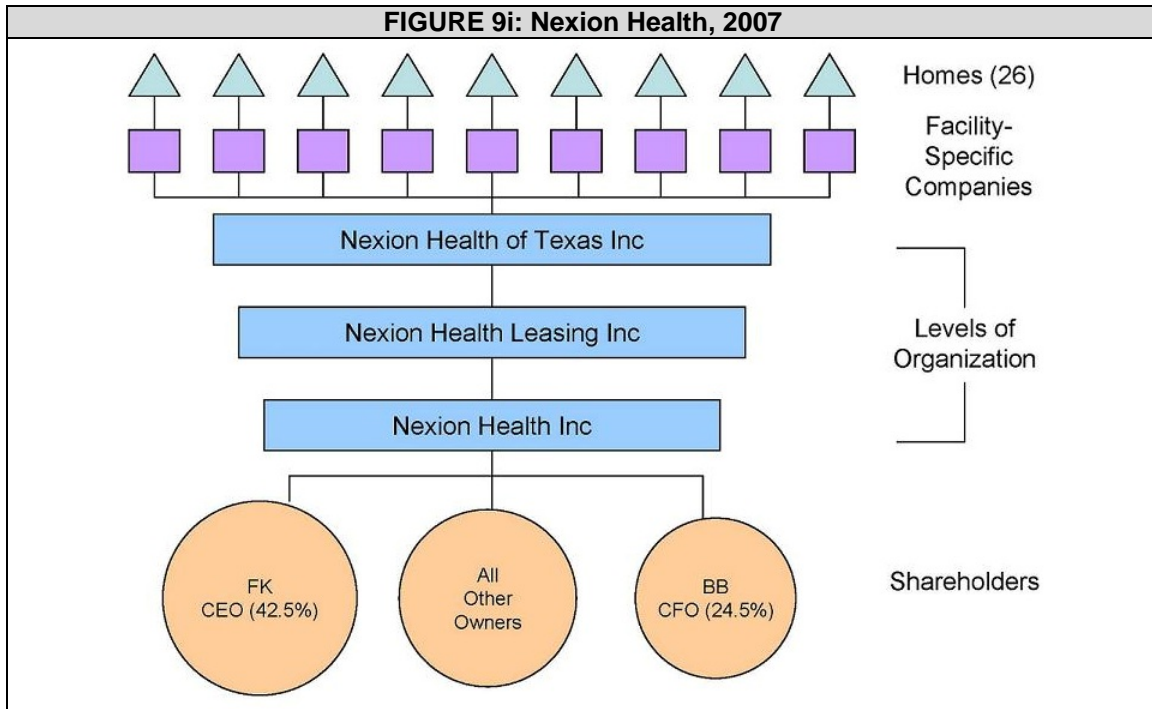
The final figures of this section offer a graphic representation of how corporate structures have evolved in Texas nursing homes between 2000 and 2007, the beginning and end of our observation period (Figures 9a-9i). These figures focus on the five largest owners currently in the Texas nursing home market (Sava Senior Care, Daybreak Health Ventures, Senior Living Properties, P&M Enterprises, and Nexion Health). Across the board, companies have introduced more complicated corporate structures. Three of these (Sava, previously Mariner; Daybreak, formerly Texas Health Enterprises; and P&M Enterprises) adopted a facility-specific entity structure between 2000 and 2007, with a separate legal entity representing each of these companies' dozens of nursing homes. Since it entered the Texas nursing home market in 2000, Nexion Health also used a facility-specific entity structure. Each of the companies has a more complex structure in 2007 relative to 2000. Daybreak added two levels of structure between the facility-specific entities and the final-level investors, including a general partner LLC with little ownership stake (1-5 percent) and a limited partner LLC with greater ownership stake (95-99 percent). In addition to forming facility-specific LPs, Sava Senior Care now has five levels of ownership between these entities and the two individuals who own the company. P&M Enterprises, formerly Texas Services and Keystone Services, formed facility-specific LPs and added another facility-specific ownership layer (a GP entity with only 1 percent stake), between the facilities and the two limited partner owners. Although Senior Living Properties did not form facility-specific limited liability entities, the company created a new level of ownership, whereby SLP Management serves as the managing member owning a nominal 0.01 percent stake of the company, between the top-level, company-wide LLC and the individual shareholders.











Ownership and Management Structuring. Ownership complexity tends to be significantly greater in partnerships (3.79 levels in 2007) and LLCs (2.82 levels) compared to not-for-profit corporations and others (2.07 levels). Use of a separately-owned management company is highest among LLC facilities, and it has also grown substantially--from 9.9 percent in 2000 to 27.5 percent in 2007 (this rate was even higher in 2006 (37.1 percent), a difference possibly explained by incomplete 2007 data). Partnerships and not-for-profit/other facilities have also seen growth in the use of management companies, but not to the same extent; their current levels are roughly equal now, at 9.7 percent for partnerships and 11.8 percent for not-for-profit/other in 2007.

Corporate Structure and Nursing Home Traits. With information in the OSCAR dataset, we can display descriptive trends for various nursing home traits by ownership structure, from 2000 to 2007 (again, 2007 is a partial year, as we only have OSCAR data through June 2007). In particular, we compare facilities in Texas that employ a partnership structure, those that employ a LLC structure, and those that have all other types of structures, such as not-for-profits, publicly-traded companies and government-run facilities. The partnership and LLC categories, shown in Table 4a and Table 4b, are the prevailing alternative structures used by nursing home facilities in Texas, with facilities using not-for-profit corporate structures and all others (e.g., government) depicted in Table 4c.

TABLE 4a: Partnership Structure and Various Nursing Home Traits, 2000-2007								
	2000	2001	2002	2003	2004	2005	2006	2007
Chain Status	74.6%*	74.4%*	60.2%*	65.2%*	61.9%*	68.8%*	72.2%*	77.6%*
Profit Status	99.2%*	100.0%*	99.4%*	99.6%*	99.3%*	99.4%*	99.7%*	99.5%*
ADL Score	3.7	3.8	3.8	3.7	3.7*	3.7*	3.7	3.8
Acuity Index	10.6	10.7	10.8	10.3	10.3*	10.3*	10.2	10.3
Payer Status	---	---	---	---	---	---	---	---
% Medicare	22.5%*	18.9%*	20.5%*	18.7%	18.4%*	18.7%*	18.0%*	17.7%
% Medicaid	59.0%*	62.4%*	60.6%*	62.9%*	63.0%*	64.0%*	65.0%*	65.1%
% Other	18.6%*	18.8%	18.9%	18.4%*	18.6%*	17.3%*	17.1%*	17.2%
Total Beds	117.2	118.6	118.8	115.5	113.2*	115.4*	117.7	118.9
Occupancy Rate	63.4%*	69.3%*	73.7%*	72.1%*	71.4%*	73.1%*	73.6%*	71.6%
Total Deficiencies	7.3*	6.6	7.0	6.2	5.8	7.2*	6.8	6.6
Any G-Level+ Deficiency	36.9%	23.8%*	23.0%	16.5%	14.1%	20.2%*	15.2%*	15.3%*
Staffing Per Resident	---	---	---	---	---	---	---	---
Registered Nurses (RNs)	0.12*	0.07	0.05*	0.06*	0.05*	0.06*	0.04*	0.06*
Licensed Practical Nurses (LPNs)	0.43*	0.26	0.20*	0.18*	0.17*	0.17	0.17*	0.19*
Total Nurses (RNs + LPNs)	0.54*	0.33	0.25*	0.24*	0.22*	0.23*	0.21*	0.25*
Nurses' Aides (CNAs)	0.85*	0.51*	0.47*	0.39*	0.36*	0.36*	0.34*	0.37*
OMT Ownership Complexity	2.16*	2.35*	2.50*	3.07	3.31*	3.70*	3.80*	3.79*
Outsourced Management Company	3.1%*	5.0%*	7.5%	6.3%*	6.3%*	8.1%*	9.6%*	9.7%*
Number of Observations	130	160	161	224	270	321	356	196
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.								
* significance at p<0.05.								

TABLE 4b: Limited Liability Company Structure and Various Nursing Home Traits, 2000-2007								
	2000	2001	2002	2003	2004	2005	2006	2007
Chain Status	92.6%*	90.7%*	78.0%*	77.5%*	77.5%*	74.6%*	74.1%*	73.2%*
Profit Status	96.7%*	96.4%*	87.2%*	81.7%*	83.5%*	53.2%*	83.8%*	87.0%*
ADL Score	3.6	3.6	3.6	3.7	3.6*	3.6*	3.7	3.7
Acuity Index	10.2	10.4	10.4	10.4	10.2*	10.1*	10.4	10.3
Payer Status	---	---	---	---	---	---	---	---
% Medicare	8.0%*	10.3%*	10.1%*	13.3%	12.8%*	12.9%*	13.0%*	15.6%
% Medicaid	74.8%*	70.8%*	71.3%*	70.5%*	68.8%*	71.2%*	68.9%*	64.1%
% Other	17.2%*	18.9%	18.7%	16.2%*	18.3%*	15.9%*	18.2%*	20.3%
Total Beds	101.6	102.2	103.0	105.1	106.7*	107.6*	108.0	108.7
Occupancy Rate	63.4%*	64.0%*	66.5%*	67.5%*	69.1%*	69.9%*	71.1%*	71.5%
Total Deficiencies	7.3*	6.7	6.5	5.2	5.5	7.0*	7.4	6.4
Any G-Level+ Deficiency	30.6%	31.4%*	22.0%	16.0%	12.1%	21.4%*	16.2%*	13.8%*
Staffing Per Resident	---	---	---	---	---	---	---	---
Registered Nurses (RNs)	0.04*	0.03	0.03*	0.03*	0.02*	0.02*	0.02*	0.02*
Licensed Practical Nurses (LPNs)	0.19*	0.19	0.17*	0.15*	0.16*	0.17	0.16*	0.17*
Total Nurses (RNs + LPNs)	0.23*	0.23	0.20*	0.18*	0.18*	0.19*	0.18*	0.19*
Nurses' Aides (CNAs)	0.35*	0.42*	0.38*	0.34*	0.36*	0.36*	0.34*	0.36*
OMT Ownership Complexity	2.12*	2.17*	2.59*	2.58	2.66*	2.69*	2.75*	2.82*
Outsourced Management Company	9.9%*	7.9%*	17.7%	16.0%*	40.7%*	41.0%*	37.1%*	27.5%*
Number of Observations	121	140	164	169	182	173	197	138
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.								
* significance at p<0.05.								

TABLE 4c: Other Company Structure and Various Nursing Home Traits, 2000-2007								
	2000	2001	2002	2003	2004	2005	2006	2007
Chain Status	71.1%	70.5%	61.3%	61.0%	58.4%	53.7%	53.6%	50.0%
Profit Status	74.9%	74.7%	73.4%	71.0%	72.2%	69.2%	68.6%	65.3%
ADL Score	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Acuity Index	10.3	10.3	10.3	10.2	10.3	10.2	10.2	10.3
Payer Status	---	---	---	---	---	---	---	---
% Medicare	16.4%	16.5%	16.1%	15.1%	15.0%	15.4%	16.3%	17.3%
% Medicaid	66.0%	65.0%	64.0%	64.6%	64.3%	64.4%	60.6%	61.9%
% Other	17.7%	18.5%	19.9%	20.3%	20.7%	20.2%	23.2%	20.8%
Total Beds	102.5	101.6	104.3	104.1	105.5	106.3	103.3	103.5
Occupancy Rate	69.2%	71.4%	71.0%	74.9%	73.7%	72.1%	72.7%	71.6%
Total Deficiencies	6.3	6.6	6.2	5.1	5.4	6.3	6.9	6.3
Any G-Level+ Deficiency	29.2%	25.8%	19.9%	13.7%	11.0%	14.6%	18.6%	10.3%
Staffing Per Resident	---	---	---	---	---	---	---	---
Registered Nurses (RNs)	0.11	0.14	0.08	0.07	0.06	0.07	0.07	0.06
Licensed Practical Nurses (LPNs)	0.27	0.27	0.21	0.19	0.21	0.21	0.21	0.25
Total Nurses (RNs + LPNs)	0.39	0.41	0.29	0.26	0.27	0.27	0.27	0.31
Nurses' Aides (CNAs)	0.53	0.44	0.44	0.44	0.49	0.48	0.45	0.50
OMT Ownership Complexity	1.74	1.92	2.14	2.34	2.07	2.28	2.12	2.07
Outsourced Management Company	2.3%	3.6%	12.8%	19.7%	21.1%	18.2%	14.6%	11.8%
Number of Observations	733	743	729	651	625	555	478	262
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.								

Several trends are worth noting. First, the number of facilities using a partnership structure has approximately tripled from 2000 to 2007, while the number of LLCs has roughly doubled. Both of these structures have been available to providers throughout the time period, but have become increasingly popular over time. Correspondingly, given that the total number of Texas facilities has been fairly constant, the number of other types of facilities has decreased over the study period. Regarding nursing home characteristics, both partnership and LLC structures tend to be used by for-profit, chain facilities, relative to other facilities in Texas. In particular, nearly all partnerships (99.5 percent in 2007) are for-profits.

Across the time period 2000-2007, resident acuity and ADL scores, payer mix and survey deficiencies are fairly comparable across the three categories, indicating that there may be very little relationship between corporate structuring and resident characteristics. Nurse and aide staffing, however, tends to be higher in not-for-profit and other facilities than in LLC and partnership facilities throughout the study period. In 2007, partnerships and LLCs have only 0.25 and 0.19 nurse FTEs (registered nurses [RNs] and licensed practical nurses [LPNs]) per resident, respectively, compared to 0.31 in not-for-profit and other facilities, and a similar skew is observed in certified nurses aide (CNA) staffing.

Another way of looking at the relationship of ownership and corporate structure with nursing home traits is with regression models. Tables 5a-5g show a series of regressions of various nursing home traits on several ownership (structure, management outsourcing) and controls (ownership complexity, facility size, acuity, profit

status, chain status, etc.). These tables examine seven dependent variables in particular: RN staffing (Table 5a); RN+LPN staffing (Table 5b); CNA staffing (Table 5c); Total deficiencies (Table 5d); G-level deficiencies (Y/N) (Table 5e); percent Medicare (Table 5f); and percent Medicaid (Table 5g). All are linear regressions except for those looking at G-level deficiencies, which uses logistic regression and reports odds ratios. We used facility-level fixed effects for each regression and included a range of control variables, including year dummies or fixed effects. The regressions include all management/ownership types in the same model, thus identifying the marginal effects of these features in the context of the others. As a sensitivity check, we also modeled these types separately in regressions that are not shown.

TABLE 5: Description of Regression Models				
		Management		
		Any	Outsource Only	
		Define dummy variable to group facilities using ANY management company (including cases where the facility and management company are owned by the same entity) to compare against facilities not using ANY management company	Define dummy variable to group only facilities that use a management company with distinct ownership from the facility to compare against facilities that use no management company and those that use a management companies owned by the final owners of the facility	
Structure	Liability	Define dummy variable grouping facilities where ANY liability structure is implemented (LLC, LP, GP), and include an interaction term of this dummy with profit status	Regression (1)	Regression (3)
	Types	Define dummy variables for each of the structure types of interest (for-profit, LLC, LP; using non-profit as the comparison group), with no additional interaction terms	Regression (2)	Regression (4)

TABLE 5a: Regression of RN Staffing on Ownership Traits of Interest				
RN Staffing Per Resident	(1)	(2)	(3)	(4)
Number of Observations	6,983	6,983	6,983	6,983
Total Beds	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)
Profit Status (0/1)	-0.010 (0.011)	-0.011 (0.014)	-0.010 (0.011)	-0.012 (0.014)
Government Status (0/1)	0.224 (0.047)	0.036 (0.048)	0.022 (0.047)	0.0036 (0.048)
Chain Status (0/1)	-0.016* (0.006)	-0.017* (0.006)	-0.017* (0.006)	-0.017* (0.006)
Hospital-Based Status (0/1)	-0.012 (0.063)	-0.013 (0.063)	-0.012 (0.063)	-0.014 (0.063)
ADL Score	-0.073 (0.083)	-0.073 (0.083)	-0.073 (0.083)	-0.073 (0.083)
Ownership Complexity (1-7)	-0.007 (0.004)	-0.004 (0.004)	-0.006 (0.004)	-0.004 (0.004)
Management Status -- Outsource	---	---	-0.006 (0.005)	-0.005 (0.005)
Management Status -- ANY	-0.011 (0.006)	-0.008 (0.006)	---	---
Liability (LLC, LP, GP) (0/1)	-0.012 (0.013)	---	-0.012 (0.013)	---
Liability x Profit Interaction	0.021 (0.017)	---	0.020 (0.018)	---
Type -- For-Profit	---	0.016 (0.032)	---	0.017 (0.032)
Type -- LLC	---	0.014 (0.028)	---	0.014 (0.029)
Type -- Partnership	---	0.015 (0.034)	---	0.013 (0.034)
Type -- Other	---	-0.067 (0.048)	---	-0.068 (0.048)
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
Reference ownership type is not-for-profit. * significance at p<0.05.				

TABLE 5b: Regression of Nurse (RN+LPN) Staffing on Ownership Traits of Interest				
Nurse (RN+LPN) Staffing Per Resident	(1)	(2)	(3)	(4)
Number of Observations	6,983	6,983	6,983	6,983
Total Beds	0.004 (0.005)	0.004 (0.005)	0.004 (0.005)	0.004 (0.005)
Profit Status (0/1)	-0.016 (0.031)	0.010 (0.033)	-0.016 (0.031)	0.010 (0.033)
Government Status (0/1)	-0.004 (0.110)	0.019 (0.111)	-0.004 (0.110)	0.020 (0.111)
Chain Status (0/1)	-0.041* (0.013)	-0.042 (0.013)*	-0.041 (0.013)*	-0.042 (0.013)*
Hospital-Based Status (0/1)	0.021 (0.107)	0.019 (0.106)	0.021 (0.107)	0.018 (0.106)
ADL Score	-0.130 (0.164)	-0.130 (0.164)	-0.130 (0.164)	-0.130 (0.164)
Ownership Complexity (1-7)	-0.015 (0.011)	-0.012 (0.010)	-0.015 (0.010)	-0.012 (0.010)
Management Status -- Outsource	---	---	-0.002 (0.011)	-0.001 (0.011)
Management Status -- ANY	-0.012 (0.015)	-0.009 (0.014)	---	---
Liability (LLC, LP, GP) (0/1)	-0.040 (0.045)	---	-0.040 (0.045)	---
Liability x Profit Interaction	0.048 (0.052)	---	0.046 (0.053)	---
Type -- For-Profit	---	-0.044 (0.060)	---	-0.044 (0.060)
Type -- LLC	---	-0.044 (0.052)	---	-0.044 (0.052)
Type -- Partnership	---	-0.044 (0.059)	---	-0.046 (0.059)
Type -- Other	---	-0.114 (0.074)	---	-0.116 (0.074)
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
Reference ownership type is not-for-profit. * significance at p<0.05.				

TABLE 5c: Regression of Aide Staffing on Ownership Traits of Interest				
Aide Staffing Per Resident	(1)	(2)	(3)	(4)
Number of Observations	6,983	6,983	6,983	6,983
Total Beds	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
Profit Status (0/1)	-0.063 (0.040)	0.017 (0.042)	-0.063 (0.040)	0.016 (0.041)
Government Status (0/1)	0.015 (0.091)	0.047 (0.090)	0.013 (0.091)	0.045 (0.090)
Chain Status (0/1)	-0.052* (0.014)	-0.051* (0.015)	-0.052* (0.014)	-0.051* (0.015)
Hospital-Based Status (0/1)	-0.050 (0.052)	-0.054 (0.051)	-0.049 (0.052)	-0.053 (0.051)
ADL Score	0.019 (0.038)	0.019 (0.038)	0.018 (0.038)	0.019 (0.038)
Ownership Complexity (1-7)	-0.015 (0.010)	-0.011 (0.009)	-0.015 (0.010)	-0.011 (0.009)
Management Status -- Outsource	---	---	-0.018 (0.023)	-0.018 (0.024)
Management Status -- ANY	-0.005 (0.018)	-0.003 (0.018)	---	---
Liability (LLC, LP, GP) (0/1)	-0.147 (0.087)	---	-0.148 (0.088)	---
Liability x Profit Interaction	0.186* (0.091)	---	0.184* (0.089)	---
Type -- For-Profit	---	-0.091 (0.062)	---	-0.089 (0.061)
Type -- LLC	---	-0.077 (0.070)	---	-0.078 (0.070)
Type -- Partnership	---	-0.056 (0.060)	---	-0.058 (0.062)
Type -- Other	---	-0.127* (0.052)	---	-0.126* (0.052)
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
Reference ownership type is not-for-profit. * significance at p<0.05.				

TABLE 5d: Regression of Deficiencies on Ownership Traits of Interest				
Total Deficiencies	(1)	(2)	(3)	(4)
Number of Observations	6,983	6,983	6,983	6,983
Total Beds	0.015 (0.009)	0.015 (0.009)	0.015 (0.009)	0.015 (0.009)
Profit Status (0/1)	0.743 (-0.568)	0.419 (0.631)	0.746 (0.569)	0.410 (0.632)
Government Status (0/1)	-1.077 (1.307)	-0.963 (1.328)	-1.086 (1.309)	-0.970 (1.328)
Chain Status (0/1)	0.067 (0.279)	0.053 (0.278)	0.064 (0.279)	0.052 (0.279)
Hospital-Based Status (0/1)	1.419* (0.657)	1.460* (0.667)	1.414* (0.659)	1.460* (0.668)
ADL Score	-0.163 (0.191)	-0.166 (0.190)	-0.165 (0.191)	-0.169 (0.191)
Ownership Complexity (1-7)	0.180 (0.162)	0.211 (0.158)	0.180 (0.161)	0.210 (0.157)
Management Status -- Outsource	---	---	-0.177 (0.306)	-0.159 (0.307)
Management Status -- ANY	-0.172 (0.245)	-0.105 (0.242)	---	---
Liability (LLC, LP, GP) (0/1)	0.117 (0.934)	---	0.105 (0.933)	---
Liability x Profit Interaction	-1.496 (1.003)	---	-1.528 (1.009)	---
Type -- For-Profit	---	-0.077 (0.776)	---	-0.061 (0.779)
Type -- LLC	---	-0.677 (0.772)	---	-0.682 (0.770)
Type -- Partnership	---	-1.753* (0.795)	---	-1.784* (0.796)
Type -- Other	---	-0.440 (0.585)	---	-0.448 (0.583)
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
Reference ownership type is not-for-profit. * significance at p<0.05.				

TABLE 5e: Regression of Serious Deficiencies on Ownership Traits of Interest				
G-Level (or higher) Deficiency -- ODDS RATIOS	(1)	(2)	(3)	(4)
Number of Observations	4,413	4,413	4,413	4,413
Total Beds	1.017* (0.007)	1.018* (0.007)	1.017* (0.007)	1.018* (0.007)
Profit Status (0/1)	1.196 (0.348)	1.481 (0.403)	1.195 (0.348)	1.478 (0.403)
Government Status (0/1)	1.572 (1.164)	1.875 (1.407)	1.573 (1.185)	1.866 (1.400)
Chain Status (0/1)	0.903 (0.115)	0.896 (0.114)	0.904 (0.115)	0.898 (0.114)
Hospital-Based Status (0/1)	3.311 (2.160)	3.431 (2.240)	3.312 (2.160)	3.430 (2.238)
ADL Score	1.089 (0.121)	1.089 (0.120)	1.088 (0.120)	1.088 (0.120)
Ownership Complexity (1-7)	1.147 (0.086)	1.171* (0.088)	1.146 (0.086)	1.168* (0.088)
Management Status -- Outsource	---	---	1.018 (0.153)	1.018 (0.154)
Management Status -- ANY	1.031 (0.086)	1.060 (0.127)	---	---
Liability (LLC, LP, GP) (0/1)	0.776 (0.352)	---	0.777 (0.353)	---
Liability x Profit Interaction	0.969 (0.449)	---	0.974 (0.451)	---
Type -- For-Profit	---	0.540 (0.227)	---	0.538 (0.226)
Type -- LLC	---	0.549 (0.237)	---	0.546 (0.235)
Type -- Partnership	---	0.369* (0.161)	---	0.374* (0.163)
Type -- Other	---	0.593 (0.334)	---	0.599 (0.337)
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
Reference ownership type is not-for-profit. * significance at p<0.05.				

TABLE 5f: Regression of Percent Medicare on Ownership Traits of Interest				
Percent Medicare Payment	(1)	(2)	(3)	(4)
Number of Observations	6,983	6,983	6,983	6,983
Total Beds	-0.010 (0.049)	-0.006 (0.046)	-0.010 (0.049)	-0.007 (0.046)
Profit Status (0/1)	-2.440 (1.330)	-1.831 (1.153)	-2.423 (1.332)	-1.850 (1.158)
Government Status (0/1)	-3.981 (2.441)	-4.198 (2.435)	-3.989 (2.444)	-4.164 (2.438)
Chain Status (0/1)	0.207 (0.382)	0.239 (0.381)	0.187 (0.381)	0.218 (0.381)
Hospital-Based Status (0/1)	2.561 (1.721)	2.602 (1.705)	2.528 (1.714)	2.573 (1.699)
ADL Score	0.367 (0.470)	0.362 (0.466)	0.362 (0.474)	0.355 (0.470)
Ownership Complexity (1-7)	-0.260 (0.263)	-0.294 (0.264)	-0.248 (0.265)	-0.271 (0.264)
Management Status -- Outsource	---	---	-0.464 (0.592)	-0.475 (0.586)
Management Status -- ANY	-0.798* (0.396)	-0.837* (0.416)	---	---
Liability (LLC, LP, GP) (0/1)	-0.449 (23.46)	---	-0.481 (2.376)	---
Liability x Profit Interaction	0.681 (2.364)	---	0.568 (2.357)	---
Type -- For-Profit	---	-1.000 (2.236)	---	-0.951 (2.213)
Type -- LLC	---	-0.236 (2.508)	---	-0.216 (2.528)
Type -- Partnership	---	-0.629 (2.050)	---	-0.816 (2.100)
Type -- Other	---	1.723 (2.154)	---	1.592 (2.151)
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
Reference ownership type is not-for-profit. * significance at p<0.05.				

TABLE 5g: Regression of Percent Medicaid on Ownership Traits of Interest				
Percent Medicaid Payment	(1)	(2)	(3)	(4)
Number of Observations	6,983	6,983	6,983	6,983
Total Beds	0.000 (0.017)	-0.003 (0.016)	0.001 (0.017)	-0.002 (0.016)
Profit Status (0/1)	-1.002 (1.418)	0.033 (1.416)	-1.028 (1.414)	0.038 (1.417)
Government Status (0/1)	-1.099 (2.549)	-0.645 (2.449)	-1.113 (2.542)	-0.707 (2.445)
Chain Status (0/1)	1.285* (0.546)	1.270* (0.543)	1.317* (0.546)	1.298* (0.543)
Hospital-Based Status (0/1)	-6.049* (1.922)	-6.258* (1.933)	-5.994* (1.913)	-6.217* (1.926)
ADL Score	-1.177* (0.595)	-1.150 (0.592)	-1.176* (0.597)	-1.147 (0.594)
Ownership Complexity (1-7)	-0.274 (0.301)	-0.258 (0.309)	-0.298 (0.303)	-0.291 (0.309)
Management Status -- Outsource	---	---	0.330 (0.569)	0.325 (0.567)
Management Status -- ANY	1.048* (0.450)	0.954* (0.448)	---	---
Liability (LLC, LP, GP) (0/1)	-4.753* (1.965)	---	-4.730* (1.970)	---
Liability x Profit Interaction	4.507* (2.103)	---	4.628* (2.114)	---
Type -- For-Profit	---	-0.308 (1.486)	---	-0.343 (1.481)
Type -- LLC	---	-3.396* (1.435)	---	-3.435* (1.429)
Type -- Partnership	---	0.067 (1.448)	---	0.264 (1.455)
Type -- Other	---	-3.268* (1.182)	---	-3.099* (1.170)
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
Reference ownership type is not-for-profit.				
* significance at p<0.05.				

For each of the dependent variables, we ran four regressions, based on four different combinations (2x2) of management status and ownership type (see Table 5 for a tabular presentation of the regression models). More specifically, we modeled facilities' use of a management company two ways: (a) defining a dummy variable to group facilities using ANY management company (including cases where the facility and management company are owned by the same entity) to compare against facilities not using ANY management company (regressions 1 and 2); and (b) defining a dummy variable to group only facilities that use a management company with distinct ownership from the facility to compare against other facilities, including those that use no management company and those that use a management companies owned by the same owners as the facility owner (regressions 3 and 4). Ownership structure is also modeled two different ways: first, defining a dummy variable grouping facilities where ANY limited liability structure is implemented (LLC, LP, GP) (regressions 1 and 3). As

both for-profit and not-for-profit companies may use these structures, we include an interaction term with for-profit status interacted with this variable. Second, we defined separate dummy variables for each of the structure types of interest (for-profit, LLC, LP; using not-for-profit as the comparison group), with no additional interaction terms (regressions 2 and 4).

TABLE 6: Top Real Estate Owners of Texas Nursing Homes, 2007*				
Real Estate Owners (from OMT data)	Facility Operators (as identified in OSCAR)			
	# Facilities	#1	#2	#3
NH Texas Properties LP	63	P&M Healthcare Enterprises	New Bell Services	
Sava Senior Care	53	Sava Senior Care	Mariner Healthcare	Living Centers of Texas
Capmark Commercial Mortgage Corporation	39	Senior Living Properties LLC		
CSE Alamo LLC	34	P&M Healthcare Enterprises	[OTHER OPERATORS]	
General Electric Capital Corporation	33	Senior Living Properties LLC		
New Bell Facilities Services	29	P&M Healthcare Enterprises	New Bell Services	[OTHER OPERATORS]
HCR Manorcare Properties LLC	21	Manorcare		
SHG Resources LP	20	Summit Care	Skilled Healthcare Group	Fountain View
Lasalle Bank NA	18	Daybreak Healthcare		
Diversicare Leasing Corp	14	[OTHER OPERATORS]		
Granite Master Partners LP	13	Trisun Healthcare	Manorcare	[OTHER OPERATORS]
HCRI Texas Properties Ltd	13	Lyric Healthcare Holdings	Integrated Health Services	[OTHER OPERATORS]
LTC Properties Inc	12	Texas Health Enterprises	Daybreak Healthcare	
Texas Health Enterprises	11	Daybreak Healthcare	Texas Health Enterprises	
Lyric Health Care Holdings	10	Lyric Healthcare Holdings	Integrated Health Services	[OTHER OPERATORS]
Karan Associates	9	Daybreak Healthcare	[OTHER OPERATORS]	
Preferred Care Inc	9	Centers for Long Term Care	BMW Healthcare	[OTHER OPERATORS]
Skilled Healthcare Holdings	9	Centers for Long Term Care	BMW Healthcare	[OTHER OPERATORS]
Bayside Street Inc	7	Stone Gate Senior Care	[OTHER OPERATORS]	
Living Centers of Texas	7	Mariner Health Care	Living Centers of Texas	[OTHER OPERATORS]
Marbro Investments Ltd	7	Marwitz Healthcare Services	[OTHER OPERATORS]	
PHCC-MT Healthcare Realty LLC	7	Paramount Healthcare		
State of Texas Veterans Land Board	7	Texas Veterans Land Board		
Sterling Acquisition Corp	7	Senior Management Services of America		
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.				
* Real estate owners can own facilities that are operated by multiple entities. In addition, multiple real estate owners may be listed for individual facilities. For example, P&M Healthcare Enterprises facilities are listed as being owned by NH Texas Properties LP (all 63 facilities), General Electric Capital Corporation 33 facilities), and New Bell Facilities Services (29 facilities). It is not possible to discern final ownership or ownership shares from the Texas real estate data.				

Across the regressions, it is striking how few statistically significant relationships there are between the ownership variables of interest and the quality-related traits of

interest. Moreover, the few statistically significant results paint no consistent picture, and there is very little we can discern from these regression results. The bottom line is that these structural changes alone do not result in shifts in staffing, payer mix, or survey deficiencies. Change in corporate structure did not affect a change in nursing home traits, including traits for quality of care.

Real Estate Ownership. Table 6 shows the top real estate owners of Texas nursing homes (i.e., the owners of the brick-and-mortar facility and the land on which the facility is located) and the operators/licensees identified in OSCAR at the facilities owned by these entities. These data are for the most recent survey observation only, meaning that each facility appears only once in the data. Importantly, it is possible that more than one real estate owner is listed for a particular facility at the same time. In addition, individual real estate owners may own facilities operated by multiple operators. Some real estate owners (e.g., Sava and ManorCare) are clearly connected to facility operations, at least in name; for other entities (e.g., NH Texas Properties and SHG Resources LP), the relationship between the operator of record and the real estate owner is not as clear. There also appears to be overlapping ownership of facilities, which is partly a feature of the (non-hierarchical) Texas real estate data structure itself. For example, 63 facilities operated by P&M Healthcare Enterprises are owned by NH Texas Properties and 34 and 29 facilities owned by CSE Alamo LLC and New Bell Facilities Services, respectively. P&M Healthcare Enterprises operates 63 facilities in Texas. It is not possible from the Texas real estate data to discern what ownership shares are held by the entities listed.

A final table shows several nursing characteristics based on the facility's real estate status during the final four quarters of our dataset (3Q2006-2Q2007). These descriptive analyses, shown in Table 7, divide facilities into three categories: those with owner obligations (own), those with rent/lease obligations (rent), and those with mixed obligations (mix). In particular, facilities are categorized as renters if their real estate obligation is defined as lease or sublease; and facilities are categorized as owners if their real estate obligation is defined as mortgage, lien, deed of trust, warranty deed, note, or if they own outright. Many facilities had obligations in both categories as well as obligations labeled "other." It should be noted that these divisions were neither straightforward nor mutually exclusive, hence giving rise to the "mix" category.

Despite these complications, some insights can be gleaned from the data. First, relative to for-profit facilities, not-for-profit facilities are more likely to have an owner-type obligation (60.9 percent vs. 19.5 percent, respectively). To a much lesser extent, non-chain facilities are more likely to have an ownership obligation relative to chain facilities (32.4 percent vs. 21.6 percent, respectively). The corollary to this point is that for-profit facilities are much more likely to have rental or mixed obligations relative to not-for-profits (80.5 percent vs. 39.1 percent, respectively). Looking across real estate obligations, some trends emerge. While patient characteristics and payment types do not strongly differ across own, rent, or mixed obligations, rented and mixed facilities tend to be bigger than those that are owned (116.4 beds and 112.6 bed, respectively, vs. 101.8). Deficiency rates are also similar across these groups, but nurse staffing is

higher in owned facilities compared to rented or mixed facilities. Ownership complexity tended to be higher in rented and mixed facilities (3.18 and 3.27, respectively) than in those that are owned (2.02), though the use of an outsourced management company was higher among owners than in either facility that were rented or that had mixed ownership (22.4 percent for owners and 11.8 percent and 15.0 percent for renters and mixed ownership, respectively).

TABLE 7: Nursing Home Traits Across Real Estate Status, 2007			
	Own	Rent	Mix
Percent of chains in each category	21.6%	45.3%	33.1%
Percent of non-chains in each category	32.4%	42.0%	25.6%
Percent of for-profits in each category	19.5%	46.9%	33.6%
Percent of non-profits in each category	60.9%	27.6%	11.5%
<i>Average traits, by category</i>			
Chain Status	55.9%	67.2%	71.1%
Profit Status	66.2%	91.2%	94.7%
ADL Score	3.7	3.7	3.7
Acuity Index	10.3	10.3	10.2
Payer Status	---	---	---
% Medicare	11.9%	14.0%	12.3%
% Medicaid	64.7%	68.0%	67.6%
% Other	23.4%	18.0%	20.2%
Total Beds	101.8	116.4	112.6
Occupancy Rate	70.0%	73.2%	70.8%
Total Deficiencies	7.0	7.2	7.0
Total G-Level+ Deficiencies	0.4	0.4	0.3
Staffing Per Resident	---	---	---
Registered Nurses (RNs)	0.04	0.02	0.02
Licensed Practical Nurses (LPNs)	0.22	0.17	0.17
Total Nurses (RNs + LPNs)	0.25	0.19	0.19
Nurses' Aides (CNAs)	0.46	0.36	0.37
OMT Ownership Complexity	2.02	3.18	3.27
Outsourced Management Company	22.4%	11.8%	15.0%
Number of Observations	281	491	339
SOURCE: Texas Ownership Management and Tracking System (OMT) data and Online Survey and Certification Automated Record (OSCAR) data.			

DISCUSSION

Based on detailed ownership data from the State of Texas, nursing home ownership and corporate structures changed substantially in the state during the 2000-2007 time period. Similar to what has occurred in other states, nursing home ownership by large national chains has declined and been replaced by smaller, more regionally-focused private investment-owned facilities.¹⁰ Along with these changes, Texas nursing homes increasingly used LLC structures and partnership structures (primarily GPs and LPs), replacing their previous reliance on basic for-profit and not-for-profit structures. From 2000-2007 the percent of Texas facilities using either a LLC or partnership structure increased from around one-quarter of all facilities to almost two-thirds of all facilities.

Nursing homes in Texas also have increasingly used management companies to deliver care. In part, this shift reflects broader structural changes rather than facilities outsourcing resident care. Of the 35 percent of Texas facilities that used a management company in 2007, a little more than half of these facilities used a management company that had common ownership to the facility itself. Finally, the combination of these changes gave rise to nursing home corporate structures that were relatively more complex in 2007 compared to previous years. For instance, many of the larger owners in the state now use facility-level limited liability structures that are separated from final-level ownership (i.e., the investors) by additional layers of LLC structures.

The structural changes used by facility ownership, in particular LLC and limited partnership structures, appear to be used disproportionately by for-profit, chain providers. This association is consistent with the rationale for restructuring and the litigation and private investment trends of the study period. Compared to facilities in the Texas market that did not employ such structures, facilities using the LLC or LP structure generally exhibited higher numbers of survey deficiencies and lower staffing per resident compared to facilities that do not use these structures, suggesting that the average quality of care may be relatively lower in these facilities. Not surprisingly, the facilities that used these limited liability structures have significantly more complex ownership structures overall.

While the landscape of nursing home ownership in Texas has changed substantially in recent years, especially for the proprietary chain facilities in the state, these changes do not appear to have driven broader changes in the way care is delivered by individual facilities, including their quality of care. In particular, across our regression models, the structural changes we identified did not result in significant shifts in facility staffing, payer mix, or survey deficiencies in the facilities that used these limited liability structures compared to those that did not. In other words, the main story

¹⁰ Stevenson DG, Grabowski DC, Coots LA. *Nursing Home Divestiture and Corporate Restructuring: Final Report*. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services; 2006. Available at <http://aspe.hhs.gov/daltcp/reports/2006/NHdivest.htm>.

of these changes seems to be the altered corporate structures themselves and not the relationship between these structural shifts and corresponding changes in care. From a quality of care perspective in particular, these results imply that care does not seem to improve or decline overall in the wake of structural or management changes. In other words, the facilities that had higher deficiencies and lower staffing before restructuring tend to look relatively similar after these types changes.

Finally, although our ability to identify potential issues related to real estate ownership of Texas nursing homes was limited by the data, our cursory look through the lens of these data confirms that complexity in ownership structures can extend to property ownership and that a sizeable portion of Texas nursing homes have distinct ownership of operations and property.

Importantly, our study data are based on one state and may not be generalizable to other locales. Although the trends identified in our data appear to be occurring in other states,¹¹ the Texas nursing home market is distinct in important ways. According to recent OSCAR data, for instance, Texas has a larger share of for-profit (83.7 percent vs. 66.9 percent) and chain nursing homes (64.5 percent vs. 53.6 percent) relative to the national average. In addition, Texas has the ninth lowest occupancy rate in the country (73.2 percent relative to the national average of 84.3 percent) and one of the lowest Medicaid payment rates in the country.

Another distinctive feature of the Texas nursing home market that has likely played a central role in spurring changes in nursing home ownership in recent years is the rise of nursing home litigation in the state. Along with Florida, Texas nursing homes were hit especially hard by the rise in malpractice litigation that occurred in the late 1990s and early 2000s,¹² possibly leading to increased use of corporate structures to help shield parent companies from potentially costly lawsuits. Restructuring can help protect owners from a range of other liabilities as well, including sanctions related to oversight of the Medicare and Medicaid programs and liability under the False Claims Act.¹³ More specifically, restructuring can limit the reach of sanctions to individual facilities as opposed to entire chains. At the same time, driven in part by liability trends, the larger for-profit nursing home chains exited the Texas market, selling their facilities to private investment companies and others. Similar to broader trends nationally, private investors purchased nursing homes and, in the process of financing these deals, often created companies with re-organized asset and management structures.¹⁴ For instance, investment companies that previously focused on properties such as hotels and shopping malls saw opportunities in the nursing home sector that were shaped by real estate values, inexpensive access to capital, and reliable cash flow for operators.

¹¹ Duhigg C. At many homes, more profit and less nursing. *New York Times*. September 23, 2007; A1.

¹² Stevenson DG, Studdert DM. The rise of nursing home litigation: Findings from a national survey of attorneys. *Health Aff (Millwood)*. 2003; 22(2):219-229.

¹³ Casson J, McMillen J. Protecting nursing home companies: Limiting liability through corporate restructuring. *Journal of Health Law*. Fall 2003; 36(4):577-613.

¹⁴ Stevenson DG, Grabowski DC. Private equity investment and nursing home care: Is it a big deal? *Health Aff (Millwood)*. September-October 2008; 27(5):1399-1408.

Of course, nursing homes are different from other commercial properties, not least because of their mission to care for a frail resident population. In this context, it is important to assess the relevance of data on corporate structure and how it might be used by stakeholders, something that has been at the center of proposed legislation about nursing home transparency and accountability. We will focus below on the potential use of detailed ownership data in regulatory oversight activities.

Federal and state quality assurance efforts generally focus at the level of the individual nursing facility.¹⁵ In the context of chain ownership, this approach implies that state and federal regulators typically do not investigate or sanction corporate culpability beyond the level of the facility. If quality of care is heavily influenced by practices, policies, and systems inherent to ownership, regulators' facility-specific approach might be ineffective and fail to identify root causes. Switching to a broader regulatory approach is not feasible for the survey and certification system but could be a central feature for quality improvement organizations identifying areas for improvement. More important, a reformed approach would extend responsibility for resident care beyond where the line has been drawn previously at the individual nursing facility. An important example of this approach is the Corporate Integrity Agreement model used by the HHS Office of the Inspector General over the past several years with 15 corporate nursing home providers.¹⁶

To raise a more specific question relevant in the context of the detailed Texas ownership data, what should be done to ensure accountability in the context of complex ownership structures, especially where it can be unclear which entities have responsibility for resident care? Should responsibility extend beyond entities that sign provider agreements with Medicare/Medicaid to other parties that are ostensibly not involved in caring for residents? The answer seems to depend on the extent to which these other entities directly or indirectly influence resident care processes, something that remains unclear.

In the context of this uncertainty, a possible use of detailed ownership data in facility oversight is to monitor involvement of investors (whether of property, management, or operating companies) in the nursing home business and to use this information at the point of licensure application. Indeed, this is one of the primary functions of the OMT data in Texas. If an entity involved in a nursing home sale or new application for licensure has a previous history of being associated with substandard care, detailed ownership data can help flag these instances. Armed with these data, licensure agencies could identify bad actors and introduce potential safeguards to lessen the potential for future problems. In addition, having detailed ownership data could be a useful point of leverage if facilities in operation are unable to meet their regulatory obligations (e.g., hiring a temporary management company or paying financial sanctions). More broadly, detailed ownership data could be useful in determining the factors that influence the provision of excellent and poor quality nursing

¹⁵ Testimony before the U.S. Senate Special Committee on Aging by Kerry Weems. November 15, 2007.

¹⁶ U.S. Office of the Inspector General. *Nursing Home Corporations under Quality of Care Corporate Integrity Agreements*. Washington, DC: OIG; April 2009.

home care and help delineate the role of ownership in its provision. Greater investigation into these topics by researchers could help advance these objectives.

One outstanding question in the collection and maintenance of nursing home ownership data is whether it has relevance for consumer decision making. Any collection of detailed ownership data would occur alongside ongoing efforts that have developed over the last decade to collect, maintain, and report a wide range of nursing home data via the *Nursing Home Compare* website and assorted state reporting sites.^{17,18} As a result of these collective efforts, information about nursing home characteristics, staffing, and the care that is delivered is much more widely available than it was in the past. To some, offering consumers further information on nursing home ownership and corporate structuring could offer another piece of valuable data for consumers to consider in choosing the right nursing homes. Yet, given the complexity of these data and the difficulty consumers may have in navigating the information available on *Nursing Home Compare*,¹⁹ the use of such data in regulatory oversight seems to be a higher priority. In fact, given the questionable usefulness of these data to consumer decision making (e.g., in discerning a reliable signal related to quality of care), policymakers should be cautious in adding complex ownership data to the wide range of inputs already available to consumers about nursing home care.

Importantly, the collection and use of detailed nursing home ownership data should be guided by several considerations.²⁰ The ownership data that are collected should have relevance to their intended use, they should be comprehensible to the parties that will use them, and they should streamline the cost of data collection to the extent possible. If detailed ownership data will be used to monitor the involvement of potentially bad actors in the nursing home sector, for instance, the data should be flexible enough to execute queries of particular entities based on parameters of interest. In the context of the Texas OMT data, the complex structures that are used and the multiple layers of ownership possible for operations, management, and property investment imply that a simplistic, flat-file approach would likely not prove dynamic enough to meet the demands of the data. Indeed, a hierarchical, relational database--which Texas uses--seems necessary to capture this information sufficiently.

Presuming the current push toward transparency of nursing home ownership continues, progress to use these data productively will depend on multiple factors. Most obviously, detailed ownership data are not yet available nationally. CMS-maintained PECOS data could serve this role in the future; however, the PECOS data have not yet proven comprehensive or reliable enough for use. Once these core data are in place, important analytic questions remain, namely whether and how nursing home ownership,

¹⁷ Stevenson DG. Is a public reporting approach appropriate for nursing home care? *J Health Politics, Policy and Law*. August 2006; 31(4):773-810.

¹⁸ Castle NG, Lowe TJ. Report cards and nursing homes. *Gerontologist*. February 1, 2005; 45(1):48-67.

¹⁹ Shugarman LR, Brown JA. *Nursing Home Selection: How Do Consumers Choose?* Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services; 2006. Available at <http://aspe.hhs.gov/daltcp/reports/2006/choose1.htm>.

²⁰ Weil D, Fung A, Graham M, Fagotto E. The effectiveness of regulatory disclosure policies. *Journal of Policy Analysis and Management*. 2006; 25(1):155-181.

including corporate structure, matters to the provision of nursing home care. We currently have inadequate understanding of central topics around ownership and nursing home care, including the impact of common ownership across facilities (e.g., does one chain provide consistently better or worse quality of care than another?) and the potential influence of entities beyond the operator/facility itself (e.g., the real property owner) on care delivery. To understand the dynamic effect of ownership in the nursing home sector, a first step is to move beyond the simple distinctions of for-profit/not-for-profit and chain/non-chain to gain a better understanding of how nursing home care and the companies that provide it are evolving. Beyond that, however, it will be important to disentangle which features of nursing home ownership and corporate structuring are most relevant to resident care and to develop an evidence-based and streamlined approach for how this information should be used to ensure high quality of care for residents.

APPENDIX A: DATA TABLES FOR REPORT FIGURES

Year	FP	NFP	LLC	GP/LP/LLP	Other
2000	497	130	121	130	106
2001	517	127	140	160	99
2002	490	141	164	161	98
2003	446	142	169	224	63
2004	436	144	182	270	45
2005	363	142	173	321	50
2006	310	122	197	356	46
2007	164	72	138	196	26

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 1.

FP = for-profit corporation; NFP = not-for-profit organization; LLC = limited liability company;
 GP/LP/LLP = general partnership/limited partnership/limited liability partnership.
 Other includes government owned facilities, facilities owned by trusts.

Year	Real	Diff
2000	0	0
2001	6	0
2002	41	16
2003	71	27
2004	84	8
2005	80	3
2006	71	12
2007*	80	8

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 2.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

Year	Real	Diff
2000	2	0
2001	19	0
2002	86	0
2003	77	2
2004	108	6
2005	111	3
2006	87	5
2007*	38	8

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 3.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

TABLE A-4: Management/Ownership Relationships			
Year	Self-Managed	Separate Owner	Same Owner
2000	848	34	16
2001	860	45	39
2002	774	133	102
2003	700	169	89
2004	602	228	128
2005	602	199	217
2006	602	181	157
2007	672	182	192

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 4.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

TABLE A-5: Management Company--Relationship to Ownership		
Year	Separate Owner	Same Owner
2000	34	16
2001	45	39
2002	133	102
2003	169	89
2004	228	128
2005	199	217
2006	181	157
2007	182	192

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 5.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

TABLE A-6: Management/Ownership Relationships		
Year	Separate Owner	Same Owner
2000	34	16
2001	45	39
2002	133	102
2003	169	89
2004	228	128
2005	199	217
2006	181	157
2007	182	192

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 6.

* 2007 results are based on a 2x extrapolation of the first two quarters of the year.

TABLE A-7: NH Ownership Complexity							
Year	Hierarchy Level -- Adjusted Percentage of Ownership						
	1	2	3	4	5	6	7
2000	29.05%	61.40%	6.48%	2.44%	0.45%	0.17%	0.00%
2001	25.70%	91.98%	8.33%	3.52%	0.31%	0.15%	0.00%
2002	24.34%	58.77%	10.69%	4.23%	1.25%	0.58%	0.14%
2003	24.10%	52.26%	16.24%	4.46%	2.43%	0.42%	0.09%
2004	22.07%	51.71%	14.04%	10.04%	1.68%	0.47%	0.00%
2005	20.12%	45.42%	13.73%	11.07%	1.75%	4.11%	3.79%
2006	18.96%	47.46%	12.53%	9.08%	4.93%	1.48%	5.56%
2007	19.25%	51.13%	15.43%	2.99%	4.14%	1.07%	5.99%

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 7.

TABLE A-8: NH Ownership Complexity--Levels Grouped			
Year	1-2	3-4	5+
2000	90.45%	8.92%	0.63%
2001	87.68%	11.86%	0.46%
2002	83.11%	14.93%	1.97%
2003	76.36%	20.70%	2.94%
2004	73.78%	24.08%	2.15%
2005	65.55%	24.80%	9.65%
2006	66.42%	21.61%	11.97%
2007	70.38%	18.42%	11.20%

SOURCE: Texas Ownership Management and Tracking Data (OMT).
NOTE: This data used to create Figure 8.

To obtain a printed copy of this report, send the full report title and your mailing information to:

U.S. Department of Health and Human Services
Office of Disability, Aging and Long-Term Care Policy
Room 424E, H.H. Humphrey Building
200 Independence Avenue, S.W.
Washington, D.C. 20201
FAX: 202-401-7733
Email: webmaster.DALTCP@hhs.gov

RETURN TO:

Office of Disability, Aging and Long-Term Care Policy (DALTCP) Home
[\[http://aspe.hhs.gov/office_specific/daltcp.cfm\]](http://aspe.hhs.gov/office_specific/daltcp.cfm)

Assistant Secretary for Planning and Evaluation (ASPE) Home
[\[http://aspe.hhs.gov\]](http://aspe.hhs.gov)

U.S. Department of Health and Human Services Home
[\[http://www.hhs.gov\]](http://www.hhs.gov)