OWNERSHIP, FINANCING, AND MANAGEMENT STRATEGIES OF THE TEN LARGEST FOR-PROFIT NURSING HOME CHAINS IN THE UNITED STATES

Charlene Harrington, Clarilee Hauser, Brian Olney, and Pauline Vaillancourt Rosenau

This study examined the ownership, financing, and management strategies of the 10 largest for-profit nursing home chains in the United States, including the four largest chains purchased by private equity corporations. Descriptive data were collected from Internet searches, company reports, and other sources for the decade 1998-2008. Since 1998, the largest chains have made many changes in their ownership and structure, and some have converted from publicly traded companies to private ownership. This study shows the increasing complexity of corporate nursing home ownership and the lack of public information about ownership and financial status. The chains have used strategies to maximize shareholder and investor value that include increasing Medicare revenues, occupancy rates, and company diversification, establishing multiple layers of corporate ownership, developing real estate investment trusts, and creating limited liability companies. These strategies enhance shareholder and investor profits, reduce corporate taxes, and reduce liability risk. There is a need for greater transparency in ownership and financial reporting and for more government oversight of the largest for-profit chains, including those owned by private equity companies.

Between the 1920s and the 1970s, the number of U.S. nursing homes grew dramatically, and the dominant form of ownership changed from small homes and nonprofit providers to largely for-profit companies. This shift was fueled by a steady source of revenues from Medicare and Medicaid after the programs were established in 1965 (1). Kitchener and Harrington (2) showed how state and business interests supported a government-financed for-profit nursing home

International Journal of Health Services, Volume 41, Number 4, Pages 725–746, 2011 © 2011, Baywood Publishing Co., Inc.

doi: 10.2190/HS.41.4.g http://baywood.com industry that controls the long-term care field to the disadvantage of nonprofit organizations and home- and community-based services.

In 2008, there were 15,720 nursing homes with 1.7 million beds in the United States, and almost 70 percent were for-profit (3, 4). Corporate chains (defined as owning or managing two or more facilities) controlled 51 percent of the total facilities in 1995 and 54 percent in 2008 (4, 5). Medicare (for the aged and disabled) paid for 18 percent of the total \$121 billion spent on U.S. nursing homes, while Medicaid and other government sources (for low-income people) paid for 45 percent, and individuals paid the remainder out-of-pocket and through private insurance in 2007 (6).

To address rising nursing home costs, the 1997 Balanced Budget Act introduced a Medicare prospective payment system (PPS), replacing cost-based reimbursement, and lowered payment rates for nursing homes (7). At the time Medicare PPS was introduced, most of the largest nursing home chains were publicly traded (i.e., they offer registered securities for sale to the general public, typically through a stock exchange) (8). Publicly traded chains operate on the concept of "shareholder value," in which companies and corporate executives maximize profit for the benefit of investors (9). After adoption of PPS, five of the nation's largest chains went under bankruptcy protection (7). The U.S. General Accounting Office (GAO; now the Government Accountability Office) found that Medicare PPS rates were "adequate" and that the bankruptcies stemmed from "poor" business strategies (7, 10).

The five large chains that entered into bankruptcy were restructured by reducing the number of facilities and beds, and some companies were purchased by private equity companies (8, 11). Private equity firms use funds (managed by investment professionals) from private investors who share in the profits and losses on their investments (8). Private equity funds are attractive to investors because they may have greater management control over privately held companies than publicly traded companies, where corporate managers often have conflicts with shareholders (12).

Numerous studies by government entities have documented serious quality problems in many nursing homes (13–16), especially in for-profit homes. For-profit homes tend to operate with lower costs and have lower staff-to-patient ratios than nonprofit facilities, which can adversely affect the quality of care (17–19). Nursing home chains have been found to have more quality problems than non-chains (5, 19, 20). The GAO (21) recently found that the most poorly performing nursing homes in the United States tend to be owned by for-profit chains. Nursing home chains and those with low staffing are found to be more likely to have lawsuits filed against them for poor quality (22).

In spite of the quality problems identified in for-profit chains, only a few studies have critically examined large nursing home chains. Stevenson and Grabowski and their colleagues (8, 11, 23) examined nursing home chains owned by private equity funds but found private equity ownership had little impact on

quality. Another recent study of a large publicly traded nursing home chain found that the chain pursued shareholder value while compromising the quality of care. The rapid growth of the chain was accomplished primarily by debtfinanced mergers, which placed a burden on the facilities to pay off their debts. The chain used labor cost constraints to keep nurse staffing levels low, which caused quality problems; it also treated regulatory sanctions as normal costs of business (24). This study raised questions about whether other large for-profit chains use similar strategies.

The overall purpose of this study was to describe the top 10 for-profit nursing home chains in the United States and recent changes in their ownership, financing, and management strategies. We describe the top 10 for-profit chains in terms of their organizational structure, including size, services, and type of operations. We examine financial data, including revenues, assets, long-term debt, and profitability, and describe management strategies in terms of payer mix, occupancy rates, location, property ownership, and corporate structures. We then review the parent companies, subsidiaries, and related companies, along with a brief history of the companies through 2008, including bankruptcy and changes in ownership, mergers and acquisitions, and the use of real estate investment trusts and limited liability companies. The article concludes with a discussion of some implications of the findings for research, public reporting, and government oversight.

METHODS

This descriptive study examined the 10 largest for-profit nursing home chains in the United States in 2008. Using data from LaPorte (25, 26), the following chains were identified, in order of size, by number of beds:

- 1. HCR Manor Care
- 2. Golden Living
- 3. Life Care Centers of America (Life Care)
- 4. Kindred Healthcare (Kindred)
- 5. Genesis HealthCare Corporation (Genesis)
- 6. Sun Health Care Group, Inc. (Sun)
- 7. SavaSeniorCare, LLC (Sava)
- 8. Extendicare Health Services, Inc. (Extendicare)
- 9. National Health Care Corporation (National Health Care)
- 10. Skilled HealthCare, LLC (Skilled HealthCare)

Data from federal sources and company websites were used to confirm the number of facilities and beds.

Multiple data sources were used for the study. First, we used Internet search engines and publicly available sources to collect data on each chain, its parent companies, subsidiaries and related companies, and some prior companies merged or acquired by the chain. For those facilities currently or previously listed on the

stock exchange, the search included the financial documents (annual 10-K and 14-K reports) filed with the Securities and Exchange Commission and available on the companies' websites. In addition, we searched for historical information in business journals, online financial sources, other financial reports, and Internet media sources. The analysis consisted of tabulating the information obtained from the various sources for each company.

FINDINGS

Size

Table 1 (pp. 730–733) shows the 10 largest for-profit nursing home chains in the United States in 2008, listed by number of beds in each chain. These chains owned or operated between 75 and 324 facilities with 9,373 to 38,140 beds. Overall, the 10 largest chains controlled 2,040 facilities and 238,745 beds, or about 13 to 14 percent of total facilities and beds in the United States in 2008. These chains had about 326,000 employees, ranging from 8,492 to more than 60,000 employees per chain.

Financial Status

Annual revenues per chain ranged from more than \$4 billion at HCR Manor Care and Kindred to about \$0.65 billion at National Health Care and Skilled HealthCare in 2008 (Table 1). Although data on profit margins were incomplete, Extendicare reported an overall profit margin of 18 percent, and Skilled HealthCare reported a 15 percent margin in 2008, while other chains reported much lower profits. The top 10 companies reported assets ranging from \$0.41 billion at Sun to \$8.45 billion at HCR Manor Care, and long-term debt-to-assets ratios ranging from 14 percent (Sun) to 72 percent (Extendicare).

Company Diversification

The 10 nursing home chains operated a wide range of nursing homes, assisted living facilities, and retirement centers (Table 1). They all had multiple divisions or owned subsidiaries, such as hospitals, rehabilitation programs, therapy services, pharmacy services, home health agencies, and hospice programs. Others operated staffing agencies, purchasing agencies, medical offices, mental health centers, and other related programs. Thus, a key strategy of all the largest chains was horizontal growth as well as vertical diversification by owning a wide range of long-term care companies.

Management Strategies

The top 10 companies all had strategies that focused on Medicare as their preferred revenue source, because Medicare revenues were reported by some chains to be \$425 to \$525 per day compared with about \$139 to \$169 per day for Medicaid

revenues in 2008. Daily payment rates for private pay and other payers, such as managed care, were reported to be higher than Medicaid rates but not as high as Medicare rates. The top 10 chains reported Medicare revenues that ranged from 28 percent (at Genesis) to 40 percent (Kindred and National Health Care) of total revenues in 2008 (Table 1), all of which are higher than the 18 percent estimated for the U.S. average (6).

In their annual reports, most public chains described strategies to enhance their Medicare reimbursement rates by establishing special rehabilitation units and providing more intensive rehabilitation services (Kindred, Sun, Extendicare, and Skilled Healthcare). Maintaining high occupancy rates was another important management strategy described in annual reports to ensure profitability. Occupancy rates were reported to be 89 to 93 percent (Table 1), compared with 84 percent for the average nursing home in 2008 (4).

Historical Growth

Most of the top 10 chains were started in the 1960s or 1970s: Hillhaven (later Kindred) in 1955; Beverly Enterprises (later Golden Living) in 1963; Manor Care and Extendicare in 1968; Life Care in 1970; National Health Care in 1971; National Living Centers (later Sava) in 1973; and HCR (Health Care and Retirement Corporation) in 1974 (Table 2, pp. 734-739). Three were formed in the 1980s: Vencor Inc. (later Kindred) in 1983, Sun Health Care Corporation in 1989, and Summit (later Skilled HealthCare) in 1984.

Most of the top 10 chains became publicly traded in the 1980s: HCR in 1981, Beverly Enterprises in 1983, Manor Care in 1981, Genesis in 1985, and Sun in 1989 (Table 2). Most growth occurred through a series of mergers and acquisitions of existing companies over the 1980s and 1990s. The largest merger was between HCR and Manor Care in 1998. Vencor purchased Hillhaven in 1995 and later changed its name to Kindred. Living Centers of America (owned by Aramark) and GranCare merged to form Paragon Health Network in 1997, which merged with Mariner Health to become Mariner Post Acute Network in 1998. Only 3 of the top 10 companies remained relatively stable with the same ownership (Life Care, National Health Care, and Sun).

Bankruptcy and Restructuring

During the early 2000s, 5 of the top 10 nursing home chains entered bankruptcy (Table 2). After encountering financial problems, Vencor Inc. split into two companies in 1998 and filed for Chapter 11 bankruptcy in 1999. It was renamed Kindred Healthcare after emerging from bankruptcy in 2001. Publicly traded Genesis sought Chapter 11 protection in 2000 and reemerged in 2001. Sun entered bankruptcy in 1998 and emerged in 2002 after divesting many of its holdings, retaining its name and becoming publicly traded again. Mariner declared

Table 1

•	∞
0	$\overline{}$
Ç	$\overline{}$
(7
	_
	=
	_
	23
,	2
	α
-	7
4	1
-	c
	ര
	≘
•	=
۲	=
۲	_
	d)
	ĭ
7	ın the
	_
	≒
	83
	\simeq
	П
	ಡ
	Ф
	Į,
	Ξ
	\circ
	ပ
	(D
	~
	₽
	0
_	Ч
	ng nome companies in th
	3
	=
•	SII
•	ILSII
•	ını
•	nursıı
	nursı
	nursı
	nursı
٤	nursı
	profit nursi
٠	nursı
۹	10 tor-protit nursi
۹	o 10 tor-profit nursi
۹	10 tor-protit nursi
۹	the top 10 for-profit nursi
	t the top 10 tor-protit nursi
	t the top 10 tor-protit nursi
	of the top 10 for-profit nursi
	of the top 10 for-profit nursi
	tion of the top 10 for-profit nursi
	tion of the top 10 for-profit nursi
	tion of the top 10 for-profit nursi
	of the top 10 for-profit nursi
	tion of the top 10 for-profit nursi
	tion of the top 10 for-profit nursi
	escription of the top 10 for-profit nursi
	tion of the top 10 for-profit nursi
	escription of the top 10 for-profit nursi

0 2		
Revenues, %	Medicare: 39% (2005) Medicaid: 29% (2005) Other: 32% (2005)	Medicare: 28% Medicaid: 55% Other: 17%
Assets and long-term debt, billions	Assets: \$8.5 Debt: \$5.2	Assets: \$3.0 Debt: \$1.9
Total Net income, op. rev., billions billions (margin)	\$0.1 net (2.5%)	\$0.04 net (1.6%)
Total op. rev., billions	84.0	\$2.5
No. of employees	60,000	41,000
No. of facilities and states ^a	278 30 states	324 22 states
No. of beds	38,140	33,351
Company and subsidiaries	HCR Manor Care, Toledo, OH ^b Purchased by Carlyle Group in 2007, HCR Manor Care Inc. is a holding company for Manor Care Health Services, composed of HCR Health Care LLC holding company, HCR Properties LLC holding company, and HCR operating company. HCR Manor Care owns Heartland Companies, Arden Courts, Heartland Therapy Provider Network, Heartland Rehabilitation Services Contracts, and Heartland Hospice Fund.	Golden Living, Fort Smith, AR ^b Purchased by Fillmore Capital Partners in 2006, Drumm Investors LLC owns Golden Living's 324 nursing homes and 17 assisted living homes in 40 locations. It owns Golden Gate Ancillary LLC (GGA), a wholly owned subsidiary of GGNSC Holdings, which owns AEGIS Therapies, AseraCare Hospice and Home Health, Healthcare Staffing, Ceres Strategies, Vizia Healthcare Design Group, and GGHSC administrative services.

N.A.

	Z.A.	40% 89% 25% 6	28% 91% 50% 6
	N.A.	Medicare: 40% Medicaid: 25% Other: 35%	Medicare: 28% Medicaid: 50% Other: 22%
	Ϋ́ Ϋ́	Assets: \$1.1 Debt: \$0.4	Assets: \$1.5 (2006) Debt: \$0.4 (2006)
	Ä.	\$0.04 net (1%); 4.1% ROE	\$0.04 net (2%)
	\$2.1 (2007)	\$4.2	\$2.1 (2007)
	31,153	53,700	37,700
	260 28 states	228 27 states	227 13 states
	29,367	28,525	27,947
Life Care Centers of America, Cleveland, TN	A privately held company since 1970, Life Centers of America owns nursing homes and Alzheimer's centers, including 8 divisions: Alzheimer's care, nursing care, assisted living, rehabilitation, campus care, retirement care, home care, and specialty services.	Kindred Healthcare (NYSE: KND), Louisville, KY Kindred is a publicly traded company with 3 divisions: hospitals (82 long-term acute hospitals); People First Rehab; and Health Services (228 nursing homes). It leased 165 nursing homes from Ventas and 40 from other parties, owned 19, and managed 4.	Genesis HealthCare Corp., Kennet Square, PAb Purchased by Formation Capital LLC and JE Roberts in 2007, Genesis HealthCare owns skilled nursing (short-stay and long- term care) facilities, assisted living facilities, a rehabilitation division, respiratory therapy, and the condition of the condi

, d.)	
1 (Con	
Table	

			,					
Company and subsidiaries	No. of beds	No. of facilities and states ^a	No. of employees	Total Net incc op. rev., billions billions (margin)	Total Net income, op. rev., billions billions (margin)		Assets and long-term debt, billions Revenues, %	Occup. rate, %
Sun Health Care Group, Inc. (NASDAQ:SUNH), Irvine, CA A publicly traded company, Sun owns SunBridge Healthcare Corp (Sunbridge), with 184 skilled nursing, 15 assisted living, and 8 mental health centers; SunDance Rehab; SolAmore Hospice; and Career Staff Unlimited.	21,165	207 25 states	29,845	\$1.8	\$0.1 net (6%) 33.6% ROE	Assets: \$0.4 Debt: \$0.1	Medicare: 29% Medicaid: 40% Other: 31%	%68
SavaSeniorCare, LLC, Atlanta, GA ^b Purchased by National Senior Care Inc. in 2004, SavaSeniorCare operates skilled nursing and assisted living facilities, clinics, out-patient services, hospitals, office management, pharmacies, structural metal products, and manufacturing. SavaSeniorCare Administrative Services provides support services to Sava.	22,948	190 24 states	22,000	\$1.27 (2007)	N.A.	X. A.	N.A.	N.A.
Extendicare Health Services, Inc., Milwaukee, WT Extendicare Health Services is a private, wholly owned subsidiary of Extendicare REIT, which operates 185 senior care facilities, 9 assisted living facilities, and 4 rehab centers in the United States. It also has 10,566 beds in 4 provinces in Canada and owns Virtual Care Providers Inc., Para-Med Health Services (home health care, nursing centers, and senior centers	18,157 in USA; 10,566 in Canada	175 12 states	37,900	\$1.4 in USA; total \$2.1	\$0.2 net (18%); \$0.1 EBITDA in USA (10.4%)	Assets: \$1.8 Debt: \$1.3	Medicare: 34% Medicaid: 47% Other: 19%	% 88 8

in Canada), Assisted Living Concepts (ALC), Progressive Step Rehabilitation Services, Health Poconos, and adult services.

National HealthCare Corp. (NYSE: NHC),

93%	N.A.
Medicare: 40% Medicaid: 30% Other: 30%	Medicare: 37% Medicaid: 31% Other: 32%
Assets: \$0.8 Debt: \$0.50	Assets: \$1.0 Debt: \$0.5
\$0.04 net (6%) 9.3% ROE	\$0.04 net (5%); EBITDA (15%); 9.5% ROE
\$0.7	\$0.6
12,000 \$0.7	8,492
76 12 states	75 6 states
9,772	9,373
Murfreesboro, TN National HealthCare is a publicly held company that owns or operates 76 long-term care centers, 23 assisted living facilities, and 32 home care programs. It has hospitals, medical offices, rehab services, retirement centers, developmentally disabled residences, regional pharmacy operations, retirement centers, insurance and financial management services, and managed care contracts in SC, MO, and TN.	Skilled HealthCare, LLC (NYSE: SKH), Foothill Ranch, CA Skilled HealthCare owns 75 nursing facilities and 21 assisted living facilities, has a 50% interest in Summit Care Pharmacy (APS) LLC, and provides rehab therapy to 187 facilities and hospice services in CA and NM. Each facility is a separate LLC.

Note: Revenues (rev.) in billions. Net income and net income margins are shown. ROE, return on equity; EBITDA, net income before depreciation, and interest expense and income taxes; EBITDA margin (%), percentage of revenues where EBITDA not available; LLC, limited liability corporation. States identified by their two-letter abbreviations.

^aStates with nursing home facilities.

^bPrivate equity firm.

Table 2

Parent company and history and affiliations of the top 10 for-profit nursing home companies in the United States, 2008

Parent company	History and affiliations
HCR $Manor$ $Care$, $Toledo$, OH^a	
The Carlyle Group, a global private equity firm	Health Care and Retirement Corporation (HCR), formed in 1959, created Heartland
with more than \$85 billion in equity capital in 64	Health Care in 1975, which became publicly traded (NYSE) in 1981. Manor Care Inc.
funds, purchased HCR Manor Care in July 2007	started with 8 nursing homes in 1968 and merged with Quality Courts Motels Inc. in
for \$6.6 billion, at \$67 per share, and converted it	1981, and became a holding company for Quality Inns Inc., Quality Inns International
to a private company. The Carlyle Group invests	Inc., and Manor Healthcare Corp. In 1996, Manor Care spun off Choice Hotels into a
in aerospace and defense, energy and power,	separate publicly traded company. Manor Care merged with HCR, including its
automotive and transportation, financial services,	Heartland facilities, in 1998. HCR Manor Care was publicly traded (NYSE) with
consumer and retail, health care, industrial,	revenues of \$3.4 billion and profits of \$161 million before purchase by the Carlyle

Group. After the purchase, HCR Manor Care was reorganized with separate management

and property LLCs established for each nursing home.

Golden Living Fort Smith, AR^a

infrastructure, tech and business, and telecom-

munications and media in the United States,

Europe, Asia, and Australia.

Living. Golden Living is operated by Golden Gate Fillmore Strategic Investors LLC. Fillmore Capital Drumm Investors LLC, which is 100% owned by in March 2006 and changed the name to Golden and Fillmore West. Fillmore purchased Beverly Fillmore Capital Partners LLC has a REIT with \$5.7 billion, managed by 2 funds, Fillmore East National Senior Care LLC (GGNSC) Holdings Enterprises for \$1.85 billion, \$12.50 per share, LLC, a Delaware company wholly owned by

and reorganized in 1988. It purchased Pharmacy Corporation of America (PCA) in 1985 and drug distribution companies. In the 1990s, Beverly purchased American Transitional Hospitals, Hospice Preferred Choice, AdviNet, and Spectra Care Alliance (for therapies). In 1995, Beverly became a holding company, and in 1998, it divested: Beverly Specialty Beverly and combined with PharMerica to form a publicly traded company. In 1999, Beverly Beverly Enterprises, formed in 1963 with 3 nursing homes in CA, became publicly traded nursing home chain, to become the largest U.S. nursing home, and was publicly traded on the NYSE (BEV) in 1982. With investigations and litigation in 6 states, Beverly sold homes on the American and Pacific Coast exchanges. In 1977, it purchased Leisure Lodges, a Hospitals, AdviNet, Spectra Respiratory, and MedView. In 1997, PCA separated from

Partners LLC invests in health care, lodging, senior housing, office, retail, and manufactured home communities in the United States and Mexico.

Life Care Centers of America, Cleveland, TN Life Care Centers of America is a privately owned company, and the chairman and founder is F. L. Preston. In 2004, Life Care and Hillhaven formed a joint venture for Medlife Pharmacy Network, for pharmacy, infusion therapy, and consulting.

Kindred Healthcare (NYSE: KND), Louisville, KY Kindred Healthcare Inc. is publicly traded, with revenues of \$2.1 billion from nursing homes and \$1.8 billion from hospitals in 2008. It leases properties from Ventas Inc. (NYSE: VTR), a REIT with 513 properties in the United States and Canada. Its subsidiary, Ventas Realty, owned 192 nursing homes with revenues of \$930 million and \$6.6 billion in assets in 2008. Kindred and AmerisourceBergen formed PharMerica (NYSE: PMC) in 2006, merged it with Kindred Pharmacy in 2007, and divested it. Kindred purchased 21 facilities from Ventas in 2007 and sold them in 2008, and acquired and sold Health Care Property Investors with 11 nursing centers in 2007.

created AEGIS Therapies. In 2002, Beverly started Aedon staffing, CERES Strategies, and LARES Care Resource (information) and sold MATRIX Rehabilitation and CareFocus. When Beverly was purchased by Fillmore in 2006, it had 351 facilities and revenues of \$1.99 billion. After purchase, it reorganized into 13 separate LLCs, and Geary Property Holdings owned the real estate.

Life Care Centers of America was founded in 1970 in TN and established a division for dementia care in 1989. In 1990, it formed a partnership with Del Crane Medical Corp., but Del Crane filed lawsuits against Life Care for allegedly violating its software copyright in 1994. In 1994, Life Care established home health care centers in Eckerd drugstores in 13 states and established a pharmacy service business in 12 states, which was sold to Omnicare Inc. in 1999.

Vencare Inc. was formed in 1983 in KY by William Lunsford (chairman, CEO, and president), with Mr. Barr. By 1989, it owned 7 hospitals in 4 states and changed its name to Vencor. By 1995, it merged with the Hillhaven Corporation, by offering \$1.9 billion. Hillhaven Corporation was formed as a nursing home in the 1940s by Ted Hill in WA. In 1979, Hillhaven was purchased by National Medical Enterprises (NME) Inc., located in CA, and became the 2nd largest nursing home chain in the United States. NME spun off Hillhaven into a separate corporation in 1990. In 1995, after financial problems, Hillhaven accepted a buyout offer from Vencor Inc. Vencor Inc. had financial problems and split into two companies in 1998, forming Ventas Inc. as a REIT for the property and Vencor Inc. to manage the hospitals and nursing homes. In 1999, Vencor Inc. filed for Chapter 11 bankruptcy, restructured, and became Kindred Healthcare, emerging from bankruptcy in 2001.

acquisition

Table 2 (Cont'd.)

Parent company	History and affiliations
Genesis HealthCare Corporation, Kennet Square, PA ^a	
Formation Capital LLC and JE Roberts Com-	Genesis Health Ventures was established by Michael Walker in 1985 with the acquisitio
panies, consisting of JER Partners (real estate) and	panies, consisting of JER Partners (real estate) and of 9 centers, and grew to \$2.4 billion in 1998 with the acquisition of nursing homes,
JER Investors Trust (financial REIT), purchased	rehab services, diagnostic testing, respiratory therapy, and pharmacy. Genesis was pub-
Genesis HealthCare Corp. in July 2007 for \$1.9	licly traded for more than 25 years. Genesis sought Chapter 11 protection in 2000 and
billion, at \$69 per share. Formation Capital invests	billion, at \$69 per share. Formation Capital invests reorganized and emerged from bankruptcy in 2001. In 2003, Genesis Health Ventures
in senior housing and the health care industry, and	separated into an inpatient care company and a pharmacy company, using the
JER Roberts is a global real estate management	NeighborCare pharmacy trade name. In 2003, Genesis HealthCare was established to
company. JER Partners manages \$4.8 billion in 10	company. JER Partners manages \$4.8 billion in 10 include the skilled nursing, assisted living, independent living, and rehab therapy
funds in the United States, Europe, Latin America,	services and was listed on NASDAQ as GHCI. It became a private company when it
and Russia.	was purchased in 2007.

Sun Health Care Group, Inc. (NASDAQ: SUNH),

Sun Healthcare Group Inc. is the parent company. In 2005, Sun acquired Peak Medical Corporation hospice company in 2006. In 2007, Sun acquired Clipper (9 nursing homes in NH) in 2008. Sun is the largest client of Omega Healthcare Investors Harborside Healthcare Corp. for \$625 million, with 73 nursing facilities and 9,000 beds in 10 states, and acquired 52.5% of voting stock in with facilities in OK and other states, and a NYSE: OHI) (a REIT).

filed for Chapter 11 bankruptcy in 1989 and reemerged in 2002 after divesting many of Procedo Stocker GmbH, a German company, with facilities in Germany, Netherlands, Andy Turner formed Sunrise Healthcare Corp. in 1989 with 7 nursing homes, and it and Austria, and owned facilities in Australia, Spain, and the United Kingdom. Sun largest nursing home chain, with revenues of \$1.1 billion. Sun purchased Regency Mediplex Group Inc., a long-term care provider in MA. By 1995, Sun was the 6th Health Care Services Inc. in 1997, Retirement Care Associates Inc. in 1998, and became publicly traded on the NYSE in 1993 (SHG). In 1994, Sun merged with its holdings, including the international companies.

SavaSeniorCare, LLC, Atlanta, GA^a

National Senior Care LLC, a newly created private equity investment firm owned by holding company National Senior Care Inc., purchased Mariner HealthCare in December 2004 for \$1.055 billion, at \$30 per share. National Senior Care changed the name of Mariner to SavaSeniorCare and established separate LLCs for the property and the operation of the facilities, including SSC Equity Holdings LLC. L. Grunstein is the company chairman.

Extendicare Health Services, Inc., Milwaukee, WI Extendicare Real Estate Investment Trust, a Canadian REIT, owns Extendicare Health Services Inc. and made it a private wholly owned subsidiary in 2006. Extendicare Canada operates nursing homes and senior centers in Canada and owns ParaMed Home Health Care Canada, 65% of Crown Life Insurance, and Extendicare Canada Inc. (ECI), which operates 81 senior care facilities with 11,400 beds in 4 provinces. Extendicare REIT acquired Tendercare (MI) Inc., with 35 facilities, acquired 5 facilities in WI in 2007, and acquired 3 facilities and sold 6 facilities in the United States in 2008.

Aramark Corporation (ARA), a diversified company including vending machines in the 1940s, purchased National Living Centers in 1973 and Geriatrics Inc. in 1974. ARA Living Centers was the 3rd largest nursing home chain in 1984 (31,312 beds). In 1992, Aramark spun off its geriatrics division into a publicly traded company named Living Centers of America (LCA), with revenues of \$1.1 billion in 1996. American Medical Services, a nursing home company started in the 1960s, merged with a nursing home (HostMasters) in 1990 and was renamed GranCare Inc. GranCare Inc. bought Evergreen in 1995 and was the 6th largest publicly traded chain. In 1997, LCA and GranCare Inc. merged and became Paragon Health Network Inc. In 1998, this merged with Mariner Health Group and became Mariner Post-Acute Network Inc. (MPAN) and was publicly traded (NYSE). In 2000, MPAN entered into bankruptcy and reorganized, emerged from bankruptcy in 2002, and became Mariner Health Care. In 2003, Mariner operated 256 skilled nursing, 8 assisted living, and 11 long-term acute care facilities with revenues of \$1.7 billion, before it was purchased in 2004.

Extendicare Health Services Inc. started as Pendexcare Ltd in Canada in 1968 and became Extendicare Ltd in 1968, and expanded to the United States in 1978. Extendicare invested in United Health Maintenance Inc. and Medco Centers Inc. in 1976, Villacentres Limited in 1983, Tri-Medical Professional Managers in 1985, and Union Prescription Centers in 1986. Extendicare changed its name to Crownx Inc. in 1983, diversified into financial and insurance services, and purchased shares in Crown Life Insurance. Crownx Inc. operated home health in Canada and nursing centers and a hospital in the United Kingdom. In 1996, Crownx Inc. changed its name to Extendicare Inc. In 1997, Extendicare purchased Arbor HealthCare nursing homes with pharmacy and outpatient rehabilitation clinics, but later sold the pharmacy. Extendicare converted to Extendicare REIT in 2006 and purchased Assisted Living Concepts (ALC) in the United States in 2006. Extendicare and ALC became separate wholly owned subsidiaries of Extendicare's REIT, which sold 32% interest in Crown Life in 2007.

Table 2 (Cont'd.)

Parent company	History and affiliations
National Health Care Corp. (NYSE: NHC), Murfreesboro, TN National Health Care Corp. was founded in 1971 by Dr. Carl Adams as a partnership, incorporated in DE in 1997, and became publicly traded with 111 long-term health care centers with 14,071 beds. In 2002, it established its own liability insurance company. National Health Care is managed by Robert Adams (Carl's son) and has a 50% ownership in HealthCare LP for hospice services. National Health Care nursing homes are established as separate LLCs.	In 1997, National Health Care Corp. leased 40 centers from National Health Investors Inc. (NHI), leased 18 from National Health Realty Inc. (NHR), and managed 53 centers for other owners. NHI (NYSE: NHI) was formed in 1991 in MD by Andrew Adams (brother of Robert Adams) and is a wholly owned subsidiary REIT. In 2007, National Health Care merged with National Health Realty Inc. (NHR) (a REIT with 23 health care facilities), which owned facilities leased by National Health Care. NHI had \$63 million in net revenues in 2008 and owned and leased 49 long-term care facilities operated by National Health Care and 15 operated by other companies, 1 hospital, 4 medical office buildings, 14 assisted living facilities, 4 retirement centers, and 17 residencies for the developmentally disabled in 2008.

Skilled HealthCare Group, Inc., LLC (NYSE: SKH), Foothill Ranch, CA
Skilled Health Care Group (SHG) is a holding company, incorporated as SHG Holding Solutions Inc. in DE in 2005. Onex owns 75% voting stock of SHG, so SHG is a "controlled company" with certain exemptions from NYSE requirements. SHG acquired Summit Care in 2007. In 2008, SHG purchased 1 nursing home and 8 assisted-living facilities in KS. Onex (NY and Toronto) manages the assets of Onex Partners and ONCAP funds.

Summit Care Corp. was the 17th largest nursing home in 1982 and the nation's largest multihospital system (5,190 beds) in 1984. It merged with OrNda Health Corp in 1994, operating in 12 states with 49 acute hospitals, 6 surgery centers, a psychiatric hospital, and a managed health care Medicaid plan in 1996. In 1998, Summit Care was a publicly traded company (NASDAQ: SUMC), with long-term care facilities in CA, TX, and AZ, that merged with Fountain View Inc. Summit Care filed for bankruptcy in 2001 and emerged from bankruptcy in 2003 with 48 nursing homes, after selling its CA pharmacy business. In 2007, Summit Care and SHG Holding Solutions were merged into Skilled Healthcare Group Inc. Onex Partners I was founded in 2003 with \$1.66 billion in funds, Onex Partners II started in 2006 with \$3.45 billion, and Onex Partners III in 2008 with \$3.5 billion. Onex invests in many international industries, including health care in the United States, Canada, and the United Kingdom, diagnostic imaging, emergency medical services, beech craft, warranty companies, home products, AeroSystems, Magellan Health Services, and cosmetics.

Note: REIT, real estate investment trust; LLC, limited liability company. States identified by their two-letter abbreviations. Sources: Details available from the authors on request ^aPrivate equity firm. bankruptcy in 2000 and emerged from bankruptcy in 2002, and was named SavaSeniorCare LLC in 2004. Finally, Summit Care Corporation, a publicly traded company, merged with Fountain View Inc. in 1998, filed for bankruptcy from 2001, emerged from bankruptcy in 2003, and became Skilled HealthCare in 2007. The five bankruptcies led to restructuring by selling less profitable facilities or companies and purchasing others. Among the five companies, only Sun Health Care retained its name and ownership.

In spite of the restructuring, most of the top 10 largest chains in 2008 retained their top-10 status in terms of bed size, although their within-group rankings changed. HCR Manor Care was the largest chain in the 2003–8 period, having risen from fifth place in 1998 (27). Golden Living (formerly Beverly Enterprises) was the second largest chain in 2008, having dropped from first place (in 1982–2002) after a decline in 2002 (28). Life Care, Kindred, Genesis, Sun, Extendicare, and National Health Care have all remained in the top 10 since 1998, and Skilled HealthCare rose to 10th place in 2008. Once nursing home chains reached the top 10, they were able to maintain their size advantage over other chains.

Ownership Structure

Both the private companies and the publicly held chains have complex organizational structures with multiple investors, holding companies, and multiple levels of companies involved in the ownership of each chain. Some of the chains showed five or more levels of ownership, with multiple companies. For example, the Carlyle Group purchased HCR Manor Care Inc., which is a holding company for Manor Care Health Services, which is composed of HCR Health Care LLC holding company, HCR Properties LLC holding company, and HCR operating company. The holding companies owned multiple companies, including nursing homes and other long-term care companies (29).

Since 2004, 4 of the top 10 chains have been purchased by private equity companies (see Tables 1 and 2). National Senior Care LLC, a private equity investment firm, purchased Mariner Health Care in December 2004 and renamed the company SavaSeniorCare LLC. In 2006, Fillmore Capital Partners LLC, a real estate investment trust, owned Drumm Investors, which purchased Beverly Enterprises and changed the name to Golden Living. Formation Capital LLC and JE Roberts Companies purchased Genesis HealthCare Corporation in 2007, and HCR Manor Care was purchased by the Carlyle Group in 2008. These four private equity firms owned a wide range of companies. In addition, Extendicare Health Services Inc., a publicly traded company in the United States (NYSE), became a private, wholly owned subsidiary of Extendicare REIT (a Canadian company) in 2006. Life Care remained a private company under the same ownership since it was founded in 1970. Only 4 of the top 10 (Kindred, Sun, National Health Care, and Skilled HealthCare) remained publicly traded in 2008 (Table 2).

Real Estate Investment Trusts

Real estate investment trusts (REITs) are public or private corporations that invest in real estate, with tax exemptions from corporate income taxes if they satisfy a series of requirements related to sources of income and assets, payment of dividends, and diversification of ownership (8). Six of the top publicly traded and private nursing home chains separated their management from their assets by placing assets (buildings and land) into separate REITs (Table 2). Vencor Inc. (now Kindred) established Ventas Inc. (1998); Beverly Enterprises (Golden Living) established Geary Property Holdings (2006); Genesis HealthCare utilized a REIT (JER Investors Trust); and Extendicare REIT owned Extendicare Health Services Inc. and some of its properties. Many National Health Care facilities were owned by a REIT (National Health Realty Inc.), which merged with National Health Care in 2007, and National Health Care had a wholly owned subsidiary REIT (National Health Investors). Skilled HealthCare had 75 percent of its voting stock owned by Onex, which is not a REIT but owns many of Skilled HealthCare's properties. In addition, Genesis and Sun leased facilities from Omega Healthcare Investors Inc. (a large REIT), and Life Care leased some facilities from Health Care REIT in 2008.

Limited Liability Companies

By 2008, the top 10 nursing home companies had converted most, if not all, of their individual nursing facilities into two limited liability companies (LLCs) with separate management and property companies (or a REIT) (Table 2). An LLC is a legal form of business organization that provides limited liability to its owners and blends elements of partnership and corporate structures (30). When HCR Manor Care was purchased by the Carlyle Group in 2007, each facility was structured into two LLCs. When Beverly Enterprises was sold to Fillmore Capital Partners in 2006 and moved under Golden Gate National Senior Care LLC Holdings, it was reorganized into 13 separate LLCs. Life Care reported that its facilities were organized as LLCs. Sava, after purchasing Mariner, reported restructuring its companies into separate LLCs in 2004, and all the National Health Care holdings were moved into separate LLCs.

DISCUSSION

Our findings show that the 10 largest for-profit nursing homes operated about 13 to 14 percent of all U.S. nursing home beds and facilities, and they had revenues ranging from about \$1 to \$4 billion in 2008. All of the top 10 chains were widely diversified, owning many businesses, especially in the long-term care field, which contributes to the financial success of the chains. These large companies have captured most of the related business for nursing home residents (e.g., therapy services, hospice services, and pharmaceuticals) and are in a position to refer people to or ensure that their residents use their related companies. This can result in a loss of consumer choice and control and may increase prices because of limited competition.

The top 10 companies reported management strategies that focused on increasing Medicare revenues by developing Medicare post-hospital and subacute services to increase profitability, consistent with previous study findings (31, 32). Chains have reported that a large percentage of their Medicare residents are in the highest rehabilitation and extensive care categories, which receive the highest payments (31). A recent report by the Office of the Inspector General (33) suggests that the chains are engaged in questionable billing practices to increase their Medicare payments, at a time when the Medicare program conducts few audits of resident acuity levels and service delivery.

The focus of the top 10 chains on profit maximization appears to have been highly successful. Two publicly traded chains reported 15 to 18 percent profit margins in 2008, consistent with previous reports of high profit margins by chains (7, 10, 20, 31), although others reported lower profits. Most of the top 10 chains do not publicly report their financial status or profits, so this information is largely hidden even though government pays for more than 60 percent of their revenues (6, 7). Moreover, the profits on related businesses and REITS are not reported unless they are part of a publicly traded chain. These facts underscore the need for greater financial accountability and transparency by nursing homes.

The top 10 chains grew through acquisitions and mergers, particularly during the 1980s and 1990s, and generally became publicly traded companies in the 1980s (except for Life Care). The bankruptcies of 5 of the top 10 chains in the early 2000s seem to have been strategic decisions designed to restructure debts to reduce or avoid debt payments and/or to improve their bargaining position on debt restructuring (7, 10, 34).

During the bankruptcy process, however, the executives and board members of the chains lost their positions, and four chains were taken over by private equity companies. This result reinforced the focus on shareholder and investor value rather than other goals such as quality and service. By 2008, only four companies continued to be publicly traded, while only three chains had a relatively stable organizational structure.

Since the early 2000s, all of the nursing home chains reported creating REITS, with the real estate and assets owned by a separate company. REITs are attractive because they enable chains to reduce their corporate taxes (8). Some REITs have also developed rental agreements in which, in addition to basic rental charges, the nursing home operating companies pay a proportion of their profits to the REITs, allowing nursing homes to shift profits to the REITS and further reduce their corporate taxes. REITS may also reduce the likelihood of nursing homes being the subject of litigation, because the assets are separated from the

nursing home operating companies that may be sued. Moreover, when the debt associated with the real estate is separated from the operating companies, the operating companies are allowed to incur other debt financing (8).

The conversion to LLCs, utilized by almost all of the top 10 chains, was recommended by Casson and McMillan (30) as another way to protect company assets from litigation. When each nursing home operating company is an independent entity from the parent corporation, it becomes more difficult for liability to be assessed to the chain as a whole. The twin strategies of using LLCs and REITS appear to have had some benefits, because the insurance industry reported that nursing home liability costs declined in 2008 (35).

Nursing homes are frequently bought and sold by chains as they try to improve profitability and their position in the market (5, 8, 23). The complex organizational structures of both private and publicly held chains involve multiple investors, holding companies, and multiple levels of companies. Our study found some chains with 5 levels of corporate ownership, while an analysis of chains in Texas found 7 layers of ownership (23) and the GAO reported 10 layers for one chain (21). The lack of transparency in the ownership reporting makes it difficult to identify the companies responsible for nursing home services. Moreover, multiple layers of ownership insulate the parent companies from liability by allowing them to distance themselves from responsibility for the management decisions of individual nursing homes.

The Centers for Medicare and Medicaid Services (CMS) has required the name of the licensee of each facility, but ownership data and chain affiliation have not been accurately compiled and maintained, and the CMS data are not usable (21). In addition, related parties with direct and indirect financial interests in a nursing facility are not identified and disclosed by nursing home chains. Overall, state survey and certification agencies lack sufficient information to monitor the actions of chains, track ownership changes, and conduct evaluations of new owner applications. These challenges are further compounded by private equity ownership of companies that have no prior track record in providing nursing home care and disclose less information than publicly traded chains.

As a result of congressional concern about private equity companies, the Patient Protection and Affordable Care Act (Public Law 111-148) of 2010 included Nursing Home Transparency provisions that will require greater disclosure of nursing home ownership. The law requires nursing facilities to report each member of its governing body, officer, director, member, partner, trustee, or managing employee. In addition, parties must disclose their relationships, including those who exercise operational, financial, or managerial control over a facility or part of a facility, including leases or subleases of facility property, management or administrative providers, consulting services, and accounting or financial services. CMS has the challenging task of developing regulations to establish accurate, complete, and timely ownership data for nursing homes and to ensure that this information is made publicly available. This step should allow CMS to greatly improve ownership information and allow tracking and regulatory monitoring of chains.

While there is evidence in the literature of poor quality delivered by the largest chains (5, 16, 19, 20, 24), the lack of public access to data and the complexity of chain ownership have made it difficult for researchers to examine companies' patient care. More research on large nursing home chains is needed to understand the impact that companies have on access, quality, and costs. Funding for such studies by both government and foundations has been limited and needs to be expanded.

Without greater government oversight of chains, the current ownership, financing, and management strategies of large nursing home chains can be expected to continue. Their strategies focus on increasing corporate profits by maximizing governmental revenues, market control of related long-term care services, reduced corporate taxes, and limited liability risks. As long as the top 10 chains are successful in providing desired shareholder and investor values, they will continue to dominate the nursing home market, and that, in turn, will encourage other nursing home chains to emulate their approach.

Acknowledgments — We would like to acknowledge helpful comments on this article by Janet Wells at the Consumer Voice, Toby Edelman at the Medicare Advocacy Project, and colleagues at the Major Collaborative Research Initiative project entitled Re-Imagining Long Term Residential Care, at York University.

REFERENCES

- 1. Kaffenberger, K. R. Nursing home ownership: An historical analysis. *J. Aging Soc. Policy* 12(1):35–48, 2000.
- 2. Kitchener, M., and Harrington, C. The U.S. long-term care field: A dialectic analysis of institution dynamics. *J. Health Soc. Behav.* 43(extra issue):87–101, 2004.
- 3. American Health Care Association. *Trends in Nursing Facility Characteristics*. Washington, DC, June 2009.
- 4. Harrington, C., Carrillo, H., and Blank, B. W. *Nursing Facilities, Staffing, Residents, and Facility Deficiencies, 2003–08.* University of California, San Francisco, 2009. www.nccnhr.org.
- Banaszak-Holl, J., et al. The rise of human service chains: Antecedents to acquisitions and their effects on the quality of care in US nursing homes, 1991–1997. *Managerial Decis. Econ.* 23:261–282, 2002.
- 6. Hartman, M., et al., and the National Health Expenditures Accounts Team. National health spending in 2007: Slower drug spending contributes to lowest rate of overall growth since 1998. *Health Aff. (Millwood)* 28(1):246–261, 2009.
- 7. U.S. General Accounting Office. *Nursing Homes: Aggregate Medicare Payments Are Adequate Despite Bankruptcies.* Testimony before the Special Committee on Aging, U.S. Senate. GAO/T-HEHS-00-192. Washington, DC, September 5, 2000.

- 8. Stevenson, D., Grabowski, D., and Coots, L. Nursing Home Divestiture and Corporate Restructuring: Final Report. U.S. Assistant Secretary for Planning and Evaluation, Washington, DC, December 2006.
- 9. Fligstein, N. The Architecture of Markets: An Economic Sociology of Twenty-First Century Capitalist Societies. Princeton University Press, Princeton, NJ, 2001.
- 10. U.S. General Accounting Office. Skilled Nursing Facilities: Medicare Payments Exceed Costs for Most but Not All Facilities. Report to Congressional Requestors, GAO/HEHS-03-183. Washington, DC, December 2002.
- 11. Stevenson, D., and Grabowski, D. Private equity investment and nursing home care: Is it a big deal? Health Aff. (Millwood) 27(5):1399–1408, 2008.
- 12. Diamond, S. F. Private equity and public good. Dissent Magazine, Winter 2008. www.dissentmagazine.org/article/?article=988 (accessed May 15, 2010).
- 13. U.S. General Accounting Office. Nursing Homes Quality: Prevalence of Serious Problems, While Declining, Reinforces Importance of Enhanced Oversight. Report to Congressional Requesters, GAO-03-561. Washington, DC, 2003.
- 14. U.S. Government Accountability Office. Nursing Homes: Efforts to Strengthen Federal Enforcement Have Not Deterred Some Homes from Repeatedly Harming Residents. GAO-07-241. Washington, DC, 2007.
- 15. U.S. Government Accountability Office. CMS's Specific Focus Facility Methodology Should Better Target the Most Poorly Performing Facilities Which Tend to Be Chain Affiliated and For-Profit. GAO-09-689. Washington, DC, August 2009.
- 16. U.S. Government Accountability Office. Nursing Homes: Addressing the Factors Underlying Understatement of Serious Care Problems Requires Sustained CMS and State Commitment. GAO-10-70. Washington, DC, 2009.
- 17. Comondore, V. R., et al. Quality of care in for-profit and not-for-profit nursing homes: Systematic review and meta-analysis. BMJ 339:b2732, 2009.
- 18. Hillmer, M. P., et al. Nursing home profit status and quality of care: Is there any evidence of an association? Med. Care Res. Rev. 62(2):139-166, 2005.
- 19. Harrington, C., et al. Does investor-ownership of nursing homes compromise the quality of care? Am. J. Public Health 91:1452–1455, 2001.
- 20. O'Neill, C., et al. Quality of care in nursing homes: An analysis of the relationships among profit, quality, and ownership. Med. Care 41:1318–1330, 2003.
- 21. U.S. Government Accountability Office. Nursing Homes: Complexity of Private Investment Purchases Demonstrates Need for CMS to Improve the Usability and Completeness of Ownership Data. GAO-10-710. Washington, DC, 2010.
- 22. Johnson, C. E., et al. Predictors of lawsuit activity against nursing homes in Hillsborough county Florida. Health Care Manage. Rev. 29(2):150-158, 2004.
- 23. Stevenson, D., Grabowski, D., and Bramson, J. Nursing Home Ownership Trends and Their Impact on Quality of Care. U.S. Assistant Secretary for Planning and Evaluation, Washington, DC, August 2009.
- 24. Kitchener, M., et al. Shareholder value and the performance of a large nursing home chain. Health Serv. Res. 43(3):1062-1084, 2008.
- 25. LaPorte, M. Top 50 nursing facility chains: Weathering the storm. *Provider Magazine*, June 2009, pp. 47–51. www.retirementconcepts.com.
- 26. LaPorte, M. Top 50 nursing facility chains: Steady growth. Provider Magazine, June 2008, pp. 39-43. www.providermagazine.com/archive 2008.htm (accessed June 2008).

746 / Harrington et al.

- 27. Adler, S. The CLTC 50-plus. Contemp. Long Term Care, April 1999, pp. 36-48.
- 28. Vickery, K. 2003: A year of transition. *Provider*, June 2004, pp. 41-45.
- 29. Loepere, C. C., and ReedSmith, LLP. Request for exemption from certificate of need review notice of Manor Care, Inc. stock sale and internal reorganization. Letter to Paul Parker, Maryland Health Care Commission, Baltimore, August 13, 2007.
- 30. Casson, J. E., and McMillen, J. Protecting nursing home companies: Limiting liability through corporate restructuring. *J. Health Law* 36(4):577–613, 2003.
- 31. Medicare Payment Advisory Commission (MedPac). Report to Congress: Medicare Payment Policy. Washington, DC, March 2009.
- 32. Zinn, J. S., et al. Doing better to do good: The impact of strategic adaptation on nursing home performance. *Health Serv. Res.* 42(3, Pt. I):1200–1218, 2007.
- 33. U.S. Department of Health and Human Services, Office of the Inspector General. *Questionable Billing by Skilled Nursing Facilities*. OEI-02-09-00202. Washington, DC, December 2010.
- 34. Delaney, K. J. Strategic Bankruptcy: How Corporations and Creditors Use Chapter 11 to Their Advantage. University of California Press, Berkeley, 1992.
- 35. Aon Global Risk Consulting. Long Term Care: 2008 General Liability and Professional Liability Actuarial Analysis. American Health Care Association, Washington, DC, 2008. www.ahcancal.org/research_data/liability/Documents/2008 LiabilityActuarialAnalysis.pdf (accessed November 13, 2009).

Direct reprint requests to:

Charlene Harrington
Department of Social and Behavioral Sciences
University of California, San Francisco
3333 California Street, Suite 455
San Francisco, CA 94118

charlene.harrington@ucsf.edu