

CHAPTER

3

**Congressional request:
Private equity and Medicare**

Congressional request: Private equity and Medicare

Chapter summary

In March 2020, the chairman of the Committee on Ways and Means asked the Commission to examine the role that private equity (PE) plays in the Medicare program. *Private equity* refers broadly to any activity where investors buy an ownership, or equity, stake in companies or other financial assets that are not traded on public stock or bond exchanges. One type of PE activity that has drawn growing attention in recent years involves investment firms that purchase companies and then try to improve their operational and financial performance so they can later be sold for a substantial profit. These types of acquisitions have become increasingly common in many parts of the economy, including the health care sector.

The advantages and disadvantages of PE investment in health care have long been a topic of debate. Supporters argue that PE firms improve the performance of the companies they acquire, generate better returns than other types of investments, and provide a way for health care companies to obtain capital. Opponents argue that PE firms can weaken the long-term health of the companies they acquire by weighing them down with debt, increase health care costs by using market power to obtain higher payment rates, and do little to improve quality.

In this chapter

- Background
- Many Medicare providers have complex business structures that make it difficult to identify ownership and control
- Business models for PE investments in health care
- Effects of PE investment on Medicare costs, beneficiary experience, and provider experience
- PE involvement with the Medicare Advantage program
- Conclusion

Committee questions and our responses

What are current gaps in Medicare data that create issues in tracking private equity investments in Medicare? Are there levers that facilitate or allow for the collection of PE-related information in the current Change of Ownership (CHOW) process administered by the Centers for Medicare & Medicaid Services?

Understanding which individuals or entities own a Medicare provider and their track record of operations could help to improve oversight and safeguard patient care. Transparency of ownership information may help not only beneficiaries and their families as they select health care providers but also researchers as they analyze the effects of PE backing. CMS primarily collects data on provider ownership to support the enrollment process, payment, and fraud prevention, rather than research on the prevalence of different types of ownership. Observers have noted for many years that the ownership data submitted to CMS are incomplete and sometimes inaccurate. One particular obstacle is capturing accurate ownership data for providers (such as nursing homes and some hospitals) that are part of complex corporate structures with multiple levels and subsidiaries. As a result, CMS's ownership data typically do not indicate a parent organization atop a hierarchy of legal entities. More complete ownership data and greater transparency of ownership are highly important. However, under constrained resources, the feasibility of CMS identifying parent organizations for large numbers of Medicare providers and suppliers is a difficult challenge.

What are private equity funds' business models when investing in health care? How do these strategies vary by health care setting?

We examined PE business models in three key sectors: hospitals, nursing homes, and physician practices. PE firms have made investments in each sector but have a limited presence: We found that PE firms own about 4 percent of hospitals and 11 percent of nursing homes. We do not have a comparable figure for physician practices. At least 2 percent of practices were acquired by PE firms from 2013 to 2016, but that figure does not account for previous PE acquisitions and appears to have grown since then.

Because there is no single comprehensive source of ownership information, researchers compile data about PE ownership from proprietary datasets and public announcements. As a result, the estimated numbers of health care providers with PE backing are likely too low.

PE firms use several common strategies to make the providers they own in these sectors more profitable. Many of these strategies are also used by for-profit

providers that are not PE owned. Some of those strategies focus on increasing revenues (such as providing more services, shifting toward a more highly compensated mix of services and procedures, or raising prices where possible), while others focus on reducing costs (such as taking advantage of economies of scale and lowering labor costs). Other strategies are more relevant to individual sectors, such as selling off a nursing home's real estate or creating larger physician practices by acquiring a large "platform" practice and then buying smaller practices in the same market.

How has private equity investment in health care affected Medicare costs and the beneficiary and provider experience?

For hospitals, where it was easier to identify the relatively small number of PE-owned facilities from public sources compared with other sectors, we found that PE-owned facilities tended to have lower costs and lower patient satisfaction than other for-profit and nonprofit hospitals. However, the differences among the three groups were relatively small and may not be caused by PE ownership.

For nursing homes, the research literature is somewhat dated and the findings on the effects of PE ownership on financial and quality of care indicators are mixed.

For physician practices, there is minimal peer-reviewed, empirical evidence of the impact of PE ownership on Medicare spending, quality of care, and patients' experience.

To what extent are private equity firms investing in companies that participate in Medicare Advantage, and is it possible to evaluate the effects of such investments on Medicare costs?

We found that PE funds own about 2 percent of the companies (6 out of 309) offering Medicare Advantage (MA) plans in January 2021. The plans offered by those PE-owned companies account for a little less than 2 percent of overall MA enrollment. We also identified another 25 companies that have received other types of PE investment, largely venture capital. These companies are often startup firms that focus exclusively on the MA program, and many target specific niche markets, such as beneficiaries living in nursing homes. This group of companies accounted for about 1 percent of overall MA enrollment.

In addition, PE firms (again, largely venture capital firms) have invested in a range of companies that work for MA plan sponsors. Many of these companies provide

services or care management to enrollees, and several are paid using value-based contracts where they bear some financial risk for enrollees' overall health costs.

We did not find any research that examines the effects of PE investments in MA companies on Medicare costs, and we believe that such an analysis would be very difficult to conduct due to various data limitations. ■

Background

The term *private equity* (PE) refers broadly to any activity where investors buy an ownership, or equity, stake in companies or other financial assets that are not traded on public stock or bond exchanges. One type of PE activity that has drawn growing attention in recent years involves investment firms that purchase companies and then try to improve their operational and financial performance so they can later be sold for a profit. These types of acquisitions have become increasingly common in many parts of the economy, including the health care sector.

In March 2020, the chairman of the Committee on Ways and Means asked the Commission to examine the effects of private equity on the Medicare program. The request asked the Commission to answer four questions, to the extent feasible:

1. What are current gaps in Medicare data that create issues in tracking private equity investments in Medicare? Are there levers that facilitate or allow for the collection of PE-related information in the current Change of Ownership (CHOW) process administered by the Centers for Medicare & Medicaid Services?
2. What are private equity funds' business models when investing in health care? How do these strategies vary by health care setting?
3. How has private equity investment in health care affected Medicare costs and the beneficiary and provider experience?
4. To what extent are private equity firms investing in companies that participate in Medicare Advantage, and is it possible to evaluate the effects of such investments on Medicare costs?

This chapter provides our responses to the questions specified in the request. The request expressed interest in a quantitative analysis of the effect of PE ownership, if feasible, but this kind of analysis is often quite difficult to carry out due to the lack of good data about which providers are owned by PE firms, which we discuss in more detail in this chapter. As a result, the work in this chapter is based primarily on a combination of literature review and interviews with outside experts such as representatives of PE firms, researchers, and consultants.

What do we mean when we use the term *private equity*?

The term *private equity* refers broadly to any activity where investors buy an ownership stake, or equity, in companies or other financial assets that are not traded on public exchanges like the stock and bond markets.¹ The term sometimes generates confusion because it encompasses a wide range of investment activities that can differ in important respects. For example, the financial sector considers all of the following types of investment to be private equity:

- **Venture capital (VC)** involves investments in startup companies that are developing new technologies or business models. These companies often need capital for activities such as research and development, but they have not yet demonstrated that they can be profitable and thus cannot obtain capital by borrowing from a bank or issuing bonds. VC investors provide capital for startup companies in exchange for a partial ownership stake. These investments carry a high degree of risk since the companies involved are new and unproven, but VC investors can earn significant profits from companies that later become successful.
- **Growth capital** involves investments in companies that have moved beyond the startup phase—they have demonstrated that they can be profitable—but need capital to expand their operations. As with VC, growth capital investors typically receive a partial ownership stake when they invest in a company (although some may purchase a majority stake), and the company's existing management usually remains in place. However, these investments are considered less risky than venture capital because they involve companies that have shown their viability.
- **Buyouts** involve investments in established companies, which can be either privately owned or publicly traded. Unlike the two categories above, buyout funds purchase at least a majority ownership stake when they invest in a company. When a buyout fund takes full ownership of a company that had been publicly traded, the company is “taken private,” meaning that it becomes a privately owned entity and its shares are no longer bought and sold on the stock market. The buyout fund takes full control of the company and can either retain or replace the company's management. In many instances, the

company's management team will also take a partial ownership stake. Buyout funds will spend some of their own money to buy a company, but they usually finance more than half of the cost of the acquisition by borrowing money. The use of borrowed money, or debt, to help finance an investment is often referred to as leverage because it allows the borrower to use less of its money to make a given investment, which potentially enables the borrower to earn much greater returns (while also potentially exposing the borrower to much greater losses). Since buyout funds rely heavily on borrowed money to purchase a company, their acquisitions are sometimes referred to as leveraged buyouts.

Within the health care sector, the growing prominence of PE firms in recent years largely reflects the actions of companies that have been acquired through buyouts. For example, some of the physician staffing companies that have engaged in the controversial practice of “surprise billing,” where providers such as emergency department (ED) physicians and anesthesiologists bill for services using out-of-network rates, have been owned by PE funds that pursue buyouts. As a result, we focused primarily on buyouts in responding to the congressional request and will use the term *private equity* to refer to them specifically unless noted otherwise.

Private equity investments have been growing

The amount of public equity in the U.S. dwarfs the amount of private equity. In 2019, public market capitalization totaled over \$37 trillion, compared with aggregate North American PE assets under management—including buyouts, venture capital, growth capital, private debt, real estate, and other types of investments—of about \$3 trillion (McKinsey & Company 2020, Sibilis Research 2020). (Those figures pertain to the overall economy, not just the health care sector.) Stock exchanges remain the key source of investment funds among very large corporations and growth companies with large capital requirements because public exchanges have been perceived as the lowest cost way to access sizable amounts of financing (Moon 2006, Rosov 2018).

Nevertheless, over the past several decades, the importance of private equity in the U.S. economy has grown dramatically. Between 1996 and 2012, the number of companies listed on U.S. public stock exchanges fell from more than 8,000 to about 4,100 (Doidge et al. 2017).²

Meanwhile, between 2006 and 2017, the number of PE-backed U.S. firms grew from around 4,000 to about 8,000 (McKinsey & Company 2019). One reason for the decline in public listings is that the average size of listed firms increased. However, the trend also reflects the fact that listing one's company on a public exchange may no longer be as important for obtaining access to capital as in prior years.

Buyouts are the leading category of PE investment. As of 2019, total North American PE buyout assets under management totaled \$1.24 trillion—nearly three times the size of venture capital, the next-largest category (McKinsey & Company 2020). PE firms have been around since at least the 1970s, but the use of leveraged buyouts as a method of acquiring companies first became more noticeable in the 1980s (Kaplan and Stromberg 2009). The crash of junk bonds in the late 1980s and early 1990s led to the default of a few high-profile firms acquired using leveraged buyouts, and there were few PE acquisitions of publicly traded companies in the 1990s. Nevertheless, PE firms continued to purchase divisions of public firms and private companies. After declining in the early 2000s with the collapse of the “dot-com bubble,” PE buyouts of public firms reemerged in the mid-2000s.

Several reasons account for the rise of PE leveraged buyouts. First, the use of debt (borrowed money) has had a lower cost of capital than investor equity because of lower risk and because interest payments on loans can be deducted from corporate income taxes.³ Interest rates have also remained low since the 2008 financial crisis. Relative to publicly traded markets, private investments (including PE buyouts) are subject to fewer disclosure and regulatory requirements of securities law. Further, under accounting rule changes, public and private pension funds have been required to recognize their unfunded liabilities, many of which are substantial. To help make up those shortfalls, some pension funds have sought investments with higher returns, and PE firms have been perceived as offering such returns. PE investments have also been seen as a way to diversify the portfolio of institutional investors such as pension funds.

Key elements of the private equity model

The PE firms that specialize in buyouts vary greatly in size and in the types of companies that they purchase, but they nonetheless have a number of common features, and their investment activities follow a distinctive life cycle. In this section, we briefly outline the basic elements of the PE model.

Raising money from investors

The life cycle of private equity investment begins with a PE firm raising money from outside investors and pooling it into an investment fund. Each investment fund operates for a specific period of time, usually around 10 years (Mercer 2015). Most PE firms raise money for new investment funds every few years and thus oversee multiple funds. According to one report, PE firms managed an average of 4.5 funds in 2019 (Bain & Company 2020b).

The Securities and Exchange Commission (SEC) limits participation in PE funds to “accredited” and “qualified” investors—including institutional groups such as pension funds, university endowments, foundations, banks, and insurance companies, as well as individuals who meet asset, income, or other criteria that deem them sophisticated enough to not need the protections provided by the registration and disclosure requirements of publicly traded companies (Securities and Exchange Commission 2020a). Institutional investors account for more than 90 percent of the money invested in PE funds (Securities and Exchange Commission 2021). PE funds are subject to fewer regulatory requirements than other parts of the financial sector—for example, under an exception to a 1982 rule, funds that are limited to accredited investors received safe harbor from registration requirements for securities offerings (De Fontenay 2017). The SEC’s limits on participation in PE funds are based on the rationale that the ability to invest in PE funds should be restricted to relatively sophisticated groups that can better assess the potential risks and rewards of these types of assets. In addition, PE funds often require investors to contribute a substantial minimum amount, which can range anywhere from \$100,000 to \$10 million or more depending on the size of the fund (Jones 2018). The median amount of time that PE firms needed to raise money for the investment funds that were launched in 2019 was 10.5 months (Bain & Company 2020b).

When investors participate in a PE fund, they agree to provide a specified amount of money to support the fund’s investment activities and operating costs. The investors do not provide this money upfront. Instead, the PE firm periodically makes “capital calls” that require investors to provide funding when the firm is ready to make a specific investment. Investors usually have 10 days to provide the money (Altegris Advisors 2019). As a result, a significant portion of the money that has been pledged to a PE fund

may not be in use at a given point in time, especially in the early years of a fund’s life span. Investors cannot withdraw their money from a PE fund before the end of the fund’s life span, which makes PE funds a much more long-term and illiquid (i.e., difficult to convert to cash) form of investing compared with traditional stocks or bonds.⁴

In 2019, PE firms operating in the U.S. raised a total of \$301 billion across 202 investment funds, for an average size of \$1.5 billion. However, that average is inflated because it includes six “mega funds” that each raised more than \$10 billion. The average size of the funds that were launched between 2016 and 2018 was smaller, around \$900 million (Lykken 2020).

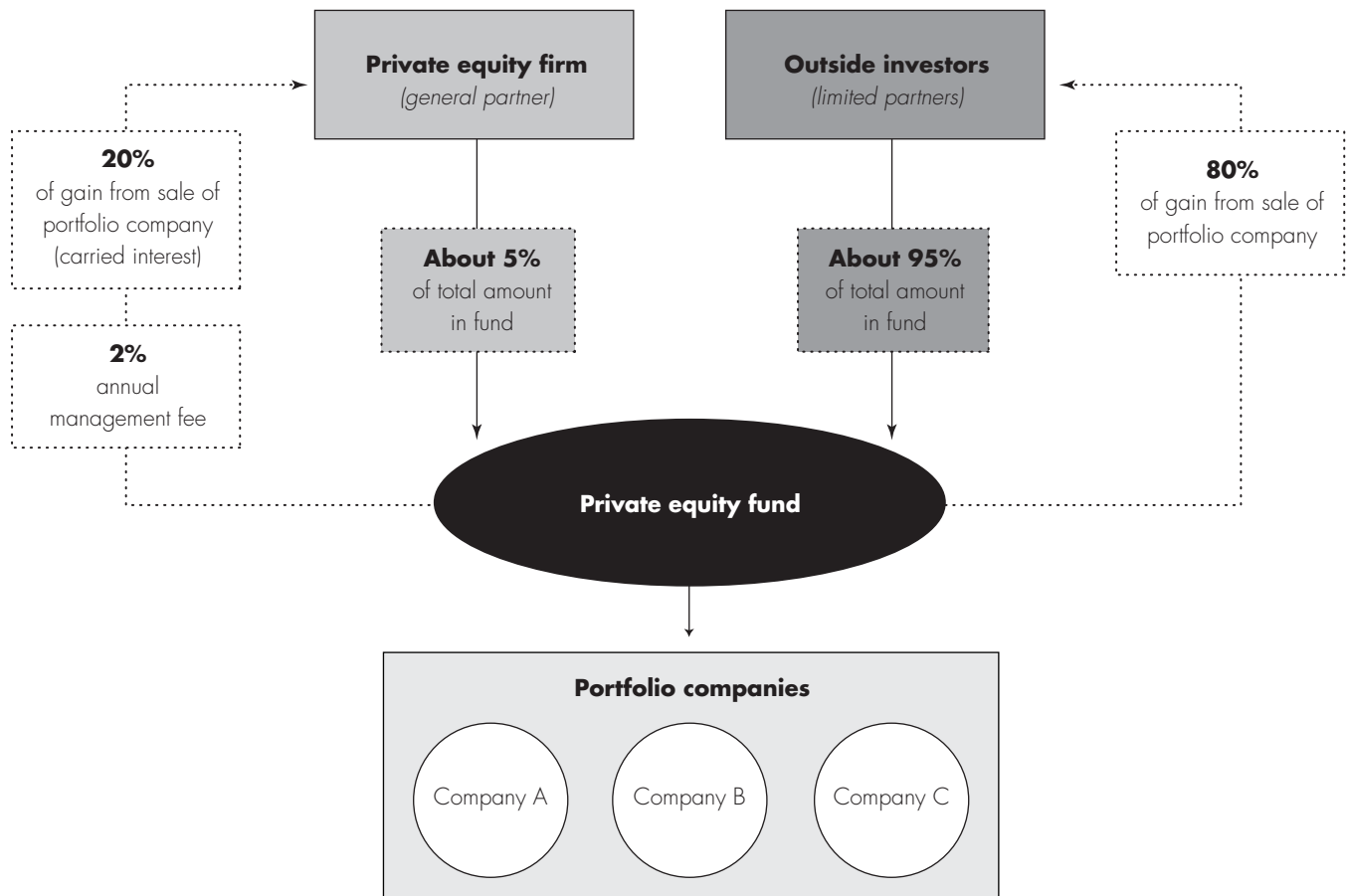
PE funds are structured as limited partnerships, with the PE firm typically serving as the fund’s general partner (GP) (Figure 3-1, p. 78). The legal agreement that governs the partnership may set broad guidelines about the fund’s investment activity (for example, requiring it to invest in a mix of economic sectors and geographic regions), but within that framework the GP has broad control over the fund’s activity (Altegris Advisors 2019). The GP also invests some of its own money in the fund, usually between 1 percent and 5 percent of the overall total (Jacobius 2017). The fund’s outside investors serve as limited partners; although they account for the vast majority of the money committed to the fund, they are passive investors and play no role in the fund’s activities.

Buying and selling portfolio companies

Once a new investment fund has been set up, the PE firm that manages the fund buys and sells companies with the goal of improving their operational and financial performance, increasing their value, and later selling them for a profit (Figure 3-2, p. 79). Once these companies have been acquired, they are referred to as portfolio companies. These acquisitions usually occur during the first three to five years of a fund’s life span, which is often called the investment period.⁵ PE firms will often make between 10 and 20 acquisitions during a fund’s life span, with the fund’s rules typically barring the firm from using more than 15 percent to 20 percent of the overall capital for any one investment (Witkowsky 2020). The amount spent on a single acquisition can vary anywhere from less than \$25 million to billions of dollars (Mercer 2015). Many acquisitions in health care are relatively small and fall below the threshold where parties to a merger or acquisition must report their plans to federal antitrust authorities before completing the transaction.⁶

**FIGURE
3-1**

Typical structure of a private equity fund



Source: MedPAC analysis.

PE firms rely heavily on borrowed money to finance their acquisitions. Depending on the permissiveness of the lending environment, borrowed money can account for as much as 70 percent of the cost of an acquisition (Mercer 2015). The PE fund provides the remaining amount. In a typical leveraged buyout, the assets of the company that is being acquired are used as collateral for the loan, and the company that is being acquired, rather than the PE firm or the PE fund, becomes responsible for making payments on the loan once the buyout is completed.

PE firms prefer using borrowed money instead of the investment fund's capital for two reasons. First, borrowing

money magnifies the potential return on an investment because the PE fund can use less of its money to acquire a company while still generating a comparable profit from its eventual sale. (Borrowing money also magnifies the potential losses from an investment, but one controversial feature of PE funds is that they are not usually responsible for the debts of their portfolio companies in a bankruptcy. This arrangement lets PE funds reap the benefits of using borrowed money while limiting their exposure to the capital they have invested in the portfolio company.) Second, the corporate income tax provides an incentive to borrow money because the costs of servicing debt reduce a company's tax liability.

**FIGURE
3-2**

Typical life cycle of private equity investments



Note: PE (private equity).

Source: MedPAC analysis of Government Accountability Office. 2010. *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: GAO.

Since PE firms acquire companies during the first 3 to 5 years of an investment fund and must sell the companies before the fund reaches the end of its life span (usually 10 years), a PE firm will usually control a portfolio company for somewhere between 3 and 7 years. During this time, the PE firm will try to improve the portfolio company's operational and financial performance—for example, by increasing its revenues or lowering its costs. Since the PE firm owns the portfolio company (or at least a majority stake), the PE firm has a much greater degree of control than it would with a partial ownership stake in a publicly traded company and can make significant changes to the portfolio company's management team and/or business strategy (Mercer 2015).

Once an investment fund enters the second half of its life span, the PE firm's attention begins to shift from buying portfolio companies to selling them. This phase is sometimes known as a fund's liquidation period. There may not be a clear boundary between the end of the investment period and the start of the liquidation period; a fund might acquire one company while selling another company. The sale of a portfolio company usually happens in one of four ways:

- the PE fund sells the company to a strategic acquirer (such as a competing company in the same industry);
- the PE fund sells the company to another PE investment fund;

- the PE fund converts the company into a publicly traded entity through an initial public offering of stock (which then allows the PE fund to sell its shares in the company); or
- the portfolio company repays the PE fund for its investment (effectively buying itself back from the PE firm, often by borrowing money) (Altegris Advisors 2019).

Once a portfolio company has been sold, the PE fund typically distributes the proceeds to the fund's investors instead of reinvesting them, even if the fund has not yet reached the end of its life span. Although PE firms aim to achieve substantial returns for their investors, the profits (or losses) from the sale of an individual portfolio company will depend on the extent to which the PE firm was able to improve the company's performance and find an attractive exit.

PE firms may also employ strategies that generate profits from portfolio companies before selling them. For example, the PE firm might require a portfolio company to complete a dividend recapitalization—where the company borrows money and uses the proceeds to make a special dividend payment to its owners (i.e., the investors in the PE fund). Another strategy is to direct the portfolio company to sell some of its real estate holdings and distribute some of the proceeds from the sale to the PE fund's investors. This strategy has been used in several

PE investments in the hospital and nursing home sectors. A third strategy is to require the portfolio company to pay substantial management or consulting fees to the PE firm or a related subsidiary. Although these strategies can enable a PE fund to generate some profits well before a portfolio company is sold, they have also been criticized for weakening the underlying financial health of portfolio companies (Appelbaum and Batt 2020, Coleman-Lochner and Ronalds-Hannon 2019, Whoriskey and Keating 2018).

Critics have argued that PE ownership can be harmful to companies because PE firms typically own the companies for a relatively short period of time and require them to take on more debt. These features, they suggest, give PE firms an incentive to focus on strategies that generate short-term profits but may weaken a company's long-term health. In contrast, the PE firm representatives that we interviewed argued that, relative to publicly traded companies and their focus on quarterly earnings, PE firms can be more flexible and nimble, and are often "patient capital" that make it easier for companies to pursue strategies that may take time to fully pay off. These representatives also said PE firms do not want to undermine their companies' long-term health because that would make it harder to sell them for a profit.

PE firms are typically paid based on the "2 and 20" model

The limited partners in a PE investment fund (the outside investors) have traditionally paid the general partner (the PE firm) for managing their investments using an approach known as the "2 and 20" model. The PE firm receives two types of payments under this model.

The first payments are annual management fees that equal 2 percent of the total amount that investors have committed to the fund (Altegris Advisors 2019). However, these fees may be somewhat lower for large investment funds and funds managed by PE firms with weaker track records (Khoury and Peghini 2019). Once the investment period ends, these fees may also decrease because they may be based on the amounts the fund currently has invested, rather than the amounts that were originally committed (Mercer 2015).

The second payments are a share of the profits that the PE firm receives when it sells one of the fund's portfolio companies. These payments are frequently referred to as "carried interest" and typically equal 20 percent of the profits from the sale.⁷ However, the PE firm does

not receive carried interest unless the profits exceed a minimum threshold, which is known as the hurdle rate and typically ranges from 6 percent to 10 percent (Altegris Advisors 2019). These payments appear to account for most of the profits that PE firms receive.

Returns on private equity are similar to returns from mutual funds that invest in smaller companies

There is a debate as to whether PE investments have historically generated better returns than investments in publicly traded stocks. For example, one study found that PE funds outperformed public equity before 2006 by 3 percent to 4 percent (Harris et al. 2015). However, another study recently argued that the higher return may just be a function of the comparison group, and it found that the premium is diminished if the comparison group consisted of smaller companies rather than index funds of large corporations (Phalippou 2020). While there is disagreement regarding the historic premium earned by PE before 2006, there is greater agreement that PE returns have been similar to public equity returns over the past decade. For example, the PE firm Bain Capital recently reported that "Since 2009, when the global economy limped out of the worst recession in generations, U.S. public equity returns have essentially matched returns from U.S. buyouts at around 15%" (Bain & Company 2020b). Phalippou also found similar returns for private and public equity in recent years (Phalippou 2020).

The decline in PE returns relative to public equity should not be surprising. Because of a historical perception that PE had higher returns (and provided additional portfolio diversification), there was a large expansion in institutional investments in PE funds. Institutional investors wanted to replicate the success of some high-profile PE investors such as the Yale University Endowment (Bary 2019). As the amount of capital searching for acquisitions grew, the prices paid for companies (expressed as a multiple of their cash flow) increased (Bain & Company 2020b). As the purchase price increases, the expected return should decrease relative to alternative investments. Despite the lack of superior returns in recent years, institutional investors continue to allocate dollars to PE funds, resulting in PE firms holding "record levels" of uninvested capital (known as "dry powder") (Bain & Company 2021).

The similarity in the returns for private and public equity raises the question of why investments in PE funds have continued to grow. One possible explanation is that PE

fund performance varies widely, with funds in the top quartile performing significantly better than the median or average PE fund (Bain & Company 2020b, Mercer 2015). Some PE firms have shown that they can consistently generate above-average returns, and those firms appear to be attracting an increasing share of the money being committed to PE investment funds (Bain & Company 2021, Bain & Company 2020b).

PE involvement in the health care sector has been growing

While PE buyouts have been evident in the economy since the 1980s, their role in health care became more noticeable only over the past two decades. More recently, the share of PE deal values devoted to health care buyouts in 2019 was roughly proportional to health care's share of the U.S. gross domestic product. One major PE firm estimates that in 2019, PE buyout deals involving North American health care providers totaled \$46.7 billion, up from \$29.6 billion in the prior year (Bain & Company 2020a).

Purchases of and investments in health care providers accounted for about 60 percent of all health care–related buyout transactions in 2019—96 deals, up from 84 in 2018 (Bain & Company 2020a). PE funds invested in retail health; behavioral health and substance abuse centers; home health and hospice care; and physician practice management in specialties that have been more fragmented, such as radiology, gastroenterology, ophthalmology, and dermatology. After PE deals involving providers, the most common transactions involved buyouts of biopharma-related firms, medical technology firms, and companies that provide services to health plans. Health care information technology was also the focus of many buyout deals, including firms that facilitate pharmaceutical drug trials, develop electronic health record software for behavioral health, and oversee revenue cycle management (e.g., debt collection).

One major reason health care has become a focus of PE investment in the U.S. is the projected demand for services related to the aging population. Before the current pandemic, the combination of stable and often growing demand for health care, the use of insurance, and the prominence of fee-for-service (FFS) payment meant predictable cash flow to health care providers. Meanwhile, the fragmented structure of categories of health care providers (such as certain specialists) and changes in technology make health care an investment target for PE funds that can consolidate providers into larger bargaining

entities. The growth of PE investment has also been driven by an extended period of low interest rates, which has encouraged investors to find other ways to generate attractive returns.

Many Medicare providers have complex business structures that make it difficult to identify ownership and control

Understanding which individuals or entities own a Medicare provider and what their track record of operations is could help to improve oversight and safeguard patient care. Transparent ownership information may also help beneficiaries and their families as they select health care providers. In particular, safety, quality, and compliance with federal regulations at nursing homes have been longstanding problems, and some operators have been repeat offenders in providing substandard care (Hawes et al. 2012).⁸ Today, about 60 percent of nursing homes are owned by chains (primarily smaller, regional for-profit entities), and PE firms own approximately 11 percent of facilities (Harrington et al. 2021).⁹ Changes over time in how providers structure their organizations have made it difficult to identify nursing homes' owners or chains with common underlying ownership which, in turn, makes it difficult to enforce regulations (Wells and Harrington 2013).

In the request, the Commission was asked to identify gaps in Medicare data and in CMS's Change of Ownership (CHOW) approval process that make it difficult to track PE investments. Here we review CMS's enrollment process and the information it collects in the Provider Enrollment, Chain, and Ownership System (PECOS), including CHOW data.

CMS collects data on provider ownership for Medicare's enrollment process. Data from PECOS are used to support payment, fraud prevention, and law enforcement, but also to populate other data sets such as CMS's public provider enrollment files and consumer provider comparison tools. CMS has not typically used PECOS data for program analysis or to research the prevalence of ownership types such as private equity. Applicants self-report ownership details to PECOS and CMS has no centralized data source with which to verify that information. As a result, there have been longstanding issues associated with the accuracy and completeness of PECOS's ownership data.

Across many types of owners, health care providers and suppliers have changed the ways in which they structure themselves so as to limit their legal liability. Providers that have common ownership are now structured in ways that do not make this ownership obvious. Thus, it is extremely difficult to capture within a data set and lay out an ownership hierarchy among a web of interrelated entities, and CMS's ownership data typically do not indicate a parent organization atop a hierarchy of legal entities.

We were able to identify PE investors in PECOS data for some providers but not for others. When we were able to identify PE ownership, it was because we had information from public data sources such as research reports or websites that identified PE relationships. Typically, the names of PE-backed portfolio companies were listed as owners rather than the PE funds themselves. We cannot say whether enrollment information for providers with PE investors is more complete and accurate, less so, or similar in its completeness and accuracy compared with providers that do not have PE backing.

Medicare's process for enrolling providers and suppliers

One way for CMS to protect beneficiaries and reduce improper Medicare payments is to have strong safeguards for enrolling or contracting with providers and health care organizations. CMS enters into contracts with MA plan sponsors and the agency enrolls FFS Medicare providers and suppliers. Under the MA program, private plan sponsors sign contracts with CMS that identify the parent organization that will bear risk for plan members' medical spending. Sponsors must verify that information annually. A sponsor must also provide evidence of insurance licenses that demonstrate that the states in which it operates believe the company has sufficient financial assets to bear the risk. Under traditional, or FFS, Medicare, the program typically does not require providers to bear risk, and CMS enrolls many times more providers than MA has plan sponsors.¹⁰

To become an FFS provider or supplier, a health care entity or individual practitioner must apply to enroll in Medicare, undergo background reviews and/or certification surveys, and be approved to receive a Medicare billing number. (CMS refers to facilities that bill Medicare under Part A, such as hospitals and skilled nursing facilities, as "providers." Physicians, physician group practices, and other entities that furnish services under Medicare Part B are called "suppliers.") Providers and suppliers apply

online through PECOS or by paper to their appropriate Medicare administrative contractor (MAC) or the National Supplier Clearinghouse (NSC).¹¹ Most types of institutional providers and certain organizations that bill under Part B (such as ambulatory surgical centers) must be surveyed by state agencies or an approved accreditation organization, which then makes recommendations about approval to CMS's regional offices (ROs). CMS ROs make the final decisions regarding eligibility for Medicare billing. Enrolled providers and suppliers must generally resubmit and recertify the accuracy of their enrollment information to CMS every five years or upon CMS request to retain billing privileges (called "revalidation").¹²

All Part A providers and Part B suppliers must report to CMS within 30 days any change in ownership or in control of the provider. However, Part A providers and certain Part B suppliers (such as ambulatory surgical centers that are subject to survey and certification) may need to update their PECOS data through the CHOW process. CMS defines CHOWs differently depending on the type of legal entity involved.

- In partnerships, CHOWs include the removal, addition, or substitution of a partner as permitted under state law.
- In sole proprietorships, CHOWs include transfer of title and property to another party.
- In corporations, a CHOW is typically the merger or consolidation of the provider corporation with another organization that leads to the creation of a new corporation. A corporate asset transfer would be considered a CHOW, but the transfer of corporate stock into an existing provider corporation would not.

A CHOW usually results in the transfer of the provider's Medicare billing number and provider agreement to the new owner.¹³ Typically, there is also a change to the provider's tax identification number. Both the buyer and seller must report the CHOW through PECOS, and the transaction must be approved by the applicable CMS RO. If approved, CMS automatically reassigns the provider's Medicare number to the new owner unless the buyer rejects assignment in its filing.¹⁴ After the CHOW registration is complete, only the buyer is permitted to submit claims to Medicare. Failure to report a transaction in a timely manner can result in the deactivation of billing privileges or the entire revocation of the provider's Medicare number.

Medicare Part B suppliers that are not subject to survey and certification requirements (such as physician group practices) do not undergo or register CHOWs, but they must still report changes in ownership as changes to the PECOS information within 30 days.¹⁵ In the event of, say, the sale of a group practice, the purchaser must enroll as a new Part B supplier to receive its own Medicare billing number.

The Affordable Care Act of 2010 (ACA) included provisions that permitted CMS to screen providers and suppliers more closely and aimed to increase ownership transparency, particularly for nursing homes.¹⁶ Section 6101 of the ACA expanded reporting requirements for the identities of direct and indirect controlling interests in the operations and management of skilled nursing facilities and nursing facilities (Hawes et al. 2012, Maxwell 2016). The ACA provisions also aimed to provide consumers with greater transparency about ownership on lookup tools such as CMS's Care Compare (<https://www.medicare.gov/care-compare/>).

Today, not only nursing homes but most categories of facilities and physician groups must report within PECOS every individual or organization with: (1) at least a 5 percent direct or indirect ownership interest or managerial control (including providers' mortgage holders); (2) any general or limited partnership interest; or (3) operational or managerial control. In addition, corporations must report all officers and directors. Applicants for initial Medicare enrollment or revalidation are required to submit a diagram of the entity's organizational structure, identifying the relationships among entities with ownership or managerial interests (Centers for Medicare & Medicaid Services 2020). Under a recent program integrity rule, CMS's authority was expanded to revoke or deny Medicare billing privileges to providers based not only on certain adverse actions conducted by a provider or supplier itself but also on actions by its affiliations—including those with 5 percent or more direct or indirect ownership, a general or limited partnership interest, those with day-to-day managerial control, and corporate officers or directors (Centers for Medicare & Medicaid Services 2019).¹⁷

Changes in the structure of health care organizations

Just as the legal structure of a corporation shields its shareholders and officers from the corporation's liabilities, many health care businesses have restructured themselves

to do the same. Over the past several decades, an increasing number of nursing homes, hospitals, and other providers have restructured from one organization into several single-purpose entities (SPEs) that permit investors to pool resources while limiting their liability (Casson and McMillen 2003). For example, a health system with several hospitals might register each hospital as its own limited liability company (LLC) to curb potential effects on the entire system when there is litigation against one hospital for harm or malpractice. One attorney we interviewed referred to this strategy as the "taxi cab model" in which each cab is registered as its own LLC to prevent a plaintiff from suing the entire fleet.

Nursing homes are especially reliant on Medicaid and Medicare payments for the bulk of their revenues. Enrolling each facility in a chain as its own LLC limits the risk to the entire chain if CMS excludes one facility from the programs. The owner could sell the one facility without devaluing the others. Attorneys have advised nursing home owners to establish SPEs for their facilities' real estate separately from companies that lease and operate facilities because "numerous SPEs may be less attractive as defendants than a single company with multiple operating interests and multiple real estate holdings" (Casson and McMillen 2003). Different companies use different restructuring approaches. Some subdivide down to two SPEs for each facility (an operator and the owner of real estate), while others form subsidiaries to jointly hold the real estate or operating companies for several facilities. Since 2008, real estate investment trusts have formed that hold diverse portfolios of nursing home properties as well as the properties of assisted living facilities, hospitals, ambulatory surgical centers, and medical offices. Some owners of Medicare providers also own related-party companies that provide services to the facilities under contract. In addition, it is common for nursing home owners to hire management companies as contractors to operate the facility on their behalf.

Many providers with and without PE ownership have restructured health care businesses in these ways. However, PE funds may be more likely than less financially savvy owners to protect their investments through restructuring.

Based on our interviews with attorneys who advise PE investors, some stakeholders believe that CMS's enrollment system displays a lack of understanding about how health care providers are structured today.

For example, in the case of PE funds, identifying all individuals with an ownership stake of at least 5 percent would include limited partners such as pension funds and wealthy individuals even though they are typically passive investors. Meanwhile, if a nursing home owner awarded a management contract and gave the contractor wide latitude over day-to-day operations, the owner would be required to submit updated enrollment information but the update would not prompt as much review as a CHOW (Markenson and Woffenden 2019). As another example, health care providers have restructured into LLCs, which have characteristics of both partnerships and corporations. Medicare guidance lays out what defines a CHOW for partnerships and corporations, but does not formally address how to treat LLCs.¹⁸ In the opinion of some interviewees, CMS needs to make its enrollment applications and instructions clearer about what constitutes a CHOW for businesses as they are structured today.

Gaps in data about ownership of Medicare providers

For many years, the Department of Health and Human Services Office of Inspector General (OIG) has found PECOS's ownership data incomplete and sometimes inaccurate (Maxwell 2016). Providers and suppliers self-report ownership to PECOS and CMS has no central data source with which to verify the information. OIG attributes PECOS's shortcoming in part to gaps in the efforts of the MACs and the NSC to verify key pieces of provider information during the enrollment and revalidation processes (Office of Inspector General 2016). According to an attorney we interviewed who counsels providers on regulatory filings, applicants sometimes provide incomplete information about ownership and management interests. Unless the MACs know what to look for and follow up to ask, applicants do not volunteer more information. In addition, because providers often use a complex structure of LLCs, the hierarchy of control and nature of relationships among related parties can be hard to unpack. A 2010 study by the Government Accountability Office (GAO) found that for nursing homes with common chain ownership, PECOS did not capture the hierarchy of control among their interrelated LLCs (Government Accountability Office 2010). Our own look at current PECOS data for various providers—including some with and others without PE backing—confirmed that the same issues persist. (See text box for an example of the structure of one hospital chain.)

States have their own processes for licensing providers and enrolling them for the administration of Medicaid and other programs. While a few states have more extensive transparency requirements around ownership, many do not.¹⁹ One issue commonly raised is that as one state enrolls a provider, it may not know of deficiencies at facilities in other states that have common ownership. One state licensing and certification official we interviewed told us that his state focuses on verifying information for a provider's operating company, not the owner of the real estate or the management company. He noted that his office simply does not have the resources to track down all organizations and individuals that have a direct or indirect ownership stake or a role in managing facilities. In his experience, he had been able to devote attention to tracking down ownership details only when facilities provided systematically poor care and received deficiency violations or when facilities experienced financial distress.

Because of recent high-profile bankruptcies of nursing home chains affecting facilities in several states, some state governments have taken steps to tighten requirements for licensing and disclosure. For example, in 2019, Kansas passed a law requiring applicants for nursing home licenses to disclose “every other licensed property he or she owns or has ever owned, either within Kansas or elsewhere in the United States” (Spanko 2019). The law applies to ownership stakes in both operating and real estate companies. That same year, Ohio put regulations in place requiring more disclosure about a nursing home license applicant's financial status and history (Flynn 2019). We do not yet know about the effects of those changes. One state—Virginia—has long required audited financial statements and cost reports from nursing home licensees.

Researchers, advocates, and policymakers have pressed for policies to improve the information on health care provider ownership, with the goal of making it more understandable, accurate, and available to consumers, regulators, and researchers. For example, in the wake of the coronavirus pandemic and the devastating effects it has had on nursing home residents and staff, a group of nursing home experts made several recommendations “to make ownership, management, and financing more transparent and accountable to improve U.S. nursing home care” (Harrington et al. 2021). Among their recommendations were for CMS to “augment PECOS reporting to include all parent, management, and property companies, and other related party entities and ensure

Example of a hospital chain's complex ownership structure

Some providers have complex ownership structures and related-party transactions. In the hospital-chain example that follows, we are not aware of any ownership by PE investment funds. Nevertheless, the case demonstrates how ownership, managerial control, and cash flow among related parties can be difficult to track.

Prime Healthcare Services Inc. (PHS) is a privately held for-profit company founded in 2001 that operates a chain of 31 acute care hospitals. The founder, Dr. Prem Reddy, also formed Prime Healthcare Foundation (PHF), a nonprofit entity that operates 15 hospitals donated to PHF by PHS. Some suggest the PHS strategy is to acquire and improve the profitability of financially distressed or underperforming emergency department–centered hospitals in or near large metropolitan areas (Al-Muslim 2020, FitchRatings 2020).

Members of the same family control PHS's for-profit hospitals, PHF's nonprofit hospitals, management companies that provide services to the hospitals, and real estate companies leasing facilities to the hospitals (Prime Healthcare Foundation 2019). PHS holds variable interest in medical groups and owns subsidiaries Prime Healthcare Management Inc. (PHM) and Prime Healthcare Management II Inc. (PHM II).

The latter two entities provide management, consulting, and support services to hospitals owned by PHS and PHF (Department of Justice 2018). Prime A, a company with ownership in common with PHS, holds title to two hospital facilities and leases them to PHS (Ernst & Young 2019). Prime A also rents property to PHM. PHS and PHF purchase services from three other related parties: Bio-Med Inc. (which repairs and maintains medical equipment), Hospital Business Services (which provides administrative services), and PrimEra Technologies (which provides coding and revenue cycle management services).

For this case, Provider Enrollment, Chain, and Ownership System data we examined could not provide sufficient detail to understand the various Prime relationships or hierarchy of control. Instead, the information we found came from various public disclosures around financial transactions and a settlement agreement. Indeed, it would be difficult to construct a government database that captures the entirety of these ownership relationships and related-party transactions. It is also possible that any rules set up to limit types of ownership could be circumvented through contracts with related entities that provide real estate or management services. ■

enforcement of Section 6101 of the ACA, including that companies provide a complete organizational chart.” They also called for more scrutiny of the ownership and management of nursing homes at purchase or when there is a CHOW by recommending that CMS specify minimum federal criteria that would “prevent individual or corporate owners from purchasing, operating, or managing additional facilities if they have a history of owning or operating other facilities with chronically low staffing and poor-quality care in any state.”

Access to more complete ownership data and a clearer line of sight into the top of a provider's or supplier's ownership hierarchy are important for several reasons. First, such information could improve CMS's ability to evaluate the

past business conduct of a parent organization across all the providers and suppliers it owns as the agency decides whether to extend billing privileges. Making ownership data available to researchers would improve their ability to analyze whether factors such as PE ownership affect health care spending, access, and quality of care with more confidence than they do today. Greater ownership transparency may also be useful to consumers as they choose where to seek care. However, given constrained resources and complex ownership structures, CMS and state agencies may find it infeasible to identify parent owners for the large number of providers and suppliers that enroll in Medicare. Legal structures may continue to evolve in ways that make it difficult to trace ownership,

and privacy protections also limit the amount of ownership information that CMS is permitted to make public.

Business models for PE investments in health care

All PE firms try to generate profits by using the same basic strategy: identify and acquire undervalued or underperforming companies, make them more valuable by improving their operational and financial performance, and then sell them after three to seven years for a profit. However, there is often little publicly available information about the business models that PE firms use to increase the value of their portfolio companies since those companies are privately held and are not subject to the disclosure requirements that apply to publicly traded companies.

We relied on a combination of literature reviews and interviews with outside experts (such as representatives of PE firms, physicians, consultants, and researchers) to examine the business models that PE firms use when they invest in three types of health care providers that are particularly significant to Medicare beneficiaries: hospitals, nursing homes, and physician practices. Given the breadth of PE investment in the health care sector, our findings are necessarily somewhat qualitative and difficult to generalize to other types of providers.

Private equity has invested in all three sectors but has a limited presence

We found that PE firms have acquired providers in all three sectors (hospitals, nursing homes, and physician practices), but the share of providers that are PE-owned was relatively small. Identifying PE-owned providers is difficult due to the opacity of ownership structures and the lack of a single data source to identify ownership. Researchers who want to identify PE ownership must first assemble data from various proprietary (e.g., PitchBook) and public data sources. The volume and size of deals and the number of PE firms and providers in the sector compound the challenge of assembling a data set identifying PE ownership. Given these difficulties, researchers likely undercount PE-owned providers, although researchers typically use other available research to help validate the number of PE-owned providers in a sector.

Hospitals

For-profit hospitals can be owned directly by physicians, individual investors, PE firms, publicly traded

corporations, or a mixture of these investors. Through publicly available resources, we identified 115 hospitals that were owned by PE firms at the start of 2020, representing only about 4 percent of traditional hospitals.²⁰ Other for-profit entities (such as publicly traded corporations and physician practices) own another 22 percent of traditional hospitals. The remaining 74 percent of hospitals are nonprofit or government-owned facilities.

Many hospitals have shifted back and forth among these ownership models. The most prominent example of shifting ownership is HCA Healthcare, which owns 184 hospitals, representing over 20 percent of all for-profit traditional hospitals. HCA went private in 1989, returned to being a publicly traded company in 1992, went private again in 2006 as part of a leveraged buyout led by PE firms, and became a publicly traded company again in 2010 (Wicklund 2010). However, members of the Frist family had leadership roles in the company throughout these changes, and this continuity of leadership may limit the effects of PE ownership cycling in and out of the company's capital structure. Similarly, the Steward Health Care system was formed in 2010 with PE financing (Hechinger and Willmer 2020). In 2020, the system sold its hospital real estate to a real estate investment trust, and a group of physicians bought the hospital operations from the PE fund (Steward Health Care 2020). While the system's ownership structure has changed over time, the same individual has continued to serve as its chief executive officer. The assumption of substantial lease obligations following the real estate sale may increase pressure on the operating company to generate positive cash flows, but the continuity of management may limit the degree to which operations change with ownership.²¹

The HCA and Steward models both involve acquiring hospitals and operating them under private ownership. A more controversial acquisition was a PE firm's 2018 purchase of Hahnemann University Hospital in Philadelphia from the Tenet system, where the PE firm quickly closed the hospital in 2019. However, it is not clear whether the hospital—which was losing money—would have remained open if it had been owned by a publicly traded company, a different PE firm, or a single family.

Nursing homes

PE investment in nursing homes dates to the late 1990s (Pradhan and Weech-Maldonado 2011). GAO found that almost 1,900 nursing homes were acquired by private

investment firms between 1998 and 2008 (Government Accountability Office 2010). Some of the acquisitions that GAO identified involved a nursing home’s operations and real estate, while other acquisitions involved only the real estate.

Some early research on private equity and nursing homes identified two phases of PE investment in the first decade of the 2000s (Stevenson and Grabowski 2008). The first phase was limited and focused on efforts by larger for-profit chains between 2000 and 2003 to sell selected facilities in Florida in response to liability costs and liability insurance premiums that were much higher than average. The second phase was broader and included facilities from some of the nation’s largest nursing home chains. While investors looked for operational inefficiencies to improve in this phase, they also “began to recognize value in the real estate assets of some of the larger chains, especially in a climate with access to relatively inexpensive capital” (Stevenson and Grabowski 2008). They noted that the predictable cash flow from government payers to the nursing home sector plus the untapped value of some companies’ real estate holdings made certain nursing home chains attractive investment opportunities.

Since the first decade of the 2000s, PE firms have continued to invest in nursing homes, reflecting the persistence of favorable conditions such as low interest rates, an aging population, reliable government payers, and favorable tax treatment of earnings. One recent article, citing data from PitchBook, noted a recent uptick in PE acquisitions, with nearly 190 nursing home deals totaling about \$5.3 billion since the start of 2015, up from 116 deals totaling over \$1 billion from 2010 to 2014 (Laise 2020). Although estimates of the number of PE-owned facilities vary, about 11 percent of nursing facilities nationwide are PE owned (Harrington et al. 2021). PE-owned nursing homes are a subset of for-profit facilities, which account for about 70 percent of all nursing homes in the U.S.

Physician practices

Physician practices are a target of private equity in part because the market for physician services is fragmented. Most physicians work in small practices: In 2018, over 56 percent of nonfederal physicians were in a practice of 10 or fewer physicians. This share has declined slowly, primarily due to a move away from physicians operating as solo practitioners (Kane 2019a). At the same time,

the share of physicians in midsize practices (11 to 49 physicians) has remained steady, while the share joining groups of 50 or more or who are direct hospital employees or contractors has grown.

The structure of the market for physician services is changing rapidly through both horizontal consolidation among practices and vertical integration of practices and health systems or health plans. For the first time, in 2018, the share of employed physicians was slightly larger than the share of physician practice owners (47 percent versus nearly 46 percent) (Kane 2019b). Between 2016 and 2018, the share of all physicians affiliated with health systems grew from 40 percent to 51 percent (Furukawa et al. 2020).²² As hospitals have acquired increasing numbers of physician practices, large health plans have responded in kind, perhaps to assert their own market power or to defensively counter the market power of health systems. PE firms compete with health systems and plans for physician practices and may contribute to the increasing pace of consolidation. We do not know of evidence that indicates whether practices acquired by PE behave differently from practices acquired by health systems or plans.

Information about the extent of PE investments in physician practices is lacking, and identifying deals is challenging because not all deals are publicized and PE firms and practices commonly use nondisclosure agreements (American Medical Association 2019). Nevertheless, some researchers have begun developing databases on PE acquisitions by combining proprietary information about practice deals with other sources of data. Building such data sets is painstaking; researchers often must resort to online search engines to verify PE deals and then attempt to match the practice name and location with additional information. According to several researchers we spoke with, proprietary data on deals are more likely to include acquisitions of larger practices than smaller practices. Data limitations mean that the number of PE-affiliated practices and physicians described in the literature are likely to be underestimates.

One study examining the 2013 to 2016 period found PE investments in just 355 practices (Table 3-1, p. 88). That figure accounts for about 2 percent of the approximately 18,000 practices in the U.S. (data not shown), but it does not take into account practices that had already been acquired by PE firms, including some very large physician staffing companies that employ tens of thousands of

**TABLE
3-1**

Physician groups with private equity investments, 2013–2016

	2013	2014	2015	2016	Total	Share of total
Number of practices by specialty type						
Primary care*	13	22	13	23	71	20%
Anesthesiology	10	20	15	24	69	19
Multispecialty	15	15	19	19	68	19
Emergency medicine	10	6	10	17	43	12
Dermatology	1	5	11	18	35	10
Ophthalmology	0	2	2	7	11	3
Radiology	0	0	2	6	8	2
Orthopedic surgery	0	0	2	3	5	1
Other specialty practices	<u>10</u>	<u>2</u>	<u>14</u>	<u>19</u>	<u>45</u>	<u>13</u>
Total practices	59	72	88	136	355	100
Number of physicians by specialty type						
Anesthesiology	246	593	458	597	1,894	33
Primary care*	163	367	300	216	1,046	18
Emergency medicine	150	184	148	419	901	16
Dermatology	11	26	86	211	334	6
Radiology	4	13	159	76	252	4
Ophthalmology	6	35	68	25	134	2
Orthopedic surgery	0	13	43	74	130	2
Urgent care	41	16	32	35	124	2
Other specialties	<u>222</u>	<u>166</u>	<u>282</u>	<u>229</u>	<u>899</u>	<u>16</u>
Total physicians	843	1,413	1,576	1,882	5,714	100

Note: Components may not sum to totals because of rounding.
*Primary care includes family practice, internal medicine, and pediatrics.

Source: Zhu et al. 2020.

clinicians. The number of deals rose each year from 59 practices in 2013 to 136 in 2016. Acquired practices had a mean of four office sites and six physicians per site (Zhu et al. 2020). Out of about one million active physicians, just over 5,700 (less than 1 percent) were associated with affected practices. The most common types of practices with PE deals were primary care, anesthesiology, multispecialty, emergency medicine, and dermatology. Interest in specialties such as dermatology, ophthalmology, behavioral health, and women’s health expanded after 2016 (data not shown) (Brown et al. 2020, Bruch et al. 2020a, Chen et al. 2020, O’Donnell et al. 2020, Tan et al. 2019).

Practices that provide services such as emergency medicine and anesthesiology for hospitals were among

the first wave of consolidations involving PE investment over the past 10 to 15 years. Several of the largest PE firms own physician staffing companies that were built by aggregating practices of hospitalists, emergency medicine physicians, anesthesiologists, radiologists, pathologists, and other specialists into multispecialty groups that focus on hospital services.²³ Other PE-backed single-specialty groups (for example, of anesthesiologists or radiologists) are among the largest regional entities providing those services to hospitals. PE funds (including venture capital in addition to buyout funds) have invested in primary care practices as well, but the incentives around those acquisitions may be different because many of those practices appear to be positioning themselves for risk sharing and value-based contracts. Other PE investments in primary care groups aim to ultimately fold them into

larger multispecialty practices or target specific niches such as direct primary care and self-pay concierge care. More recently, single-specialty practices in ophthalmology, dermatology, orthopedic surgery, behavioral health, obstetrics-gynecology, and gastroenterology have attracted larger numbers of “middle-market” PE funds.²⁴ Those practices are expanding by hiring new clinicians and acquiring other practices to become larger local and regional groups.

PE firms use some common strategies to make providers more profitable

Our research found that the business models that PE firms use in the hospital, nursing home, and physician sectors use many of the same strategies. In this section, we highlight strategies that are used in at least two of those sectors, looking first at strategies focused on increasing revenues and second at strategies focused on reducing costs. However, it is worth keeping in mind that many of these strategies are commonly used by other for-profit providers in these sectors and are not unique to PE-backed providers.

Strategies that focus on increasing revenues

One strategy that PE-owned providers can use to increase revenues is to simply provide more services. For example, the researchers we interviewed noted that PE-owned nursing homes can try to boost their occupancy rates, while PE-owned physician practices may take steps such as hiring additional clinicians, expanding their office hours, and using branding and advertising to attract more patients.

Providers can also try to furnish a more profitable mix of services or expand the volume of lucrative services. Nursing homes can improve their payer mix by serving more Medicare and private-pay patients and fewer Medicaid patients or by providing services with higher margins. PE firms seek to acquire physician practices that own ambulatory surgical centers or have the potential to generate additional income from highly reimbursed elective procedures and ancillary services (Casalino et al. 2019, O’Donnell et al. 2020). For example, referrals within large practices allow dermatology and ophthalmology groups to keep revenues from higher paying services such as Mohs surgeries, intravitreal injections, and cataract and retinal procedures within their practice (Chen et al. 2020, Tan et al. 2019). In addition, PE-backed practices may offer self-pay services such as cosmetic injections or laser refractive surgery (O’Donnell et al. 2020).

Another strategy for increasing revenues is to raise prices. One study found that hospitals tended to increase their charges after being acquired by PE firms (Bruch et al. 2020b). Higher charges may increase profits from out-of-network patients and from insurers that pay for outpatient services based on a percentage of charges. Another study found that PE firms often aim to aggregate large numbers of physicians who have a common specialty to gain bargaining leverage over commercial payment rates (O’Donnell et al. 2020).²⁵ This strategy has little immediate, direct impact on Medicare beneficiaries or spending because Medicare’s prices are set administratively rather than negotiated. However, a potential indirect effect is that providers may, over time, prefer commercial patients for whom they are more highly reimbursed.

For many types of clinicians, demanding higher commercial prices comes with a tradeoff—they may lose volume if insurers and patients turn to other providers. However, for certain specialties such as emergency medicine, patients cannot meaningfully choose among providers.²⁶ When hospitals contract with outside companies to deliver these services, the clinicians have inherent bargaining leverage because the hospital contracts for their services separately from the group’s payment arrangement with insurers (Cooper et al. 2020a). So long as the hospital continues to contract for staffing services, excluding the staffing company’s clinicians from a commercial insurer’s network would likely not affect their volume of care. Some of the largest physician staffing companies have used this leverage in their negotiations with insurers, but the strategy has risks for the companies. Patients with commercial insurance have sometimes been left with unexpectedly large bills for receiving care from out-of-network clinicians who work at in-network hospitals and ambulatory surgical centers (Cooper et al. 2020b, Duffy et al. 2020). In turn, the issue of surprise billing has drawn public attention and raised questions about staffing firms’ future profitability now that the Congress has restricted these billing practices (Gottfried 2020).²⁷

PE firms also arrange for providers to work with related entities that share common ownership. For example, a PE firm may require nursing homes to buy goods and services from other companies that the PE firm owns, a practice known as “related party transactions.” There may be several related companies, with each one focused on a separate aspect of the nursing home’s operations (e.g., staffing, therapies, purchasing), resulting in a corporate

structure that has multiple limited liability corporations under the same parent company.²⁸ While this approach can make it harder to understand the corporate structure and to litigate, one expert stressed that related parties are not problematic on their face and can be more efficient. Because transactions between health care entities, whether related or unrelated, must take into account the fair market value or risk running afoul of the federal Anti-Kickback Statute and state equivalents, the use of related parties becomes a concern only when a nursing home must pay above a fair market price for goods and services from related parties.

In the physician sector, PE firms may expand a practice by adding on subspecialty practices that give it more control over referrals. Competition for referrals from providers in other PE-backed practices may also lead to defensive consolidation. One ophthalmologist told us that his practice's referrals were being "chipped away" by rival practices that had partnered with PE funds, motivating his group to look for PE backing.

Strategies that focus on reducing costs

Consolidating providers within a given sector also allows PE firms to lower costs by taking advantage of economies of scale, a strategy particularly useful for physician practices (O'Donnell et al. 2020). For example, PE owners may consolidate "back office" services such as scheduling, coding and billing, revenue cycle management, and payroll. Smaller independent practices may not have expertise at managing administrative services efficiently; joining with larger practices and conducting some administrative functions centrally may lower their costs. An infusion of capital from PE investors may support investment in information technology to centralize quality measurement, reporting, and marketing at more favorable vendor pricing. PE capital may also allow practices to move to common electronic health records and potentially improve clinical workflow. One consultant we interviewed pointed out that PE funds offer smaller independent practices access to capital at lower borrowing rates than they would be able to obtain through other sources such as local banks. PE acquisitions in the hospital and nursing home sectors offer many of the same opportunities to realize economies of scale.

Another common strategy is to reduce labor costs. One study of the 2006 leveraged buyout of HCA found that it had slower cost growth than comparable hospitals after the leveraged buyout in part due to slower staffing growth

(Kim and McCue 2012). We also found that PE-owned hospitals tended to have lower costs than both other for-profit and nonprofit hospitals. (See Table 3-2, p. 97; we explain this analysis in more detail in the next section.) In the nursing home sector, PE-owned facilities may attempt to lower their costs by reducing staff and/or changing the mix of staff.²⁹ PE owners may be able to reduce labor costs to some extent if a nursing home's staffing exceeds federal or state minimum standards. However, according to one researcher we interviewed, many nursing homes are already at minimum nursing staffing levels when they are acquired by private equity, so cutting nursing staff further may not be feasible. In that case, the PE owners would still have latitude to reduce non-nursing staff costs, which may reduce quality of life for patients without reducing measured quality of care or affecting federally reported staffing measures.

PE firms may also try to lower labor costs when they acquire physician practices by substituting less expensive clinicians (such as physician assistants) for physicians or reducing staffing (Brown et al. 2020, Hafner and Palmer 2017). Use of these approaches is likely to vary. For example, one physician told us that his ophthalmology practice had sought a PE backer that would not reduce its workforce and that the practice had continued to pay staff during the coronavirus pandemic even though revenues were lower. However, others have had different experiences. For example, major physician staffing companies reportedly cut clinician hours and asked for voluntary furloughs as elective hospital procedures declined during the pandemic (Arnsdorf 2020).

However, PE firms also use strategies that can increase costs for providers. For example, providers that are acquired through leveraged buyouts are typically required to spend more on debt service. PE firms may also sell a provider's real estate to another company and have the provider sign a long-term lease, making the provider responsible for the lease payments. (This practice is more common for nursing homes and is discussed in more detail later in the chapter.)

Finally, PE firms often require nursing homes and physician practices to pay monitoring or management fees. These fees compensate the PE firm for the costs of overseeing and managing the provider's operations and allow PE firms to generate some returns before they exit an investment. According to one PE investor we

interviewed, the management fees for a PE-owned nursing home typically equal 5 percent to 6 percent of its gross revenues. However, it is worth noting that the fees paid by portfolio companies are generally used to reduce the management fees that the limited partners in a PE fund are required to pay the general partner.

Some PE strategies are more relevant to a particular sector

Although PE investments in hospitals, nursing homes, and physician practices have a number of common features, there are other strategies that are largely used in only one of those sectors.

Separation of real estate and operations

Nursing homes and some hospitals can be profitable investments because the investor can sell the real estate to a related company or to a third party. The proceeds from real estate sales can be disbursed as profits to the PE fund, and the facility then has to pay rent.

Starting in 2003, PE firms made several deals to purchase nursing home chains where they separated the chains' real estate and operations. Investors would buy a company, finance the deal with the chain's real estate assets (for example, by leasing its properties to help pay off debt assumed in the acquisition), and hire a separate operating company to manage the assets. The operators of the nursing homes thus became tenants instead of owners and assumed responsibility for paying the rent and all expenses of the properties, including insurance, operating expenses, and property taxes. (These types of leases are known as "triple net" leases.) The practice of separating real estate and operations is common across the industry and not limited to PE-owned facilities.³⁰

Complex corporate structures

Like the hospital chain structure described above, nursing homes with a common owner can also have complex structures that make ownership, managerial control, and cash flow difficult to track. Though this complexity is not necessarily limited to PE, private equity owners may restructure a chain by establishing a holding company that owns the entire chain, having separate LLCs for the operation of each individual facility that is part of the chain, separate LLCs that own the real estate, and a separate company that leases properties from a real estate holding company and subleases to operating companies (Government Accountability Office 2010). The text

box (pp. 92–93) explores one example of this complex structure in a PE-owned nursing home chain (Bos and Harrington 2017).

A separate set of considerations—state laws restricting the corporate practice of medicine (CPOM)—affect how PE firms structure their investments in physician practices. CPOM laws vary by state and allow certain exceptions. However, most require practices to be organized as professional corporations or professional limited liability companies—both referred to here as professional service companies (PSCs)—with owners, shareholders, and/or board members who are licensed medical providers (American Medical Association 2015). Such laws were enacted out of concern that corporate ownership's obligations to shareholders may not align with a physician's responsibilities to his or her patients and could lead to interference in the physician's independent medical judgment (American Medical Association 2019). When PE firms invest in practices, the organizational structures they set up must avoid appearing to influence physicians' behavior since that could trigger enforcement of CPOM laws or raise concerns about inducement of services under the Anti-Kickback Statute or the False Claims Act. One reason that some physicians find PE ownership appealing is that investors may be less involved in day-to-day operations compared with acquisition by a health system.

Although PE firms use a variety of structures, in states with CPOM laws, investors typically establish a relationship with a trusted medical provider who is the owner and manager of a PSC that retains ownership of a practice's clinical assets (Figure 3-4, p. 94). The PSC employs practice physicians and makes decisions on hiring and firing, credentialing, and peer review. The PE firm holds majority equity in a management services organization (MSO) that takes ownership of the practice's nonclinical assets and provides administrative and financial services to the PSC under a management services agreement (Genecov 2019). The PSC pays fees for management services to the MSO; these fees are set at fair market value, but that amount likely varies by practice. One or more representatives of the PE firm may sit on an advisory board or joint operating committee to coordinate the two entities. In states without CPOM laws, the PE firm's operating company may hold a more direct ownership stake in the clinical side of the practice but may still arrange a management services agreement for nonclinical support.

The impact of private equity ownership on the Golden Living nursing home chain

The private equity (PE) firm Fillmore Capital Partners acquired the Beverly Enterprises nursing home chain in a leveraged buyout in 2006 and renamed the company Golden Living. Following this acquisition, researchers examined changes in the chain's strategy and operations over the next 12 years (Bos and Harrington 2017). Several of those strategies predate the PE acquisition and were commonly used across the nursing home industry. The key strategies that Golden Living used are consistent with those identified in the literature on approaches that PE owners use to create value, including:

Sale of unprofitable facilities. Starting in 2001 before the PE acquisition and continuing after, Golden Living sold off more than 150 nursing homes. Divestiture was common across the industry at the time due to high liability costs in some states and changes in Medicare policy that limited per day payments.

Addition of other services and lines of business. Mainly after 2004, the company started to invest in new profitable services and lines of business, including a rehabilitation therapy company (Aegis Therapies), a hospice company (Asera Care), and a staffing company (Aedon Staffing) that targeted Medicare and private-pay patients.³¹ Golden Living often served as the “launch customer” for new lines of business.

Tighter corporate control over individual facilities. Following the PE acquisition, local managers of the

chain's facilities were given a smaller span of control, and the use of performance-related pay was introduced.

Changes in staffing. Researchers compared the chain's staffing levels pre- and postpurchase. The skill mix (the proportion of higher educated nurses when compared with lower educated nurses) was significantly higher from 2009 onward. Total staffing levels in California were lower during PE ownership but they had higher staffing levels for registered nurses than other facilities.

Corporate restructuring. Fillmore Capital created one LLC, Pearl Senior Care, to purchase Golden Living (Figure 3-3). Pearl Senior Care in turn owned another LLC, Drumm Investors, which in turn owned Golden Horizons (which operated the facilities) and Geary Property Holdings (which owned the facilities and their real estate), legally separating the operations from the buildings and the land. Postpurchase, the chain's nursing facilities leased their buildings and land. The individual Golden Living nursing homes were also split into separate LLCs. The PE owner stated that its lenders required the company to use separate LLCs to limit risk in the event of bankruptcy or litigation. The authors note that this complex structure, with separate management and property companies and multiple ownership levels, was not unique to PE-owned nursing homes and was commonly used by large nursing home chains by 2008. ■

(continued next page)

The use of platform and add-on acquisitions to consolidate physician practices

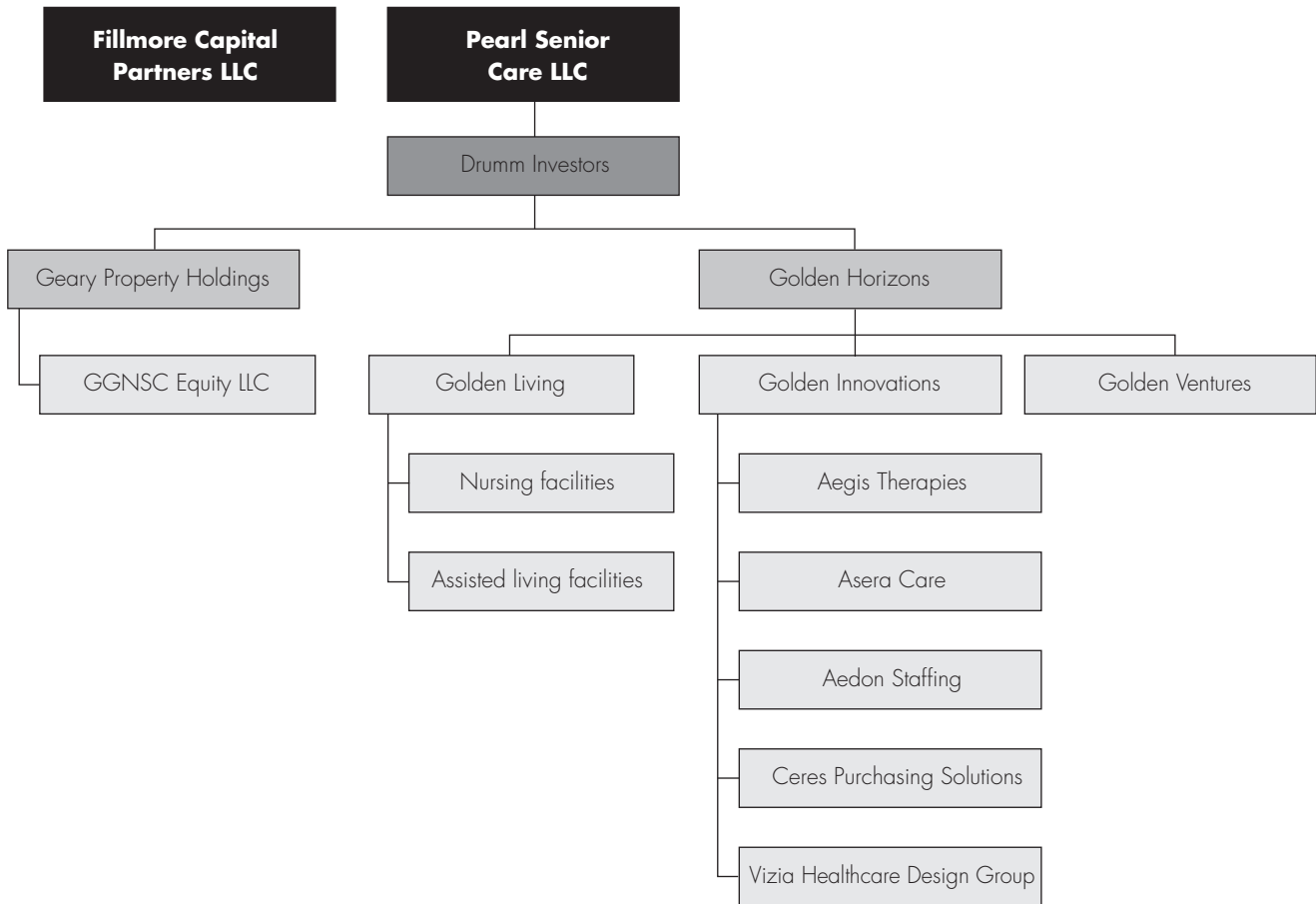
PE firms use a variety of approaches to build regional group practices, but they often first invest in a large, well-established practice (known as a platform acquisition), which then acquires smaller practices in the same or a related specialty (add-on or tuck-in acquisitions). Under this approach, the platform practice builds into a larger local or regional practice group with greater

scale economies for centralized business services (such as billing) and potentially more influence over referral patterns and commercial payment rates. PE investors use a combination of investor capital and debt to finance acquisitions, and the debt becomes the obligation of the practice (Casalino 2020). Because PE firms have a limited time horizon in which to provide returns to investors, they generally aim to exit ownership of portfolio practices after three to seven years (Casalino et al. 2019). Competition for

The impact of private equity ownership on the Golden Living nursing home chain (cont.)

FIGURE 3-3

The Golden Living nursing home chain had a complex corporate structure after its acquisition by a PE firm



Note: PE (private equity), LLC (limited liability company). This figure, taken from “What Happens to a Nursing Home Chain When Private Equity Takes Over? A Longitudinal Case Study,” depicts Golden Living’s corporate structure at the time of the case study’s publication in 2017. While Fillmore Capital Partners still owns Golden Living, some of the company names and ownership arrangements have changed since the publication of the case study. For example, Asera Care, a hospice provider, was sold to Amedysis in June 2020.

Source: Bos and Harrington (2017).

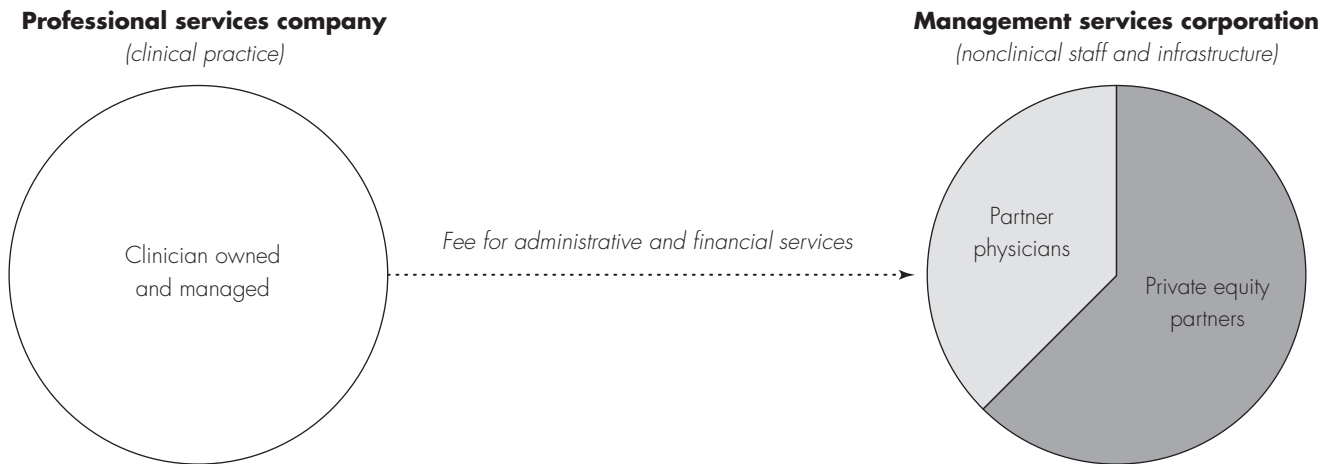
physicians among hospital-based health systems, health plans, larger physician groups, and other PE companies may all offer exit opportunities for the PE firm.

Sequential “roll-ups” (acquisitions) of physician practices by PE firms, health systems, and insurers often

are too small individually to trigger antitrust reporting requirements, yet they can result in large practice groups with market power. According to one former member of the Federal Trade Commission, the median size of recent buyouts of health care firms has been \$60 million to \$70 million, well below reporting requirements. In his

FIGURE 3-4

In states with laws against the corporate practice of medicine, PE firms control management service organizations rather than clinical practices



Note: PE (private equity).

Source: MedPAC analysis based on Gilreath et al. 2019.

opinion, PE firms can use this strategy to “quietly increase market power and reduce competition,” leading to a higher valuation when the company is later sold (Chopra 2020). A recent analysis documented that among group practices that initially had 100 or more physicians, about half of their growth resulted from acquisitions of small groups with 10 or fewer physicians. Another one-third of growth resulted from hiring new physicians (Capps et al. 2017).

PE firms provide upfront payments to physician owners that compensate them for the practice’s future stream of operating earnings and are calculated as a multiple of the practice’s earnings before interest, taxes, depreciation, and amortization (EBITDA). Owners of a large platform practice may receive a multiple of 8 to 12 times EBITDA (sometimes even higher), while owners of add-on acquisitions receive multiples that are considerably lower (Casalino et al. 2019, Helm 2019).³² After the add-on practice has been absorbed into the larger entity, its value increases to the same level as the platform practice (8 to 12 times EBITDA). This increase in the value of add-on practices provides an opportunity for higher returns when the PE firm sells its stake in the MSO in three to seven years.

Rollover equity

Part of the PE firm’s upfront payment for a practice reflects prospective reductions in regular compensation to the practice’s physician owners (Helm 2019). Typically, a medical practice distributes end-of-the-year profits among its partners so that the practice itself does not pay taxes (Gilreath et al. 2019). PE deals replace this approach with salaries that are typically about 30 percent lower than the physician-owners’ prior compensation (Shryock 2019). However, as part of the PE deal, founding physicians or other key practice owners also receive “rollover equity”—a minority ownership stake (e.g., 20 percent to 40 percent) to keep physicians’ incentives aligned with those of the PE investor (Casalino et al. 2019). The PE firm’s exit from a practice also provides physicians with rollover equity a chance at getting “a second bite at the apple”—a share of the profits from selling their stake to a new owner.

The future of PE investment in hospitals, nursing homes, and physician practices

While the regulatory, demographic, and payment conditions that have made health care an attractive investment remain, parts of the sector are facing

significant disruptions due to the coronavirus pandemic. Postponement and cancellation of elective procedures and in-person office visits in March and April 2020 reduced revenues of hospitals and physician practices. Many health care providers received federal assistance in 2020, allowing some providers (e.g., many hospitals) to see an increase in profitability in 2020. However, other providers (e.g., some nursing homes) struggled financially in 2020 despite federal support. COVID-19 infections and related deaths severely affected residents of nursing homes, and even though most residents have now been vaccinated, nursing home occupancy rates are expected to recover slowly. During 2020, the number of PE deals declined by one-seventh, but the value of PE investments in health care fell by about one-third (PitchBook 2021). Analysts attribute this decline to PE funds looking for bargains and sellers holding out for higher deal valuations once the pandemic has waned.

Going forward, we expect private equity to play a limited role in the hospital industry. In 2020, Cerberus Capital Management sold its interest in the Steward hospital chain (which owns 35 hospitals) to a group led by Steward physicians. Also in 2020, the publicly traded Quorum hospital chain filed for bankruptcy and was taken over by its creditors, which included PE funds. The net effect was that PE firms continue to own about 4 percent of general and acute care hospitals. Despite the fact that private equity firms have large amounts of capital to be deployed (called “dry powder”), we do not expect PE firms to acquire a large number of nonprofit or publicly traded hospitals. Most nonprofit hospitals have had strong all-payer profits in recent years and do not have need for outside capital. In addition, most publicly traded hospitals have seen their stock prices rise substantially in recent years, making them less attractive acquisition targets. Because there is little need for PE capital and no clear competitive advantage of PE ownership over other ownership structures, we do not expect PE firms to acquire large numbers of hospitals in the near future. The pace of acquisitions is more likely to be slow, reflecting incremental acquisitions by PE firms, publicly traded hospitals, and nonprofit systems. During January 2021, nonprofit health systems appeared to be making most hospital acquisitions (Hansard 2021).

PE firms have been more active in acquiring nursing homes, but it is not clear whether that level of interest will continue. Even before the pandemic, PE ownership of health care providers, including nursing homes, was

receiving renewed attention from policymakers. The impact of the coronavirus on the lives and welfare of residents and staff has intensified media coverage of nursing homes, with some reports focusing on acquisitions by PE firms during the pandemic and conditions in PE-owned facilities.³³ One study found that PE-owned facilities were less likely to have at least a one-week supply of N95 masks and medical gowns than facilities that did not have PE owners, but found no statistically significant differences in staffing levels, COVID-19 cases or deaths, or deaths from any cause between PE-owned nursing homes and facilities with other types of ownership (Braun et al. 2020). Another study found that PE-owned nursing homes were associated with a decreased probability of resident and staff cases of COVID-19 and shortages of personal protective equipment (PPE) (Gandhi et al. 2020a). Facilities previously owned by PE firms were associated with an increased probability of PPE shortages and resident outbreaks.

At an industry conference in February 2021, investors noted that the coronavirus pandemic, combined with increased scrutiny of PE ownership of nursing homes by policymakers, will likely contribute to waning PE interest in nursing homes (Spanko 2021). Where there is still interest, investors will pay close attention to the quality of the nursing home operator in a post-coronavirus world, and “turnaround” projects will be less attractive. One investor noted that how well an operator has weathered the pandemic will likely be an important signal to investors: “While buildings in different parts of the country saw wildly varied COVID-19 situations at different points in the year, they all received the same fire hose of federal support—and it will become immediately clear to curious observers how any given operator decided to deploy that money” (Spanko 2021).

PE interest in physician practices remains strong. In some specialties, PE investors hope to gain from an expected rebound in patient volumes (Hansard 2021). Practices that receive a larger proportion of their revenues through capitated payments fared relatively well during the pandemic, and financial analysts expect that PE deals with them will grow (PitchBook 2021). Other analysts have expressed concern that some physician practices, especially those in primary care, are experiencing continued economic difficulty, which may accelerate the pace of PE deals by investors seeking to acquire practices in financial distress at lower prices (Bruch et al. 2021a). Although the market for physician services is changing as

hospital systems and insurers acquire practices, it remains fragmented. Consolidating practices offers PE firms opportunities to lower some costs through economies of scale and to expand revenues through higher volume, higher commercial payment rates, and a more lucrative mix of services.

Effects of PE investment on Medicare costs, beneficiary experience, and provider experience

Estimating the effects of PE ownership first requires the accurate identification of PE-owned providers, but, as previously discussed, that process is time consuming and difficult. Given the complexity of identifying PE ownership, we used published literature, supplemented with other sources, to examine the effects of PE ownership on hospitals, nursing homes, and physician practices. Empirical literature on the effects of PE ownership on hospitals, which have had relatively few but high-profile PE owners, is relatively scant. We supplemented that literature with a cross-sectional analysis that compared PE-owned hospitals with hospitals that have other ownership structures. In contrast to hospitals, the nursing home sector has a longer history of PE ownership and more extensive literature examining its effects. We reviewed and summarized this literature on the impacts on costs and quality. For physicians, who have seen more recent PE interest, we reviewed the literature on and interviewed physicians about their experiences with PE acquisition. Empirical information about the impact of PE ownership of physician practices on Medicare spending, quality of care, and patient experience is minimal, but researchers have hypothesized about some possible effects based on PE business strategies.³⁴

Hospitals

We conducted a cross-sectional analysis of how PE-owned hospitals compare with other hospitals and report on a study that examined how hospitals change when their ownership changes. Our analysis and the literature suggest that PE owners induce an increase in hospital charges and that PE-owned hospitals tend to have lower costs and lower patient satisfaction. However, the differences between hospitals owned by private equity and other hospitals are not large, and there is a substantial overlap in

the distribution of costs and patient satisfaction among PE-owned hospitals and other hospitals. While PE ownership may influence provider costs and patient experience, it will not have a large direct effect on Medicare costs due to the program's use of prospective payment rates.

PE-owned hospitals tended to have lower costs and lower patient satisfaction

We tested whether there are any differences in the cost structures for PE-owned hospitals versus other hospitals by examining hospital costs per discharge in 2018 after adjusting for local wage rates, patient mix, and other factors.³⁵ We limited our analysis to hospitals with over 500 Medicare discharges during the year to create some stability in measures of costs per discharge. We also examined the hospitals' profit margins and the share of patients rating the hospital a 9 or 10 in their overall satisfaction of the hospital.

PE-owned hospitals tended to have lower costs and patient satisfaction than both other for-profit and nonprofit hospitals (Table 3-2).³⁶ Lower patient satisfaction is consistent with results from a similar analysis of 2018 data (Bruch et al. 2021b). The lower costs at PE-owned hospitals contributed to their higher Medicare margins. However, the PE-owned hospitals had relatively low all-payer margins in 2018. Those margins could in part reflect their payer mix, which was more heavily weighted toward Medicare and Medicaid. While there are differences in median performance, we also present the 25th and 75th percentiles of performance. There is a great deal of overlap across the categories, suggesting that different types of ownership are not associated with consistently large differences across any of the metrics we examined.

We also examined risk-adjusted mortality 30 days after discharge and risk-adjusted readmission rates 30 days after discharge using models developed by 3MTM. We did not find any statistically significant differences in mortality across the three groups of hospitals, and the relative performance of the groups depended on whether we examined means or medians (data not shown). Readmissions at PE-owned and other for-profit hospitals were 104 percent of the national median using the 3M measure. However, the readmission measure should be viewed with some caution as the demographic characteristics of the patients may affect readmissions.

The cross-sectional differences we see could be because PE firms tend to buy hospitals that already have relatively

**TABLE
3-2**

Performance of PE-owned hospitals, 2018

Characteristics	PE hospitals	Other for profit	Government/nonprofit
Number of hospitals (with over 500 Medicare discharges)	79	455	1,851
	Medians (25th to 75th percentiles)		
Cost per discharge as a share of the national median	90% ^{ab} (80 to 102%)	92% ^b (84 to 103%)	102% (92 to 113%)
Median share of patients rating the hospital a 9 or 10 (out of 10)	64% ^{ab} (58 to 68%)	68% ^b (63 to 74%)	72% (67 to 76%)
Median Medicare margin in 2018	2% ^b (-6 to 11%)	0% ^b (-10 to 8%)	-9% (-19 to 0%)
Median total (all-payer) margin in 2018	5% ^a (-3 to 12%)	10% ^b (1 to 19%)	4% (0 to 10%)
Median share of patients for whom Medicare is the primary payer	39% (29 to 46%)	35% (27 to 44%)	36% (28 to 44%)
Median share of patients for whom Medicaid is the primary payer	11% ^{ab} (4 to 19%)	5% ^b (2 to 10%)	7% (3 to 13%)

Note: PE (private equity). Sample is limited to hospitals with 2018 cost report data and over 500 Medicare discharges in 2018. Relative values are the median for the group as a share of the median of all hospitals. Per case costs are standardized for area wage rates, case-mix severity, prevalence of outlier and transfer cases, interest expenses, low-income shares, and teaching intensity. Patient ratings are from the Hospital Consumer Assessment of Healthcare Providers and Systems®. See our March 2021 report to the Congress for methodological details. Twenty of the 79 hospitals owned by PE firms were in the Steward system, which ceased to be owned by PE in 2020.

^a Indicates a statistically significant difference from other for-profit hospitals using a $p < .05$ criterion using a Tukey test to account for multiple comparisons.

^b Indicates a statistically significant difference from nonprofit hospitals using a $p < .05$ criterion using a Tukey test to account for multiple comparisons.

Source: MedPAC analysis of Medicare cost report and Hospital Compare data.

low cost structures and low patient satisfaction or because PE ownership results in lower costs and satisfaction. We cannot show causation through the cross-sectional analysis.

Changes in charges, profits, and quality metrics following PE acquisitions

A recent study by Bruch and others examined changes in charges and quality metrics after hospitals were acquired by private equity (Bruch et al. 2020b). Most of the PE-owned hospitals examined in the study were HCA hospitals that were acquired in a single transaction in 2006.

Bruch and colleagues found charges (list prices) increased following acquisitions and found mixed evidence of quality changes. The HCA hospitals showed some improvements in process measures after their ownership changed, but other hospitals acquired by PE firms failed to improve in any process measures and reported declining performance on one process measure. The mixed findings on quality make it difficult to attribute the quality changes to ownership changes, especially given the consistent hospital management at HCA. The HCA hospitals could have initiated process changes independently of the PE acquisition, and it was those efforts, rather than ownership changes, that drove improvements in process metrics. The

Bruch study did not evaluate whether the assumed quality effects of HCA going private in 2006 were reversed when it switched back to being publicly traded in 2010. The movement of HCA in and out of PE ownership illustrates the difficulty of determining the long-term effect of PE ownership, which itself is not designed to last for a long period.

Nursing homes

The literature on the effects of PE ownership on nursing homes is comparatively extensive, reflecting the long history of PE involvement in the industry, the number of nursing homes with PE owners, and the public policy interest in the effect of PE ownership.³⁷ While PE ownership could lead to lower quality of care or quality of life due to greater efforts to reduce costs or the debt that providers assume in the acquisition, researchers also point out that PE owners could make changes that improve quality, operational efficiency, and profitability (Huang and Bowlblis 2019).

Studies measuring the effect of PE ownership generally attempt to measure its average impact and distinguish any PE-specific effects from the general effects of for-profit ownership. Beyond that, however, studies vary on several key dimensions, such as the period covered (the length of the look-back period before the PE purchase and the length of the observation period after the purchase), the nursing homes examined in the study (some use data from a single state, while others are national in scope), and the method and data sources used to identify PE-owned providers. As discussed above, there is no single data source that identifies PE-owned health care providers. Researchers must decide what counts as PE ownership and use multiple data sources in a complicated and time-consuming process to identify PE-owned nursing homes. Studies also differ in their choice of impact measures (e.g., staffing, quality metrics, mortality). Measures of staffing at the facility level are commonly used because (1) staffing is widely considered an important input into the quality of care, (2) staffing is under the control of nursing home operators, and (3) administrative data on staffing are generally available. Finally, these studies vary in whether or how they account for underlying differences between nursing homes acquired by PE and other nursing homes or differences in the residents served, which can bias results.

Overall, the findings in the literature on the average effects of PE ownership on nursing home quality and costs are mixed. For example, studies have found different effects of

PE ownership on staffing levels and mix. A summary of the findings of studies published since 2012 is shown in Table 3-3. Note that most of the studies look at periods before 2010, although two working papers use more recent data.

Physician practices

According to the peer-reviewed literature and our interviews with physicians, physician experiences with PE investment have been highly variable, primarily due to differences among specialties, physicians, practice sizes, and PE firms (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019, Zhu and Polsky 2021). When a PE firm acquires a physician practice, a key downside is the physicians' loss of control over the future of the practice. This uncertainty may particularly affect early and mid-career physicians who expect to practice longer than older physicians. Physicians also sacrifice future revenue because they are selling a portion of their future revenue stream. Another issue is that physicians risk losing some of their autonomy. For example, private equity firms may cut staff, change the hours of operation, and require physicians to obtain approval to purchase new equipment. Because PE investors want to rapidly increase profits, they may create incentives for physicians to change their clinical behavior. For example, dermatologists reported pressure to increase the volume of procedures and direct pathology specimens and surgical referrals to employees of the practice (Resneck 2018). A dermatologist told us that the PE firm that acquired his practice pressured clinicians to see more patients and perform more procedures, such as biopsies and Mohs surgeries.

On the other hand, researchers and physicians also cite benefits from PE investment (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019). PE deals are often lucrative for older physicians who are seeking to exit practice ownership (Gondi and Song 2019). The large upfront payments from these deals replace physicians' future income but are taxed at capital gains rates, which are lower than income tax rates. PE buyouts may also be attractive to younger physicians who are looking for a better work-life balance and freedom from administrative and financial responsibilities (Casalino 2020).

In addition, rapid changes in the health care market (e.g., vertical and horizontal integration of providers, movement toward value-based care, and changes in information technology) have created an environment of uncertainty and higher expenses for independent

**TABLE
3-3**

Overview of key studies on the effects of private equity ownership of nursing homes

Paper title (author and year)	Summary of findings	Study population and dates
Does Private Equity Investment in Healthcare Benefit Patients? Evidence from Nursing Homes (Gupta et al. 2021)	Among patients with Medicare-covered stays, PE ownership increased mortality and spending. Researchers also observed worsening mobility and elevated use of antipsychotic medications, declines in nurse availability per patient, and declines in compliance with federal and state standards of care. Operating costs post-acquisition shifted toward non-patient care items such as monitoring fees, interest, and lease payments.	National data for 2000–2017
Private Equity, Consumers, and Competition: Evidence from the Nursing Home Industry (Gandhi et al. 2020b)	The effect of PE ownership was heterogenous with respect to levels of local market concentration: In highly competitive markets, PE owners increased staffing, while in less competitive markets they reduced staffing. Following introduction of the 5-Star Quality Rating System, PE-owned facilities increased staffing more than their non-PE counterparts, and PE facilities shifted staffing more toward RNs in response to the rating system’s emphasis on RN staffing.	National data for 1993–2017
Private Equity Ownership and Nursing Home Quality: An Instrumental Variables Approach (Huang and Bowblis 2019)	Private equity ownership does not lead to lower quality, measured using 17 resident-level quality metrics, for long-stay nursing home residents in a period of 4 to 5 years following acquisition.	Ohio only for 2005–2010
What Happens to a Nursing Home Chain When Private Equity Takes Over? A Longitudinal Case Study (Bos and Harrington 2017)	PE owners continued and reinforced several strategies that were already put in place before the takeover, including a focus on keeping staffing levels low. The new PE owners added restructuring, rebranding, and investment strategies such as establishing new companies, where the nursing home chain served as an essential “launch customer.”	A single multi-state nursing home chain from 2000–2012
Private Investment Purchase and Nursing Home Financial Health (Orfaly Cadigan et al. 2015)	PE acquisition had little impact on financial outcomes except for liquidity, the only measure with a change after acquisition that did not begin in the pre-acquisition period. At baseline, acquired nursing homes looked different than non-acquired nursing homes: They had higher occupancy, lower Medicaid/higher Medicare share of residents, lower operating expenses, higher total revenue, greater liquidity, and higher profits.	National data for 1998–2010
Private Equity Ownership of Nursing Homes: Implications for Quality (Pradhan et al. 2014)	PE nursing homes in Florida had lower RN staffing and higher LPN and CNA staffing compared with other for-profit nursing homes. The change in nurse staffing pattern was reflected in the lower skill mix of PE nursing homes post-acquisition. PE-owned facilities reported worse results on pressure sore prevention and restorative ambulation and had significantly higher numbers of deficiencies and pressure ulcer risk prevalence.	Florida only for 2000–2007
Private Equity Ownership and Nursing Home Financial Performance (Pradhan et al. 2013)	Compared with other for-profit nursing homes, PE nursing homes had higher operating revenues and costs, operating margins, and total margins and no significant differences in payer mix.	National data for 2000–2007
Nurse Staffing and Deficiencies in the Largest For-Profit Nursing Home Chains and Chains Owned by Private Equity Companies (Harrington et al. 2012)	Chains purchased by PE companies showed little change in staffing levels, but the number of deficiencies and serious deficiencies increased in some postpurchase years compared with the prepurchase period.	National data for 2003–2008

Note: PE (private equity), RN (registered nurse), LPN (licensed practical nurse), CNA (certified nursing assistant).

Source: Bos and Harrington (2017), Gandhi et al. (2020b), Gupta et al. (2021), Harrington et al. (2012), Huang and Bowblis (2019), Orfaly Cadigan et al. (2015), Pradhan et al. (2014), Pradhan et al. (2013).

practices. PE investment offers these practices “shelter from the storm” by providing them with access to capital and expertise in financial management, operations, and practice acquisition (Casalino et al. 2019, Gondi and Song 2019). PE acquisition can also help subspecialty practices maintain their access to referrals. For example, retinal specialists depend on general ophthalmologists for referrals. By combining with general ophthalmologists in a PE-owned practice, retinal specialists can secure a steady stream of referrals (Casalino 2020).

Some physicians report that practice operations and clinical decision-making have not been affected by PE ownership (Casalino 2020, Gondi and Song 2019). Among the physicians we interviewed, those who performed considerable due diligence and selected a PE firm that shared their practice’s values generally had positive experiences.

We found minimal peer-reviewed, empirical evidence about the impact of PE ownership of physician practices on spending, quality of care, and patients’ experience.³⁸ The pressure that some PE firms apply to clinicians to increase revenue by performing more procedures and ancillary services (e.g., imaging) could lead to higher spending (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019, Zhu and Polsky 2021). In addition, ophthalmology practices owned by PE investors have an incentive to use more expensive drugs, which have higher profit margins (O’Donnell et al. 2020).

Physicians’ views differ about the impact of private equity on quality of care and patients’ experience. Concerns about potentially harmful effects on quality include the following:

- The pressure on PE-owned practices to achieve high returns on investment in a short time may come at the expense of investing in quality and safety (Gondi and Song 2019).
- The focus on increasing procedures may lead to inappropriate services and reduced quality (Casalino 2020).
- Care may be delivered by nonphysician practitioners, such as physician assistants (PAs), without adequate physician supervision (Gondi and Song 2019); one physician told us that he had difficulty supervising PAs because of their high patient volume, and he did not feel comfortable with the care they provided.

- The emphasis on keeping referrals within the practice may not be consistent with patients’ needs or preferences (Gondi and Song 2019).

However, some physicians report that patient care and practice patterns do not change as a result of PE ownership (Gondi and Song 2019). During our interviews, some physicians stated that PE firms are committed to providing patients with a positive experience so they can attract new patients. Another view is that PE acquisitions can improve quality of care because physicians no longer need to focus on running a business (Casalino 2020).

Summary of effects of PE ownership

Our review of the evidence on the effects of PE ownership on hospitals, nursing homes, and physicians is summarized below.

- **Hospitals.** Our cross-sectional analysis found that PE-owned hospitals tended to have lower costs and lower patient satisfaction, but the differences between hospitals owned by private equity and other hospitals were not large. This association could be due to the type of hospitals that PE firms buy (e.g., hospitals with a low purchase price) or the effect of PE ownership on hospitals (PE firms pushing down costs). Our cross-sectional analysis cannot differentiate between these two possibilities. Longitudinal analysis in the literature suggests that following acquisitions by PE firms, hospitals tend to increase their charges at a higher rate than the average. While PE ownership may influence provider charges, it will not have a large direct effect on Medicare costs due to the program’s use of prospective payment rates. In addition, the effect of PE acquisitions on the quality of care is not clear given that we do not have consistent evidence that PE ownership has large effects on quality metrics.
- **Nursing homes.** Studies on PE ownership of nursing homes have examined a variety of quality and financial outcomes, and findings are generally mixed. One recent study found that PE ownership had no effect on total revenue or costs but found evidence of a shift in operating costs away from staffing toward monitoring fees, interest, and lease payments (Gupta et al. 2020). Another recent study found that, in highly competitive markets, PE-owned nursing homes increased staffing, while in less competitive markets they reduced staffing (Gandhi et al. 2020b).

- **Physicians.** PE investment in physician practices is relatively new, and the literature estimating the impact of PE ownership of physician practices on spending, quality of care, and patient experience is scant. The pressure that some PE firms apply to clinicians to increase revenue by performing more procedures and ancillary services (e.g., imaging) could lead to higher spending (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019).

PE involvement with the Medicare Advantage program

Under the Medicare Advantage (MA) program, Medicare contracts with private plans to deliver Part A and Part B benefits to eligible beneficiaries. (Most MA plans also provide Part D drug coverage.) The share of beneficiaries enrolled in MA plans has increased steadily for more than a decade. In 2020, 43 percent of all beneficiaries with both Part A and Part B coverage were in MA, and that number is widely expected to continue growing in the coming years.

The size and scope of the MA program may provide PE firms with a wider range of investment opportunities compared with an individual provider sector. We therefore tried to assess PE activity on two levels: (1) investment in MA plan sponsors (the health insurers that offer plans) and (2) investment in related companies that work for plan sponsors (such as a company that helps manage care for enrollees with complex health needs). In addition, we examined other types of PE investment besides buyouts—such as venture capital (VC) and growth capital—because they appear to play a larger role in this area than in the three provider sectors that we already examined.

In addition, although the congressional request specifically refers to MA, we also included other private plans that provide Part A and Part B benefits but are not part of the MA program—cost plans, Medicare–Medicaid Plans, and the Program of All-Inclusive Care for the Elderly (PACE)—to provide a fuller picture of PE involvement.³⁹

PE investment in MA plan sponsors

We examined PE investment in MA plan sponsors using January 2021 information from CMS on the parent organization and tax status for each plan. The parent organization is the plan’s ultimate owner—“the legal entity

that exercises a controlling interest . . . directly or through a subsidiary or subsidiaries, and which is not itself a subsidiary of any other legal entity” (Centers for Medicare & Medicaid Services 2021a).⁴⁰ CMS also requires plans to indicate whether they are for-profit and nonprofit entities.

In January 2021, there were 309 distinct parent organizations offering Medicare health plans, with 26.6 million enrollees (Table 3-4, p. 102). Among them, 123 parent organizations operated at least one plan on a for-profit basis, and those for-profit plans had 19.9 million enrollees (about 75 percent of total enrollment). The number of parent organizations operating nonprofit plans was larger, but those plans accounted for only about 25 percent of total enrollment.

We conducted an internet search of the parent organizations with for-profit plans between December 2020 and February 2021 to determine (1) whether the organization was publicly traded or privately owned and (2) whether the organizations that are privately owned have received any investment from PE firms. Only 12 parent organizations were publicly traded, but they accounted for about 90 percent of enrollment in for-profit plans (18.0 million out of 19.9 million) and roughly two-thirds of total enrollment (under “Detail on for-profit companies” in Table 3-4, p. 102). The subset of publicly traded parent organizations is dominated by six large companies—Anthem, Centene, Cigna, CVS Health, Humana, and UnitedHealth—that collectively have 17.7 million enrollees (data not shown). The remaining 111 parent organizations that operate for-profit plans are privately owned and account for about 7 percent of total enrollment.

We found six parent organizations that are currently owned by PE firms as the result of buyouts. (Given the lack of comprehensive data on PE investment activity, there could be other PE-owned organizations that we were unable to identify.) In 2021, those organizations offer a total of 133 plans, including employer plans, and have about 497,000 enrollees, which represents about 1.7 percent of total enrollment. The bulk of those enrollees—about 450,000—are in MA plans that two organizations operate in Puerto Rico. In February 2021, one of those organizations announced it would sell its MA plans in Puerto Rico to Anthem (Tepper 2021). Once that transaction has been completed, PE-owned organizations will account for less than 1 percent of total health plan enrollment.

**TABLE
3-4**

Privately owned for-profit companies account for a relatively small share of Medicare health plan enrollment, 2021

	Parent organizations	Plans	Enrollees (in millions)	Share of enrollees
Type of company				
For profit	123	4,750	19.9	74.8%
Nonprofit	208	1,582	6.7	25.2
Total	309*	6,332	26.6	100.0
Detail on for-profit companies:				
Publicly owned	12	3,676	18.0	67.6
Privately owned	111	1,074	1.9	7.3

Note: The figures in this table are based on January 2021 enrollment in health plans that provide Part A and Part B benefits, which includes all types of Medicare Advantage plans, cost plans, Medicare–Medicaid Plans, and the Program of All-Inclusive Care for the Elderly. We counted plans using unique combinations of contract number and plan number. The table does not include stand-alone Part D prescription drug plans. Components may not sum to totals due to rounding.

*There are 22 parent organizations that have both for-profit and nonprofit divisions. These parent organizations are counted in both the “For profit” and “Nonprofit” rows. The total unduplicated number of parent organizations that offer health plans is thus 309 instead of 331.

Source: MedPAC analysis of CMS health plan enrollment data and research on health plan ownership.

In addition to buyouts, we identified 25 parent organizations where PE firms have made other investments that are either active or have recently concluded. These investments appear to be venture capital for new companies or growth capital for more established companies that want to expand. In 2021, these organizations offer 262 plans and have about 264,000 enrollees, which equals about 1 percent of total enrollment. (As with the buyouts, there may be other recipients of PE investment that we could not identify due to data limitations.) Many of these investments appear to be targeted at three types of plan sponsors: startup health insurers focused on MA and/or the ACA exchanges, provider-sponsored institutional special needs plans, and PACE.

Startup health insurers focused on MA and/or the ACA exchanges

During the past decade, several new health insurers have formed to participate in the MA program and the ACA health insurance exchanges. Some companies—such as Alignment Healthcare, Clover Health, and Devoted Health—focus exclusively on MA and have no other lines of business. Other companies, such as Oscar Health, focus primarily on the exchanges but have expanded into MA, and at least one company, Bright Health, has significant enrollment in both sectors. None of these startup insurers

operate Medicaid managed care plans or have indicated that they plan to do so.

Four of these companies—Bright Health, Clover Health, Devoted Health, and Oscar Health—have touted their use of information technology as a feature that distinguishes them from traditional insurers (for example, by enabling them to improve the beneficiary experience or better identify beneficiaries who need preventive care). These companies present themselves as startup tech companies as much as startup health insurers, and they are sometimes referred to as “insurtechs” (Accenture Insurance 2019, Muoio 2019). All four companies have raised substantial amounts of venture capital, ranging from about \$800 million to \$1.6 billion. Alignment Healthcare, Clover Health, and Oscar Health became publicly traded companies earlier this year, and Bright Health also plans to become publicly traded this year (Minemyer 2021, Schubarth 2021, Vaidya 2021, Wilhelm 2021).

Provider-sponsored institutional special needs plans

Institutional special needs plans (I–SNPs) are specialized MA plans that restrict their enrollment to beneficiaries who need the level of care provided in a long-term care facility for 90 days or longer. The sector has always been relatively small due to limited interest from plan sponsors

and nursing homes. In 2021, there are a total of 172 I-SNPs, with about 91,000 enrollees.⁴¹ UnitedHealth has long been the primary sponsor of I-SNPs; its plans cover about 65 percent of all I-SNP enrollees. The second-largest sponsor, Anthem, accounts for only 7 percent of the market.

However, over the past five years, a growing number of nursing homes have started becoming plan sponsors in their own right—as opposed to simply participating in the provider networks of MA plans—and offering an I-SNP to the residents of their facilities. For nursing homes, these provider-sponsored I-SNPs are viewed as a way to get more control over their revenues (the share of residents enrolled in MA plans has been growing, but MA payment rates for skilled nursing care are generally lower than FFS rates) and retain any profits generated by the I-SNP model, which focuses on reducing hospital admissions by providing more primary care in the nursing home.

PE firms have invested in companies that help launch and operate these new I-SNPs. These companies first recruit nursing homes in a geographic region, usually a metropolitan area or state, to participate in the I-SNP. These plans are often structured as joint ventures between the PE-backed companies and the nursing homes. As part of this process, these companies reach an agreement with the nursing homes on the amount of capital that each side will invest in the plan and how its profits and losses will be shared. According to one consultant we interviewed, these risk-sharing arrangements vary across nursing homes, even among the facilities that participate in the same plan. The PE-backed companies also provide funding to help the participating nursing homes obtain an insurance license, if needed, and meet state insurance requirements to maintain sufficient capital reserves. The companies also perform many of the plan’s administrative functions, such as assembling provider networks and paying claims. One of these companies, AllyAlign Health, has developed 25 plans that collectively have about 10,000 enrollees.

Representatives for one of these companies believed that PE funding had played an important role in facilitating the company’s expansion. The company had used the funding for a variety of purposes, including developing case management software that was better suited for institutional settings and hiring more capable staff. These representatives felt that PE funding was helping the company expand its operations much more rapidly than it would have if it had relied solely on the profits generated by its existing plans. These representatives also stated that

the company could not have obtained a similar amount of capital from a traditional commercial bank.

Program of All-Inclusive Care for the Elderly

PACE is another type of specialized plan that serves beneficiaries who need the level of care provided in a nursing home. Unlike I-SNPs, which largely serve beneficiaries who are already in nursing homes, PACE targets beneficiaries who still live in the community. PACE uses a distinctive model of care based on adult day-care centers that are staffed by an interdisciplinary team that provides therapy and medical services. Almost all PACE enrollees are dually eligible for Medicare and Medicaid, and PACE plans cover all Medicare and Medicaid services. PACE plans are typically small, and overall enrollment is fairly low (about 50,000).

For many years, PACE plans were required to operate as nonprofit entities, but CMS lifted this restriction in 2015 after a statutorily mandated demonstration found that for-profit PACE plans provided care that was comparable in quality (Centers for Medicare & Medicaid Services 2015). Since then, there has been some PE investment in for-profit PACE plans. The most notable example is probably InnovAge, a nonprofit PACE plan in Colorado that was acquired by a PE firm in 2016 and converted into a for-profit company (Lagasse 2016). Since then, InnovAge has acquired other plans in several states and become the largest PACE sponsor in the country, accounting for about 12 percent of total PACE enrollment. The company became publicly traded earlier this year (InnovAge 2021). Another example of PE investment is WelbeHealth, which has received VC funding and entered the PACE market in 2019. Unlike InnovAge, which has grown primarily by acquiring existing plans, WelbeHealth has focused on developing new PACE plans.

PE investment in companies that work for MA plan sponsors

In addition to investing in certain MA plan sponsors, PE firms have also invested in an array of related companies that perform a variety of functions for plan sponsors. Many of these related companies either provide services directly to MA enrollees or provide care management (or both), and some are paid using value-based arrangements where the company bears some degree of financial risk for an enrollee’s overall spending. Most of these companies are relatively new, so VC funding and growth capital appear to play a larger role than leveraged buyouts.

In this section, we provide some examples of the companies that have received funding from PE firms. We cannot offer a comprehensive overview given the limits on the available data about both PE investment activity and the extent of the relationships between these companies and MA plan sponsors, but we highlight some areas that have attracted investment in recent years.

Primary care

PE firms have invested in companies that are using several distinct business models to revamp the delivery of primary care. One set of companies operates their own networks of primary care clinics that focus largely or entirely on serving MA enrollees. These companies are paid by MA plan sponsors on a capitated basis and agree to take full financial risk for the overall Medicare costs of the enrollees they serve. Two companies that use this model and have received VC funding are Oak Street Health and Iora Health.⁴² According to the companies' websites, as of March 2021, Oak Street operated a total of 89 clinics in 13 states, while Iora Health had 47 clinics in 8 states. Oak Street became a publicly traded company in July 2020 (Reuter 2020). At the time of its IPO, the company had contracts with 23 plan sponsors, with Humana accounting for about half of its capitated revenues, and it served 55,000 MA enrollees where it was paid on a capitated basis (Securities and Exchange Commission 2020b). Iora Health remains privately owned, and information on its relationships with MA plan sponsors is not available.

A second set of PE-backed companies, such as Aledade and agilon health, form joint ventures with physician practices that want to participate in value-based contracts with health plans. These companies do not buy the practices; instead, through the joint ventures, they bear some of the financial risk from the value-based contracts and support the practices in several ways, such as by providing better information technology, performing utilization management, and managing relationships with outside specialists. In 2020, Aledade-affiliated practices served about 100,000 MA enrollees through value-based contracts, although the amount of risk the practices bear under those contracts is unclear (Landi 2021).

Another PE-backed company, Cano Health, uses both of these models. As of January 2021, the company served about 85,000 MA enrollees where it was paid on a capitated basis. Like Oak Street, the company has relationships with numerous MA plan sponsors, but Humana accounts for the majority of its capitated enrollees

(Cano Health 2021). The company became publicly traded in 2020 (Cano Health 2020).

A third set of companies focus on delivering primary care in beneficiaries' homes to improve their health and avoid expensive emergency room visits and inpatient stays. These companies use their own providers (usually nurse practitioners and physician assistants) to deliver the in-home care and often focus on serving beneficiaries with complex health conditions. Several companies that use this model—such as ConcertoCare, DispatchHealth, Landmark Health, and Ready Responders—have received funding from VC firms. Some of the companies, such as Landmark Health, participate in value-based contracts, while others may be paid by plans on an FFS basis. Earlier this year, UnitedHealth's Optum subsidiary agreed to buy Landmark Health (Donlan 2021).

Many of these companies (in all three models) participate in other Medicare value-based programs. For example, Oak Street Health, Iora Health, agilon health, Cano Health, and Landmark Health have expanded into FFS Medicare by participating in CMS's direct contracting model (Center for Medicare & Medicaid Innovation 2020). In contrast, Aledade originally focused on developing accountable care organizations in the Medicare Shared Savings Program before expanding into value-based contracts with MA plans.

Post-acute care

PE firms have also invested in companies such as CareCentrix and naviHealth that manage the use of post-acute care on behalf of MA plan sponsors. These companies assess enrollees' care needs, encourage the use of less expensive care when appropriate (such as home health instead of skilled nursing care), and try to reduce the number of hospital readmissions. Both companies also participate in value-based contracts. Each company has been publicly traded or PE owned at different points. CareCentrix is currently owned by a PE firm, while naviHealth is now owned by UnitedHealth's Optum subsidiary, which bought it from a PE firm in 2020 (Landi 2020b).

Chronic kidney disease and end-stage renal disease

Policymakers have recently made two changes to Medicare that affect beneficiaries with chronic kidney disease (CKD) or end-stage renal disease (ESRD). The first change was the enactment of the 21st Century Cures

Act, which allowed beneficiaries with ESRD to enroll in MA plans starting in 2021. (Before that, beneficiaries who developed ESRD after enrolling in an MA plan could remain in the plan, but those who already had ESRD were prohibited from newly enrolling in a plan.) The second change was CMS’s development of the Kidney Care Choices model, which aims to improve care for beneficiaries with CKD and ESRD (for example, by slowing the progression from CKD to ESRD and encouraging the use of home dialysis when possible). The model was also scheduled to start in 2021 but has been delayed to 2022.

These policy changes have led VC firms to invest in startup companies that focus on managing care for the CKD and ESRD populations. At least four companies in this sector—Cricket Health, Monogram Health, Somatus, and Strive Health—have received VC funding. Each company works with MA plans and has expressed interest in participating in value-based contracts, but the full extent of their relationships is unclear. One leading MA plan sponsor, Humana, has signed contracts with Monogram Health, Somatus, and Strive Health to care for CKD/ESRD enrollees in selected states.

Collection of diagnosis codes

Medicare payments to MA plans are risk adjusted to account for differences in enrollees’ health status. The risk adjustment system that CMS has developed relies partly on the diagnosis codes from inpatient, outpatient, and physician claims, which gives MA plan sponsors an incentive to document all valid diagnosis codes for their enrollees. PE firms have invested in companies such as Cotiviti, Signify Health, and Vatica Health that help plan sponsors collect diagnosis codes. (Signify Health became a publicly traded company earlier this year.) These companies perform activities such as analyzing claims data to identify instances where diagnosis codes might be missing, using information technology to collect diagnosis codes directly from physicians’ electronic health records, and conducting in-home health assessments. (Some of these companies also have other lines of business, such as helping providers participate in bundled payment programs and helping plans collect quality data.) Collecting more diagnosis codes increases Medicare payment to plans, although it is unclear whether PE-owned companies allow plan sponsors to collect more codes than they would by using other approaches, such as collecting codes themselves.

In addition, the value-based contracts that many companies described in this section sign with MA plan sponsors may also encourage the collection of more diagnosis codes. For example, companies that sign “full-risk” contracts with MA plan sponsors may be paid using capitated rates that equal a share of the plan’s Medicare revenues. This arrangement gives the company with the value-based contract an incentive to collect more diagnosis codes because doing so generates more revenue for the plan sponsor, which in turn leads to more revenue for the downstream company.

Some MA plan sponsors also make investments in outside companies

We have focused on instances where PE firms invest in companies that work for MA plan sponsors, but it is worth noting that plan sponsors can also be investors in their own right. Several plan sponsors have their own VC arms, including for-profit sponsors (UnitedHealth’s Optum Ventures), nonprofit sponsors (Intermountain Ventures, Kaiser Permanente Ventures, UPMC Enterprises), and a mix of for-profit and nonprofit sponsors (the Blue Cross/Blue Shield affiliates’ Blue Venture Fund). As one might expect, these funds invest in startup companies that could benefit health plans and have focused on areas such as information technology and care management. For example, they have invested in some of the companies discussed in this section: CareCentrix (Blue Venture Fund), DispatchHealth (Optum Ventures), naviHealth (Blue Venture Fund), and Somatus (Blue Venture Fund, Optum Ventures). Plan sponsors that do not have their own VC arms also make investments: For example, Centene recently invested in a company working to improve the interoperability of health care data (Landi 2020a).

In addition, the second-largest MA plan sponsor, Humana, has participated in several buyouts led by PE firms. In 2018, Humana and two PE firms acquired the post-acute care company Kindred Healthcare, which operated long-term care hospitals (LTCHs), inpatient rehabilitation facilities (IRFs), home health agencies, and hospices. As part of the deal, Kindred Healthcare was split into two separate companies. The first company, which kept the Kindred Healthcare name, operates the LTCHs and IRFs and is owned entirely by the PE firms. The second company, called Kindred at Home, operates the home health agencies and hospices and is jointly owned by the PE firms (60 percent) and Humana (40 percent). Humana has the right to buy out the PE firms and take full ownership (Kindred Healthcare 2018, Mullaney 2018).

Later that year, Humana and the same PE firms purchased Curo Health Services, a hospice provider, and added it to Kindred at Home (Holly 2018).

Finally, in 2020, Humana and one of the PE firms involved in the Kindred and Curo acquisitions started a joint venture to develop a network of primary care centers focused on serving Medicare beneficiaries. The centers will be managed by a Humana subsidiary. The PE firm has a majority stake in the joint venture and can require Humana to buy it out over the next 5 to 10 years (Humana 2020).

Effect of MA-related investments on Medicare costs

We are not aware of any research that evaluates the effect that PE investment in MA-related companies has on Medicare costs. Under the MA payment system, those investments would not change Medicare spending unless they had an impact on plan bids, quality bonuses, or risk scores. Conducting that type of analysis would be challenging for several reasons. For example, CMS collects information on each plan’s ultimate owner—the parent organization—but does not know which organizations are owned by PE firms. The agency also does not collect information on plan sponsors’ contracting arrangements with other companies (which means, for example, that there is no database that identifies which plans use PE-backed companies to provide care management for enrollees with complex health needs). In addition, researchers would probably need to use encounter data to assess whether PE-backed companies had any effect on enrollees’ service use. However, the existing encounter data are incomplete and may not provide an accurate picture of utilization patterns, especially in key areas like post-acute care.

Conclusion

Private equity firms raise capital from entities such as pension funds and endowments and invest those funds in ways that they hope will generate attractive returns. Their investments can take many forms, but the approach that has generated the most debate is the leveraged buyout, which relies heavily on borrowed money and aims to generate returns within a relatively short time.

The amounts that investors have committed to PE funds have increased in recent years, and PE funds’ investment activity has grown accordingly. We found that PE funds have been active in all four sectors we examined in this chapter—hospitals, nursing homes, physician practices, and Medicare Advantage. However, their presence was relatively limited: PE firms owned roughly 4 percent of hospitals, 11 percent of nursing homes, and 2 percent of MA plan sponsors. At least 2 percent of physician practices were acquired from 2013 to 2016, but that figure does not take into account previous PE acquisitions, and it appears to have grown since then.

There is relatively little research on the effects of private equity in the sectors we examined, due in part to the challenges of identifying PE-owned providers, and the findings that are available appear to be mixed. However, we expect to see further research on this issue in the coming years, especially on acquisitions of physician practices, and those studies may provide new insights into the effects of PE investment in health care.

The debate about the merits of private equity involves many issues that lie outside Medicare’s purview, such as federal antitrust policy, whether PE firms should bear responsibility for the debt of their portfolio companies, and the tax treatment of carried interest. Even within health care, one major concern—that private equity may consolidate providers to create market power and negotiate higher payment rates—may have limited relevance for Medicare because the program largely sets its own payment rates. Nevertheless, Medicare could be affected in other ways, such as the volume and mix of services that are provided, and the program’s payment policies are often an important consideration for PE firms. Investment activity in specific sectors or markets may indicate areas where payment policies should be reexamined (for example, by addressing site-of-service differences in payment rates that make it more profitable to deliver certain services in a higher cost setting) and may highlight areas that could potentially result in lower costs or better quality (such as efforts to develop value-based payment models). ■

Endnotes

- 1 Some PE firms also make loans in addition to equity investments.
- 2 Similarly, between 2001 and 2012, the number of initial public offerings (IPOs) in the U.S. averaged 99 per year, compared with 310 IPOs annually between 1980 and 2000 (De Fontenay 2017).
- 3 These interest payments used to be fully deductible, but in 2017, the Tax Cuts and Jobs Act limited the deduction to make the treatment of debt and equity financing more comparable. Between 2018 and 2021, the deduction is capped at 30 percent of a company's earnings before interest, taxes, depreciation, and amortization (EBITDA). Starting in 2022, the deduction will be capped at 30 percent of a different metric—a company's earnings before interest and taxes (EBIT). Since EBIT is lower than EBITDA, this change will further reduce the amount of interest that companies can deduct.
- 4 There is also a relatively small secondary market where an investor can sell its ownership stake in a PE fund to another investor before the fund has reached the end of its life span.
- 5 There can be some overlap between the period when a PE firm is raising money for a new fund and the period when the fund begins making its investments. In these instances, the PE firm has raised some money for the new fund but has not yet reached its overall fundraising target.
- 6 Under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, firms are generally exempt from this “premerger notification” requirement for deals valued below a dollar threshold (Wollman 2019). The threshold was set at \$50 million in 2000 and is adjusted annually by the rate of change in the gross national product. For 2020, the threshold was \$94 million.
- 7 The term *carried interest* apparently traces back to the shipping industry, where captains would receive a share of the profits on the cargo they carried.
- 8 For this reason, CMS established a category of providers, Special Focus Facilities, to increase oversight of poorly performing nursing homes (Centers for Medicare & Medicaid Services 2021b).
- 9 In 2016, 69 percent of the nearly 15,500 nursing homes in the U.S. were for-profit entities. Fifty-eight percent of all nursing home were owned by chains (Harrington et al. 2018).
- 10 However, CMS does require some types of providers and suppliers to demonstrate that they have certain levels of financial assets to operate. For example, when a home health agency initially enrolls, it must demonstrate that it has sufficient initial reserve operating funds to operate for its first three months. Similarly, although there are some exemptions, suppliers of durable medical equipment, prosthetics, orthotics, and supplies must post surety bonds to enroll in Medicare.
- 11 The NSC processes applications for suppliers of durable medical equipment, prosthetics, orthotics, and supplies. MACs process applications of all other providers and suppliers. The MACs and the NSC are responsible for verifying the provider's name, address, tax identifiers, license, and any history of adverse actions, license revocations, or felony convictions.
- 12 Suppliers of durable medical equipment, prosthetics, orthotics, and supplies must be revalidated every three years.
- 13 However, for home health agencies, if an individual or organization acquires more than a 50 percent direct ownership interest within the first 36 months of the agency's initial enrollment (or a previous CHOW), the prospective owner must apply as a new enrollee absent a regulatory exception.
- 14 Buyers that reject assignment must apply as an initial applicant to Medicare and may be subject to a full initial accreditation survey.
- 15 Other changes in enrollment information must be reported to CMS within 90 days.
- 16 The ACA authorized CMS to expand screening requirements for enrolling all types of providers and suppliers in Medicare and Medicaid, not just nursing homes. For example, CMS places providers in risk categories and conducts more extensive review of applicants in high-risk categories (such as new home health agencies), including site visits and fingerprinting to conduct felony checks.
- 17 This expanded authority was intended, in part, to prevent providers or suppliers who committed fraud and abuse and then left the program with unpaid debt to Medicare from reenrolling while shifting their activities to an affiliated entity.
- 18 CMS often regards the transfer of an asset as a CHOW, but not the transfer of a membership interest (Markenson and Woffenden 2019). This distinction means the purchase or sale of a Medicare provider by a PE firm should require a CHOW submission to PECOS, but the entry or exit of investors in the associated PE investment fund would not.

- 19 We reviewed several state online tools that list provider ownership data. For nursing homes, many states send consumers to CMS’s Care Compare tool, which makes a limited amount of ownership information available. CMS does not make comparable ownership information available for general hospitals. A few state websites provided more detailed facility information. For example, California’s Department of Public Health posts a data set that lists, for each licensed facility, the names of individuals or organizations with any share of ownership of the license as well as the property owner, management company, and administrator. However, the data are not fully populated for all facilities.
- 20 *Traditional hospitals* refer to general and surgical hospitals that are not small rural critical access hospitals. We identified ownership by conducting an internet search on for-profit hospitals. The list of hospitals we identified may not be complete. In addition, some long-term care hospitals that provide post-acute care are owned by PE firms and are not included in our universe of general and surgical hospitals.
- 21 However, some research has suggested that adding physician ownership may result in a more favorable selection of patients. For example, see (O’Neill and Hartz 2012).
- 22 Health systems are defined here as organizations that had at least one acute care hospital and one physician group and were connected through common ownership or joint management. An affiliation was defined as common ownership or a joint management agreement.
- 23 Two such firms, TeamHealth (owned by PE firm Blackstone) and Envision (owned by KKR), have been at the center of the recent controversy over surprise billing (Gottfried 2020).
- 24 The term “middle-market” refers to firms that make smaller investments in lesser known companies. Definitions of middle-market PE investors differ, but PitchBook defines them as funds with \$100 million to \$5 billion of capital commitments.
- 25 This strategy is similar to the “physician rollup” approach used by physician practice management (PPM) companies in the 1990s (Robinson 1998). Most publicly traded PPMs went bankrupt, which one prominent economist attributed to the industry trying to grow “mindlessly fast in a fatal pas de deux with a financial market that egged the industry on with unrealistic expectations about future earnings” (Reinhardt 2000). Because more recent deals are structured differently from PPMs—including shared equity with physician owners—they may be less likely to fail (Casalino et al. 2019).
- 26 Pathologists, emergency medicine physicians, anesthesiologists, radiologists, hospitalists, neonatologists, and a limited number of other specialists are thought to be in this category.
- 27 To address these situations, the Congress included the No Surprises Act in its fiscal year 2021 omnibus spending bill. Beginning in 2022, commercial insurers may charge patients only in-network cost sharing for all out-of-network emergency facility and professional services. The law sets up a system of arbitration to determine the amounts that insurers pay facilities and clinicians. See Adler and colleagues (2021) for more details.
- 28 For an example, see <https://www.washingtonpost.com/business/2020/12/31/brius-nursing-home/>. A related concern is that these complex corporate structures make it difficult to identify a nursing home’s ultimate owner and to look for quality of care issues across a chain’s facilities.
- 29 Labor in nursing homes is a mix of therapy staff and nursing staff, such as more costly registered nurses (RNs) and less costly licensed practical nurses (LPNs) or certified nursing assistants. Federal requirements for nursing home staffing state that a nursing home must have 24 hours of licensed nurse (RN or LPN) coverage every day, including one RN on duty for at least 8 consecutive hours. Some states have higher or more specific staffing requirements. According to a recent study, granular staffing data from the Payroll-Based Journal (PBJ) “suggest that a large proportion of nursing homes often have daily staffing below CMS’s case-mix-adjusted expected staffing levels” and that “for each staffing type and across all ownership categories, the mean PBJ-reported hours per resident day were lower than reported in CASPER [the Certification and Survey Provider Enhanced Reports],” which contain facility-reported staffing data (Geng et al. 2019). Analysis in a recent New York Times article found that the PBJ data may also overstate patient-care staffing depending on how a nursing home records the time of RNs in administrative positions (Silver-Greenberg and Gebeloff 2021).
- 30 The separation of a nursing home’s assets and operations may involve a real estate investment trust (REIT), which is a public or private corporation that invests in real estate with exemptions for corporate income tax provided it meets “requirements related to sources of income and assets, payment of dividends, and diversification of ownership” (Harrington et al. 2011). In addition to the corporate tax benefits, REITs can be advantageous because they have “rental agreements in which, in addition to basic rental charges, the nursing home operating companies pay a proportion of their income to the REITs, allowing nursing homes to shift profits to the REITs and further reduce their corporate taxes (Harrington et al. 2011). REITs also offer liability protection when nursing home operators are sued because the real estate assets are legally separate from the operator.

- 31 The divestment described here is intended to show the effects of restructuring and rebranding at that time. While Fillmore Capital Partners retains ownership, some of the company names and ownership arrangements have changed since publication of the source article. For example, in June 2020, AseraCare Hospice was acquired by Amedysis Inc.
- 32 Casalino and colleagues describe PE payments to physician owners of add-on acquisitions of two to four times EBITDA or less (Casalino et al. 2019). Helm describes the same types of payments as 30 percent to 40 percent less than those paid for the platform practice (Helm 2019).
- 33 For example, see Americans for Financial Reform (2020), Goldstein et al. (2020), Laise (2020), Spanko (2020), and Tan and Chason (2020).
- 34 Cooper and colleagues examined whether a large emergency physician staffing company that engages in out-of-network billing—EmCare, today a subsidiary of Envision Healthcare—affects commercial insurance payments for physician and hospital services (Cooper et al. 2020a). After EmCare entered into a contract with a hospital and began billing for ED services, insurance payments and patient cost-sharing for ED physicians doubled and hospital facility payments also increased, driven by higher use of imaging and a rise in admissions. The authors used data from 2011 through 2015, which included a two-year period during which EmCare was owned by a PE firm (from 2011 to 2013) (Harvard T.H. Chan School of Public Health 2019). Because EmCare was owned by a PE company for only about half of the period studied, it is unclear whether EmCare’s impact on payments was related to PE ownership.
- 35 For a discussion of our methodology for standardizing hospital costs see our March 2020 report to the Congress (Medicare Payment Advisory Commission 2020).
- 36 We conducted two checks of the robustness of our findings by examining (1) 2018 costs for all hospitals, including those with fewer than 500 discharges, and (2) 2019 costs for hospitals with more than 500 discharges. We found similar results to those described in the chapter.
- 37 There is a large volume of literature on the effects of PE ownership of nursing homes generally on the quality of patient care and on the relationship between staffing and quality of care. For the latter see (Bostick et al. 2006).
- 38 See endnote 34.
- 39 Compared with MA plans, relatively few beneficiaries are enrolled in these other types of private plans. In January 2021, there were 25.9 million enrollees in MA plans and a total of 694,000 enrollees in cost plans, Medicare–Medicaid Plans, and PACE.
- 40 For example, CVS Health Corporation is listed as the parent organization on a total of 42 contracts. However, none of the legal entities that signed those contracts with CMS have “CVS” in their name. All of those entities were part of Aetna before CVS acquired it in 2018; most of them still have “Aetna” in their name, and some even have the names of other companies that Aetna acquired in earlier years, such as “Coventry” or “First Health.”
- 41 We counted plans based on the combination of contract numbers and plan numbers, but this approach arguably overstates the size of the I–SNP sector because many plans have very few enrollees. Only 96 plans have more than 100 enrollees.
- 42 Another privately owned company—ChenMed—uses this model, but we could not find any evidence that it has received PE funding.

References

- Accenture Insurance. 2019. Why American health insurtechs are attracting so much investment. Accenture Insurance blog post, July 25. <https://insuranceblog.accenture.com/why-american-health-insurtechs-are-attracting-so-much-investment>.
- Adler, L., M. Fiedler, P. Ginsburg, et al. 2021. *Understanding the No Surprises Act*. Washington, DC: USC-Brookings Schaefer Center on Health Policy.
- Al-Muslim, A. 2020. Rival companies tussle to buy Los Angeles hospital out of bankruptcy. *Wall Street Journal*, July 28.
- Altegris Advisors. 2019. *Understanding private equity: A primer*. La Jolla, CA: Altegris Advisors. https://www.altegris.com/~media/Files/CIO%20Perspectives/ACA_FocusOnPrivateEquityPrimer_Jan2019.pdf.
- American Medical Association. 2019. *Issue brief: Corporate investors*. Chicago, IL: AMA.
- American Medical Association. 2015. *Issue brief: Corporate practice of medicine*. Chicago, IL: AMA.
- Americans for Financial Reform. 2020. *Report: The deadly combination of private equity and nursing homes during a pandemic*. Washington, DC: Americans for Financial Reform. <https://ourfinancialsecurity.org/2020/08/report-3-private-equity-nursing-homes-coronavirus/>.
- Appelbaum, E., and R. Batt. 2020. *Private equity buyouts in healthcare: who wins, who loses?* Working paper #118. New York: Institute for New Economic Thinking.
- Arnsdorf, I. 2020. Overwhelmed hospitals face a new crisis: Staffing firms are cutting their doctors' hours and pay. *ProPublica*, April 3.
- Bain & Company. 2021. *Global private equity report 2021*. Boston, MA: Bain & Company.
- Bain & Company. 2020a. *Global healthcare private equity and corporate M&A report 2020*. Boston, MA: Bain & Company.
- Bain & Company. 2020b. *Global private equity report 2020*. Boston, MA: Bain & Company.
- Bary, A. 2019. Yale endowment gets a 'C' in investing. *Barron's*, October 7.
- Bos, A., and C. Harrington. 2017. What happens to a nursing home chain when private equity takes over? A longitudinal case study. *Inquiry* 54 (January–December): 1–10.
- Bostick, J. E., M. J. Rantz, M. K. Flesner, et al. 2006. Systematic review of studies of staffing and quality in nursing homes. *Journal of the American Medical Directors Association* 7, no. 6 (July): 366–376.
- Braun, R. T., H. Yun, L. P. Casalino, et al. 2020. Comparative performance of private equity-owned US nursing homes during the COVID-19 pandemic. *JAMA Network Open* 3, no. 10 (October 1): e2026702.
- Brown, B., E. O'Donnell, and L. P. Casalino. 2020. Private equity investment in behavioral health treatment centers. *JAMA Psychiatry* 77, no. 3 (March 1): 229–230.
- Bruch, J., S. Gondi, and Z. Song. 2021a. COVID-19 and private equity investment in health care delivery. *JAMA Health Forum*. Published online March 1. doi:10.1001/jamahealthforum.2021.0182.
- Bruch, J., D. Zeltzer, and Z. Song. 2021b. Characteristics of private equity-owned hospitals in 2018. *Annals of Internal Medicine* 174, no. 2 (February): 277–279.
- Bruch, J. D., A. Borsa, Z. Song, et al. 2020a. Expansion of private equity involvement in women's health care. *JAMA Internal Medicine*. Published online August 24. <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2769544>.
- Bruch, J. D., S. Gondi, and Z. Song. 2020b. Changes in hospital income, use, and quality associated with private equity acquisition. *JAMA Internal Medicine* 180, no. 11 (August 24): 1428–1435.
- Cano Health. 2021. Investor & analyst day presentation. March 4. https://canohealth.com/wp-content/uploads/2021/03/Cano-Health_Investor-and-Analyst-Day-Presentation_vFF.pdf.
- Cano Health. 2020. Cano Health, a leading value-based care delivery platform for seniors, to become publicly traded via merger with Jaws Acquisition Corp. Press release. November 12. <https://canohealth.com/cano-health-a-leading-value-based-care-delivery-platform-for-seniors-to-become-publicly-traded-via-merger-with-jaws-acquisition-corp/>.
- Capps, C., D. Dranove, and C. Ody. 2017. Physician practice consolidation driven by small acquisitions, so antitrust agencies have few tools to intervene. *Health Affairs* 36, no. 9 (September 1): 1556–1563.
- Casalino, L. P. 2020. Private equity, women's health, and the corporate transformation of American medicine. *JAMA Internal Medicine* 180, no. 11 (August 24): 1545–1546.

- Casalino, L. P., R. Saiani, S. Bhidya, et al. 2019. Private equity acquisition of physician practices. *Annals of Internal Medicine* 170, no. 2 (January 15): 114–115.
- Casson, J. E., and J. McMillen. 2003. Protecting nursing home companies: Limiting liability through corporate restructuring. *Journal of Health Law* 36, no. 4 (Fall): 577–613.
- Center for Medicare & Medicaid Innovation, Department of Health and Human Services. 2020. Notice of DCEs participating in the implementation period of the direct contracting model, global and professional options. October 30.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021a. Medicare and Medicaid programs; contract year 2022 policy and technical changes to the Medicare Advantage program, Medicare prescription drug benefit program, Medicaid program, Medicare cost plan program, and Programs of All-Inclusive Care for the Elderly. Final rule. *Federal Register* 86, no. 11 (January 19): 5864–6135.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021b. Special focus facilities program. <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Downloads/SFFList.pdf>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020. Medicare program integrity manual. Chapter 10, Section 10.6.7. Medicare enrollment. Baltimore, MD: CMS.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019. Medicare, Medicaid, and Children’s Health Insurance Programs; Program integrity enhancements to the provider enrollment process. Final rule. *Federal Register* 84, no. 175 (September 10): 47794–47856.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2015. *Report to Congress: The Centers for Medicare & Medicaid Services’ evaluation of for-profit PACE programs under section 4804(b) of the Balanced Budget Act of 1997*. Baltimore, MD: CMS.
- Chen, E. M., J. T. Cox, T. Begaj, et al. 2020. Private equity in ophthalmology and optometry: Analysis of acquisitions from 2012 through 2019 in the United States. *Ophthalmology* 127, no. 4 (April): 445–455.
- Chopra, R. 2020. Statement regarding private equity roll-ups and the Hart-Scott Rodino Annual Report to Congress. Commission file P110014. July 8.
- Coleman-Lochner, L., and E. Ronalds-Hannon. 2019. Everything is private equity now. *Bloomberg News*, October 3.
- Cooper, Z., F. S. Morton, and N. Shekita. 2020a. Surprise! Out-of-network billing for emergency care in the United States. *Journal of Political Economy* 128, no. 9. Electronically published August 13. <https://www.journals.uchicago.edu/doi/abs/10.1086/708819>.
- Cooper, Z., H. Nguyen, N. Shekita, et al. 2020b. Out-of-network billing and negotiated payments for hospital-based physicians. *Health Affairs* 39, no. 1 (January): 24–32.
- De Fontenay, E. 2017. The deregulation of private capital and the decline of the public company. *Hastings Law Journal* 68 (April): 445–502.
- Department of Justice. 2018. *Prime Healthcare Services and CEO to pay \$65 million to settle False Claims Act allegations*. Washington, DC: DOJ.
- Doidge, C., A. Karolyi, and R. Stulz. 2017. The U.S. listings gap. *Journal of Financial Economics* 123: 464–487.
- Donlan, A. 2021. UnitedHealth’s Optum reportedly strikes deal for Landmark Health. *Home Health Care News*, February 21.
- Duffy, E. L., L. Adler, P. B. Ginsburg, et al. 2020. Prevalence and characteristics of surprise out-of-network bills from professionals in ambulatory surgery centers. *Health Affairs* 39, no. 5 (May): 783–790.
- Ernst & Young. 2019. *Consolidated financial statements: Prime Healthcare Services, Inc. and subsidiaries*. Los Angeles, CA: Ernst & Young.
- FitchRatings. 2020. Fitch assigns first-time rating of ‘B(exp)’ to Prime Healthcare Services, Inc.: Outlook stable. <https://www.fitchratings.com/research/corporate-finance/fitch-assigns-first-time-rating-of-b-exp-to-prime-healthcare-services-inc-outlook-stable-20-10-2020>.
- Flynn, M. 2019. By targeting skilled nursing ownership transfers, states look to prevent more Skyline-style implosions. *Skilled Nursing News*, October 21.
- Furukawa, M. F., L. Kimmey, D. J. Jones, et al. 2020. Consolidation of providers into health systems increased substantially, 2016–18. *Health Affairs* 39, no. 8 (August): 1321–1325.
- Gandhi, A., J. Song, and P. Upadrashta. 2020a. Have private equity owned nursing homes fared worse under COVID-19? <http://dx.doi.org/10.2139/ssrn.3682892>.
- Gandhi, A., Y. Song, and P. Upadrashta. 2020b. Private equity, consumers, and competition: Evidence from the nursing home industry. <http://dx.doi.org/10.2139/ssrn.3626558>.

- Genecov, L. 2019. Due diligence, structural and regulatory considerations. Presentation for the American Health Law Association. <https://vmghealth.com/wp-content/uploads/2019/05/Private-Equity-vs-Health-System-Transactions-AHLA.pdf>.
- Geng, F., D. G. Stevenson, and D. C. Grabowski. 2019. Daily nursing home staffing levels highly variable, often below CMS expectations. *Health Affairs* 38, no. 7 (July): 1095–1100.
- Gilreath, M., S. Morris, and J. V. Brill. 2019. Physician practice management and private equity: Market forces drive change. *Clinical Gastroenterology and Hepatology* 17, no. 10 (September): 1924–1928.
- Goldstein, M., J. Silver-Greenberg, and R. Gebeloff. 2020. Push for profits left nursing homes struggling to provide care. *New York Times*, May 7.
- Gondi, S., and Z. Song. 2019. Potential implications of private equity investments in health care delivery. *Journal of the American Medical Association* 321, no. 11 (March 19): 1047–1048.
- Gottfried, M. 2020. Ill-timed health care buyouts bruise KKR and Blackstone. *Wall Street Journal*, May 28.
- Government Accountability Office. 2010. *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: GAO.
- Gupta, A., S. Howell, C. Yannelis, et al. 2020. Does private equity investment in healthcare benefit patients? Evidence from nursing homes. <http://dx.doi.org/10.2139/ssrn.3537612>.
- Hafner, K., and G. Palmer. 2017. Skin cancers rise, along with questionable treatments. *New York Times*, November 20.
- Hansard, S. 2021. Health deals see torrid pace with physician practices in front. *Bloomberg Law*, February 22.
- Harrington, C., H. Carrillo, R. Garfield, et al. 2018. *Nursing facilities, staffing, residents and facility deficiencies, 2009 through 2016*. Washington, DC: Kaiser Family Foundation.
- Harrington, C., C. Hauser, B. Olney, et al. 2011. Ownership, financing, and management strategies of the ten largest for-profit nursing home chains in the United States. *International Journal of Health Services* 41, no. 4: 725–746.
- Harrington, C., A. Montgomery, and T. King. 2021. These administrative actions would improve nursing home ownership and financial transparency in the post COVID-19 period,” *Health Affairs* blog, February 11. www.healthaffairs.org/doi/10.1377/hblog20210208.597573/full/.
- Harrington, C., B. Olney, H. Carrillo, et al. 2012. Nurse staffing and deficiencies in the largest for-profit nursing home chains and chains owned by private equity companies. *Health Services Research* 47, no. 1 part 1 (February): 106–128.
- Harris, R., T. Jenkinson, and S. Kaplan. 2015. *How do private equity investments perform compared to public equity?* Working paper no. 2597259. Oxford: University of Oxford.
- Harvard T.H. Chan School of Public Health. 2019. *Envision Health and out-of-network billing*. Cambridge, MA: Harvard T.H. Chan School of Public Health.
- Hawes, C., D. Moudouni, R. Edwards, et al. 2012. Nursing homes and the Affordable Care Act: A ceasefire in the ongoing struggle over quality reform. *Journal of Aging & Social Policy* 24 (April): 206–220.
- Hechinger, J., and S. Willmer. 2020. Life and debt at a private equity hospital. *Bloomberg*, August 6.
- Helm, J. 2019. Trends in health system and private equity acquisitions of physician practices. Presentation for the American Health Law Association. <https://vmghealth.com/wp-content/uploads/2019/05/Private-Equity-vs-Health-System-Transactions-AHLA.pdf>.
- Holly, R. 2018. M&A and finance news: Humana completes Curo purchase. *Home Health Care News*, July 11. <https://homehealthcarenews.com/2018/07/ma-and-finance-news-humana-completes-curo-purchase/>.
- Huang, S. S., and J. R. Bowblis. 2019. Private equity ownership and nursing home quality: An instrumental variables approach. *International Journal of Health Economics Management* 19, no. 3–4 (December): 273–299.
- Humana. 2020. Humana’s Partners in Primary Care and Welsh, Carson, Anderson & Stowe form joint venture to expand the nation’s system of value-based primary care centers focused on serving Medicare patients. Press release. February 3. <https://www.humananews.com/news-details/2020/humanas-partners-in-primary-care-and-welsh-carson-anderson--stowe-form-joint-venture-to-expand-the-nations-system-of-value-based-primary-care-centers-focused-on-serving-medicare-patients/default.aspx#gsc.tab=0>.
- InnovAge. 2021. InnovAge announces pricing of initial public offering. Press release. March 4. <https://www.innovage.com/innovage-news/2021/march/innovage-announces-pricing>.
- Jacobius, A. 2017. General partners putting more money where investments are. *Pension & Investments*, March 20.

- Jones, A. 2018. Private equity funds—Minimum LP investment. *Private Equity Info* blog, April 9. <http://blog.privateequityinfo.com/index.php/2018/04/09/private-equity-funds-minimum-lp-investment/>.
- Kane, C. 2019a. *Policy research perspectives: Updated data on physician practice arrangements: For the first time, fewer physicians are owners than employees*. Chicago, IL: American Medical Association.
- Kane, C. 2019b. *Updated data on physician practice arrangements: For the first time, fewer physicians are owners rather than employees*. Chicago, IL: AMA.
- Kaplan, S., and P. Stromberg. 2009. Leveraged buyouts and private equity. *Journal of Economic Perspectives* 23, no. 1 (Winter): 121–146.
- Khoury, C., and E. Peghini. 2019. Fee structures in private equity. *Sell Side Handbook*, March 19. <http://sellsidehandbook.com/2019/03/19/fee-structures-in-private-equity/>.
- Kim, T. H., and M. J. McCue. 2012. The performance of the leveraged buyout of the Hospital Corporation of America, Inc. *Health Care Management Review* 37, no. 3 (July–September): 212–222.
- Kindred Healthcare. 2018. Humana, together with TPG Capital and Welsh, Carson, Anderson & Stowe, announce completion of the acquisition of Kindred Healthcare, Inc. Press release. July 2. <https://www.kindredhealthcare.com/about-us/news/2018/07/02/humana-together-tpg-capital-and-welsh-carson-anderson-stowe>.
- Lagasse, J. 2016. Welsh, Carson buys \$196 million stake in Innovage, helps convert senior care firm to for-profit. *Healthcare Finance News*, May 19. <https://www.healthcarefinancenews.com/news/welsh-carson-buys-196-million-stake-innovage-helps-convert-senior-care-firm-profit>.
- Laise, E. 2020. Private-equity takeover of nursing homes has reduced quality of care at critical moment, research suggests. *Market Watch*, March 14. <https://www.marketwatch.com/story/coronavirus-pandemic-puts-private-equity-ownership-of-nursing-homes-under-microscope-2020-03-14>.
- Landi, H. 2021. Aledade raises \$100M to fuel growth of MA plan partnerships. *Fierce Healthcare*, January 19. <https://www.fiercehealthcare.com/tech/aledade-raises-100m-to-fuel-growth-ma-plan-partnerships>.
- Landi, H. 2020a. Centene, Optum Ventures back \$18M investment in Diameter Health to spur health data interoperability. *Fierce Healthcare*, December 18. <https://www.fiercehealthcare.com/tech/centene-optum-ventures-back-18m-investment-diameter-health-to-spur-health-data>.
- Landi, H. 2020b. Optum scoops up post-acute care company NaviHealth. *Fierce Healthcare*, May 26. <https://www.fiercehealthcare.com/payer/optum-scoops-up-post-acute-care-software-startup-navihealth>.
- Lykken, A. 2020. After record-breaking 2019, US PE fundraising expected to dip in 2020. *PitchBook*, January 10. <https://pitchbook.com/news/articles/after-record-breaking-2019-us-pe-fundraising-expected-to-dip-in-2020>.
- Markenson, A., and T. W. Woffenden. 2019. Changes in ownership: Medicare rules and other issues. *The Health Lawyer* 31, no. 5 (June): 30–37.
- Maxwell, A. 2016. Medicare and Medicaid program integrity: Combatting improper payments and ineligible providers. Testimony of Ann Maxwell, Assistant Inspector General for Evaluation and Inspections, Office of Inspector General, U.S. Department of Health and Human Services before United States House of Representatives, Committee on Energy & Commerce, Subcommittee on Oversight and Investigations. May 24. https://oig.hhs.gov/documents/testimony/43/20160524_-_Maxwell_Testimony.pdf.
- McKinsey & Company. 2020. *A new decade for private markets: McKinsey global private markets review 2020*. Working paper no. 2597259. New York, NY: McKinsey. <https://www.mckinsey.com/~media/mckinsey/industries/private%20equity%20and%20principal%20investors/our%20insights/mckinseys%20private%20markets%20annual%20review/mckinsey-global-private-markets-review-2020-v4.ashx>.
- McKinsey & Company. 2019. *Private markets come of age: McKinsey global private markets review 2019*. New York, NY: McKinsey. <https://www.mckinsey.com/~media/McKinsey/Industries/Private%20Equity%20and%20Principal%20Investors/Our%20Insights/Private%20markets%20come%20of%20age/Private-markets-come-of-age-McKinsey-Global-Private-Markets-Review-2019-vF.ashx>.
- Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Mercer. 2015. Understanding private equity: A primer. <https://www.mercer.com/our-thinking/understanding-private-equity-a-primer.html>.
- Minemyer, P. 2021. Startup Medicare Advantage insurer Alignment Healthcare goes public. *Fierce Healthcare*, March 26.

- Moon, J. 2006. Public vs. private equity. *Journal of Applied Corporation Finance* 18, no. 3 (Summer): 76–82.
- Mullaney, T. 2018. Humana, private equity firms complete Kindred acquisition. *Home Health Care News*, July 2. <https://homehealthcarenews.com/2018/07/humana-private-equity-firms-complete-kindred-acquisition/>.
- Muoio, D. 2019. Medicare Advantage insurtech startup Clover Health raises \$500M. *MobiHealth News*, January 30. <https://www.mobihealthnews.com/content/medicare-advantage-insurtech-startup-clover-health-raises-500m>.
- O'Donnell, E. M., G. J. Lelli, S. Bhidya, et al. 2020. The growth of private equity investment in health care: Perspectives From ophthalmology. *Health Affairs* 39, no. 6 (June): 1026–1031.
- O'Neill, L., and A. J. Hartz. 2012. Lower mortality rates at cardiac specialty hospitals traceable to healthier patients and to doctors' performing more procedures. *Health Affairs* 31, no. 4 (April): 806–815.
- Office of Inspector General, Department of Health and Human Services. 2016. *Enhanced enrollment screening of Medicare providers: Early implementation results*. OEI-03-13-00050. Washington, DC: OIG.
- Orfaly Cadigan, R., D. G. Stevenson, D. J. Caudry, et al. 2015. Private investment purchase and nursing home financial health. *Health Services Research* 50, no. 1 (February): 180–196.
- Phalippou, L. 2020. An inconvenient fact: Private equity returns & the billionaire factory. Working paper. Oxford: University of Oxford.
- PitchBook. 2021. *US PE breakdown*. Seattle, WA: PitchBook. <https://pitchbook.com/news/reports/2020-annual-us-pe-breakdown>.
- Pradhan, R., and R. Weech-Maldonado. 2011. Exploring the relationship between private equity ownership and nursing home performance: A review. Blair, J.D. and Fottler, M.D. (Ed.). *Biennial Review of Health Care Management (Advances in Health Care Management, vol. 11)*. Emerald Group Publishing Limited: Bingley. [https://doi.org/10.1108/S1474-8231\(2011\)0000011007](https://doi.org/10.1108/S1474-8231(2011)0000011007).
- Pradhan, R., R. Weech-Maldonado, J. S. Harman, et al. 2014. Private equity ownership of nursing homes: Implications for quality. *Journal of Health Care Finance* 42, no. 2.
- Pradhan, R., R. Weech-Maldonado, J. S. Harman, et al. 2013. Private equity ownership and nursing home financial performance. *Health Care Management Review* 38, no. 3 (July–September): 224–233.
- Prime Healthcare Foundation Inc. 2019. Department of Treasury, Internal Revenue Service Form 990 for 2018. <https://projects.propublica.org/nonprofits/organizations/208065139>.
- Reinhardt, U. E. 2000. The rise and fall of the physician practice management industry. *Health Affairs* 19, no. 1 (January–February): 42–55.
- Resneck, J. S., Jr. 2018. Dermatology practice consolidation fueled by private equity investment: Potential consequences for the specialty and patients. *JAMA Dermatology* 154, no. 1 (January 1): 13–14.
- Reuter, E. 2020. Primary care startup Oak Street Health goes public for \$328M. *MedCity News*, August 6. <https://medcitynews.com/2020/08/primary-care-startup-oak-street-health-goes-public-for-328m/>.
- Robinson, J. C. 1998. Financial capital and intellectual capital in physician practice management. *Health Affairs* 17, no. 4 (July–August): 53–74.
- Rosov, S. 2018. *Capital formation: The evolving role of public and private markets*. Charlottesville, VA: The CFA Institute. <https://www.cfainstitute.org/-/media/documents/article/position-paper/capital-formation.ashx>.
- Schubarth, C. 2021. Clover Health goes public after merger with SPAC led by Chamath Palihapitiya. *Silicon Valley Business Journal*, January 8. <https://www.bizjournals.com/sanjose/news/2021/01/08/clover-health-ready-to-start-trading-on-nasdaq.html>.
- Securities and Exchange Commission. 2021. *Private funds statistics, second calendar quarter 2020*. Washington, DC: SEC. <https://www.sec.gov/divisions/investment/private-funds-statistics/private-funds-statistics-2020-q2.pdf>.
- Securities and Exchange Commission, Department of Health and Human Services. 2020a. Accredited investor definition. Order. *Federal Register* 85, no. 197 (October 9): 64234–64278.
- Securities and Exchange Commission. 2020b. Form S-1 registration statement for Oak Street Health Inc. July 10. <https://www.sec.gov/Archives/edgar/data/1564406/000119312520191163/d918845ds1.htm>.
- Shryock, T. 2019. Private equity is coming: What it is, what these firms want, and why your practice might be a target. *Medical Economics* 96, no. 22 (November 25): 4–8.
- Siblis Research. 2020. Total market capitalization of public U.S. companies. <https://siblisresearch.com/data/us-stock-market-value/>.

- Silver-Greenberg, J., and R. Gebeloff. 2021. Maggots, rape and yet five stars: How U.S. ratings of nursing homes mislead the public. *New York Times*, March 13.
- Spanko, A. 2021. Private equity plots ‘flight to quality’ in nursing homes amid scrutiny, ongoing pandemic. *Skilled Nursing News*, February 9. <https://skillednursingnews.com/2021/02/private-equity-plots-flight-to-quality-in-nursing-homes-amid-scrutiny-ongoing-pandemic/>.
- Spanko, A. 2020. COVID-19 brings private equity investment in nursing homes into the spotlight. *Skilled Nursing News*, March 19. <https://skillednursingnews.com/2020/03/covid-19-brings-private-equity-investment-in-nursing-homes-into-the-spotlight/>.
- Spanko, A. 2019. Kansas cracks down on nursing home owners’ finances in wake of Skyline collapse. *Nursing Home News*, April 23.
- Stevenson, D. G., and D. C. Grabowski. 2008. Private equity investment and nursing home care: Is it a big deal? *Health Affairs* 27, no. 5 (September–October): 1399–1408.
- Steward Health Care. 2020. Team of Steward doctors acquire controlling stake of Steward Health Care. Press release. June 3. <https://www.steward.org/news/2020-06-03/team-steward-doctors-acquire-controlling-stake-steward-health-care>.
- Tan, R., and R. Chason. 2020. An investment firm snapped up nursing homes during the pandemic. Employees say care suffered. *Washington Post*, December 21.
- Tan, S., K. Seiger, P. Renehan, et al. 2019. Trends in private equity acquisition of dermatology practices in the United States. *JAMA Dermatology* 155, no. 9 (September): 1013–1021.
- Tepper, N. 2021. Anthem picks up Medicaid plans in Puerto Rico. *Modern Healthcare*, February 2.
- Vaidya, A. 2021. Report: Bright Health eyes \$1B IPO. *MedCity News*, April 2. <https://medcitynews.com/2021/04/report-bright-health-eyes-1b-ipo/>.
- Wells, J., and C. Harrington. 2013. *Implementation of Affordable Care Act provisions to improve nursing home transparency, care quality, and abuse prevention*. Kaiser Family Foundation issue paper. Washington, DC: Kaiser Family Foundation.
- Whoriskey, P., and D. Keating. 2018. Overdoses, bedsores, broken bones: What happened when a private-equity firm sought to care for society’s most vulnerable. *Washington Post*, November 25.
- Wicklund, E. 2010. HCA announces plan to go public again. *Healthcare Finance News*, May 7.
- Wilhelm, A. 2021. Oscar Health prices IPO at \$39 and secures a \$9.5B valuation. *TechCrunch*, March 3. <https://techcrunch.com/2021/03/03/oscar-health-prices-ipo-at-39-and-secures-a-9-5b-valuation/>.
- Witkowsky, C. 2020. Private equity and the dry powder fallacy. *Buyouts Insider*, April 30. <https://www.buyoutsinsider.com/private-equity-and-the-dry-powder-fallacy/>.
- Wollman, T. 2019. Stealth consolidation: Evidence from an amendment to the Hart-Scott-Rodino Act. *American Economic Review: Insights* 1, no. 1 (June): 77–94.
- Zhu, J. M., L. M. Hua, and D. Polsky. 2020. Private equity acquisitions of physician medical groups across specialties, 2013–2016. *Journal of the American Medical Association* 323, no. 7 (February 18): 663–665.
- Zhu, J. M., and D. Polsky. 2021. Private equity and physician medical practices—Navigating a changing ecosystem. *New England Journal of Medicine* 384, no. 11 (March 18): 981–983.

