

RESEARCH PAPER

Effects of chain ownership and private equity financing on quality in the English care home sector: retrospective observational study

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Abstract

Background: the structure of care homes markets in England is changing with the emergence of for-profit homes organised in chains and financed by private equity. Previous literature shows for-profit homes were rated lower quality than not-for-profit homes when inspected by the national regulator, but has not considered new forms of financing.

Objectives: to examine whether financing and organisation of care homes is associated with regulator assessments of quality.

Methods: retrospective observational study of the Care Quality Commission's ratings of 10,803 care homes providing services to older people as of January 2020. We used generalised ordered logistic models to assess whether ratings differed between not-for-profit and for-profit homes categorised into three groups: (i) chained ownership, financed by private equity; (ii) chained ownership, not financed by private equity and (iii) independent ownership. We compared Overall and domain (caring, effective, responsive, safe, well-led) ratings adjusted for care home size, age and location.

Results: all three for-profit ownership types had lower average overall ratings than not-for-profit homes, especially independent (6.8% points (p.p.) more likely rated as 'Requires Improvement/Inadequate', 95% CI: 4.7–8.9) and private equity chains (6.6 p.p. more likely rated as 'Requires Improvement/Inadequate', 95% CI: 2.9–10.2). Independent homes scored better than private equity chains in the safe, effective and responsive domains but worst in the well-led domain.

Discussion: private equity financing and independent for-profit ownership are associated with lower quality. The consequences of the changing care homes market structure for quality of services should be monitored.

Keywords: care homes, quality, ownership, financing, regulation, older people

Key Points

- The English care homes market has seen the emergence of for-profit homes organised in chains and financed by private equity.
- We assessed differences in quality across not-for-profit and three for-profit ownership care homes types.
- Private equity financing and independent for-profit ownership are associated with lower quality.

Introduction

The globally ageing population is increasing the demand for adult social care worldwide [1] and monitoring and fostering service quality is a long-lasting concern of policymakers, researchers, media and the public.

As in many other countries, care home providers in England operate in a quasi-market, with the simultaneous presence of for-profit, charitable and public providers [2, 3]. For-profit ownership has often been proposed as a reason for low quality in international studies [4–7], with similar conclusions reported for England [2, 8] and Scotland [9].

The English care homes market has been steadily changing for many years [10–12]. The share of residential care beds owned by the public sector fell by 88% between 1980 and 2018 [13]. Large providers that operate in a multi-home setting (chains) have emerged since the late 1990s and the five largest of these chains accounted for around 20% of care home beds in 2015 [14]. Private equity funds spread in the market by buying out economically-distressed care home providers by essentially purchasing their debt. Hence, these new providers have the added task of clearing the purchased debt along with generating enough funds to keep the care homes afloat [13, 14]. Unlike other for-profit homes, private equity firms generally have short-term business plans and face particularly high pressure to maximise the returns of the investment quickly before selling the assets [15, 16]. Such a business plan can potentially compromise on satisfactory care home quality in order to maximise profits. This short-run strategy not only deprioritises the care home residents' well-being but also reduces the stability of care institutions in the market. Emerging evidence from the US nursing market showed how large chain providers, in particular those financed by private equity, have lower quality than other providers [15, 17–19]. With the emergence of chains and new forms of financing in England, there is increasing heterogeneity among the group of for-profit providers that is left unexplored.

We examine the latest ratings that care homes in England had received by January 2020. We use similar methods to [3], but we make a distinction between organisation types that is more relevant for the current care homes market. We delve into quality differences by four ownership structures, likely to differ in business purposes, motivations and in management strategies. Given the small proportion of the market they now represent, we combine charitable and public care homes into one category (not-for-profit) and we contrast these with for-profit homes that are independently owned or in chains, and with for-profit homes financed by private equity.

Methods

Data

We used publicly-available administrative data provided by the Care Quality Commission (CQC), the independent regulator and inspector of health and adult social care in

England [20]. We focused on all registered care homes that provide services to older people and people with dementia as of January 2020. These care homes represented about 70% (10,815 out of 15,554 care homes) of all registered providers in England, operating in 151 local authorities. We removed 12 care homes that reported a capacity of fewer than two beds. Our sample comprised of 10,803 care homes.

For each inspected provider, the CQC rated each service as either 'Outstanding' (the provider is performing exceptionally well), 'Good' (the provider is meeting the regulator's expectations), 'Requires Improvement' (the provider must improve the quality of the service to meet regulator's standards), or 'Inadequate' (the service is given six months to improve and if sufficient improvement is not demonstrated, it is placed in 'special measures' [21] and if it further fails to improve, the CQC will move to cancel the services' registration).

This Overall rating is a summary of quality across five domains [22]:

- **Safe:** residents were protected from abuse and avoidable harm and were involved in decisions about their safety to help maximise control over their lives. Staff were well trained in safeguarding policies and handling equipment correctly. The service had effective safeguarding systems for residents and staff which were managed promptly and improved regularly.
- **Effective:** residents were involved in decisions about their care and treatment. Their needs were comprehensively assessed and care was regularly reviewed and updated according to expected outcomes identified. Staff training and development was centred on individual needs.
- **Caring:** residents were treated with compassion, kindness, dignity and respect. The staff demonstrated a real empathy for the residents and were sensitive of residents' needs and wishes. The service had a strong, transparent, person-centred culture.
- **Responsive:** the care planning was focused on the residents, including their goals, skills, abilities and how they preferred to manage their health. Concerns can be raised in a range of accessible ways. The staff delivered care in a way that met people's needs and promoted equality.
- **Well-led:** staff had high levels of satisfaction. Support and resources were available to enable the staff team to develop and be heard. The service had an open, fair, inclusive, empowering culture with a strong framework for accountability and effective governance.

It is worth noting two aspects of the CQC inspections in England. First, the CQC does not inspect all care home services annually. However, at least one rating 'review' must be conducted every two years. Therefore, the available ratings may not necessarily reflect the updated quality of services provided in care homes. [Appendix Figure 1](#), available in *Age and Ageing* online, displays the overall rating according to years since inspection. Second, a change in the CQC registration is triggered if there has been a change in the ownership,

legal entity or restructuring within the care organisation [23]. However, this does not necessarily imply a new quality ratings as at times, newly registered organisations can ‘inherit’ quality ratings from their parent organisation. Hence, the quality ratings of a care home can remain the same even if the funding model changes.

Organisation types

We categorised care homes into four types:

- For-profit Private Equity (FP-PE) chains: for-profit care home chains owned or backed by private equity companies. These were identified using the list provided in a report published in November 2019 by an independent public interest think-tank, the Centre for Health and the Public Interest [13].
- For-profit Non Private Equity (FP-NPE) chains: for-profit care homes affiliated with a chain not backed by private equity. These were homes whose owner had more than two homes active in England, identified using the ‘Brand Name’ information provided in the regulator’s register. [Appendix Figure 2](#), available in *Age and Ageing* online, displays the proportion of private equity backed care homes by size of the chains.
- For-profit independent care homes (FP-I): for-profit care providers not known to be chained.
- Not-for-profit and public care homes (NFP): this group (henceforth referred to as not-for-profit care homes) included charitable providers (those which had a provider charity number, 1,407 care homes) and run by the NHS (40 homes) or Local Authorities (144 care homes) identified as homes operated by ‘NHS Healthcare Organisation’, ‘City Council’ or ‘County Council’. Charity and NHS/LA-run homes were combined to give a sufficient sample in this category and because preliminary analysis showed their quality ratings were similar.

Covariates

We obtained covariates from the CQC’s directory [24]. These were selected on the basis of theoretical arguments, previous literature and Spearman’s correlation tests ([Appendix Table 1](#) available in *Age and Ageing* online).

In England, there have been two main types of care homes: care homes that provided nursing services and care homes that did not (also referred to as residential care homes) [25, 26]. To account for the differences in services provided, residents’ health needs, and staff skill-mix, that would influence service quality rating, we included a binary (nursing vs. residential) indicator as a covariate.

We included the number of registered beds as this has previously been found to be negatively related with quality [2]. We used the logarithmic transformation of bed numbers to normalise the distribution and stabilise its variance.

We also included years since registration (truncated at more than 10 years) with the CQC. Previous studies have found conflicting results, with older care homes found to

have significantly lower [2] or higher [8] quality ratings than newer care homes.

We accounted for the urban or rural location of care homes, using postcode data and the Office for National Statistics’ Rural Urban Classification [27]. In our models, we also included Local Authority (LA) level fixed (see below) to account for observable and unobservable quality determinants that differ across local area.

Analysis

We used Spearman’s rank tests to assess the correlation between the Overall and five domain ratings ([Appendix Table 2](#) available in *Age and Ageing* online). The proportional odds assumption that the estimated parameters are invariant across rating categories required for ordered logistic regression was rejected for all outcomes on the basis of Brant tests [28] ([Appendix Table 3](#) available in *Age and Ageing* online). We therefore used a generalised ordered logistic estimator, obtained using the ‘gologit2’ command in Stata [29, 30]. The reference category of each quality indicator was ‘Outstanding’. Our specifications included local authority fixed effects and we clustered the standard errors at local authority level.

Odds-ratios estimated from the generalised ordered logistic models are provided in [Appendix Table 4](#) available in *Age and Ageing* online. In the main paper, we graphically report average marginal effects (AMEs), with all figures reported in [Appendix Tables 5 and 6](#) available in *Age and Ageing* online. AMEs show the average change in the probability of receiving a particular rating associated with a covariate while accounting for the values of the other covariates. To simplify the presentation of our main findings, we reported aggregated AMEs for not meeting the regulator’s quality requirements (receiving ‘Inadequate’ or ‘Requires Improvement’ ratings versus receiving ‘Good’ or ‘Outstanding’ ratings) in the main paper and provide full results in [Appendix Table 6](#) available in *Age and Ageing* online. Wald tests were used to test for differences in AMEs between the three different types of for-profit homes ([Appendix Table 7](#) available in *Age and Ageing* online).

We tested the robustness of our findings against: (i) for-profit private equity care homes as the reference category instead of not-for-profit and public care homes; (ii) whether the care home was inspected less than a year ago; (iii) a non-linear relationship between home size and quality by adding the square of natural logarithm of number of beds; (iv) the use of a more parsimonious logistic regression as in [31] in lieu of a generalised estimator; (v) re-categorising small chains (with less than 5 homes) as independent for-profit homes. We report full results in [Appendix Tables 8–12](#) available in *Age and Ageing* online.

Results

Descriptive statistics

Out of the 10,803 care homes, 6.0% of homes ($N = 649$) were known to be backed by PE chains and 21.3%

Table 1. Characteristics of the English care home providing services for older people and people with dementia

	For profit private equity chains (FP-PE)	For-profit non-private equity chains (FP -NPE)	For profit independent (FP-I)	NFP		
				Total	Charitable homes	Public (LA/NHS-run) homes
Number of care homes (row %)	649 (6.01%)	2,298 (21.27%)	6,265 (57.99%)	1,591 (14.73%)	1,407 (13.03%)	184 (1.7%)
Number of beds (row %)	38,609 (9.56%)	109,916 (27.23%)	196,822 (48.76%)	58,313 (14.45%)	52,396 (12.98%)	5,917 (1.47%)
Average number of beds (min,max)	59.49 (9,169)	47.83 (2,180)	31.42 (2,187)	36.65 (2,215)	37.24 (2,215)	32.16 (3,92)
Average years since last inspection (min,max)	1.65 (0,5)	1.60 (0,4)	1.63 (0,4)	1.71 (0,4)	1.71 (0,4)	1.71 (1,4)
Average years since registration (min,max)	7.50 (2,10)	7.23 (1,10)	7.66 (1,10)	8.30 (1,10)	8.31 (1,10)	8.18 (1,10)
Nursing home (row %)	469 (11.85%)	1,221 (30.86%)	1,868 (47.21%)	399 (10.08%)	384 (9.7%)	15 (0.38%)
Residential home (row %)	180 (2.63%)	1,077 (15.73%)	4,397 (64.23%)	1,192 (17.41%)	1,023 (14.94%)	169 (2.47%)
Located in urban area (row %)	557 (6.55%)	1,843 (21.66%)	4,795 (56.37%)	1,312 (15.42%)	1,165 (13.69%)	147 (1.73%)
Located in rural area (row %)	92 (4.01%)	455 (19.82%)	1,470 (64.02%)	279 (12.15%)	242 (10.54%)	37 (1.61%)

Notes: Own elaborations using CQC data of care homes reported to be active on January 2020 in providing services for older people and people with dementia in England ($N = 10,803$). Percentages in parentheses are row percentages.

($N = 2,298$) were non-PE chains (Table 1). Care homes in PE chains tended to be larger (59.5 beds per care home) than non-PE chains (47.8 beds per care home).

About 58.0% of homes ($N = 6,265$) were run by independent for-profit providers. Despite the chain penetration and a lower bed size (31.4 beds) than for-profit chains (PE and non-PE), these providers held a larger market share in terms of beds (48.8%; 196,822 total beds).

About 14.7% of homes ($N = 1,591$; 36.7 beds per care home) were run by not-for-profit providers. Out of the not-for-profit providers, 13.03% of homes ($N = 1,407$; 37.24 beds per care home) were run by charitable organisations while 1.7% of homes ($N = 184$; 32.16 beds per care home) were LA/NHS-run care homes.

PE chains were more represented in the nursing home sector (11.85%, $N = 469$) than in the residential home sector (2.63%, $N = 180$). Similarly, a higher percentage of nursing homes were for-profit non-PE (30.9%, $N = 1,221$) than residential for-profit non-PE chains (15.7%, $N = 1,077$). Consequently, residential homes had a higher percentage of independent for-profit and not-for-profit care homes than nursing homes.

There was a higher proportion of PE (6.6%, $N = 557$) and non-PE (21.7%, $N = 1,843$) chains in urban areas as compared with PE (4%, $N = 92$) and non-PE (19.8%, $N = 455$) chains in rural areas. Not-for-profit homes accounted for a higher proportion of care homes in urban areas. Independent for-profit care homes accounted for a lower proportion of care homes in urban areas.

Ratings by ownership type

Regulator's quality expectations were not met mainly by homes affiliated to PE chains (Table 2); 23.6% of PE chains were rated 'Requires Improvement' Overall and 2.6% were rated 'Inadequate' Overall. On the other hand, only 18.4% of non-PE chains were rated 'Requires Improvement' Overall and 1.8% were rated 'Inadequate' Overall.

Independent for-profit care homes had ratings comparable to those of for-profit non-PE chains but slightly outperformed homes in PE-chains; 19.9% of the independent homes were rated 'Requires Improvement' and 1.7% rated 'Inadequate'. In comparison with for-profit homes (chained and independent), not-for-profit care homes performed better in meeting the regulators' quality expectations; 80.9% of not-for-profit and public care homes were rated 'Good' Overall and 4.0% were rated 'Outstanding' Overall.

Regression analysis of the overall quality rating

Although for-profit homes were more likely to not meet regulator's requirements than not-for-profit homes (Figure 1, estimates reported in Appendix Table 5 available in *Age and Ageing* online), this association was mainly driven by independent homes [6.8% points (p.p.) at the 1% significance level (95% CI: 4.7–8.9)] and PE chained homes [6.6 p.p. at the 1% significance level (95% CI: 2.9–10.2)]. On the other hand, the difference in rating between non-PE chains and not-for-profit homes were lower in magnitude and significant at the 5% significance level only (2.5 p.p., 95% CI: 0.1–4.9).

Table 2. Distribution of overall ratings by financial and ownership type

	N	Overall rating (row %)			
		Inadequate	Requires improvement	Good	Outstanding
Private Equity (FP/PE) chains	649	2.6%	23.6%	70.4%	3.4%
For-profit non-PE (FP/NPE) chains	2,298	1.8%	18.4%	75.5%	4.3%
FP Independent (FP-I)	6,265	1.7%	19.9%	74.7%	3.7%
Not-for-profit homes (NFP)	1,591	0.6%	14.5%	80.9%	4.0%
Total	10,803	1.6%	19.0%	75.5%	3.9%

Notes: Own elaborations using CQC latest quality rating of care homes reported to be active on January 2020 in providing services for older people and people with dementia in England.

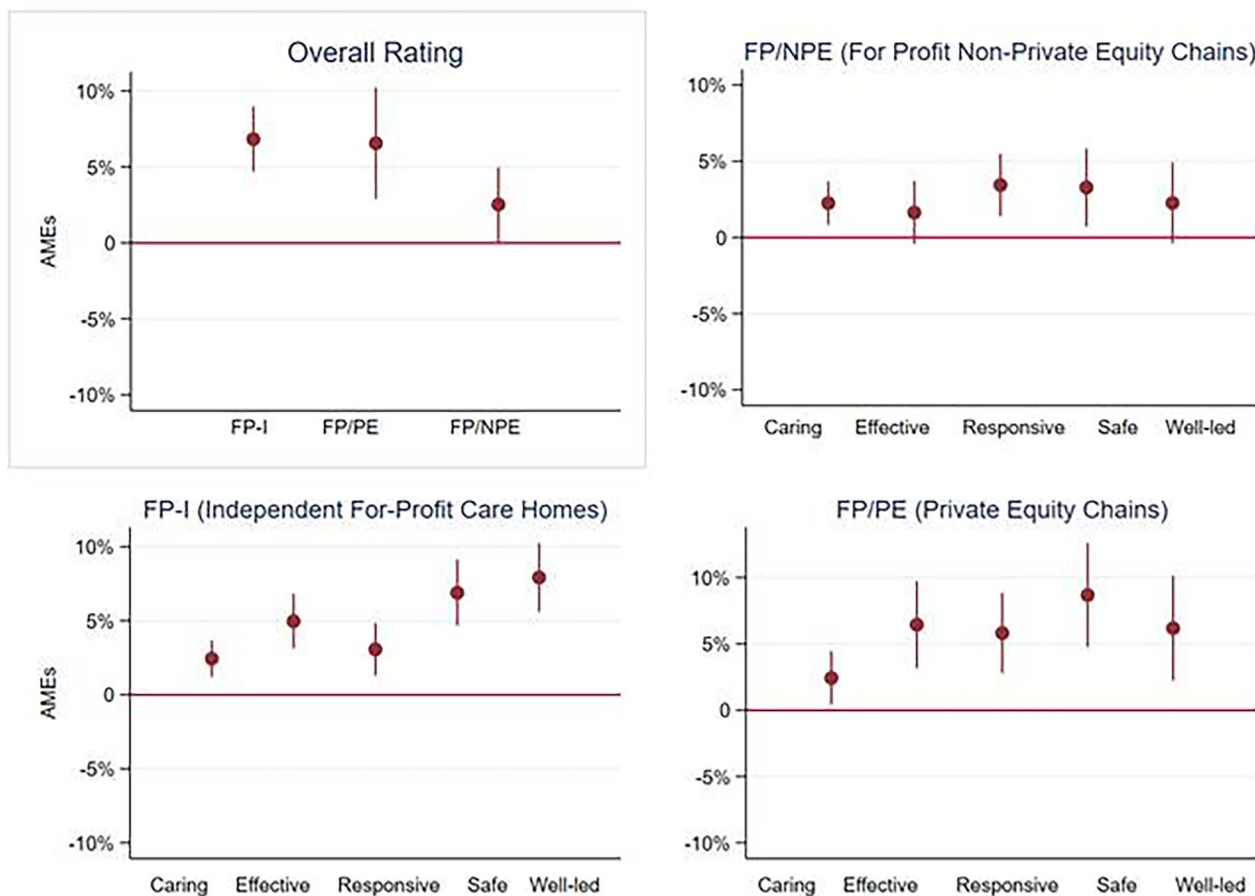


Figure 1. AMEs on probability of not meeting regulator’s requirements of overall and domain-specific quality (displayed as a graph). Notes: Own elaborations using CQC latest quality rating of care homes reported to be active on January 2020 in providing services for older people and people with dementia in England. Full results available in Appendix Table 5 available in *Age and Ageing* online. For sensitivity checks see Appendix Tables 8–12 available in *Age and Ageing* online.

The likelihood of not meeting regulator’s requirements increased with size and decreased with time since registration with the CQC. Homes providing nursing services and those located in urban areas were more likely to not meet the regulator’s standards, though the differences were not statistically significant.

Regression analysis of the domain-specific ratings

The higher likelihood of PE chained homes not meeting regulator’s requirements compared to not-for-profit homes

was evident in all domains (Figure 1) but mainly driven by the Safe (8.7 p.p., 95% CI: 4.7–12.6), Effective (6.4 p.p., 95% CI: 3.1–9.7) and Well-led (6.2 p.p., 95% CI: 2.2–10) domains.

Independent homes as compared to not-for-profit homes also have a higher likelihood of not meeting regulator’s requirements. However, their likelihood is not as high as PE chained homes in the Safe (6.9 p.p., 95% CI: 4.6–9.1), Effective (5.0 p.p., 95% CI: 3.1–6.8) and Responsive (3.1 p.p., 95% CI: 1.3–4.8) domains but lower in the Well-led

domain (7.9 p.p., 5.6–1.02). Results are mainly driven by the higher likelihood PE chained homes than independent homes to receive a ‘Requires Improvement’ rating for these domains (Appendix Table 6 available in *Age and Ageing* online).

NPE chained homes were more similar than other for-profit homes to not-for-profit homes. Their higher likelihood of not meeting regulator’s requirements was mainly driven by slightly lower quality in the Responsive (3.4 p.p., 95% CI: 1.4–5.5) and Caring (2.2 p.p., 95% CI: 0.8–3.7) domains.

On average, Wald tests (Appendix Table 7 available in *Age and Ageing* online) confirmed significant differences in the quality of chained homes PE and non-PE chains for all but for Caring and Responsive domains with respect to independent homes.

Supplementary analyses

The analysis of all four possible ratings categories (Appendix Table 6 available in *Age and Ageing* online) showed that chained homes not financed by private equity had a similar probability of an ‘Inadequate’ Overall rating (1.0 p.p., 95% CI: 0.4–1.7) to not-for-profit homes. Chained homes financed by private equity had lower probability of a ‘Good’ Overall rating (–5 p.p., –8.8 to –1.1) than not-for-profit homes, and for the Well-led, Effective and Responsive domains. Care homes not in ownership chains had the lowest probability of a ‘Good’ Overall rating (–6.5 p.p., –8.8 to –4.2).

Results from our robustness checks (available in the dedicated Appendix Tables 8–12 available in *Age and Ageing* online) show that the main estimated parameters were only marginally affected, leaving our main conclusions unaltered.

Discussion

We assessed differences in quality across types of care homes that are more germane to the current care home market structure than what was reported in previous research [2, 8, 9]. We found that the lower Overall quality observed among for-profit homes was mainly driven by independent and private homes known to be equity-backed. On the other hand, for-profit chains not backed by private equity have more comparable quality to not-for-profit homes.

The analysis by quality domain provided further insights. Among the worst performer types, private equity chained homes were more likely than independent homes to do not meet regulator’s quality standards especially on measures of safety, effectiveness and responsiveness but performed better in the Well-led domain. Effective and Responsive domains refer mainly to the characteristics of the staff [22]. As highlighted in the economic literature, lower quality in PE chained firms could relate with their incentive problems or cost-cutting practices [15, 32], such as reducing resident-staff ratios to limit labour cost or by maximising bed occupancy rates. Not meeting the regulators’ standards in these domain could imply low staff availability and a

lack of expertise in providing good quality care [22, 33]. On the other hand, our results on the Well-led domain relate to the benefits of PE acquisitions in using governance and operational engineering (e.g. in restructuring and introducing performance-based incentives to managers and in applying industry expertise) to add value to the stakeholders’ investments.

The difference among chained homes according their financial structure is also of interest and can be partially explained by the limited reputation constraints of private equity than other chained providers. Unlike other large chains, private equity firms do not have strong constraint to sacrifice short-term profits in order to build and sustain a good reputation (a ‘brand’ effect). This is due to the limited lifecycle of private equity backing before liquidating their capital assets. This leads to the stakeholders not developing a strong association with the care homes.

Our analysis has some limitations. For instance, we were not able to control for some factors, such as whether the care homes were purpose-built, their bed occupancy ratio, staffing characteristics and staff-to-patients ratios, all found to be relevant in explaining variation in quality [34, 35]. We were also unable to account for resident case mix and their socio-demographic status, which could potentially act as confounder in our analysis if policies prioritising selection of profitable residents are in place. Our estimates were computed using multivariate models including observable care home characteristics as covariates, as well as local authority fixed effects to control for hard to observe differences, for instance in the demand, supply and prices of care home services across different local authorities [11]. Finally, our list of private equity owned care homes has been obtained from a report published by a national think-tank. Hence, it must be noted that our categorisation refers to homes known to be backed by private-equity and is only as updated as the list provided in the report. As in many other countries, the UK National Audit Office emphasised the need to improve on the collection and quality of providers’ financial data, to address the current lack of transparency of costs and financial structure of some providers [36]. It is important to note that this lack of transparency also has an impact on users’ choice and their relatives as it is not always possible for them to consider this factor before choosing a provider. Importantly, given the limited lifecycle of private equity private equity backing, the residents of a private equity owned care facility may not always receive enough notice before a change in ownership is established.

About 8 out of 10 care homes that provide services for older people and people with dementia in England met the regulator’s requirements. Thus, in general, most care homes provide good quality care but our findings highlight variation by provider ownership and by financing mode. Care homes with comparatively higher levels of quality were found to have higher likelihood of a better quality of life for its residents [3] and a lower likelihood of closure [37]. Our analysis is therefore important also given the ‘market shaping’ duties of local authorities (2014 Care Act, section

5), the CQC's role to oversee providers' financial sustainability and to monitor and foster quality improvements. It is also important to note that difficult-to-replace care providers are generally large chains with a sizeable local supply of beds. Fostering quality improvements can also have implications for a sustained supply of social care.

SARS-CoV-2 has provided a large shock to health and care systems around the world. In particular, the care home sector, a setting particularly vulnerable to SARS-CoV-2, has experienced high morbidity and mortality in England [26] and internationally [38]. The pandemic also impacted the ability of the CQC to conduct regular in-person inspections which were replaced by remote quality inspection methods [39]. Importantly, the reduced bed occupancy rates resulting from excessive deaths among residents and rationalised care home admissions coupled with increased operational costs has put the sustainability of some (mainly small) care home providers at risk. Monitoring the penetration of large corporate providers in fragile care home markets is therefore an important issue for ensuring the sustainability of the sector and the affordability of services [36]. Further national and international research on these aspects is required.

Supplementary Data: Supplementary data mentioned in the text are available to subscribers in *Age and Ageing* online.

Data Availability Statement: The main data that support the findings are publicly available from the Care Quality Commission (CQC).

Declaration of Conflict of Interest: None.

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