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The quasi-market for adult residential care in the UK: Do for-profit, not-for-profit or public sector residential care and nursing homes provide better quality care?

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1 **Abstract**

2 There has been a radical transformation in the provision of adult residential and nursing
3 home care in England over the past four decades. Up to the 1980s, over 80% of adult
4 residential care was provided by the public sector, but today public sector facilities account
5 for only 8% of the available places, with the rest being provided by a mixture of for-profit
6 firms (74%) and non-profit charities (18%). The public sector's role is often now that of
7 purchaser (paying the fees of people unable to afford them) and regulator. While the idea
8 that private companies may play a bigger role in the future provision of health care is
9 highly contentious in the UK, the transformation of the residential and nursing home care
10 has attracted little comment. Concerns about the quality of care do emerge from time to
11 time, often stimulated by high profile media investigations, scandals or criminal
12 prosecutions, but there is little or no evidence about whether or not the transformation of
13 the sector from largely public to private provision has had a beneficial effect on those who
14 need the service. This study asks whether there are differences in the quality of care
15 provided by public, non-profit or for-profit facilities in England. We use data on care
16 quality for over 15,000 homes that are provided by the industry regulator in England: the
17 Care Quality Commission (CQC). These data are the results of inspections carried out
18 between April 2011 and October 2015. Controlling for a range of facility characteristics
19 such as age and size, proportional odds logistic regression showed that for-profit facilities
20 have lower CQC quality ratings than public and non-profit providers over a range of
21 measures, including safety, effectiveness, respect, meeting needs and leadership. We
22 discuss the implications of these results for the ongoing debates about the role of for-profit
23 providers of health and social care.

24

25 **Keywords:** residential care; nursing homes; ownership; quality of care; facility regulation
26 and control; public sector; public services; quasi-markets; England

27

28 **The quasi-market for adult residential care in the UK: Do for-profit, not-for-profit or**
29 **public sector residential care and nursing homes provide better quality care?**

30 **Introduction**

31 Many countries are facing the challenge of providing health and social care to populations
32 containing increasing proportions of elderly people. In the UK, for example, there are
33 expected to be 3.2 million people over the age of 85 by 2034, more than double the number
34 today (ONS 2015). In addition, it is expected that a high proportion of elderly people will
35 be living on their own, a factor strongly associated with the need to move into a residential
36 or nursing care home. Faced with increasing fiscal pressures, many governments have
37 been considering alternatives to public provision of health and social care. Up to the 1980's
38 over 80% of adult residential care was provided by the public sector, but today public
39 sector facilities account for only 8% of the available places, with the rest being provided by
40 a mixture of for-profit firms (74%) and non-profit charities (18%). The public sector's role
41 is often now that of purchaser (paying the fees of people unable to afford them) and
42 regulator.

43 In essence, then, residential and nursing care outside of hospitals in the UK, once provided
44 mainly by the public sector, has been turned into a form of quasi-market, differing from a
45 conventional market in that a significant number of providers are not-for-profit
46 organizations and by the fact that a large proportion of the individuals who use residential
47 and nursing care do not purchase the service directly; the state acts as purchaser on their
48 behalf. (LeGrand and Bartlett 1993). Even in these cases, though, the individual member of
49 the public has considerable freedom of choice as to where they will receive their residential

50 or nursing home care and significant numbers of people pay some or all of the cost of their
51 care themselves.

52 Despite the fact that the marketization of residential care is so well advanced in the UK,
53 there has been little UK-based research into the quality of care provided by for-profit
54 providers as contrasted to that enjoyed by residents in local authority or non-profit
55 operated facilities. The main question answered by this paper, then, is whether there are
56 differences in the quality of care provided in adult residential and nursing home facilities in
57 England depending on whether the facility is operated by a local authority, a not-for-profit
58 organization, or a for-profit business. While this is an important question in its own right,
59 we also discuss the extent to which it might inform broader debates about the impact of
60 market-like structures in health and social care more broadly.

61 **Theory**

62 The current arrangements by which residential and nursing home care is provided to
63 adults in England can be called a *quasi-market* (LeGrand and Bartlett 1993). Such
64 arrangements are similar to conventional markets in that the provision of goods or services
65 is the outcome of an economic exchange between two parties, a *provider* and a *purchaser*,
66 and in that there is some sort of competition among the set of providers. Quasi-markets
67 differ from conventional markets in that some of the providers are not necessarily
68 motivated by a desire to maximise profits; there may be publicly owned or non-profit
69 organizations involved as well. Quasi-markets differ also in that at least some of the
70 purchasing is done not by the individual service users, but by a public body acting on their
71 behalf. In the case of care homes, significant numbers of residents are paying their own

72 fees (41% in the UK in 2014), but most facilities have both self-pay and state-funded
73 residents LaingBuisson (2014).

74 Quasi-markets have been replacing organization by government bureaucracies in several
75 areas of public sector in the UK over several decades, including education, health, and
76 social care. The rationale for the change is that, it is claimed, quasi-markets will prove
77 superior to bureaucratic control in one or more of the following respects (Bartlett and
78 LeGrand 1993). First, services may be delivered more *efficiently*, in the sense that an
79 equivalent standard of service is delivered at a lower cost. However, given that standards
80 may be difficult to evaluate, a common concern of critics of marketization is that reductions
81 in cost will be achieved by means of a reduction in standards. Second, private providers
82 may be more *responsive* to user needs than their public sector counterparts. In contrast to
83 possibly monopolistic public sector providers, the introduction of competition creates
84 incentives to innovate and adapt to consumer needs and hence improved standards of care
85 should follow. Third, quasi-markets are often associated with increasing the *choice*
86 available to users. It might be that the availability of choice is intrinsically desirable, and it
87 is in any case a logical requirement for there to be competition among providers. Choice
88 might be associated with differentiation in the types of provision available, for example by
89 size, geography and level of care provided.

90 In order to deliver these benefits it is necessary that there is an element of competition
91 among providers, with at least some risk that those providers that fail to attract sufficient
92 users, or are unable to operate within budgetary constraints, will be forced to cease
93 operating. Competition is the essential mechanism by which quasi-markets differ from
94 bureaucracies. It is particularly important that there is effective competition when, as in

95 the case of residential care, there is a preponderance of for-profit providers. Such
96 businesses, it is conventional to assume, are motivated by a desire to maximise profit.
97 Their desire to provide high quality care would, therefore, be the result of the expectation
98 that they would only be able to attract residents by offering a sufficiently high quality of
99 service. Hart (1999) has pointed out that, where consumers purchase a service direct from
100 a provider, assuming they are well informed, competition produces the expectation that
101 for-profit providers will be of higher quality because they have a greater incentive to
102 innovate than do public sector providers. However, the care home market is more complex
103 than this because, while some residents do indeed purchase their care directly from the
104 provider with no government involvement, others are in places that are funded by their
105 local authority.

106 It has been argued that profit-maximizing may not be an accurate characterisation of the
107 motivation of some private providers in this sector (Knapp et al. 2001; Kendall et al. 2003).
108 For example, small business owners may have a “mercantile” motivation: they place value
109 on the independence and sense of autonomy that derives from running their own business.
110 The existence of heterogeneous motivations among for-profit providers may make the
111 distinction between care homes in different sectors less clear cut.

112 The motivation of providers from the public and non-profit sectors is also unclear.
113 Certainly in the case of non-profit providers that are charities, we might think that their
114 motivation is to provide high quality care and therefore that they would strive to do so
115 even in the absence of competition, assuming that there are enforceable restrictions on
116 their ability to distribute any surpluses to owners, employees or trustees (Hirth 1999;

117 Grabowski & Hirth 2003). They may not even need to break even financially if they have
118 alternative, philanthropic sources of finance.

119 Is there reason to believe that competition among providers of residential and nursing
120 home care in England is strong? Over 50% of care homes in England are operated by
121 owners that run four or fewer facilities. There are no major brands in the residential care
122 market in England (LaingBuisson 2014), while the median size of these facilities is 23 beds.
123 These factors imply low barriers to entry into the market, which reinforces the expectation
124 that the market should be very competitive (Porter 1980). Forder and Allan (2014)
125 conducted an analysis of competition in the care homes market in England. While they did
126 indeed find that there was evidence of competition, they also showed that this can have the
127 surprising consequence of reducing quality because homes will find it harder to attract self-
128 payers (who generally pay higher prices) while allowing the local authorities to push the
129 prices they pay down. If for-profit providers are less concerned with quality, then it would
130 be expected that quality will be lower in for-profit facilities even in the presence of
131 competition.

132 In any event, competition will only have an impact if potential service users can accurately
133 assess the quality of care they will receive, and if existing users are able to switch providers
134 if they are dissatisfied. One reason why this may be problematic is that it may be difficult
135 for people to evaluate the quality of facilities before they have moved in. People often
136 move in to residential care in a time of crisis, such as the death of a spouse or deteriorating
137 health, so they may find it difficult to visit candidate facilities in advance, and they may be
138 relying on other people (such as family members) to choose for them. Even if pre-
139 admission visits are possible, it is difficult to evaluate what the experience of living in a

140 facility will be like during a short visit. This might not matter as much if it were easy for
141 people to move to a different facility if they are unhappy with their first choice, but we
142 know that such moves are very rare in practice, in part because of concerns for the adverse
143 impact of such moves (Grabowski and Hirth 2003). Under such circumstances, the
144 incentive to compete on quality may be attenuated, with price becoming a more important
145 factor in the minds of potential residents (Forder and Allan 2011). In addition, for-profit
146 homes may have an incentive to reduce quality so as to reduce costs and hence increase
147 returns to owners. This reasoning leads to the hypothesis that the quality of care provided
148 in facilities owned by for-profit providers will, on average, be lower than that provided by
149 facilities operated by a public authority or non-profit organization.

150 However, this ignores the role played by the industry regulator, which in England is the
151 Care Quality Commission (CQC). The regulator may have an impact in two ways. First,
152 their inspection regime and ability to enforce standards of care may result in a reduction in
153 variation in the quality of care. It is still possible that public and non-profit providers could
154 be more likely to provide care that significantly exceeds the minimum standards required
155 by the regulator, but regulation should provide a floor below which standards do not drop.
156 Second, the CQC's inspection reports and quality ratings are freely available to the public
157 via the CQC's own website and via third party websites that are intended to make it easier
158 for people to locate residential and nursing care facilities in the geographical area of their
159 choice. As a result, the people searching for a care home may be better informed than they
160 would have been before the widespread availability of regulatory inspection ratings via the
161 internet.

162 We should also consider the possibility that there is variation in the degree to which users,
163 or potential users, of residential care are well informed. It may be that people who are able
164 to access the internet, who are able to visit and compare facilities, or who are able to draw
165 on the support and advice of family members and friends will be relatively well positioned
166 to form accurate judgements about the relative quality of different facilities, while others
167 who are not in this position will be less well informed. Arrow (1963) argued that many
168 people who find it difficult to assess a facility's quality will prefer non-profit or public
169 sector providers because such organizations will be perceived to be motivated to deliver
170 high quality care, with no conflict of interest caused by the pressure to deliver returns to
171 investors. If so, then it follows that for-profit providers will be competing for users who are
172 better informed than average, and this will force them to maintain quality. In other words,
173 competition from non-profit and publicly operated facilities plays an important function in
174 influencing the quality of for-profit providers over and above that of straightforward
175 competition among for-profit providers.

176 These arguments are all consistent with the hypothesis that for-profit operated facilities
177 will tend to have lower quality, although such tendencies may be mitigated by the existence
178 of a regulator and competition. However, in the presence of a competitive market and well-
179 informed customers it is possible that for-profit care homes that are part of a large
180 corporate group could offer superior quality to non-profit or for-profit facilities run by
181 small organizations if there are significant economies of scale. There is evidence of
182 economies of scale at the level of individual facilities (Christensen 2004; Farsi and Filippini
183 2004; Hoess et al. 2009), although these are modest, certainly at the scales typical in the
184 UK. Even larger facilities tend to be organized into separate "wings", and so economies of

185 scale are limited (LaingBuisson 2014). Furthermore, at least one study has suggested that
186 firms have used this as a way of offering reduced prices rather than increases in quality in
187 care homes in the UK (Forder and Allan 2011). There may, however, be multi-unit
188 economies of scale associated with the increasing size of residential care groups. Evidence
189 on this is mixed (Baum 1999). For example, Cohen and Dubay (1990) find chain facilities
190 reported lower costs, but other studies have failed to find similar evidence (Chen and Shea
191 2004). Given this weak evidence, we would still expect that for-profit providers will be of
192 equal or lower quality than those in the non-profit sector.

193 **Literature review**

194 There is little existing evidence on quality differences in health and social care provision
195 between public, non-profit and for-profit providers in the UK, although there is a significant
196 literature from elsewhere, especially the US. Recent evidence suggests that there is no
197 difference in the quality of patient care provided by NHS and for-profit hospitals in the UK
198 when one controls for the fact that NHS patients being treated in hospitals operated by for-
199 profit providers are generally receiving routine care (Perotin et al. 2013). In the case of
200 care homes, Gage et al. (2009) analysed quality among a set of care and nursing homes in a
201 single English county (N = 245). Relative to non-profit and public providers (which they
202 combined into a single group), they found some evidence of higher quality in homes run by
203 for-profit providers that were part of a group of three or more homes, but lower quality
204 among other for-profit homes. Forder and Allan's (2014) analysis of the impact of
205 competition in the English care homes market found that for-profit providers were
206 associated with lower levels of both quality and price than voluntary sector homes.

207 Looking beyond the UK, Comondore et al. (2009) conducted a systematic review and meta-
208 analysis of research comparing the quality of care in for-profit and not-for-profit nursing
209 homes. Their review included 82 articles, of which 72 were from the United States. Of the
210 82 studies, 40 showed greater quality of care in the not-for-profit sector, but a further 37
211 studies were unable to reach conclusions either way. Only three studies found clear
212 evidence for higher quality in the for-profit sector. In Europe, Stolt, et al. (2011) conducted
213 a study comparing public and private for-profit residential care provision in Sweden. Their
214 results showed that public sector facilities generally had better “input” measures of quality,
215 such as staffing levels. However, aspects of service, such as residents being involved in the
216 formulation of their care plan, favoured private contractors.

217 **Hypothesis:**

218 *The quality of residential and nursing care homes operated by for-profit providers will be*
219 *lower than those operated by public authorities and/or non-profit organizations, controlling*
220 *for a range of other variables that are associated with quality.*

221 **Data and methods**

222 The data we analyse were provided by LaingBuisson, specialist consultants in this field.
223 They compile data on registered care homes in the UK, a total of 19,721 facilities. The data
224 set contains, among other fields, whether the provider is a local authority, non-profit or for-
225 profit organization; and the results of the most recent CQC inspection, if any. As the CQC is
226 only responsible for inspecting facilities in England, analysis is restricted to this subset of
227 homes. There are 16,761 facilities in total, but missing data reduces the number of homes
228 available for analysis; actual numbers are shown in the tables of results. These facilities are

229 all those registered to provide care to adults, of which 9,678 are primarily registered to
230 provide care to people with dementia or over 64 years of age; 5,256 for adults with
231 learning disabilities; and 1,252 for adults with mental health problems. We carried out
232 additional analyses that used only homes for older people; results are substantively similar
233 to those reported below.

234 **Quality of care measure**

235 The outcome measures used in this paper are derived from the CQC's inspection reports.
236 The most recent report available for each home is used in the analysis; the earliest report is
237 dated 4 April 2011 while the most recent is dated 14 October 2015. CQC inspections of
238 residential adult social care services are carried out by means of unannounced visits by
239 inspectors. These visits are informed by quantitative indicators, including incidence of
240 pressure sores, medication errors and falls; these are treated as indicators of possible risks
241 to be investigated rather than as the basis for inspection ratings. The inspections use a
242 range of evidence gathered by means of interviews with residents and staff, observations of
243 care, reviews of records and care plans, inspections of the physical environment, and a
244 review of documents and policies. Each inspection results in the production of a report,
245 publicly available on the CQC website. Details of the inspection methods are available from
246 the CQC (2016a). The results of CQC inspections are currently the only feasible way of
247 comparing the quality of all the facilities in the population of English residential and
248 nursing homes. Inspection outcomes are summarised by giving each facility a rating on five
249 *fundamental standards*. These are:

- 250 1. **Is the service safe?** Are the residents protected from abuse and avoidable harm?
- 251 2. **Is the service effective?** Residents receive care that achieves good outcomes, helps
252 maintain quality of life and is based on the best available evidence.

- 253 3. **Is the service caring?** Staff involve residents and treat them with compassion,
254 kindness, dignity and respect.
- 255 4. **Is the service responsive to people's needs?** Services are organized so that they
256 meet the needs of residents.
- 257 5. **Is the service well-led?** The leadership, management and governance of the
258 organisation make sure it's providing high-quality care that's based around your
259 individual needs, that it encourages learning and innovation, and that it promotes an
260 open and fair culture.

261 Details of how each of these standards are evaluated are provided by the CQC (2016a).

262 Each of the five standards is sub-divided into a number of key questions that the inspection
263 team is required to answer. For example, when evaluating the safety of care, inspectors
264 have to ask "How are people protected from bullying?", "How are risks to individuals and
265 the service managed so that people are protected and their freedom is supported and
266 respected?", "How does the service make sure that there are sufficient numbers of suitable
267 staff to keep people safe and meet their needs?", and "How are people's medicines managed
268 so that they receive them safely?"

269 Each of these five standards is each given one of four ratings: Outstanding ("the service is
270 performing exceptionally well"); Good ("the service is performing well and meeting
271 expectations"); Requires improvement ("the service isn't performing as well as it should,
272 and has been told how it must improve"); or Inadequate ("the service is performing badly,
273 and enforcement action has been taken"). By law, these ratings have to be displayed in the
274 residential care facility where they can easily be seen, and they also have to be shown on
275 the facility's website.

276 One possible critique of these ratings is that they involve an element of subjectivity, which
277 some might consider a disadvantage relative to studies that draw on quantitative
278 measures. For example, Comondore et al. (2009) describe 24 studies of nursing home

279 quality that use pressure ulcer prevalence as the quality measure, 21 that measure the use
280 of physical restraints, and 4 that use mortality. However, inspector ratings are based on a
281 very wide range of information sources, which includes quantitative records, but
282 importantly also draw on direct observation and obtaining the views of residents and their
283 families. Therefore, the inspector ratings are based on much richer sources of data than
284 are those that use simple quantitative measures. There remains the possibility that ratings
285 are influenced by conscious or unconscious biases among inspectors. The CQC guards
286 against this by means of independent quality assurance panels that look at samples of
287 inspection judgements to check consistency. It is worth bearing in mind that quantitative
288 outcome measures are likely to be associated with the level of residents' needs and
289 therefore it would be problematic to use such measures without robust controls for the
290 level of needs, which are not available for UK care homes.

291 While the above describes the current CQC rating system, there was an earlier inspection
292 regime, which rated what were called *essential standards*. Currently, more than half of the
293 most recent inspections available to us used these earlier standards, so we also use these
294 ratings in our analysis. The previous assessment criteria were grouped into five *chapters*:

- 295 1. Standards of caring for people safely & protecting them from harm.
- 296 2. Standards of staffing.
- 297 3. Standards of treating people with respect and involving them in their care.
- 298 4. Standards of providing care, treatment & support which meets people's needs.
- 299 5. Standards of quality & suitability of management.

300 Each of these five "chapters" was give one of three ratings: All standards met; At least one
301 standard not met; At least one standard not being met requiring enforcement action.

302 In addition to separate analyses of the facilities that have old and new-style inspection
303 ratings, we also combine them so that we can analyse the entire set of care facilities. To do
304 this, we have to make the two inspection regimes consistent by coding them both into three
305 categories: *Good*, which includes the “Outstanding” as well as the “Good” category in the
306 new system, and is equivalent to “all standards met” in the old system; *Poor*, which includes
307 “requires improvement” from the new system and “at least one standard not met” under
308 the old regime; *Inadequate*, which, as well as the category of this name in the new regime
309 also includes “at least one standard requiring enforcement action” from the old standards.
310 We carry out three sets of analyses, one based on facilities that were subject to the older
311 rating system; one based on the new inspection system; and a third that combines all
312 facilities using the three-category system described above.

313 It is worth noting that none of these ratings can strictly be considered a measure of
314 resident outcomes, although there is evidence that outcome measures are related to the
315 ‘old’ inspection ratings (Netten et al. 2010, p. 85). Nevertheless, this is a limitation of the
316 study.

317 **Explanatory variables**

318 The key explanatory variable is the type of owner of the establishment. This variable has
319 three categories: local authority; private for-profit; private non-profit. Other explanatory
320 variables are the number of beds in the facility; its age since first registration; whether or
321 not the building was purpose-built as a care home; whether the establishment is classified
322 as a ‘care home with nursing’ or a ‘care home without nursing’; and whether the primary
323 registered client group is people suffering from dementia. The latter variable is included
324 because it is known that homes find it more challenging to provide a good quality of life for

325 residents suffering a significant degree of cognitive impairment (West 2016). We also
 326 control for the size of the over-65 population in the local authority area in which the facility
 327 is located as a measure of the size of demand for residential care in the local area. The level
 328 of competition is measured using the Herfindahl index at the level of the local authority
 329 responsible for the purchase of care for the area in which the home is located. The level of
 330 deprivation in the area served by the home is measured using the Income Deprivation
 331 Affecting Older People (IDAOP) score. (Department for Communities and Local
 332 Government 2015).

333 **Methods of analysis**

334 As the outcome variables are ordinal, with four categories for inspections using the new
 335 system and three categories for those based on the older system, the natural method of
 336 analysis is ordinal logistic regression (Agresti 2013). The simplest form of this method is
 337 proportional odds logistic regression:

$$\text{logit}[\Pr(Y \leq j|\mathbf{x})] = \alpha_j + \boldsymbol{\beta}'\mathbf{x}, \quad j = 1, \dots, J - 1 \quad (1)$$

338 In this model, there are J categories in the outcome variable, and a separate intercept (α_j)
 339 for each logit. The estimated effect of explanatory variables, \mathbf{x} , given by the vector of
 340 regression parameter estimates, $\boldsymbol{\beta}$, is the same for each logit. We tested this assumption
 341 using the procedure recommended by Harrell (2001, p. 335). Where appropriate, we
 342 relaxed the assumption and obtained separate estimates of the β parameters associated
 343 with sector for each logit, known as the partial proportional odds model (Peterson and
 344 Harrell 1990). Whichever estimate is appropriate is reported in the tables of results shown

345 below. Estimates were obtained using the *clm* function in the *ordinal* package (Christensen
346 2015) in R 3.3.2 (R Core Team 2016).

347 **Results**

348 **Descriptive statistics**

349 Figure 1 shows how the care home industry in the UK has changed since 1970. Over 65%
350 of the available places were provided by local authorities in 1975, but 40 years later this
351 was down to 8%. While the proportion of places provided by non-profit providers has
352 remained quite constant, over the same period the for-profit sector's share of the industry
353 has increased from less than 15% to almost three-quarters of the total number of beds.

354 *[Figure 1 about here]*

355 Tables 1 and 2 show cross tabulations of the numbers of establishments that received each
356 of the available inspection outcomes using the old and new systems, respectively, along
357 with the counts that would be expected if CQC quality rating was independent of ownership
358 type (Agresti 2013). We can see that in table 1, there are approximately 41 more non-
359 profit owned homes that are fully compliant than would be expected, while there are
360 almost exactly the same number fewer for-profit homes that receive this CQC rating.
361 Similarly, we can see that there are about 37 fewer non-profit homes that have at least one
362 area of non-compliance about a similar number more for-profit homes than would be
363 expected.

364 *[Tables 1 and 2 about here]*

365 Table 2 shows a similar pattern. Among homes that achieve all ‘good’ or ‘outstanding’ CQC
366 ratings, there are about 116 more non-profit homes than would be expected and 130 fewer
367 for-profit homes. At the other end of the scale, among those homes that have at least one
368 ‘inadequate’ rating, there are 64 more for-profit homes than would be expected under the
369 independence model and 52 more non-profit homes. In both tables, local authority homes
370 achieve a distribution of ratings that is close to what would be expected under the null
371 model of independence. Descriptive statistics for other explanatory variables are shown in
372 table 3.

373 [Table 3 about here]

374 **Regression results**

375 Although the contingency tables suggest that there are differences in quality among the
376 three ownership types, this form of analysis does not control for the inclusion of other
377 variables that might affect the relationship between ownership type and quality of care.
378 We therefore present three sets of ordinal regression results. The first set, shown in table
379 4, are based on the old inspection regimes, while the second set (table 5) use the new type
380 of quality rating as outcome variable and the third set (table 6) combines the two as
381 described above. The parameter estimates in the table are shown on the logit scale (as in
382 equation 1, above). Odds ratios can be obtained by exponentiating the estimates in the
383 tables. For example, the estimate of the parameter associated with Not-for-profit in
384 column (1) of table 4 is 0.614; $\exp(0.614) = 1.85$, which implies that the odds of all
385 standards being met relative to any of the other ratings is 1.85 times greater for not-for-
386 profit facilities compared to for-profit operators. Figure 2 shows the marginal effects of

387 sector on quality rating evaluated at the mean values of quantitative variables and the most
388 common category of categorical variables.

389 **Old inspection regime**

390 Turning first to the old inspection regime results, we can see in table 4 that non-profit
391 homes have consistently higher quality ratings than for-profit homes (which is the
392 excluded category in all the tables), across all five of the inspection criteria. The advantage
393 is particularly marked in the case of standards of staffing. Although the estimates for local
394 authorities are mostly positive, the difference between their quality ratings and those of
395 for-profit homes are not statistically significant.

396 *[Table 4 about here]*

397 As regards the other variables, homes that do not provide nursing care mostly have slightly
398 better quality ratings, but the differences are not statistically significant. Quality of care
399 tends to decline as the number of beds in a home increases, but only two of the coefficients
400 are significant (staffing and needs). The signs on the age of the care home variable are all
401 negative, implying that older homes tends to be rated as of lower quality, but only three are
402 significant, with “respect” being the largest estimate. Whether or not the home was
403 purpose built seems to have little effect on quality of care, which is somewhat surprising
404 giving results of previous studies showing that purpose built homes tend to have higher
405 quality (Forder and Allan 2014). Homes that provide dementia care tend to have lower
406 quality ratings, although mostly these are not statistically significant. Overall, the most
407 important impact on quality is whether or not the care is a “not-for-profit” organization,
408 which is associated with highly significant, positive coefficients on each of the measures of
409 quality.

410 New inspection regime

411 Regression results using the new inspection system's quality ratings as outcome variable
412 are shown in table 5. Using the new inspection regime, non-profit homes again
413 significantly out-perform their for-profit counterparts. This time, though, we can see that
414 local authority run facilities are also likely to have a higher quality rating than those run by
415 for-profit operators, at least on some of the quality criteria. Whereas in the previous table,
416 the distinction between residential and nursing home quality was not significant, all five
417 coefficients are positive and significant for residential care, implying that homes that
418 provide nursing care are less likely to obtain good CQC inspection ratings, perhaps because
419 it is more challenging to recruit and retain professionally qualified staff..

420 Once again, the probability of obtaining better CQC ratings declines as the number of beds
421 in a home increases. For-profit homes are, on average, larger (a mean of 26.9 beds) than
422 local authority (24.5) or non-profit (21.7) facilities. We can also see that, based on the more
423 recent inspections, older homes also tend to have lower quality ratings from the CQC, as do
424 homes that provide dementia care.

425 *[Table 5 about here]*

426 Combining quality measures

427 In this final set of results, we combine the two types of quality inspection systems into a
428 single response variable, as described above. The benefit of this is the increase in sample
429 size, although we need to be slightly cautious as the five components of the two different
430 inspection systems are not identical. These results are shown in table 6. Once again we see
431 that local authority and private non-profit facilities are significantly more likely to receive
432 better quality ratings from the CQC than for-profit facilities; differences between local

433 authority and not-for-profit providers are not statistically significant. Providing residential
434 as opposed to nursing care is again associated with higher quality. Smaller and newer
435 homes are also more likely to be highly rated by the regulator. By way of illustration, the
436 probability of a for-profit, 20-bedded home being rated “Good” or “Outstanding” for the
437 Safety category (column 1 in table 6) is 0.85, while the corresponding probability for a 60-
438 bedded facility is 0.75. For the same category, a five year old home has a probability of
439 being rated “Good” or “Outstanding” of 0.88, while the corresponding probability for a 30
440 year old home is 0.80. Whether or not a care home is purpose built shows negative signs
441 across all five coefficients, but only three are significant. Caring for patients with dementia
442 is once again negative and significant in relation to lower quality of care. Homes that have
443 a primary client code of Dementia have a probability of a “Good” or “Outstanding” rating in
444 the Safety category 0.79 compared to 0.84 for those with other primary client codes.

445 *[Table 6 about here]*

446 To illustrate the scale of the effects, using the mean values of control variables, the
447 predicted probabilities of being in each of the three rating categories based on this final set
448 of regression parameter estimates are shown in the set of effect plots in figure 2. This
449 graphically illustrates the lower probability of For-profit providers obtaining the best CQC
450 ratings and their higher probability of being rated “Poor”.

451 *[Figure 2 about here]*

452 **Discussion**

453 We have shown that, based on the inspection ratings of the care home regulator, care
454 homes and nursing homes that are operated by non-profit organizations and those that are

455 run by local authorities are, on average, of higher quality than those operated by for-profit
456 providers. There is, however, no clear difference in quality between facilities operated by
457 non-profit organisations or local authorities. These differences are found across all five of
458 the components of quality rated by the CQC and using information on quality provided by
459 the old and the new inspection regimes. This is consistent with the hypothesis that quality
460 differences exist because quasi-market competition is attenuated by the difficulty people
461 have in evaluating the quality of provision and/or transferring out of a facility that they
462 find inadequate once they become resident there. The fact that these differences are
463 relatively small suggests that the regulator is having the effect of reducing these quality
464 differences by ensuring standards are maintained and/or by increasing the availability of
465 information to potential service users.

466 Of course, it does not necessarily follow that standards of care in for-profit facilities are
467 bad. Indeed, the majority of homes of all types are rated good or better by the CQC. Most
468 care home places are provided by the for-profit sector, and these results do not suggest
469 that this is the source of a quality problem. What's more, the reason for the predominance
470 of the for-profit sector is presumably that they are able to access the capital needed to build
471 new facilities.

472 We might ask whether there are any general lessons for the operation of quasi-markets.
473 The provision of residential and nursing home care is closer to a conventional market than
474 any of the other quasi-markets that have been developed in the UK public service sector in
475 that there is a large amount of choice available to users, many of the service providers are
476 in the private sector, and many users pay for their own care in full or in part. This contrasts
477 sharply with the quasi-market that now operates in the NHS, where almost all providers

478 remain in the public sector and purchasing is carried out by Clinical Commissioning
479 Groups. Choice in the NHS is mainly exercised by CCGs during the tendering process, but
480 patients in the main still have little choice about where they receive treatment. It should
481 follow that the benefits of efficiency, responsiveness and choice that are purported to
482 derive from the operation of quasi-markets will be more likely to be evident in this sector
483 than in the other public service quasi-markets in the UK. There is certainly evidence that
484 quasi-markets promote efficiency in the sense of lower costs, which have been shown to be
485 significantly lower in both the non-profit and for-profit sectors when compared to local
486 authority facilities (Nyman et al. 1990; Boyne 1998; Chen 2004). And the large number of
487 homes offering care suggests that there is plenty of choice. It is less clear that
488 responsiveness to the needs of service users has improved, but at least quality of care, in
489 the main, seems to be reasonable. However, it is clear that maintaining this level of quality
490 would be unlikely in the absence of a regulator, which is necessary to protect the public
491 because of the difficulty they would face evaluating care quality themselves. The cost of the
492 regulator has, then, to be counted against the benefits produced by introducing the quasi-
493 market. In addition, the large number of private providers introduces an element of risk
494 into the system of care provision; private providers—both for-profit and non-profit—are
495 more vulnerable to the risk of failure than their public sector counterparts. We have
496 already seen the failure of one large-scale provider of residential care—Southern Cross—in
497 2011, and a number of current providers suffer from “excessive debt” overhangs, leaving
498 them vulnerable to increases in debt servicing costs from changes in interest rates or credit
499 ratings (LaingBuisson 2014). At the same time, there is evidence that the risk of failure in
500 the face of competition is higher among voluntary sector providers than those in the for-
501 profit sector (Allan and Forder 2015). However, it is the potential failure of another large

502 group provider that prompts most concern, and there are increasing concerns about the
503 financial health of some of the major for-profit providers of residential and nursing home
504 care in the UK in the face of increasing costs. This has led to the CCQ being required to also
505 assess the financial sustainability of care organizations that local authorities would find it
506 hard to replace, a function that presumably adds to the cost of ensuring that this quasi-
507 market functions effectively. Regulation of providers is increasingly funded by fees
508 charged to providers by the CQC, and indeed the UK government expects this function to
509 become fully paid for out of provider fees in future. At the same time, the CQC's budget is
510 expected to fall from £249m in 2015/16 to £217m in 2019/20 (Care Quality Commission
511 2016b). Given that, even with all the desirable characteristics of the market and the
512 substantial sums spent on regulation, we still observe lower quality among for-profit
513 providers of residential and nursing home care might imply that we should be very
514 cautious about moving further in this direction in other areas of public service provision.

515

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- 579

580 **Tables**

581 Table 1. The number of establishments of each ownership type based on the old
 582 compliance regime (expected values in parentheses).

	At least one enforcement action	At least one area of non-compliance	Fully compliant	Totals
For-profit	15 (11.5)	473 (435.0)	6142 (6183.5)	6630
Local authority	1 (0.7)	27 (27.7)	394 (393.6)	422
Non-profit	0 (3.7)	103 (140.3)	2036 (1994.9)	2139
Totals	16	603	8572	9191

583 Chi-square (4 degrees of freedom): 19.2; p-value < 0.01

584

585

586 Table 2. The number of establishments of each ownership type based on the new
 587 compliance regime.

	At least one inadequate area	At least one area requiring improvement	All areas good or outstanding	Totals
For-profit	484 (420.1)	2509 (2442.7)	1883 (2013.2)	4876
Local authority	4 (15.4)	87 (89.7)	88 (73.9)	179
Non-profit	42 (94.5)	486 (549.6)	569 (452.9)	1097
Totals	530	3082	2540	6152

588 Chi-square (4 degrees of freedom): 97.4; p-value < 0.01.

589

590 Table 3. Descriptive statistics.

Registration code	
Care home without nursing	72.0%
Care home with nursing	28.0%
Purpose built	
Yes	25.7%
No	74.3%
Dementia care registration	
Yes	10.0%
No	90.0%

591

	Mean	Standard deviation
Beds	27.8	23.0
Age (years)	19.8	8.3
Over 65 population (millions)	0.040	0.027
Herfindahl index	0.016	0.019
IDOAP score	0.180	0.110

592

593 Table 4. Ordinal logistic regression results using old inspection ratings, standard errors in
 594 parentheses.

	Safety (1)	Staffing (2)	Respect (3)	Needs (4)	Management (5)
Local Authority	0.068 (0.473)	0.401 (0.427)	0.096 (0.319)	-0.23 (0.327)	-0.049 (0.277)
Non-for-Profit	0.614* (0.287)	1.05* (0.269)	0.443* (0.172)	0.533* (0.221)	0.437* (0.162)
Home without nursing	0.311 (0.238)	0.189 (0.192)	0.282 (0.156)	-0.010 (0.197)	0.191 (0.149)
Beds / 1000	-6.47 (5.15)	-10.4* (3.95)	-4.33 (3.55)	-11.0* (3.98)	-5.16 (3.32)
Age (years)	-0.023* (0.012)	-0.011 (0.010)	-0.028* (0.008)	-0.017 (0.010)	-0.018* (0.007)
Purpose Built	-0.264 (0.240)	-0.157 (0.196)	0.028 (0.164)	-0.357 (0.188)	-0.062 (0.151)
Dementia care	-0.454 (0.276)	-0.435* (0.218)	-0.150 (0.203)	-0.196 (0.239)	-0.106 (0.194)
Over 65 population (millions)	8.17 (4.44)	-0.417 (2.95)	0.398 (2.34)	5.24 (3.26)	-1.01 (2.12)
IDAOP	-0.627 (0.897)	0.184 (0.730)	-0.352 (0.579)	-0.480 (0.724)	-0.286 (0.547)
Herfindahl	0.657 (5.93)	-4.23 (4.49)	1.22 (4.04)	6.58 (5.49)	3.91 (4.08)
Enforcement action Standard not met	-8.91* (1.12)	-7.94* (0.699)	-7.32* (0.488)	-8.32* (0.709)	-7.17* (0.461)
Standard not met All standards met	-4.17* (0.508)	-3.84* (0.402)	-3.73* (0.342)	-4.21* (0.417)	-3.57* (0.323)
Observations	9191	9191	9191	9191	9191
Log likelihood	-600.3	-861.9	-1277.7	-878.7	-1404.1

595 Note: * = $p < 0.05$

596 Table 5. Ordinal logistic regression results using new inspection ratings, standard errors in parentheses.

	Safe (1)	Effective (2)	Caring (3)	Needs (4)	Leadership (5)
Local Authority 1	0.506*	1.75	0.655*	0.477*	0.811
	(0.173)	(1.01)	(0.257)	(0.191)	(0.510)
Local Authority 2		0.127			0.450*
		(0.170)			(0.176)
Local Authority 3		-0.121			0.246
		(1.04)			(0.744)
Not-for-Profit 1	0.446*	1.51*	0.579*	0.640*	1.43*
	(0.074)	(0.341)	(0.108)	(0.084)	(0.267)
Not-for-Profit 2		0.539*			0.660*
		(0.079)			(0.078)
Not-for-Profit 3		-0.382			0.831*
		(0.542)			(0.289)
Home without nursing	0.197*	0.204*	0.236*	0.270*	0.179*
	(0.066)	(0.067)	(0.088)	(0.070)	(0.067)
Beds / 1000	-13.82*	-11.9*	-12.7*	-12.4*	-6.93*
	(1.29)	(1.32)	(1.59)	(1.36)	(1.30)
Age (years)	-0.024*	-0.021*	-0.015*	-0.021*	-0.019*
	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)
Purpose Built	0.080	0.001	0.032	-0.038	-0.016
	(0.066)	(0.068)	(0.088)	(0.071)	(0.067)
Dementia care	-0.206*	-0.238*	-0.303*	-0.220*	-0.202*
	(0.078)	(0.079)	(0.098)	(0.082)	(0.079)
Over 65 population (millions)	-0.196	-1.67	3.03*	-0.053	-1.41
	(0.978)	(0.999)	(1.38)	(1.06)	(0.982)
IDAOP1	-0.303	0.017	-0.065	-0.111	-0.121
	(0.248)	(0.259)	(0.335)	(0.270)	(0.253)
Herfindahl	-1.08	2.80	2.14	1.61	2.80*
	(1.18)	(1.42)	(1.56)	(1.43)	(1.33)
Inadequate Requires improvement	-3.31*	-3.73*	-4.71*	-4.14*	-3.15*
	(0.147)	(0.158)	(0.219)	(0.169)	(0.150)
Requires improvement Good	-0.905*	-0.944*	-1.89*	-1.12*	-0.746*
	(0.138)	(0.142)	(0.181)	(0.148)	(0.139)
Good Outstanding	6.88*	4.91*	4.21*	4.42*	4.61*
	(0.519)	(0.250)	(0.205)	(0.193)	(0.218)
Observations	6075	6073	6071	6074	6072
Log likelihood	-5117.8	-4711.5	-3115.2	-4397.1	-5099.9

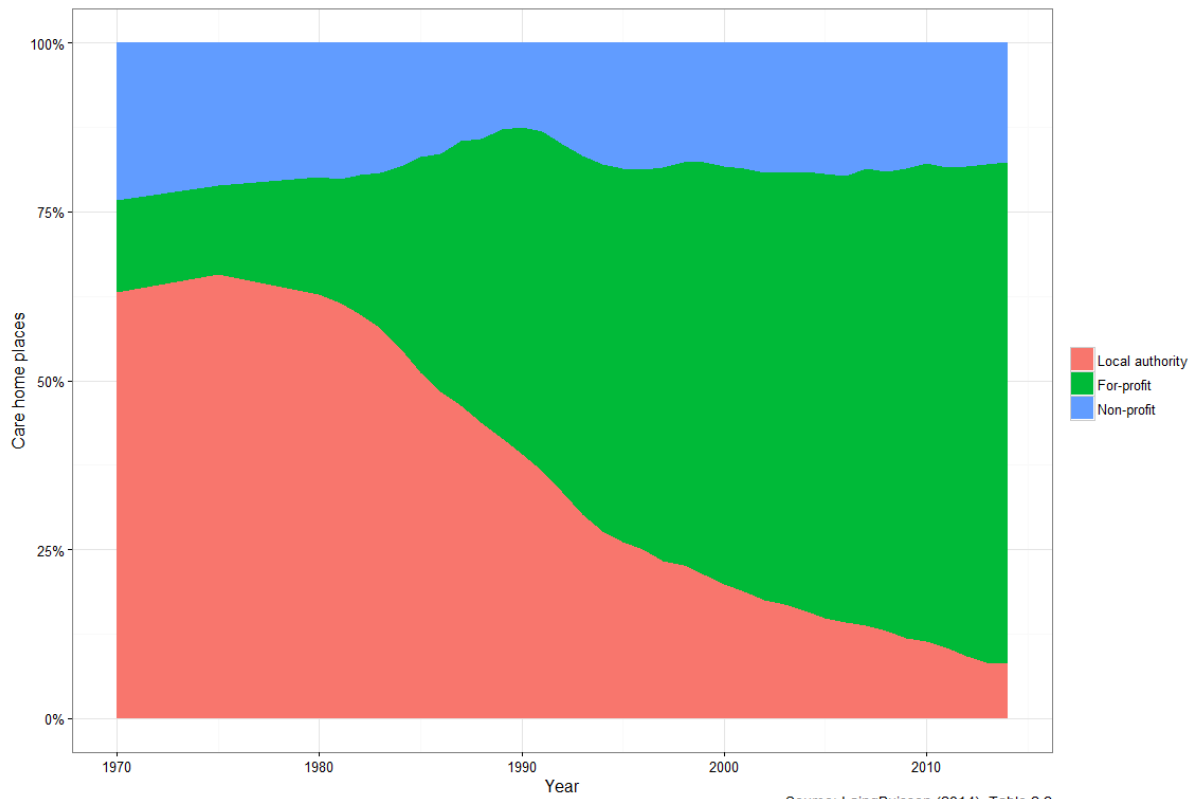
597 Note: * = $p < 0.05$

598 Table 6. Ordinal logistic regression results combining both inspection ratings, standard
 599 errors in parentheses.

	Safety/ Safe (1)	Staffing/ Effective (2)	Respect/ Caring (3)	Needs (4)	Management/ Leadership (5)
Local Authority 1	2.10* (0.721)	2.11* (1.00)	0.917 (1.01)	0.529* (0.159)	1.16* (0.505)
Local Authority 2	0.637* (0.146)	0.422* (0.141)	0.728* (0.233)		0.533* (0.139)
Not-for-Profit 1	0.929* (0.176)	1.71* (0.341)	1.33* (0.515)	0.689* (0.075)	1.62* (0.265)
Not-for-Profit 2	0.508* (0.063)	0.649* (0.068)	0.615* (0.097)		0.668* (0.066)
Home without nursing	0.278* (0.054)	0.268* (0.056)	0.325* (0.076)	0.295* (0.060)	0.256* (0.055)
Beds / 1000	-16.4* (1.08)	-15.3* (1.12)	-14.6* (1.41)	-16.0* (1.17)	-11.2* (1.10)
Age (years)	-0.026* (0.003)	-0.023* (0.003)	-0.023* (0.004)	-0.024* (0.003)	-0.022* (0.003)
Purpose Built	-0.042 (0.055)	-0.094 (0.057)	-0.045 (0.078)	-0.143* (0.061)	-0.092 (0.056)
Dementia care	-0.307* (0.065)	-0.329* (0.066)	-0.339* (0.087)	-0.317* (0.070)	-0.276* (0.066)
Over 65 population (millions)	-0.303 (0.835)	-1.80* (0.845)	1.31 (1.23)	0.141 (0.941)	-1.66* (0.815)
IDAOP1	-0.232 (0.205)	0.002 (0.215)	-0.120 (0.297)	-0.145 (0.232)	-0.170 (0.208)
Herfindahl	-4.28* (1.08)	-1.63 (1.17)	0.668 (1.87)	-0.867 (1.34)	-0.625 (1.22)
Inadequate Poor	-4.19* (0.126)	-4.70* (0.138)	-5.64* (0.201)	-5.13* (0.151)	-4.17* (0.129)
Poor Good	-2.15* (0.116)	-2.15* (0.120)	-2.79* (0.161)	-2.35* (0.129)	-1.95* (0.117)
Observations	15266	15264	15262	15265	15263
Log likelihood	-7842.7	-7040.9	-4153.6	-6176.6	-7656.7

600 Note: * = $p < 0.05$

601

602 **Figures**

Source: LaingBuisson (2014), Table 2.2

603

604 Figure 1. Area plot showing the proportion of care homes operated by local authorities,
605 non-profit organizations and for-profit firms, 1970-2014

606

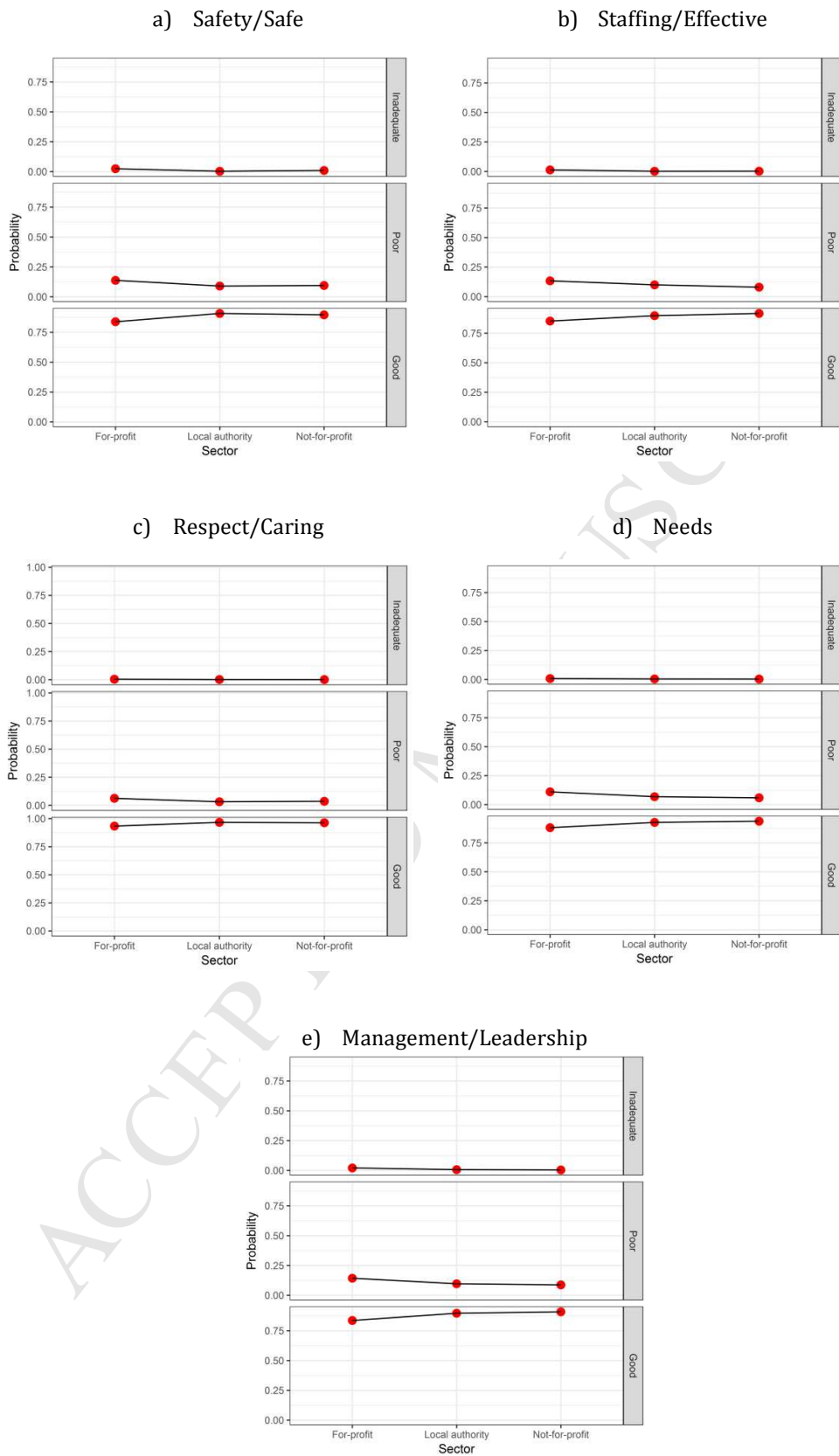


Figure 2. Effect plots

- Study of quality of care homes for adults in England.
- Care is delivered by public, not-for-profit and for-profit providers.
- Quality of care is significantly lower among for-profit providers.
- Non-profit providers have the highest quality.
- Differences in quality are relatively small, so regulation may be effective

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