

# The effect of health-care privatisation on the quality of care



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Over the past 40 years, many health-care systems that were once publicly owned or financed have moved towards privatising their services, primarily through outsourcing to the private sector. But what has the impact been of privatisation on the quality of care? A key aim of this transition is to improve quality of care through increased market competition along with the benefits of a more flexible and patient-centred private sector. However, concerns have been raised that these reforms could result in worse care, in part because it is easier to reduce costs than increase quality of health care. Many of these reforms took place decades ago and there have been numerous studies that have examined their effects on the quality of care received by patients. We reviewed this literature, focusing on the effects of outsourcing health-care services in high-income countries. We found that hospitals converting from public to private ownership status tended to make higher profits than public hospitals that do not convert, primarily through the selective intake of patients and reductions to staff numbers. We also found that aggregate increases in privatisation frequently corresponded with worse health outcomes for patients. Very few studies evaluated this important reform and there are many gaps in the literature. However, based on the evidence available, our Review provides evidence that challenges the justifications for health-care privatisation and concludes that the scientific support for further privatisation of health-care services is weak.

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## Introduction

Health-care privatisation is a policy of transferring the provision of public services to private individuals or companies. Many nationalised health-care services have pursued privatisation since the 1980s in the hope that mixed markets and the inclusion of private sector interests can improve the quality of care at a cheaper cost than the public sector. Although many forms of privatisation exist, including the shifting of funding from the state to individuals, one popular form of privatisation is the contracting-out or outsourcing of services.<sup>1</sup> In these models, a publicly funded service maintains decision-making powers but contracts a private organisation to fulfil an agreed service. Although this model of service provision is intuitively appealing and remarkably popular, its desirability is still contested by those who argue that market mechanisms cannot function effectively in health systems.<sup>2</sup>

Advocates of outsourcing services to the private sector argue that financial accountability compels private companies to ensure patients' wellbeing, seek innovation, and eliminate unnecessary bureaucracy. These profit motives are then supposed to give private firms a competitive advantage over the public sector, which is often constrained by rigid cultures, regulations, and few incentives to innovate.<sup>3,4</sup> Private sector providers might also bring with them competition effects, improving performance across the entire health system as all providers are incentivised to deliver improved quality services if they are to win the custom of the commissioning bodies (especially when prices are largely fixed, which often happens when there is a single purchaser, such as central government).<sup>5,6</sup>

However, the profit motive might not always result in desired outcomes. Encouraging private providers to prioritise care quality is challenging for public bodies, as quality can be difficult to observe and rationally prioritise. Information asymmetry arises as commissioners

struggle to identify quality and performance levels among providers.<sup>7</sup> Competitive markets might even discourage providers from revealing service quality information.<sup>8</sup> In such cases, observable outcomes (eg, service cost) might become prioritised, especially when improving quality relative to competitors is challenging. Thus, in some health-care systems, the relationship between competition and care quality is difficult to identify if dependable data measuring quality are missing.<sup>9</sup> In the absence of correct incentives for private providers to prioritise care quality, they might implement policies that make—what are perceived to be—marginal sacrifices in quality in return for large reductions in cost, such as reducing staff, lowering staff pay, selectively choosing profitable patients, over-prescribing services, or discharging patients prematurely.

Previous reviews on this topic have focused on the effects of hospital ownership on quality cross-sectionally—ie, comparing outcomes in public and private providers.<sup>10,11</sup> These studies can help us understand how private sector providers behave differently to public sector providers. However, such evidence is inconclusive for two reasons. First, cross-sectional analyses of ownership often do not identify a comparison group that conducts similar services for similar types of patients. More specifically, the private sector frequently treats healthier patients in health systems where some services are provided by the state and some by the private market. Evidence suggests that those individuals who access privately provided health care tend to have more resources and better health.<sup>12,13</sup> Consequently, in comparing outcomes in public and private hospitals, it will be difficult to control for the bias of healthier patients being selected in private hospitals and having better outcomes, not because of the quality of care, but because of these patients' underlying health status. The effect of ownership is only part of the justification for privatisation.

Second, focusing on ownership status overlooks a major reason for privatisation—that competition between providers should produce positive spillover effects on the quality of care of public providers. If outsourcing is to work as theorised by its proponents, public providers will improve their quality of care by learning from the innovative private sector providers, or because of intrinsic motivation to avoid losing contracts to the private sector. Competition will, in theory, also allow commissioners to be more demanding in the contracting process. Consequently, any differences between public and private providers might be biased and not adequate to understand the full effects of increased outsourcing.

We address the need to measure both ownership and competition effects by focusing this Review on longitudinal studies that have meaningful comparison groups or try to account for bias and measure aggregate effects of increases in outsourcing.

### Methods

Our search strategy and selection criteria are summarised later and in the appendix (p 1). Inclusion criteria for our search are listed in table 1. We followed the synthesis without meta-analysis guidance designed for complex interventions.<sup>14</sup> We selected this approach because researching whether privatisation affects quality of care

requires careful analysis of quantitative studies, but privatisation is often implemented in a fragmented and incremental way, which means that studies are not sufficiently comparable for meta-analysis.

We extracted data on publication information, country of study, intervention type, methods, key findings, outcomes, effect direction, and sample sizes. We performed a critical appraisal of each study using the risk appraisal tool: Cochrane ROBINS-I for non-randomised studies of interventions.<sup>18</sup> The results of this risk of bias appraisal are presented in the appendix (pp 2–5). Given the small number of studies included, we inductively created two categories based on the two identification strategies that were used in the methods of the articles.

### Overview of the findings

Our search returned 322 articles, of which 13 were identified as fulfilling our inclusion criteria after screening and assessment (figure 1). We found two types of articles through our search and screening process: those that assessed the effect of hospitals converting from public to private status (table 2), and those that conducted longitudinal regressions at an ecological level on variation in the proportion of services delivered by private sector providers (table 3).

See Online for appendix

	Inclusion criteria	Exclusion criteria
The reasons for privatisation differ greatly between high-income and low-income contexts; in low-income contexts, outsourcing might aim for greater health-care coverage as opposed to quality of care	High-income country setting (identified by OECD countries) <sup>14</sup>	Low-income and middle-income country setting
Social care services are often subject to different marketisation policies and different measures of quality, and are worthy of their own reviews	Analyses privatisation of health-care services	Analyses social care services;* analyses health-care services not related to privatisation
The type of privatisation of interest was the relative increase in private providers compared with public providers	Transition from public to private (either for-profit or not-for-profit) <sup>†</sup>	Transition from one type of private provider to another; increase in private and public provision without relative increase in private sector provision
Longitudinal analyses can better control for selection effects	Longitudinal analysis	Cross-sectional measures
For this Review, we were interested in measuring a quantity of effect size	Quantitative analysis	Only qualitative analysis
Our interest was the quality of care, ultimately on people's health outcomes	Measure of quality of care, <sup>15,16</sup> including health outcomes (eg, mortality rates), health-care intensity (eg, length of stay), health-care provision (eg, staffing ratios), or health-care accessibility (eg, waiting times)	Solely financial analyses
We were interested in the popular reforms of mixed markets delivering a publicly funded health service	Focus on contracting out or outsourcing types of privatisation (ie, increased private sector provision of health care)	Analysis of private financing of health
Comparison groups are important to measure relative trends of the privatised and non-privatised units of analysis	Includes a comparison group	Analysis of before and after trends without comparison to units with less or zero privatisation

OECD=Organisation for Economic Cooperation and Development. \*Definitions of social care change over time and we excluded all long-term care of older people (eg, studies relating to nursing homes providing to services for individuals older than 65 years) to be consistent. †Although many of the theoretical reasons for expecting privatisation to affect quality of care (in either positive or negative ways) centre on profit-motivation in the private sector, we include outsourcing to the third sector because it is not necessarily the case that the two sectors are perfectly distinct and that profit-motivation does not exist in the third sector (eg, Jones et al<sup>17</sup>). Most studies also differentiate between the two sectors, allowing us to differentiate between the effects of each sector.

**Table 1: Justifications for inclusion and exclusion criteria**

Eight articles tracked the quality of care (measured in various ways) received by patients before and after a hospital converts from public to private ownership status (table 2). Three of these studies were focused on the USA,<sup>19,21,26</sup> two on Germany,<sup>20,22</sup> one on Croatia,<sup>23</sup> one on Canada,<sup>24</sup> and one on South Korea.<sup>25</sup> Methodologically, five of these articles used difference-in-differences models or fixed-effects regression models (which control for time-invariant variables). The range of outcomes included in their models were diverse, but three focused on staffing levels, one examined the stratification of patients by insurance type, and the remaining studies explored a range of quality-related outcomes, such as workload for doctors and other employees, the number of services provided, and injuries among hospital employees.

The over-riding theme of these studies was that privatised hospitals tended to search for more financial efficiencies by targeting more profitable patients and by reducing the levels of staffing. In reference to patients' financial health status, studies found that the number of patients supported by Medicaid, charities, or unsupported (and thus deemed to be less profitable) was reduced, on average, in hospitals transferring to private for-profit status.<sup>19</sup> There was no evidence regarding the health status of patients treated after hospital privatisation, which might have evidenced how privatisation affects health inequalities.

Most of the articles concluded that hospital privatisation had negative implications for the quality of care, although importantly none had directly measured health outcomes of patients. One notable exception was from the only article to study primary care conversions, which found improvements in how patients received their appointments.<sup>23</sup>

Another group of studies looked at aggregate effects of privatisation by assessing changes over time in outsourcing and some outcome to represent quality of care (eg, avoidable mortality; table 3). There were five studies in this group. Two of these studies were based in England,<sup>28,30</sup> one in Sweden,<sup>27</sup> one in Italy,<sup>29</sup> and one in the USA;<sup>31</sup> although the study from the USA was slightly distinct, as it examined the privatisation of health-care services offered to individuals in prison. Four of these articles used fixed-effects regressions (controlling for time-invariant variables) and one used an interrupted time series design. Three of these articles used a measure of avoidable or treatable mortality (eg, deaths that should have been preventable with appropriate care), one focused on meticillin-resistant *Staphylococcus aureus* infections, and one focused on mortality of people who were incarcerated.

Most of these studies identified negative associations with increased outsourcing that corresponded with worse quality care. One study found that a privatising reform improved care across the entire sample (ie, 21 countries), but that places with the highest levels of

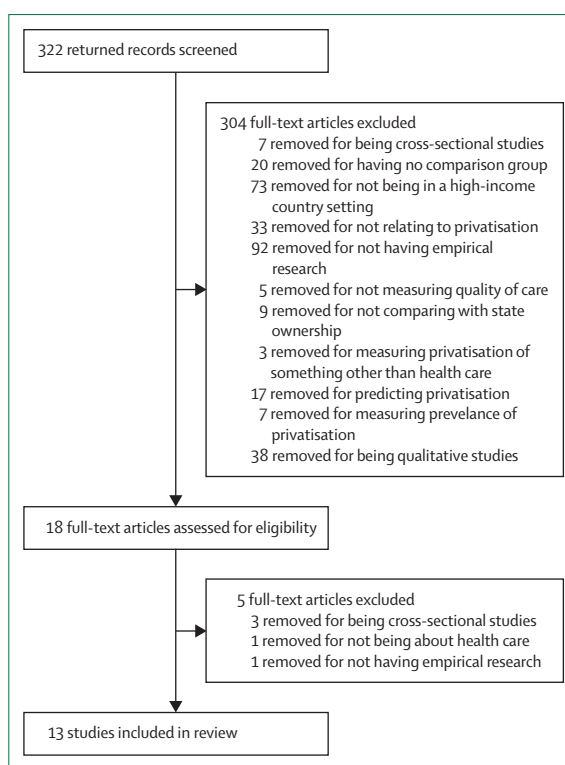


Figure 1: Flow chart of included studies

private provision had worse quality of care than areas with lowest levels of privatisation—as measured by avoidable hospitalisations.<sup>27</sup>

### Effects on health outcomes

At an ecological level, high rates of privatisation and outsourcing almost always corresponded with worse health outcomes in the studies included in this Review. Two articles looked at regional levels of privatisation for an entire country and both found that increases in the percentage of outsourcing corresponded with higher avoidable mortality rates than before outsourcing took place.<sup>28,29</sup> The only other article that assessed mortality rates did so in incarcerated populations, and also found increased avoidable mortality rates as the proportion of outsourced health care increased.<sup>31</sup> Additionally, outsourced cleaning services corresponded with higher rates of inpatient infection than internal cleaning services.<sup>30</sup> More nuanced results were found in Sweden when outcomes in avoidable hospitalisations improved across the country after a privatising reform to primary care; results from this study did not show dose-response variation—ie, areas that reformed first or had the highest increases in private providers did not show the biggest improvements in quality of care—and this factor therefore is not attributable to finding causality.<sup>27</sup> No studies in this Review found that increased privatisation corresponded with better health outcomes for patients. None of the articles that assessed hospital conversions

	Country	Treatment	Method	Sample size	Outcomes summary*
Ramamonjarivelo et al (2021) <sup>19</sup>	USA	Hospitals converting from public to private	Fixed-effects regression	29 hospitals to FP, 75 to NFP, 388 no change public	After privatisation, hospitals changed their casemix, taking on more (profitable) Medicare payers and fewer (less lucrative) Medicaid payers in FP conversions
Heimeshoff et al (2014) <sup>20</sup>	Germany	Hospitals converting from public to private	Matched difference-in-differences	66 hospitals to FP, 22 to NFP, 73 no change public	After privatisation, hospitals decreased their staffing levels, particularly in FP conversions
Ramamonjarivelo et al (2021) <sup>21</sup>	USA	Hospitals converting from public to private	Fixed-effects regression	247 hospitals to FP, 641 to NFP	After privatisation, hospitals hired fewer nurses, particularly the highest qualified nurses
Tiemann and Schreyögg (2012) <sup>22</sup>	Germany	Hospitals converting from public to private	Matched difference-in-differences	99 hospitals to FP, 33 to NFP, 128 no change public	After privatisation, hospital efficiency increased (efficiency defined as number of inpatient treatments per spending on supplies and staff time); increased efficiency was achieved as staffing levels were decreased
Hebrang et al (2003) <sup>23</sup>	Croatia	Hospital conversion to private	$\chi^2$ test	96 hospitals converting, no control group compared	After privatisation, general practitioners generally improved their accessibility to primary care, giving more precise times and more services, such as telephone follow-ups after working hours
Siganporia et al (2016) <sup>24</sup>	Canada	Hospital outsourcing services to private companies	Longitudinal negative binomial regression	1509 injuries in outsourcing hospitals	After outsourcing cleaning and catering services, some claims for injuries by employees decreased; qualitative follow-up interviews suggest under-reporting is more common in outsourced settings than public hospitals
Oh et al (2011) <sup>25</sup>	South Korea	Partial conversion to private hospital	Descriptive statistics	Three converted hospitals, nine public hospitals	Employment conditions in privatised hospitals descriptively declined, with more short-term contracts, higher workload, and more unequal pay between physicians and other workers
Villa and Kane (2013) <sup>26</sup>	USA	Hospitals converting from public to private	Difference-in-differences and changes before and after with t test	22 hospitals converting to private, control group unknown	Privatised hospitals had increased profit margins, decreased the duration of patient stays, and increased hospital bed occupancy rates; privatised hospitals reduced health-care accessibility by cutting services and increasing price markups

FP=for-profit. NFP=not-for-profit. \*More details on study subgroup outcomes are available in the appendix (pp 6–7).

**Table 2: Study outcomes associated with hospitals converting from public to private**

	Country	Method	Sample size	Outcomes summary*
Mosquera et al (2021) <sup>27</sup>	Sweden	Interrupted time series	672 region-years (ie, 21 counties measured over 16 years)	After a privatising reform, avoidable hospitalisations decreased across the country; however, areas with the most private providers saw relative increases in avoidable hospitalisations in comparison with areas with fewer private providers, and there was no difference in avoidable hospitalisations between areas with intense privatisation and non-intense privatisation
Goodair and Reeves (2022) <sup>28</sup>	England	Fixed-effects regression	609 region-years (unbalanced panel of 173 regions over 8 years)	Increases in regional health expenditure on for-profit companies correspond with increases in treatable (medically curable) mortalities
Quercioli et al (2013) <sup>29</sup>	Italy	Fixed-effects regression	209 region-years (19 regions over 11 years)	Increases in spending improve mortality rates but increases in for-profit spending do not; further increases in percentage of money going to for-profit providers increases mortality
Toffolutti et al (2017) <sup>30</sup>	England	Fixed-effects regression	Sample size varied for each study outcome (range 362–582 hospital-years)*	Compared with those with internal services, hospitals with outsourced hospital cleaning services had higher rates of in-hospital bacterial infections; satisfaction with the services was also lower as was the staffing and expenditure on cleaning services
Bedard and Frech (2009) <sup>31</sup>	USA	Fixed-effects regression	750 prison-years	Increases in contracted-out health-care workers correspond with increases in mortality for individuals in prison

\*More details on study subgroup outcomes are available in the appendix (p 8).

**Table 3: Ecological studies of effects of outsourcing**

included health outcomes, an important gap in the literature identified in this Review.

### Effects on staffing

Studies assessed staffing either as an intrinsic measure of the probable quality of care received by patients or in terms of the employment conditions experienced by staff. Several articles specifically measured the relative

difference in staffing rates before and after hospital privatisation.<sup>20–22</sup> Figure 2 summarises the outcomes identified in these studies. Generally, studies found that outsourcing corresponded with fewer staff members employed per patient.<sup>20–22</sup> This was also true of cleaning staff.<sup>30</sup> However, the effect varied between type of staff. For example, only the most qualified nurses had reduced numbers in outsourced hospitals compared with public

hospitals in the USA.<sup>21</sup> In the two studies that measured the number of physicians, this value was not reduced after privatisation, whereas most other staffing categories were.<sup>20,22</sup>

Other articles looked at employee outcomes, such as wages, contracts, and health of employees. In Canada, the outsourcing of food and cleaning services corresponded with fewer work-related injuries and shorter periods taken off work for each work-related injury (as well as some that were unchanged).<sup>24</sup> A qualitative follow-up study suggested that the likelihood of under-reporting of these incidents after privatisation made interpreting the data difficult, and discussed uncertainties about whether privatisation really improved employment conditions or just suppressed data reporting.<sup>24</sup> Another article descriptively assessed changes in wage inequality, job security, and workload in South Korea, finding worse results in all these outcomes in privatised services, as compared with non-privatised services.<sup>25</sup> However, the sample was too small to conduct inferential statistics.

### Effects on accessibility of health care

Three articles assessed some form of health-care accessibility (here defined as the ease of which patients can access services) with mixed results.<sup>19,23,26</sup> Two articles that assessed hospital conversions from public to private in the USA found that hospitals became less accessible after the conversion either because the case mix shifted towards more profitable patients or because the number of services provided was cut.<sup>19,26</sup>

However, conversions to private ownership status of primary care practices in Croatia had more positive

results—patients started receiving more precise appointment times and had the opportunity to access health care through new means, such as out-of-hours telephone calls.<sup>23</sup>

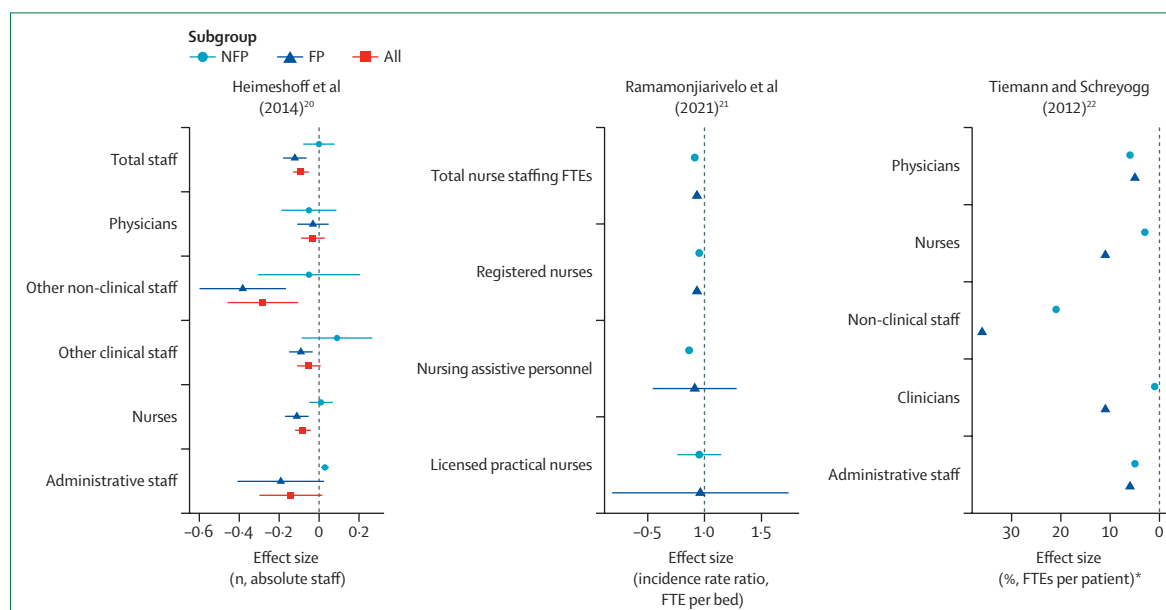
Overall, the results suggest that accessibility of care might be affected in different ways, with more precise appointment times and reduced waiting times in some cases, but with effects that could disadvantage some groups, particularly those whose treatments have low profits for the private sector.

### Effects on financial performance

This Review did not attempt to assess the effect of privatisation on cost-effectiveness, which is related to, but different from, the question of quality of care. Studies focused solely on financial outcomes might have different conclusions. However, there was a trend—among the articles that reported some measure of health-care quality—that the profit margins of hospitals that converted to for-profit status tended to rise. However, hospitals that converted to for-profit status had, on average, much worse financial performance than the public hospitals that remained public. Therefore, it is possible that there is a selection effect here, and more work needs to be done to better understand effects on financial performance.

### Discussion

We reviewed and summarised the evidence on the effects of outsourcing health services on quality of care, focusing on those studies that provide the strongest evidence because they used longitudinal data that enabled changes to be tracked over time. This Review depicts reforms that frequently change the provision of health care and reduce



**Figure 2: Effect of hospital conversion on staffing ratios**

FP=for-profit. FTE=full-time equivalent (ie, number of full-time hours worked by all employees). NFP=not for-profit. \*Provision of estimates not provided.

the comprehensiveness and the generosity of care. Unfortunately, these efficiency gains do not seem to be benign, as studies suggest that outsourcing tends to worsen health outcomes. The majority of studies in this Review suggest that privatisation reduces the quality of care and worsens the health outcomes of patients treated in privatised health-care settings.

As governments consider how to respond to the ongoing consequences of the COVID-19 pandemic on health-care systems, as well as the long-term responses to ageing populations and constrained budgets, they might look for a single, simple solution that promises better quality care at a cheaper cost.<sup>32,33</sup> However, the evidence in this Review suggests that there is a risk that governments seek short-term reductions at the expense of long-term outcomes, in part because privatisation via the outsourcing of services to the private sector does not seem to deliver both better care and cheaper care.

Our Review also potentially has implications for the broader theoretical arguments made in favour of privatisation in many areas. The evidence compiled here does not align with the expectations of mixed markets, namely that they would improve quality by increasing competition.<sup>5,9</sup> The evidence presented in this Review does not undermine the basic theoretical mechanism, but rather suggests that some areas of the welfare state, such as education and health care, might be structured in ways that make them less susceptible to the kinds of incentives that operate in other markets. For example, finding innovations that improve quality in the health-care setting might be harder than in other areas of the economy and this could diminish the incentives to compete on quality.<sup>2</sup> Appreciation of this variation might give governments pause before they pursue costly, time-consuming reforms in sectors where the scope for quality improvements are potentially small in the short term.

This Review focused on conversion from public services to privately delivered services. However, this process is often not entirely as straightforward as the full transition to private services and subtle forms of privatisation, such as public–private partnerships, might be harder to evaluate. For example, a distinction is often made between for-profit and not-for-profit private

organisations. In the studies included in this Review, transitions to for-profit provision typically resulted in larger declines in the quality of care, as compared with transitions to non-profit status, but transitions to not-for-profit private organisations also frequently resulted in declines in health-care quality. One of the reasons for this finding might be that not-for-profits can behave in similar ways to for-profit organisations.<sup>34</sup> Alternatively, we might have found greater differences between other categories of ownership had the studies included these subcategories, for example those private equity owned health-care providers that are performing particularly poorly.<sup>35</sup>

There are some limitations to this Review, including that no study on privatisation has been conducted in a randomised trial, meaning that results are necessarily open to potential biases in their internal validity. For example, when changes to legislation also change financial reporting, payment systems, and reimbursement processes simultaneously, or when there is a loss to services that occurs alongside privatisation. Such a randomised trial is very unlikely to be conducted in practice and even if there were a government willing to embed randomisation in the roll-out of a privatisation reform, it would be hard to ensure the randomisation process was not violated in some way. In other words, gold-standard research designs that can address this question are probably quite different from more individual-level reforms or interventions, and this should alter how we view the evidence compiled here. The research summarised in this Review is not just the best evidence we currently have, but many of these studies will probably remain among the best evidence we are ever able to collect in this area.

Similarly, the evidence in this Review comes from a small number of high-income countries (ie, eight countries). Our results obviously do not apply to middle-income and low-income countries and it is possible that these processes are different in those contexts, especially where the baseline for public provision is not as well resourced as in some of the high-income contexts included in this Review. Additionally, although systematic reviews aim to uncover the so-called true effect of an intervention, the effect of privatisation will probably be contingent on the social and institutional backgrounds in which those reforms occur. Declaring that privatisation never works would be premature (our included studies suggest some positive effects in some specific settings) and we need more research to understand when outsourcing might improve quality and not just reduce costs.

There are lots of gaps in this Review worthy of further research. The most obvious is the effect of hospital conversions on patient health outcomes, but there is also large capacity for analyses of ecological-level research on outcomes other than mortality rates. Another gap is that very few studies focus on aspects of health care other than

#### Search strategy and selection criteria

We searched PubMed for journal articles evaluating the effect of outsourcing written in English from database inception to Sept 4, 2023. We made several decisions about our inclusion criteria for material detailed in the Review, and our full search string used to identify articles is available in the appendix. Our search returned 322 articles, of which 13 were identified as fulfilling our inclusion criteria after screening and assessment. Details on article screening and a full list bibliography of included studies is available in the appendix.

inpatient care—community, primary, and ambulatory care are largely omitted. Many of the studies focus on staffing levels, which is only one of a wide range of factors that could be considered to be encompassed by the quality of care experienced by patients, and particularly missing is public and patient perceptions of the services provided.<sup>15,16</sup> The studies do not disaggregate outcomes by sex or gender and the effect of health-care privatisation on health inequalities is an important area for future research. Finally, we primarily consider the effects of outsourcing or contracting-out. Other forms of privatisation exist, such as the shifting of health-care funding from the state to individuals, which have not been analysed in this Review. One such example is the shift to private funding in the USA via the privatisation of the Medicare programme, which has resulted in more expensive plans but unclear effects on the quality of care.<sup>36</sup>

## Conclusion

There is only a small number of studies addressing the effect of privatisation on the quality of care offered by health-care providers, and yet within this small group of longitudinal studies, we find a fairly consistent picture. At the very least, health-care privatisation has almost never had a positive effect on the quality of care. But outsourcing is not benign either, as it can reduce costs, but seems to do so at the expense of quality of care. Overall, our Review provides evidence challenging the justifications for health-care privatisation and concludes that the scientific support for further privatisation of health-care services is weak.

### Contributors

BG and AR conceived the study idea and contributed to research design. BG developed the search string. BG and AR scanned and reviewed the articles. BG extracted the data and conducted the risk of bias assessment and wrote the original draft of the manuscript. AR provided supervision, oversaw the analysis plan, and edited the paper.

### Declaration of interests

We declare no competing interests.

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