Corporatisation of general practice — impact and implications

Katrina Erny-Albrecht
Petra Bywood

Primary Health Care Research & Information Service (PHCRIS)
August 2016
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ISBN 978-0-9953916-0-4

Acknowledgements
PHCRIS would like to thank Professor Anthony Scott from the Melbourne Institute of Applied Economic and Social Research for his insightful comments on a draft of this report.

Suggested citation

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>ACC</td>
<td>Annual Cycle of Care</td>
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<tr>
<td>ACT</td>
<td>Australian Capital Territory</td>
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<tr>
<td>AIHW</td>
<td>Australian Institute for Health and Welfare</td>
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<tr>
<td>AMA</td>
<td>Australian Medical Association</td>
</tr>
<tr>
<td>ASD</td>
<td>Annual Survey of Divisions of General Practice</td>
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<tr>
<td>BEACH</td>
<td>Bettering the Evaluation and Care of Health</td>
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<tr>
<td>DoH</td>
<td>Department of Health</td>
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<tr>
<td>GP</td>
<td>General practitioner</td>
</tr>
<tr>
<td>GPET</td>
<td>General Practice Registrars Australia</td>
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<tr>
<td>GPMP</td>
<td>GP Management Plans</td>
</tr>
<tr>
<td>HbA1c</td>
<td>Glycated Haemoglobin</td>
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<tr>
<td>IPN</td>
<td>Independent Practitioner Network</td>
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<tr>
<td>IVF</td>
<td>In vitro fertilisation</td>
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<tr>
<td>MABEL</td>
<td>Medicine in Australia, and Balancing Employment and Life</td>
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<tr>
<td>MBS</td>
<td>Medical Benefits Schedule</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>NT</td>
<td>Northern Territory</td>
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<tr>
<td>PHC</td>
<td>Primary Health Care</td>
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<tr>
<td>PHCRIS</td>
<td>Primary Health Care Research and Information Service</td>
</tr>
<tr>
<td>PIP</td>
<td>Practice Incentive for General Practice Fund Programme</td>
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<tr>
<td>PSR</td>
<td>Professional Services Review</td>
</tr>
<tr>
<td>QLD</td>
<td>Queensland</td>
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<td>SA</td>
<td>South Australia</td>
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<td>TAS</td>
<td>Tasmania</td>
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<tr>
<td>TCA</td>
<td>Team Care Arrangements</td>
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<tr>
<td>US</td>
<td>United States of America</td>
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<td>VIC</td>
<td>Victoria</td>
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<td>WA</td>
<td>Western Australia</td>
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Executive summary

In Australia, general practice is largely private, ranging from small sole traders through to large partnerships comprising six or more practitioners. Over time, a number of corporate practices, which are registered under the Corporations Act 2001, have emerged on the Australian health care landscape. The corporate model also varies in size, depending on location (urban, rural) and types of services provided by the company. This review examines the impact and implications of corporatisation of general practice in Australia in terms of market competition, quality of care, patient outcomes, costs of care, and the health care workforce.

Policy context

The Australian government has recently initiated an investigation into health care financing and sustainability, including the Medicare Benefits Schedule (MBS) review launched in 2015. As part of this, claims on the publicly-funded fee-for-service MBS have come under increasing scrutiny (Robinson, 2016). Of MBS expenditure for 2013-14, general practitioner (GP) services accounted for the largest proportion (33%) followed by diagnostic imaging and pathology (Robinson, 2016). While most of general practice is based on a private-business model with GP remuneration tightly linked to MBS rebates and government incentives, the emergence of corporate general practices (structured to maximise returns and answerable to shareholders) warrants continued monitoring within the context of MBS-incentivised policies and quality of care.

Key findings

There is a paucity of reported research directly comparing corporate and non-corporate general practice in Australia. However, expansion of corporate services since 2012 has been modest, and available evidence suggests that, while the corporate model taps into generational differences in workplace demands, there is widespread support for a variety of private and corporate practice models in the Australian setting. Patient satisfaction and quality of care do not appear to be negatively impacted by corporate practice models; however, few representative studies have examined this issue in detail. Similarly, there is no evidence that over-servicing is more likely to occur in corporate practices; however, increased administrative efficiency may account for increases in claims for practice incentive payments, or similar.

Despite considerable negative media attention and consistent with previous government investigations, there remains no evidence that the corporate model of general practice or pattern of MBS claims differs significantly from that of private practices (Table 1). Corporate and private general practices share a dependence on government rebates obtained through the Medicare scheme. Bulk-billing benefits patients, and appears to be a common model among corporations and possibly smaller practices of one or two GPs. It is likely that the former support this through economies of scale achieved via centralisation of services, while the latter may be responding to competition from larger practices. In addition, there is no evidence that patient satisfaction or standards of care differ between the two models.

However, it should be emphasised that current data collections are inadequate for examination of potential differences, if any, between the various general practice structures and patient-related outcomes or MBS expenditure. In the event that over-servicing does occur, current best evidence indicates that it is not limited to corporate general practice.
Table 1  Indicative evidence for corporate general practice impact and implications

<table>
<thead>
<tr>
<th>Topic</th>
<th>In corporate general practice:</th>
</tr>
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<tbody>
<tr>
<td>Patient outcomes</td>
<td>Based on limited data, patient satisfaction is high; and through bulk-billing practices, out-of-pocket costs are minimal or none.</td>
</tr>
<tr>
<td>Provision of patient-centred care</td>
<td></td>
</tr>
<tr>
<td>Continuity of care</td>
<td></td>
</tr>
<tr>
<td>System integration and coordination of services relevant to chronic and complex health conditions</td>
<td>Based on patients with diabetes, standards of care and creation of management plans are in line with non-corporate practices.</td>
</tr>
<tr>
<td>Health care workforce</td>
<td>The five largest corporations employ approximately 15% of GPs and manage approximately 5% of Australian general practices. The main attraction for employees is the reduced administrative burden. Staff satisfaction varies depending on the corporation. Some negative aspects identified by corporate employees include: loss of autonomy and complex contract conditions.</td>
</tr>
<tr>
<td>Medicare Benefits Schedule (MBS) incentivised policies</td>
<td>There is no direct or indirect evidence of large-scale over-servicing compared with non-corporate practices. Improved administrative efficiency increases the likelihood of claims for practice incentives. Use of chronic disease care management plans are a potential source of over-servicing in all practice models. Evidence supports the need to improve data collection and monitoring for guideline adherence.</td>
</tr>
<tr>
<td>Costs of care (patient costs, bulk-billing and costs to government).</td>
<td>Increased likelihood of bulk-billing (also encouraged by competition), with the consequence of increased government costs but reduced patient costs. No evidence available indicating that corporate practices are associated with increased cost of care compared with non-corporate practices.</td>
</tr>
</tbody>
</table>

Policy considerations

Increases in MBS rebate expenditure are in line with government incentives, including those aimed at increasing bulk-billing and practice management of patients with chronic diseases. In view of the lower MBS rebates determined by the government compared with higher fees recommended by the Australian Medical Association (AMA), it is likely that practices with the benefit of economies of scale and administrative efficiency are more likely to adopt bulk-billing payment systems. Thus, it is likely that large general practices (corporate and non-corporate) are more likely to bulk-bill patients and that they may take advantage of computer software to further improve efficiency in this area. In contrast, smaller practices may opt to bulk-bill to compete with larger practices, but without the benefit of economies of scale this may not represent a sustainable model. One clear finding from this review is that there is a paucity of good quality longitudinal data that measures economic, practice and patient outcomes with distinction between different types of practice (e.g., corporate and non-corporate practices).
Background

Australian context

Prior to the 1990s, Australian general practice was, with few exceptions, dominated by small independent practices comprising sole traders, partnerships or associateships (Medicare Financing and Analysis Branch, 2012f). As corporatisation of general practice expanded in the 1990s, concerns were raised by the Australian Medical Association (AMA) regarding the profit motive, and in response the then Department of Health and Aged Care commissioned two investigative reports (Medicare Financing and Analysis Branch, 2012f). Overall, these reports concluded that there was some merit in corporatised practices, and one report suggested that concerns about over-servicing and inappropriate referrals were related to the fee-for-service Medicare system, rather than corporatisation per se (Medicare Financing and Analysis Branch, 2012f). In view of the much greater gains to be made from pathology and radiology services, which formed the major part of the corporate businesses, new concerns were also raised about in-house referrals (vertical integration) increasing demand for these services based on profit, rather than need (Collyer and White, 2001).

In response to continued concern that corporations were taking advantage of the Medicare fee-for-service system, in 2012 the Australian government initiated the Tracking the effects of corporate practices on Medicare outlays programme to provide information on large corporate practices and their claiming behaviours and risks; and to inform future compliance strategies. Although this programme appears to have improved monitoring methodology, with the release of five technical reports, reports of findings were largely general in nature (Medicare Financing and Analysis Branch, 2012f, Medicare Financing and Analysis Branch, 2012a, Medicare Financing and Analysis Branch, 2012b, Medicare Financing and Analysis Branch, 2012c, Medicare Financing and Analysis Branch, 2012d, Medicare Financing and Analysis Branch, 2012e). For example, it was noted that by 2012, the three largest publicly-listed for-profit corporations in operation in Australian general practice accounted for 12 per cent of the health care market share; and at that time, the corporate models were closely aligned with available financial incentives (Medicare Financing and Analysis Branch, 2012f).

Further to the ongoing Australian government investigation of health care financing and sustainability, a review of the MBS was launched in 2015. Related to this, unnecessary service provision and associated claims on the publicly funded fee-for-service Medicare scheme has come under increasing scrutiny (Robinson, 2016).

Basis for corporatisation

The private sector, we argue, is more likely to invest and expand in a market structure where it expects profits (Krachler and Greer, 2015, p 216).

Corporatisation of general practice has the potential to deliver reduced cost of care through economies of scale; increased patient convenience via medical service access within a central location; and financial security and improved working hours for doctors (Medicare Financing and Analysis Branch, 2012f). However, under corporate arrangements, patients may not have a usual care doctor, thus potentially disrupting continuity of care (Collyer and White, 2001). There is also potential for tension between a doctor’s responsibility towards their patient and their obligations to the company; a profitable enterprise must strive to keep costs down and to bring in revenue (Medicare Financing and Analysis Branch, 2012f). Since 2012, a number of changes to government-
Based incentives in general practice have been implemented, and it is likely that these have influenced the market and models of general practice corporatisation (to be discussed below). In this report, the Primary Health Care Research & Information Service (PHCRIS) investigated recent developments in the corporatisation of general practice in Australia. In particular, the focus is on the impact of corporatisation on incentive policies, quality of care and patient-related outcomes.
Aim

The aim of this Rapid Response is to identify available evidence relevant to the corporatisation of general practice in Australia from the perspective of market competition and the impact of this on the following:

- Patient outcomes
- Provision of patient-centred care
- Continuity of care
- System integration and coordination of services relevant to chronic and complex health conditions
- Health care workforce
- Medicare Benefits Schedule (MBS) incentivised policies
- Costs of care (patient costs, bulk-billing and costs to government).
Methods

This report follows a ‘rapid review’ format. Rapid reviews are short literature reviews that focus on research evidence with a view to facilitating evidence-based policy development (Grant and Booth, 2009). Given the 8-week time frame for this review, the searches and appraisal are pragmatic rather than systematic. A thorough review of Australian and international literature was undertaken through a search of academic and grey literature sources including, but not restricted to: PubMed (using the PHC Search Filter), Trove, Google Scholar, Scopus and relevant websites.

As noted in one report (Medicare Financing and Analysis Branch, 2012f), finding information on corporate medical centres is challenging, and requires substantial use of grey literature sources. Sources of grey literature searched for relevant literature included media reports, internet searches of known corporations for publicly available reports, government sites, and consumer information sites.

Keywords applied in the database searches included combinations of one or more of the following terms: health care AND corporatisation OR corporatization; general practice AND corporatisation OR corporatization. Other terms included ‘commercialisation’ and ‘marketisation’. Searches were restricted to English language, publication period 2011-April 2016, and the Australian setting. Relevant systematic reviews identified in the searches were appraised for quality using the AMSTAR literature rating scheme (Shea et al., 2009).

General caveats

For the purposes of this report, general practice corporations are defined as when a general practice becomes, or is acquired by, a for-profit company registered under the Corporations Act 2001 (Medicare Financing and Analysis Branch, 2012f). The following are not included under this definition: sole traders (individual owner), partnerships (two or more individual owners), or associateships (groups of GPs sharing common facilities but each registered as a separate business). Related to this is the concept of ‘commercialisation’, which is defined as a market relationship, whereby the health system is “…based on individual payments or private insurance, and investment for profit” (Mackintosh 2003, cited in Mander, 2011).

A detailed analysis of market situation and developments with respect to corporations currently active in the Australian general practice setting is beyond the scope of this report, but a brief overview is included, where possible, to provide context.
Findings

The following report examines the impact of corporatisation of general practice under the following headings:

- Patient outcomes and experience
- Provision of care and care coordination/integration
- Health care workforce
- Medicare Benefits Scheme (MBS) incentivised policies
- Costs of care; patient and government

By way of introduction, a brief overview of the current status of corporate general practice in Australia is also provided taking the Medicare Financing and Analysis Branch (2012f) report as baseline.

General practice encompasses a wide variety of patient groups and activities, and any impact of corporatisation may be experienced to a greater extent by some patient groups than others (e.g., frequent users vs occasional users). Therefore, to illustrate the impact of corporatisation in a more relevant and less general manner, where possible in each of the following sections, evidence is presented based on the impact of corporatisation in the context of patients with chronic and complex health conditions. This is based on two factors: people with one or more chronic conditions comprise 66 per cent of the general practice population (Harrison et al., 2016); and government statements that 22 million Chronic Disease Management items have been claimed against Medicare in the nine-year period since introduction, at a cost of $2.7 billion (Ley, 2015).

Brief update of corporations active in Australia

The following is a brief overview of major corporate general practices in Australia. For a more detailed account of company structures and practices, the reader is referred to the detailed report on the state of corporatisation prepared by the Medicare Financing and analysis Branch of the Department of Health (2012f). In 2012, three companies dominated the market place: Sonic Healthcare, Primary Health Care Limited and HealthScope. Since 2012, there has been an expansion in the number of corporate medical centres controlled by many of the companies identified previously, but we did not find evidence of any major new general practice corporations (Table 4, Appendix). Currently, all or some of the top five general corporations are present in each of the states and territories with the exception of the Northern Territory (Figure 1).

Sonic Healthcare remains the largest corporate group by far, with substantial growth in both the presence of their Independent Practitioner Network (IPN)-managed medical centres and the primary care Sonic HealthPlus centres (formerly Kinetic Health and Allied Medical Group) (Collyer et al., 2015, IPN Medical Centres, 2016a). These primary care centres are part of the Sonic Clinical Services groups, which also include skin cancer clinics, locum medical services and the newly acquired Precedence Healthcare computer software developer. In December 2015, Sonic Healthcare acquired Precedence HealthCare and the cdmNet clinical management software recently evaluated in the Diabetes Care Project (Department of Health, 2015b, PULSE+IT, 2015). The 165 IPN Medical centres listed on the website (excluding skin cancer and cosmetic clinics) includes 14 Superclinics in Victoria, two in Queensland, and one each in Western Australia and Tasmania (IPN Medical Centres, 2016b). Since 2012, Sonic Healthcare has also expanded internationally and now generates more revenue from foreign operations than locally in Australia (Sonic Healthcare, 2015). Australian medical centres and occupational health centres (Sonic HealthPlus) accounted for approximately 18 per cent of Australian-based and 8.6 per cent of global company revenue in 2015 (Sonic Healthcare, 2015).
In contrast, the second largest corporate manager of general practice, Primary Health Care Limited has recently expanded into \textit{in vitro} fertilisation clinics, and sold off the widely used Medical Director practice software (Primary Health Care Ltd, 2016c), which accounts for approximately 50 per cent of Australian general practice software market share (Henderson et al., 2014). In the February 2016 release of half year results for the six months ended December 2015, it was announced that, due to ongoing uncertainty over MBS rebate levels, the company had decided to transition from a bulk-billing model of operation to private billing in all divisions (Primary Health Care Ltd, 2016a).

![Figure 1](image)

**Figure 1** Distribution of general practice medical centres operated by major corporations in Australia (2015)

The third largest, Healthscope Limited’s number of medical centres has remained stable, but they no longer operate pathology services in Australia (Healthscope, 2015b). The 2015 annual report indicates employment of 17,000 staff members over all operations, including 45 hospitals for in- and out-patients (Healthscope, 2015b). The report also states that over two million GP consultations were completed in the previous 12 months.

It is also evident that two smaller corporations, Tristar and Ochre Health, both providing regional and rural services, have grown substantially over the past five years, increasing the number of centres by 47 and 120 per cent, respectively. Tristar, which has a major presence in regional and rural areas of Victoria, has also expanded services into NSW, SA and ACT (Tristar Medical Group, 2016). Ochre Health is now active in all states except SA and Northern Territory; and NSW and Queensland account for half of all clinics (Ochre Health, 2016).
In addition to medical centres, Sonic Healthcare and Primary Health Care Limited both operate highly profitable pathology and radiology services. Sonic Healthcare’s 42.5 per cent market share of pathology services generated $1 175 million in annual revenue for 2015 compared with Primary Health Care Limited’s $985 million for a 35.6 per cent market share (Centre for International Economics, 2016). Integrating vertically by co-location of medical practices with pathology collection centres and imaging services has been associated with claims of increased profitability, potentially through in-house referrals (Medicare Financing and Analysis Branch, 2012f). This was countered in 2007 through Australian Government legislation to regulate referral practices (see Over-servicing - GP referrals). Currently, Primary Health Care Limited reports that pathology collection is available in all of their medical centres and radiology within most of their multi-disciplinary centres (Primary Health Care Ltd, 2016b). While corresponding information is not available for Sonic Healthcare, indications from individual medical centre websites suggest that there is vertical integration of services such as pathology at some multidisciplinary sites. Approximately 78 per cent of pathology services in Australia are controlled by these two companies, and industry data for 2015 indicate Sonic Healthcare has 59 pathology laboratories and 1 404 collection centres compared with Primary Health Care’s 98 and 1 992, respectively (Centre for International Economics, 2016). Therefore, a large proportion of general practice referrals for pathology, irrespective of collection centre location, are likely to be met by one of these providers.

**Patient outcomes and experience**

The nature of the relationship between doctor and patient has changed substantially over time from historically paternalistic, where all clinical decisions were made by the doctor, to more shared decision-making (multidisciplinary care) and greater equality in the doctor-patient relationship (Kalliainen and Lichtman, 2010). Alongside global changes in health care economics, medical advances and changing roles of health care providers, the perception of health care has changed, with increasing health literacy and greater expectation that patients take more responsibility for their own health care. The shift towards third-party payers in the health system (e.g., Medicare, private health insurance) and corporatisation of health care services has introduced another layer of complexity to this relationship. Health care is no longer a matter between the doctor and patient.

**Characteristics of care and health services**

In an Australian panel survey of 2 481 people, with over-representation by people with at least one chronic disease, care quality (particularly communication) and cost were the most important factors in choosing a GP (Kenny et al., 2016). The least important factor was type of service (e.g., home visits, on-site allied health services or pharmacy), availability (after hours, online appointments, same-day appointment) and practice characteristics (number of GPs, standard and location of premises). However, for people with four or more GP visits in the past year, all dimensions (apart from type of service) reached significance. In a separate panel survey of 2 477 people conducted by the same research group, it was noted that the odds of bulk-billing were greatest for those with chronic disease, being a concession card holder and having private health insurance, but lower for practices of more than two GPs compared with practices with up to two GPs (OR, 0.74; 95% CI, 0.57–0.96) (De Abreu Lourenco et al., 2015). While the relationship between bulk-billing and having private health insurance is counterintuitive, the authors speculated that this might reflect a greater capacity among people with private insurance to select and locate care meeting their needs. Previous Australian studies have indicated that those with private health insurance tend to be healthier; and therefore, the premise is that such “individuals might be more willing to discriminate between GPs on the basis of bulk-billing” (De Abreu Lourenco et al., 2015, Doiron et al., 2008). This might be interpreted as meaning those with minimal health needs are adequately served by bulk-billing centres and do not want to pay more for the service.
Quality of care

In 2013, a voluntary survey of 1137 residents in the Australian Capital Territory (ACT) found similar high levels of satisfaction (very or fairly satisfied) with small (88%), medium (85%) and large general practices (87%) (McGowan, 2014). When analysed according to type of practice, 91 per cent of those attending a family practice were very or fairly satisfied compared with 79 per cent of those attending corporate practices (Figure 2). Other findings in the ACT for 2013 included a lower level of bulk-billing (21% vs 27%) and higher proportion paying out-of-pocket costs of $61 or more per consultation (67% vs 50%) compared with the 2009 survey outcomes. In 2013, most consultations were between 10 and 15 minutes of length, but out-of-pocket costs did not correlate with length of consultation. We were unable to identify additional reports or gain access to original data from this survey to examine the different models of general practice (size and ownership) in relation to the survey outcomes including cost of care, length of consultation, and access to care (Kerdo and Cox, 2016).

![Figure 2](image)

**Figure 2**  Satisfaction with care according to identification as a corporate or family practice

Source: (McGowan, 2014, p 38)

As there are few reports of patient experience with general practice corporations in Australia, it can be useful to draw on experience in other countries. However, the context within which care is provided and received should be considered. Moreover, patients’ perceptions of quality of care may be confounded by their expectations, and subject to influences beyond control of the health care sector (e.g., political debates and mainstream media reports) (Papanicolas et al., 2013). For example, evidence from Sweden suggests that patient satisfaction was lower when patients were not prescribed antibiotics as expected (Maun et al., 2015). In a comparison of publicly-owned and privately-owned primary care centres in Sweden, the population attending privately-owned centres were predominantly in a higher socioeconomic quintile, located mainly in urban areas; and with a higher proportion of the population of working age and lower rates of multimorbidity. Compared with those enrolled in publicly-owned facilities, the perceived patient quality of care and rates of
antibiotic prescribing were significantly higher in privately-owned centres. Maun et al. (2015) suggest that a competitive environment and practitioners’ fear that patients may decide to select a different healthcare centre may contribute to inappropriate antibiotic prescribing.

**Access to care**
Whether patients attend a corporate practice or not, their access to care may be affected by a variety of factors, including distance and transport to and/or between services, workforce availability, mobility, age, cultural safety and costs.

Patients’ out-of-pocket costs, such as transport, gap payments, and medications, are a key barrier to accessing health care, particularly for vulnerable populations (McGowan, 2014). Availability of bulk-billing services may impact on access and influence patients’ choice of provider. For example, a report on consumer experiences in the ACT reported: “In one area, residents continued to see a GP with whom they were dissatisfied, as he both bulk-billed and was located close to their residence” (McGowan, 2014, p 24).

Workforce shortages in general practice may also impact on patients’ access to primary health care services, particularly for vulnerable populations (ACT GP Taskforce, 2009). For example, long wait times were identified as a problem in some corporate practices in the ACT, particularly if patients indicated a preferred GP and the practice had a ‘no-appointment’ policy (McGowan, 2014). This report on the changing models of general practice in the ACT also highlighted the importance of strengthening links between services in the primary health care sector to improve access to care.

Gap payments for many health services in Australia have risen over time. This is demonstrated in the rising cost of *in vitro* fertilisation services (IVF) (Medew and Baker, 2013), which outstrips the average rate of inflation for health services (5% pa) (see Box 1). It is also relevant to note that Primary Health Care Limited has recently expanded into the Australian IVF service area.
Box 1

**In vitro fertilisation services**

Since 2007, several private investors (e.g., Healthbridge, Virtus Health) have taken controlling shares of reproductive services, resulting in an average 18% increase (per year) in the cost of each IVF cycle and 13% increase (per year) for embryo transfer fees. Despite the substantial increase in costs between 2007 and 2012, patients reported no discernible differences in the service provided (Medew and Baker, 2013). Following a government cap on Medicare reimbursement for IVF in 2010, and consequent doubling of out-of-pocket costs for each treatment, there was a 13% reduction in the use of services (Medew, 2011, Chambers et al., 2012, Chambers et al., 2014, Chambers et al., 2013). A recent report highlighted some worrying trends in the fertility industry, including the absence of evidence-based practices in some IVF clinics and the misleading and inconsistent ways in which the industry reports ‘success rates’ of fertility treatments (Dingle, 2016).

This information is consistent with the recent global trend for IVF procedures to be performed in private clinics “where the focus on commercial returns has resulted in less academic oversight of who receives treatment and when” (Kamphuis et al., 2014). This shift is enhanced by a change in the indications for IVF to include an increasing proportion of patients with mild subfertility problems.

Given the paucity of well-designed studies to generate knowledge on best practice and safety of IVF, monitoring the practices of for-profit IVF companies is needed, particularly where public funding is used to subsidise costs.

Medicalisation and commercialisation of some health services has had an impact on patients’ costs as well as outcomes (Benoit et al., 2010). One example is the change in the maternity services offered to pregnant women. In the 1970s, the ultrasound technology was used only when clinically indicated to identify possible foetal abnormalities or multiple foetuses. By the 1990s, it had become routine practice, even though there is little evidence of benefit for routine use in early or late pregnancy (Bricker et al., 2015, Whitworth et al., 2015). The recent trend for ‘entertainment ultrasound’ scans as a keepsake raises ethical questions about commercialisation of this activity and the use of such equipment for non-medical purposes or in the absence of need (Mander, 2011); particularly where there are potential biomedical risks associated with high power ultrasound waves on a developing foetus (De Crespigny et al., 2009); and where parents may assume that the scan is a routine cost of pregnancy. Despite these concerns, ultrasound scans in pregnancy is good business. Similar trends are apparent for Medicare-funded pathology and radiology (predominantly private), whereby the number of tests per capita is more than double the growth in population (Moynihan and Birrell, 2016).

Evidence from moderate to high quality systematic reviews suggested that health reforms, including increases in private health insurance, user costs (e.g., out-of-pocket payments) and marketisation/privatization of health services may have negative impacts on equity for patients (i.e., access, health outcomes); and partnerships and joint commissioning had mixed effects (Bambra et al., 2014). Similar negative or inconclusive results were demonstrated in a systematic review examining the effect of marketisation on quality of health care services (Footman et al., 2014).

Patient choice expands where there is a mixed economy of public, private and third sector providers. However, there is also a risk of patient selection, as was demonstrated in some countries (e.g., US,

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1 Marketisation is defined as increased competition within a publicly funded system (Bambra et al., 2014).
Canada), whereby incentives encouraged Health Maintenance Organizations and hospitals to compete for high-income, low-risk patients and avoid the high costs of delivering services to the poor and sick (Ellis and Fernandez, 2013). In contrast, improvement in patient experience has been reported in the English corporate model\(^2\). Others suggest that such improvement was due to working more efficiently (e.g., better management processes and routines that improve patient and work flow; or “tighter selection of low-risk patients” (Turner, 2011 in Waring and Bishop, 2013). However, Waring and Bishop (2013) reported little evidence of such patient selection. They suggest that commercialisation has led to a rise in “consumer-like behaviours” that may “undermine the authority of doctors” (p148); and this may be due to improved access to health information, loss of trust in health care providers\(^3\) and increased patient choice.

**Provision of care and care coordination/integration**

*Type of care*

Direct comparisons of care received from corporate and non-corporate general practices could not be located. However, in a review of baseline data for 5 455 patients with established diabetes and attending 147 general practices (participants of the Australian Diabetes Care Project), it was found that, although patients attending corporate practices were more likely to have completed an annual cycle of care (ACC) compared with those attending non-corporate practices, the difference was not statistically significant (Esterman et al., 2016). Further, the authors noted that the proportion of patients with good glycaemic control (HbA1c ≤ 53 mmol/mol) was not significantly different between corporate and non-corporate practices. However, after adjustment for other patient characteristics, the importance of ACC was demonstrated by the finding that only completing an ACC was a statistically significant predictor of good glycaemic control \((P = 0.011)\). In addition, having a chronic disease-focused practice nurse \((P = 0.036)\) and running educational events for patients with diabetes \((P = 0.004)\) were statistically significant predictors of the patient having completed an ACC. Practice characteristics only explained five per cent of variability in glycaemic control.

According to a recent Primary Health Care Limited presentation, the average time spent with patients by GPs employed with that corporation was approximately 14 minutes (Epp, 2016). By comparison, the BEACH survey of general practice results for 2014-15 reported an average consultation time of 14.7 minutes (95% CI: 14.4–15.0), and a median of 13.0 minutes (Britt et al., 2015).

*Continuity of care*

Continuity of care has been defined in various ways including: informational (different providers have access to a patient’s health care encounters); longitudinal (ongoing health care interactions in the same practice, with the same professionals); and interpersonal (an extension of longitudinal continuity, characterised by development of a trusted relationship between patient and provider). Other types include interdisciplinary, family and geographic continuity of care (Saultz, 2003). A systematic review of the relationship between continuity of care and patient satisfaction reported variable effects, depending on how patient satisfaction was measured (Adler et al., 2010). Continuity of care may be perceived as a proxy for the doctor-patient relationship and patients’ satisfaction may be moderated by the extent to which they value continuity. Other variables, including interpersonal communication, trust and choice demonstrated stronger associations with satisfaction compared with continuity of care measures (Adler et al., 2010). In addition, the direction of the causal

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\(^2\) Independent Sector Treatment Centres (ISTCs) were introduced in England in mid-2000s (Waring and Bishop, 2013).

\(^3\) Waring and Bishop link the loss of trust to “a wake of scandals” in England (Waring and Bishop, 2013).
relationship between continuity of care and patient satisfaction has not been adequately addressed. However, although there is little evidence to indicate a direct association between satisfaction and loyalty, some research suggests that patient dissatisfaction is linked to switching doctors/practices, which may lead to a loss in revenue for practices (Rundle-Thiele and Russell-Bennett, 2010).

The Professional Services Review (PSR) for 2014/15 noted that one practical consequence of the trend towards larger practices (particularly those without appointments) is that ‘usual GP’ is replaced by ‘usual practice’, recognising that patients may see a GP who they have never attended before (Commonwealth of Australia, 2015). In addition to the potential for loss of continuity of care outlined in the PSR, the example in Box 2 illustrates the potential for loss of GP-patient communication and responsibility for care.

Box 2

**Idameneo (No 123) Pty Ltd v Dr Colin Gross**

The Idameneo (No 123) Pty Ltd v Dr Colin Gross court case heard by the NSW Court of Appeal dealt with a serious incident where failure to update a patient’s contact details meant that they could not be alerted to an ongoing health risk, resulting in exposure of a third party to risk of infection (Madden, 2013). The court finding that the doctor-patient relationship was altered by virtue of the fact that the corporate management took possession of all medical records and hence all responsibility for record keeping resulted in the corporation being found negligent.

**Health care workforce**

*Proportion of practices*

To estimate the proportion of general practices that are corporate entities, it is necessary to know how many general practices operate in Australia.

Although the Australian Bureau of Statistics (ABS) made a single release of estimates of general practice numbers in 2009-10, they are not reliable estimates and have been criticised for being unreasonably high at 28 374 businesses operating at 39 509 locations (Medicare Financing and Analysis Branch, 2012d). In contrast, data from the Divisions of General Practice (Divisions) annual surveys compiled by PHCRIS over the period 1993-2012 covered all local networks of general practice from across Australia and included data on practice numbers and corporate status. By way of data validation, the estimate of GP numbers reported in the PHCRIS annual survey of Divisions (ASD) for June 2011 correlates well with registered General medical practitioner data from the Medical Board of Australia for March 2012 (24 720 versus 26 420 GPs, respectively) (Carne et al., 2012). Divisions’ data also demonstrate that the number of general practices steadily declined between 2002 and 2011 (Carne et al., 2012) (Figure 3), with 7 035 practices in 2011.

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4 Data for 2011-12 are also available, but due to the transition to Medicare Locals, this is incomplete, and reporting by PHCRIS ceased in March 2012.
Across Australia, Divisions’ data indicated that there were 508 corporate practices in 2010-11, or approximately seven per cent of general practices. This varied widely between Divisions as shown in Figure 4. A 2014 survey of all 425 practices in rural and regional Victoria indicated that 14 per cent of all practices were corporate practices (RWAV, 2014).

Estimates of the proportion of corporate practices in Australia vary substantially; and sometimes they are based on unsubstantiated claims reported in the media. For example, the report on corporatisation of general practice (Medicare Financing and Analysis Branch, 2012f) referred to media reports, which stated that 30-40 per cent of practices in WA were corporatised by the year 2000. In contrast, based on the number of practices reported in the 2010-11 Annual Survey of Divisions (573 general practices in WA) and the listed general practices operated by the four major corporations currently active in WA (Figure 1), it was estimated that approximately ten per cent of practices were likely corporatised in WA (Carne et al., 2012).

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5 Based on responses to the question: How many of these practices were corporately owned?
Corporatisation of general practice – impact and implications

Figure 4  Proportions of corporate practices in Divisions of General Practice, 2010-2011

Source: (Carne et al., 2012)\(^6\)

Based on a conservative estimate of 7,000 general practices, the five largest corporations listed in Table 4, would comprise approximately four to five per cent of all general practices over the years 2011-12 and 2014-15. However, assuming that corporations routinely amalgamate individual practices to form larger single practice medical centres, this may represent an over-estimation of total practice number and hence under-estimation of corporate proportion.

Practice size as a measure of corporatisation

If smaller practices merge to form larger corporate medical centres with centralised management structures positioned to capitalise on economies of scale, average practice size is expected to increase. However, it should be acknowledged that large practices will also include non-corporate practice associateships, and rural general practice corporations may be smaller because of insufficient patients to support larger practices. Indeed, practice sizes of the rural corporate provider, Ochre Health, range from one GP to 13 GPs, with 22 of the 31 practices having five or less (Ochre Health, 2016). However, approximately 70-80 per cent of GPs practice in metro/metro-rural areas (Carne, 2013, Department of Health, 2015c), and therefore increases in the proportion of general practices identified as very large practices, or conversely, a reduction in small (particularly solo) practices might be tentatively applied as a surrogate marker for corporatisation.

As illustrated in Figure 5, estimates of solo and group general practices in Australia vary widely. For example, Divisions data for 2008-09 indicated that solo practices accounted for 37 per cent and practices of six or more for 19 per cent of general practices (PHCRIS, 2016). However, over the same period, data from the Bettering the Evaluation and Care of Health (BEACH) and Medicine in Australia, and Balancing Employment and Life (MABEL) studies provided estimates for solo practices of 19.6 per cent and 7.4 per cent respectively (University of Sydney, 2016, Cheng et al., 2012). Further, BEACH data for 2013-14 suggest that 8.7 per cent of practices were solo, while AIHW data based on the National Health and Workforce Data Set for 2014 (91.8% response rate) indicated that 12.9 per cent

\(^6\) Additional data obtained from PHCRIS archive of Divisions’ data.
Corporatisation of general practice – impact and implications

of practices were solo practices (AIHW, 2016). A 2014 survey of all 425 practices in rural and regional Victoria indicated that 21 per cent of all GPs worked in solo practices and 61 per cent in group practices (RWAV, 2014).

Discrepancies between these data sources highlight an underlying problem in monitoring changes in general practice size and ownership over time, and hence use of these data to monitor trends in corporatisation of general practice. In addition to this, large practice size is not exclusive to corporate general practices. Divisions of General Practice reporting was based on all divisions across Australia and captured information on practice size and ownership; however, the dataset was not continued beyond 2012 (Carne, 2013). Data sources such as the BEACH and MABEL surveys are based on sampling of Australian GPs and general practices rather than comprehensive reporting; and often apply different indicator limits for practice size (e.g., practices of 2-4 vs 2-5 GPs). MBS data on registered GPs might be a useful source of information on GP activity, practice size and ownership; however, access to this data is restricted and therefore not frequently included in published analyses (Mazumdar et al., 2013). This renders accurate assessment of national trends in general practice size difficult and suggests there is a need for more representative reporting to monitor these indicators in the future.

However, it is also relevant to note that in each of the longitudinal surveys referred to above, GPs were found to be practicing in a variety of practice models across the continuum from solo to large practices of ten or more employees (see Appendices). This suggests that there is support for a range of practice structures rather than one optimal or preferred model.

![Figure 5 Estimated proportions of solo practices from different datasets](image)

**Participation in corporate practices**

**Number of GPs**

Based on complete Divisions survey data in 2010-11, approximately 12 per cent of GPs worked in a corporate general practice, decreasing to approximately eight per cent in 2011-12 (Carne, 2013). For 2010, the Australian Practice Nurses Association national salary and conditions survey found that 12 per cent of respondents operated in corporate medical practices, up from nine per cent in 2009 (defined as 4 or more practices in a group) (APNA, 2009, APNA, 2010). Unfortunately, type of practice has not been included in subsequent survey years.

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7 Estimate is uncertain compared with previous years because only 79 per cent of the former Divisions of Practice were included due to transitioning to Medicare Locals.
Verified, current employment figures for the major medical centre corporations could not be located. However, in a presentation to the Medicine in Australia, and Balancing Employment and Life (MABEL) forum in 2016, Primary Health Care Limited claimed to have approximately 1 000 medical practitioners in their medical centres, completing approximately eight million consults per annum (Epp, 2016). The Sonic Healthcare website states that they partner with over 1 800 GPs (IPN Medical Centres, 2016a). A 2014 Healthscope prospectus indicated that approximately 420 GPs practice at their medical centres (Healthscope, 2015a, p 47). The rural and regional provider, Ochre Health, employs approximately 144 doctors (based on practice listings on company website), which would account for approximately 0.6 per cent of all registered GPs (Ochre Health, 2016). No data could be found for Tristar Medical Group.

Based on a workforce of 23 967 registered as GPs in Australia for 2015 (Medical Board of Australia, 2016), indications are that the three largest corporations currently account for approximately 13.5 per cent of registered GPs (Figure 6). This estimate is consistent with Divisions of General Practice data for 2010-11, which takes into account all corporations.

**Distribution of General Practitioners in Australia**

![Distribution of General Practitioners in Australia](image)

**Figure 6** Proportion of general practitioners in corporate practice in Australia

**Influences on choice of work environment**

As with many issues related to corporate general practice, available information related to the work environment is limited. Nevertheless, the establishment of general practice corporations that assume administrative responsibility to allow GPs to concentrate on patient management has tapped into generational differences in work-life balance expectations (Joyce et al., 2015).

The longitudinal MABEL survey (Joyce et al., 2015) examined influences on a GP’s decision on whether to own a practice. Practice ownership was discouraged by perceived burdens of:

- responsibility for staff management and finance
- long working hours
- work-life imbalance.
Among those who owned their practice, there were concerns about succession planning, irrespective of whether the practice was located in a metropolitan or regional area. A survey published in 2013 and based on 63 general practice registrars indicated that insufficient knowledge was a major barrier to practice ownership; although 77 per cent of respondents admitted they would consider ownership (Liedvogel et al., 2013). Respondents wanting to find out more about practice ownership reported mentorship as their most preferred approach compared with online or self-directed learning, which was the least preferred method of instruction. Closer examination of this issue with a very small study sample suggested that interactive face-to-face engagement with a chosen (not allocated) mentor was preferred; and that some current online material was having a negative impact by highlighting the low profit margins for GPs compared with other private practice health care professionals such as physiotherapists (Sturgiss et al., 2013).

With respect to corporate practices, Joyce et al. (2015) found that those employed outside of this arrangement believed they were “being left to manage complex medical conditions and provide preventive medicine, while corporate practices offered 5 min medicine” (p E). While some employed in corporate practice criticised the emphasis on profits and the loss of patient centeredness, others welcomed corporate practice for allowing them time to focus on patients rather than on the business (Joyce et al., 2015).

Similarly, a survey of 323 GPs (Australian Doctor, 2012) found that among the 61 per cent of respondents not employed by corporations, 82 per cent considered corporatisation to be damaging to general practice. Only seven per cent said they would want to work for a corporate, and the most attractive features of corporate practices were identified as the low administrative burden and the potential for large sign-on fees for the practitioner when they join the corporation.

In contrast, for respondents working in corporations, 39 per cent considered corporatisation to be damaging to general practice, 55 per cent said they would choose to work in a corporate practice again, and the most attractive features were low administrative burden and the working hours (Australian Doctor, 2012). Irrespective of whether a GP was employed in a corporate or non-corporate general practice, the least attractive feature of corporates was perceived to be the workplace culture; and the most attractive feature was the low administrative burden. While the survey was limited by a small sample size, it did capture responses from GPs employed by four of the major medical corporations; and responses demonstrated strong variation in workplace culture, with Primary Health Care Limited rating poorly8. In an effort to improve recruitment and retention of GPs, Primary Health Care Limited has since added a new contract arrangement that reduces the contract period from five years to one year, but without upfront sign-on fees or a fixed share of revenue (Primary Health Care Ltd, 2016a).

Salary was less important to all respondents, although the lucrative sign-on fee was assessed by 55 per cent of non-corporate respondents as an attractive feature of corporations, compared with 30 per cent of those working in corporations. Salaries were regarded as the most attractive feature by 12 and 20 per cent of corporate and non-corporate GP respondents respectively, and as least attractive by 31 and 16 per cent, respectively. This suggests that salaries may have limited influence on decisions to enter corporate practice (Box 3). However, analysis according to specific corporate employer demonstrated differences, and when asked whether the reputation of the main corporates was good for remuneration (yes or no), Tristar rated very poorly, whereas opinion was evenly split for employees of Healthscope, SonicHealthcare (IPN) and Primary Health Care Limited.

8 Primary Health Care Limited responded to this finding by stating that this did not reflect reality and the workplace culture was positive at its clinics.
### Box 3

**GP salaries**

Australian GP remuneration is closely aligned with government MBS rebates. A 2014 general practice salary survey of 346 doctors conducted by the AMA Victoria, New South Wales and Queensland branches, found that **88% were remunerated based on a proportion of billings**, with salaries corresponding to an average hourly rate of $118 per hour between Monday and Friday (AMA, 2014c). This is similar to the MABEL survey findings of a pre-tax take-home rate of $106 per hour (Scott, 2015).

An OECD survey indicated that for 2011, GP salaries in Australia were approximately 1.7 times the average salary (for specialists, the rate was 4.3). It should be noted that the OECD estimate for Australia was based on full- and part-time wages and therefore is likely to be an underestimation of the full-time GP wage.

Although no comparison of corporate and non-corporate GP earnings was reported for Australia, based on 2008 MABEL data, Cheng et al (2010) found that self-employed Australian GPs earned approximately 28% more salary than salaried or contract GP employees (reflecting returns on managerial responsibilities and capital investment). This aligns with the OECD report indicating that in the UK and the Netherlands self-employed GPs earn approximately 1.5 times that of salaried GPs. For Denmark, there was very little difference in remuneration (OECD, 2013). Interestingly, compared with average salaries in those countries, GP earnings for self-employed were 3.4, 3.0 and 2.7 times greater respectively, and therefore between average GP and Specialist salaries in Australia. Cheng et al. (2010) also noted that salaries were the same for GPs with or without visa restrictions (i.e., temporary work visas with requirement to work in regions experiencing medical workforce shortages), but Australian-trained GPs earned slightly less than those trained overseas (see also Cheng et al., 2012).

**Practice nurse salaries**

The Australian Practice Nurses Association survey for 2010 found that practice nurses working in corporate general practice earned less than all other settings, with average hourly rates of $27.55 (median $27.98) versus $36.02 in the highest paid setting of a University clinic (APNA, 2010). This finding correlated with previous surveys showing lower remuneration rates within corporations. From 2011 onwards, survey results were not reported according to corporate and non-corporate employment arrangements. For 2014, the national mean hourly rate for primary practice nurses was $33.64 (APNA, 2014).

A recent qualitative study of General Practitioner (GP) attitudes found that although large practices, including corporate practices, are an increasing feature of the sector, GPs support a variety of models spanning the spectrum between private practice and for-profit corporations (Joyce et al., 2015).

Reduced administration burden was frequently highlighted in the Australian Doctor survey and other literature as a positive aspect of working within general practice corporations. In order to support a range of general practice models, identifying ways to reduce the administrative burden of general practice is likely to be valued. The *Easy Entry, gracious Exit* models aim to improve retention of GPs by minimising investment and administration burden (AMA, 2014b). Experience in rural areas with this model may provide useful insights into ways that this might be achieved outside of the for-profit corporate structures (Box 4).
Box 4

Easy Entry, Gracious Exit models

Known as the Easy Entry, Gracious Exit model (AMA, 2014b), this varied approach employed in some rural areas of Australia aims to attract and retain GPs by reducing administrative burden and the need for substantial up-front financial investment. This is achieved in a number of ways including involvement of corporate and non-corporate structures:

- Local council owns or leases the building, practice equipment and furnishings; and all practice staff including GPs are salaried employees of the council (e.g., Wentworth Shire Council)
- GPs pay a fee-for-service support that covers administration work and hiring of locum relief, allied health and nursing services to assist general practice provision in isolated rural communities (e.g., Rural and Remote Medical Services Ltd)
- For-profit and not-for-profit practice management services integrate services with local hospitals and facilities, and engage GPs and practice staff as salaried employees (e.g., Ochre Health, Peel health Care Ltd).

Assisting practice ownership decisions

A number of toolkits are available to assist GPs considering joining a corporate practice. These include: the Corporatisation of General Practice decision support kit for doctors (AMA, 2014a); the Royal Australian College of General Practitioners’ RACGP Practice Management Toolkit; and the General Practice Registrars Australia (GPET) Future Series webinars (Sturgiss et al., 2013). The ‘kits’ step the reader through the important issues to consider when entering a corporate general practice agreement, including the implications of leaving such an arrangement. The AMA kit also lists some positive and negative attributes of corporate arrangements; these are summarised in Table 2.

Table 2  Summary of positive and negative characteristics of corporate practices

<table>
<thead>
<tr>
<th>On the positive side:</th>
<th>On the negative side:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Have less administrative burden</td>
<td>• Lose some control over how the business is run</td>
</tr>
<tr>
<td>• Greater flexibility in work hours and practices</td>
<td>• The practice goal is to make a profit</td>
</tr>
<tr>
<td>• Increased income</td>
<td>• Work hours may not suit you</td>
</tr>
<tr>
<td>• Better serve the community through extended hours and services</td>
<td>• The ‘no appointment’ system may dominate</td>
</tr>
<tr>
<td>• Work part-time hours</td>
<td>• Contract arrangements may include unexpected conditions</td>
</tr>
<tr>
<td>• Benefit from a substantial sign-on fee</td>
<td>• Contract termination may be complex</td>
</tr>
</tbody>
</table>

Source: (AMA, 2014a).

Incentivised policies

Practice Incentives Payments

The Practice Incentives for General Practice Fund Programme (PIP) is a collection of Australian Government programmes with associated financial incentives (listed below) intended to support quality care and improved access and health outcomes in general practice patients (Medicare Financing and Analysis Branch, 2012d) and Indigenous health. Currently, PIP covers ten practice-level incentives including early diagnosis and effective management of diabetes and practising in a rural location (Kecmanovic and Hall, 2015, Department of Health, 2014).

- Asthma Incentive
From January 2005, MBS benefits for most GP services (bulk-billed and other) increased from 85 per cent to 100 per cent of the schedule fee to encourage bulk-billing, and additional incentives have been paid to encourage bulk-billing by other providers (e.g., pathology providers receive an incentive to bulk-bill the entire episode of service) (Department of Health, 2016b).

According to the Department of Health Annual Report (2015a), PIP-claiming practices provided 85 per cent of general practice patient care. However, the process of claiming PIP may have differential impact on practices, depending on their available administrative resources, rather than the practice size per se. For example, analysis of longitudinal data from the MABEL survey established that less than half of GP respondents received income from PIP payments; and while practices of ten or more GPs were 10.8 per cent more likely to claim PIP than a solo practice in 2011, current trends also indicated a decreasing likelihood of larger practices claiming PIP (Kecmanovic and Hall, 2015). Further analysis showed a trend for PIP claims where there was a larger administrative staff (12.1% and 27.1% more likely in practices with 6-10 and >10 administrative staff respectively, compared with none). The authors suggest that this reflects the large administrative burden associated with claiming PIP, and go on to speculate that “faced with increasing demand, it may involve less effort to increase the number of consultations than to claim additional payments” (p 491).

As part of the Tracking the effects of corporate practices on Medicare outlays programme, the Medicare Financing and Analysis Branch (2012d) developed a cluster analysis methodology using PIP to identify corporate owners of general practices. Based on this, there were 4 777 practices enrolled in PIP in 2010; and 502 of the enrolled practices were owned by for-profit companies. Therefore, corporate practices represented 10.5 per cent of practices claiming PIP in 2010. No data for years after 2010 were located, but it is of interest to note that PHCRIS Divisional data for 2010-11 showed that there were 508 corporate practices from a total of 7 035 general practices. The two data sets together suggest that all corporations and approximately 68 per cent of all practices claimed PIP.

**Chronic diseases and MBS incentivised care plans**

Chronic Disease Management – GP services listed on the MBS were designed to encourage a structured approach, including multidisciplinary team care, for those patients in need of better management. Rebates are available for GP Management Plans (GPMPs, Item 721); Team Care Arrangements (TCAs, Item 723), GPMP and/or TCA reviews (Item 732); and contributing to preparation or review of a care plan (item 729 & 731).

With respect to chronic disease management, the Professional Services Review (PSR) for 2012/13 noted that the median number of claims for all Vocationally Registered GPs were as follows: GPMPs (Item 721) = 32; TCAs (Item 723) = 29; and GPMP and/or TCA reviews (Item 732) = 22 (Commonwealth of Australia, 2013). In the same year, a number of GPs were reported for claiming very high numbers of these items. In the PSR report for 2014-15, over-use of these items had
Many practitioners who provide high numbers of these services use computer-generated templates; a plan may have minimal content specific to the patient for whom the plan has been prepared. For example, a combined GP Management Plan/Team Care Arrangement document reviewed by a PSR GP consultant had no information directly relevant to the patient other than the notation ‘whiplash’ and referral to a physiotherapist for five MBS-subsidised visits. The plan also had two pages of generic health advice, most of which did not appear relevant to any other condition listed in the patient’s clinical record (Commonwealth of Australia, 2015, p 10).

While investigating the 62 over-servicing practitioners, it was noted that 48.5 per cent were overseas-trained doctors. However, overseas training itself does not explain over-servicing as this proportion aligns with data for 2014-15 indicating that overseas-trained doctors accounted for 49.5 per cent of GP Full Service Equivalents (11 121 and 10 884 FSE GP for Australian/New Zealand and overseas trained, respectively) (Department of Health, 2015c). One overseas-trained doctor identified by the PSR (with claims for over 1 000 MBS CDM items) claimed that, in the large practice where he was employed, very little instruction or assistance had been provided; however, he had been informed by senior staff from the company that owned the facility that “he was ‘well behind’ other doctors in income generated” and he was advised “to ‘do more care plans if he thought patients were eligible’” (Commonwealth of Australia, 2015, p 12). This suggests that there may be intentional over-servicing to generate income in some large (likely corporate) general practices. Inconsistent, high-volume MBS claims by skin cancer practitioners were also highlighted with one practitioner claiming 22 000 services for 7 000 patients at a rebate of $1 million. This is an area requiring future review, and suggests a need to monitor corporate practice activity.

Although the number of medical practitioners referred to the PSR for audit is small compared with the 85 000 professionals to whom Medicare payments are made for provided services, this report demonstrated the potential for abuse of the MBS system by practitioners themselves deciding, or complying with management demands, to increase practice revenue through over-servicing (Commonwealth of Australia, 2015). GPs received $588 million for planning, coordinating and managing chronic disease in 2013-14 (Swerissen et al., 2016). With government policy responding to increasing numbers of affected people by supporting chronic disease management, monitoring of claims for chronic disease management items is likely to remain an area of concern for PSR activity. Following recently completed, large-scale trials (see Box 5) demonstrating the need for improved targeting of those patients most likely to benefit, and the limited value of care plans used in isolation, evidence suggests there is a need to improve linkage of MBS claims to detailed patient data and guidelines (Department of Health, 2015b).

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9 A measure of workforce activity is more meaningful than simple headcounts when monitoring the availability of medical practitioners, as not all practitioners work standard hours. FSE uses a robust mathematical model to provide an estimate of workforce activity in Medicare. Inputs to the model include each practitioner’s Medicare billing days, services per day and an estimated measure of ‘hours worked’ based on time-based items and fee relativities. One FSE is the statistical equivalent of a workload of 7.5 hours per day, five days per week.  

Box 5

Diabetes care plan use and clinical outcomes

The 2014-15 PSR report highlighted the relationship between over-servicing and use of computer-generated templates. Use of computer-generated templates for routine procedures has been an important contributor to the modernisation of general practice; facilitating interaction complex regulations at times and offering the potential of reduced administrative burden and improved quality of care and care planning, particularly for patients with complex chronic diseases (Pearce, 2013, Georgeff, 2014). The Australian government provides incentives for the use of chronic disease management plans and plan review. Although under-use of chronic disease management incentives has been documented in general practice (Holden et al., 2012), the very large Australian Diabetes Care Project (2011) reported that 72% of 1,813 adults (control group) with diabetes had a GPMP at baseline; but the likelihood of having a plan was not influenced by glycaemic control, type of diabetes or treatment regime (Department of Health, 2015b). Instead, older patients, women, health care card holders and those with several co-morbidities were more likely to have care plans. Analysis of baseline (2006) data from the 45-and-Up study showed that almost half of participants with diabetes claimed a chronic disease management item; and while claims were more likely for females and older patients, there was no association with the number of chronic conditions, smoking or physical activity (Douglas et al., 2011).

Further, in the Diabetes Care Project, there was no statistically significant benefit of care plans alone (either prepared under usual care or via the tailored information technology system cdmNet) for HbA1c, cholesterol, AQOL10 score, PHQ-911 depression score, and diabetes-related stress score; although there was statistically significant improvement in arterial blood pressure (Department of Health, 2015b). It is also relevant to note that the BEACH survey found little evidence to either support or refute claims that computer use improves the quality of general practice overall (Henderson et al., 2010).

However, significant improvements in glycaemic control (by 0.43%) were demonstrated in the Diabetes Care Project when GPMP with review was coupled with quality improvement financial incentives and flexible funding arrangements; but only among those with poor HbA1c (>7.5%), not among those with good control (HbA1c <7.5%) (Department of Health, 2015b).

Although these findings are limited to diabetes, they illustrate two highly relevant points: firstly, the need to improve targeting of appropriate patients; and secondly, that generation of the care management plans GPMP, TCA, and ACC do not, on their own, improve diabetes-related outcomes (Department of Health, 2015b).

Corporatisation and cost of care

Medicare Benefits Schedule (MBS)

The Australian government-funded Medicare Benefits Schedule (MBS) reimburses GP services on a fee-for-service basis (Harrison et al., 2015). Changes to Medicare fee schedules directly influence the profitability of GP services (Medicare Financing and Analysis Branch, 2012f).

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10 AQOL = Assessment of Quality of Life instrument.
11 PHQ-9 = Patient Health Questionnaire instrument for screening and scoring depressive symptoms.
In contrast to the debate about public versus private hospitals, where the two models are separated by distinct philosophical and ideological perspectives, general practice in Australia has, with the exception of community health centres, always been a private business model based on fee-for-service (Collyer et al., 2015). Since introduction of Medicare, the method of payment has changed (from patient to predominately government) but their status as private sector remains the same (Collyer et al., 2015). GPs are not obliged to charge patients according to the level of Medicare rebate received, or according to the higher rates contained within the AMA consultation fee guideline. They are free to set their own rates (Gravelle et al., 2016, AMA, 2016). A small preliminary investigation of public (community health centres) versus private general practice in the early 1990s found that financial incentives appeared to influence the rate of patient throughput (Montalto et al., 1996). Specifically, private practice GPs operating in urban areas on a fee-for-service basis recorded approximately 30 per cent more consultations and claimed 30 per cent more annual Medicare rebates than salaried community health centre GPs. As pointed out by the authors, although differences in patient problems might partially account for this, rural community health centre GPs working on a fee-for-service basis were associated with increased consultation rates and rebates by 20–25 per cent compared with GPs operating outside of community health centres. Financial incentives appeared to drive consultation behaviour irrespective of setting.

**Providers**

Economies of scale can be achieved in general practice through sharing of premises, reception staff and equipment. In a private business model, it is expected that these savings would translate into increased profit margins for the business owners. Greater economies of scale may be anticipated as more GPs join a medical practice up to the equivalent of six to eight full-time equivalent GPs, beyond which costs level off and additional savings may be limited (Lambert and Forsaith, 2006, Faux et al., 2015). Economic principles suggest that achieving further economy requires more specialisation such as occurs in corporate medical centres, whereby GPs are relieved of all business management duties; and more use of information and communication technology to improve efficiency (Lambert and Forsaith, 2006, Faux et al., 2015). As noted above, administrative burden is a major barrier to both practice ownership and workplace satisfaction.

Corporate practices comprising a number of GP employees and where responsibility for administration is delegated to a management team may have more capability to reduce overall practice costs compared with smaller practices. No publicly available accounts of actual practice costs were located to enable comparisons across corporations and smaller private practices.

Until recently, bulk-billing has formed the basis of corporate practice models. This suggests that, through economies of scale, they are able to compensate for the lower payment received per consultation compared with AMA recommendations. However, in response to uncertainty over MBS coverage of services and ongoing rebate freezes (since 2013), a number of general practice corporations have recently decided to diversify to a private billing model (Primary Health Care Ltd, 2016a).

In contrast, smaller practices tend to adopt a mix of bulk-billing and private billing with gap payments\(^\text{13}\), employing context-specific strategies to determine the gap payment. For example,

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\(^{12}\) While GPs in urban community health centres were usually salaried employees, the rural model of community health centres was based on fee-for-service GPs

\(^{13}\) Gap payments are the difference between the amount changed by the practice and the rebate received for the service from Medicare and private health insurance. The gap payment is the out-of-pocket cost paid by the patient.
analysis of data from the NSW-based 45-and-Up survey found that increased competition in an area lowers the price of GP consultations to a limited extent; but has more impact on increasing the rate of bulk-billing (Johar et al., 2014). Detailed analysis of gap payments in general practice (based on data from the MABEL survey) also found that competition reduced average consultation price in areas of socio-economic advantage and led to higher rates of bulk-billing in disadvantaged areas (Gravelle et al., 2016).

GPs’ perceptions of patients’ capacity to pay also influences consultation fees. In the 45-and-Up study analysis, fee variation was driven largely by patient income; patients were charged more if they were thought to earn more (Gravelle et al., 2016). Similarly, a number of studies have shown that GPs charge high income patients more for the same service, and Australian medical school graduates and female GPs set higher prices (Johar, 2012, Gravelle et al., 2016, Scott, 2015). Based on the MABEL survey data analysis, size of the practice is only weakly related to average price.

**Government costs**

In Australia, claims for general practice MBS rebates directly impact on government costs. Hence government policy decisions aimed at achieving increased rates of bulk-billing and improved care coordination for chronic and complex conditions have contributed significantly to growth in MBS payments (Parliament of Australia, 2015). For example, in an initiative to increase bulk-billing rates, from January 2005 MBS benefits for most GP services (bulk-billed and other) increased from 85 per cent to 100 per cent of the schedule fee and additional MBS funding was available for bulk-billing concession card holders or children (Parliament of Australia, 2015). MBS costs increased steeply in line with these changes (Figure 7); and MBS spending per person is projected to grow in real terms by 1.4 per cent from 2014-15 to 2025-26.

![Figure 7](image.png)

**Figure 7** Bulk-billing benefits paid per person (2014-15 dollars)


In 2014-15, MBS-related spending accounted for $20.2 billion, or five per cent of total Australian government expenditure (Parliament of Australia, 2015). Approximately one-third of this was for GP and GP-type services. Annual real growth in MBS spending per person was 2.3 per cent over the past two decades, and rather than population ageing, the key drivers of health spending were identified as “non-demographic factors such as rising income, wage costs in the health sector, changes in disease rates, and technological change with impact on the number of MBS services patients use and the benefits paid by the government for these services” (Parliament of Australia, 2015, p 10).
However, a recent report suggests that a current oversupply of GPs\textsuperscript{14} may contribute to escalating costs by encouraging practices to “chase patients” due to competition (Moynihan and Birrell, 2016). Table 3 shows that, while the population has increased by approximately 18.7 per cent since 2004, there have been substantial increases in the number of GPs (24.1%), GPs accessing Medicare rebates (47.4%) and associated rises in costs and services. Although increased competition may discourage practices (both corporate and non-corporate) from moving away from bulk-billing, the income shortfall may encourage overuse of Medicare-funded items.

Table 3  Medicare-funded primary (GP) medical practice and number and costs of GP services relative to Australia’s population (2004-05 and 2014-15)

<table>
<thead>
<tr>
<th></th>
<th>2004-05</th>
<th>2014-15</th>
<th>Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors accessing primary care rebates</td>
<td>22 573</td>
<td>33 275</td>
<td>47.4</td>
</tr>
<tr>
<td>GP item Medicare cost\textsuperscript{a}</td>
<td>$3.321b</td>
<td>$6.81b</td>
<td>105.2</td>
</tr>
<tr>
<td>Population\textsuperscript{b}</td>
<td>20.177m</td>
<td>23.950m</td>
<td>18.7</td>
</tr>
<tr>
<td>FSE GP per 100 000 population</td>
<td>111.9</td>
<td>138.9</td>
<td>24.1</td>
</tr>
<tr>
<td>GP cost per capita</td>
<td>$165</td>
<td>$285</td>
<td>72.7</td>
</tr>
<tr>
<td>GP services per capita</td>
<td>4.70</td>
<td>5.68</td>
<td>20.9</td>
</tr>
</tbody>
</table>

\textsuperscript{a} total benefit for non-referred attendances; \textsuperscript{b} ABS estimated resident population prior to 2014-15 and projected for 2014-15


The operational motives of public and private health care sectors are very different. However, under the 1995 National Competition Policy, governments are required to ignore these differences - ‘competitive neutrality’ (Collyer et al., 2015). Differences in operational motives might also be anticipated when comparing corporate and private general practice (e.g., shareholder expectations and return on investment vs personal income); but under the current fee-for-service system, both practice types share an incentive to increase ‘throughput’ or ‘gap payments’ to maximise financial gain.

Concerns that corporate general practices were over-servicing and/or negatively impacted quality of care formed the basis of two reports commissioned by the then Department of Health and Aged Care in 2000\textsuperscript{15}. It was concluded that general practice corporations had some merit, and over-servicing was a consequence of the Medicare fee-for-service model rather than inappropriate activity of corporate general practices (Medicare Financing and Analysis Branch, 2012f).

Examples of maximising MBS-related revenue by increased throughput have been identified in both corporate and non-corporate general practices by the PSR, although it should be noted that this involves a minority of GPs (see above). The PSR is alerted when a GP is deemed to have engaged in inappropriate practice defined as when, on each of 20 days in the previous year, they billed Medicare for at least 80 MBS attendance items. MBS Procedural items and Department of Veterans’ Affairs services are not included. This is known as the 80/20 rule and has been criticised as either too lenient, with many GPs known to operate just below the threshold, too blunt, or biased against GPs (Fogarty, 2014, Iannuzzi, 2013, Hoffman, 2015). Typical PSR referrals include older, solo, long-

\textsuperscript{14} Due to a perception of doctor shortage, there has been continued high recruitment of overseas-trained doctors and increased training of Australian-trained doctors.

\textsuperscript{15} KPMG Consulting, 2000 and AMA 2000 scoping reports cited in (Medicare Financing and Analysis Branch, 2012f)
established GPs and younger GPs working in large extended hours practices (Coote, 2015). Use of computer-generated care plans was also identified in the 2014-15 PSR report as frequently associated with over-serving activity (Commonwealth of Australia, 2015); and linking computer software payments directly to the MBS item claims poses an additional risk to government costs (see Box 6).

Box 6

**Potential cost implications of computer software payment plans**

The 2014-15 PSR report (Commonwealth of Australia, 2015) noted that, in relation to over-serving, “Many practitioners who provide high numbers of these services [MBS chronic disease management items] use computer-generated templates” (p 10). This suggests that computerisation of management plans can potentially lead to over-serving for MBS-rebate items by virtue of facilitating higher volume generation and processing of care plans. Most clinical practice software providers charge a relatively modest annual user-based fee or are freely available; and therefore, practice outlay for the technology is unlikely to be a major driver of increased use leading to over-serving (Erny-Albrecht, 2015). However, models imposing MBS-related fees represent a potential risk.

At least one widely-used package, cdmNet, levies charges based on a percentage of the MBS items claimed through the software (Erny-Albrecht, 2015). The table below demonstrates the potential gains for three MBS items based on billed services for 2013/14 (Swerissen et al., 2016) and applying the rate of payment listed by Precedence Healthcare for 2016. Although this arrangement does not impact on the cost to government on a per item rebate basis, for the provider, it effectively reduces each MBS rebate involved by 12-15% and may prompt increased throughput to recover income. Further, the potential gains for the software provider clearly represent a lucrative market that warrants close monitoring in the future. In December 2015, Sonic Healthcare assumed sole control of Precedence Healthcare (previous owner and developer of cdmNet technology) (PULSE+IT, 2015).

<table>
<thead>
<tr>
<th>MBS Item number/description</th>
<th>Number of billed services 2013/14</th>
<th>MBS rebate</th>
<th>Software provider payment per item ($)</th>
<th>Software generated income ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>721/Chronic disease plan</td>
<td>1 832 720</td>
<td>144.25</td>
<td>17.50</td>
<td>32 072 600</td>
</tr>
<tr>
<td>723/ Team care coordination</td>
<td>1 485 874</td>
<td>114.30</td>
<td>17.50</td>
<td>26 002 795</td>
</tr>
<tr>
<td>732/ Review of GP management plan</td>
<td>2 205 398</td>
<td>72.05</td>
<td>10.00</td>
<td>22 053 980</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>80 129 375</td>
</tr>
</tbody>
</table>

Inappropriate claiming of rebated MBS items and incentives is often cited as a major burden on the Medicare system (Faux et al., 2015). However, to date there are no reliable estimates of the extent to which this occurs, with indirect estimates suggesting a range of 5-15 per cent of claims, or $1-3 billion annually (Faux et al., 2015). How much of this is due to GP uncertainty or error in making claims, as opposed to intentional abuse, is not known; but cost savings of $250 million associated with targeted education of medical practitioners in 2007-08 via the National Compliance Programme suggests that the former is a major contributor (Faux et al., 2015, Bridge, 2007).
The proportion of MBS rebate claims stemming from corporate general practices is not known. Identifying corporate general practices through MBS claims or the PIP has proven difficult and, although potential methods to link PIP claims data have been developed as part of the Tracking the effects of corporate practices on Medicare outlays, we were unable to find information on expenditure for this outcome. No reports of the proportion of MBS claims attributable to corporate medical centres were identified in earlier investigations (Medicare Financing and Analysis Branch, 2012d) and, apart from anecdotal and media reporting, there is little evidence to confirm or deny claims of widespread over-servicing by corporate practices.

**Over-servicing - GP referrals**

Suggestions that vertically integrated companies were more profitable than other general practice structures highlighted the potential for corporate practices to increase revenue by referring patients to other services owned by the corporation (e.g., pathology, radiology) (Jones, 2007, Medicare Financing and Analysis Branch, 2012f). In 2007, the Australian government addressed these concerns through the Health Insurance Amendment (Inappropriate and Prohibited Practices and Other Measures) Act 2007, aimed at preventing use of inducement or threats to gain referrals (i.e., specifically the practice of pressuring GP employees to refer patients to services operated by their employer (Department of Health, 2016a, Medicare Financing and Analysis Branch, 2012f).

In a detailed thesis using BEACH data to examine the appropriateness of pathology ordering by GPs in Australia, Bayram (2013) concluded that there was “no evidence to support concerns raised in the literature about assumed widespread inappropriate ordering, or assertions that increases in ordering reflect disproportionate increases in inappropriate ordering” (p ii). The study was based on data covering the period 2000 to 2008, and inappropriate ordering was defined as ordering outside guideline recommendations. However, it is important to note that Bayram (2013) found no evidence that it was ‘widespread’ but this does not imply that inappropriate ordering did not occur (Duckett and Romanes, 2016).

In addition, Bayram (2013) noted a shift away from fully supported ordering (supported by guidance documents) towards partially supported tests in the case of hypertension, lipid disorders, health checks, and overweight/obesity problems. Bayram (2013) suggests that this shift warrants investigation along with guideline improvement.

*Over the period of this study, GPs’ pathology ordering for the six problems increased, and this represented a shift to be ‘less’ in line with recommendations in guidance documents (p 206).*

The potential relationship between the size/type of practice and level of ordering was not investigated in this thesis (Bayram, 2013).

Revision of requirements for Vitamin D testing illustrates the positive and major impact of improved item definition and guideline adherence on excessive rates of unnecessary test ordering and the associated cost to government (see Box 7) (Duckett and Romanes, 2016, Boyages, 2016). In that case, a saving of about $42 million over the financial year comparing pre- and post-item revision was achieved, almost halving expenditure in a short period of time.
## Vitamin D test ordering and general practice characteristics

Prior to 2014, vitamin D testing was covered by MBS without stipulating the conditions for test referral. Between 2000 and 2011, rates of vitamin D tests per 100 000 people increased from 37 to 3 468 annually (Bilinski and Boyages, 2013). By 2013-14, the rate had climbed to 18 140 per 100 000 population (Boyages, 2016). Following introduction of evidence-based guidelines for Vitamin D testing in November 2014, the rate declined to 14 415 for 2014-15; a 20% reduction over the previous year. Corresponding MBS payments for vitamin D testing over the period 2013-14 to 2014-15 demonstrated savings of $41 892 085 (Boyages, 2016).

An analysis based on 593 trainee GPs providing care for almost 70 000 patients found that between 2010 and 2013 (pre-dating changes), Vitamin D tests were ordered most often as part of a health check (31.9%; 95%CI 29.0-35.1). Additionally, increased rates of testing occurred if the GP worked in a bulk-bill clinic, more problems were dealt with, more pathology tests were ordered, or a lipid profile test was ordered for the same problem (Tapley et al., 2015). After adjusting for all known contributors, the odds ratio for Vitamin D testing was 1.5 (95% CI: 1.1-1.9) with bulk-billing, which means practices that entirely bulk-bill their patients were 1.5 times more likely to order Vitamin D testing compared with practices not bulk-billing. However, there was no significant difference in ordering rates according to GP training. That is, GPs qualified as a doctor in Australia were equally as likely to order a vitamin D test as those not trained in Australia.

Although bulk-billing is common among general practice corporations, this occurs across the spectrum of practice size and structure (corporate and non-corporate), including very small practices of one or two GPs (De Abreu Lourenco et al., 2015, Moynihan and Birrell, 2016). More detailed data is required to investigate any potential links Vitamin D test ordering and general practice ownership/structure.

## Patient out-of-pocket costs

Approximately 83 per cent of MBS claims for GP non-referred attendances were bulk-billed in 2014-15 (Medicare Australia, 2015). Bulk-billing eliminates out-of-pocket costs for patients. Since early 2000-01 general practices have steadily moved away from bulk-billing, often citing government freezes on MBS rebates and the failure of rebates to keep up with the rate of inflation as the reasons for this move (Elliot, 2002). However, this varies across the community with at least one survey of patients in Australia indicating that practices with more than two GPs are less likely to bulk-bill than those with up to two GPs (OR, 0.74; 95% CI, 0.57-0.96) (De Abreu Lourenco et al., 2015). In that study, the mean out-of-pocket cost for those not bulk-billed was $34.09. In contrast, bulk-billing underpins the “high throughput business model” of corporate models (Moynihan and Birrell, 2016, p 3).

Although this suggests that general practice corporations benefit patients with respect to eliminating out-of-pocket costs, this outcome may be sensitive to local competition factors, encouraging practices to continue bulk-billing where competition for patients exists (Moynihan and Birrell, 2016). De Abreu Lourenco et al. (2015) postulated that practices with one or two GPs might use bulk-billing to differentiate their practice from the expanded service offerings of larger practices with private billing models. As noted above, analysis of data from MABEL and the 4S-and-Up study has shown that rates of bulk-billing decrease as competition decreases (Johar et al., 2014, Gravelle et al., 2016).
Therefore, where corporate medical centres are established through acquisition of smaller practices, thereby reducing competition, it is possible that lower rates of bulk-billing may occur. While current moves towards private billing models among corporations have been attributed to MBS rebate uncertainty, potential relationships between this development and reductions in the level of competition warrants closer examination. Regional and rural centres are likely to be particularly vulnerable to developments that reduce competition both in terms of bulk-billing rates and loss of service if a single provider ceases operation.

Although the percentage of bulk-billed GP consultation items is high, it is important to note that the figure relates to the proportion of MBS items that were bulk-billed, not the number of patients that are bulk-billed (Elliot, 2002). That is, if bulk-billing centres claim for more items per consultation on average, this does not directly reflect the proportion of people being bulk-billed.
Summary and discussion

Extent of general practice corporatisation

It is estimated that the five largest general practice corporations (Sonic Healthcare, Primary Health Care Limited, Healthscope, Tristar, Ochre Health) manage approximately five per cent of Australian general practices and employ approximately 15 per cent of registered GPs, and likely a similar proportion of practice nurses. This supports the large practice picture of corporate general practices, and indicates that the proportion of GPs working in corporate practices has moderately increased since 2010-11 based on comparison with Divisions of General Practice data (12% for all corporations).

Various surveys of GPs indicate that administrative burden associated with practice ownership is a major barrier to traditional models of practice and the absence of this is an attractive feature of working in corporate practices. Similarly, many GPs had positive views about the working hours associated with corporate practice. Salaries were less motivational in decisions to join corporate practices, although the initial sign-on fee was considered an attractive feature. Although there was some indication that many, but not all, GPs employed within corporations and almost all of those employed in non-corporate practices were concerned about the potential negative impact of this business model on general practice, the nature of this concern was not reported. Nevertheless, there was evidence of support for a variety of practice models from solo to corporate structures, with medium to large private practices continuing to dominate the market.

The major general practice corporations active in the Australian setting have made changes to payment models and services offered in line with government policies and market demand. To date, bulk-billing has been the dominant corporate general practice model, but recent government policy changes have challenged the sustainability of this model. However, each corporation has a unique company structure, ranging from Sonic Healthcare’s diverse operations and increasingly international perspective and revenue stream through to the rural Australia general practice focus of Ochre Health. Future responses to Medicare changes are likely to reflect this diversity.

Impact of general practice corporatisation

Patient experience

Although there is a paucity of available data, indications are that patient satisfaction with corporate medical centres is high and similar to family practices. Similarly, the quality of care received appears to be comparable based on an example of patients with diabetes.

Cost of care

Medicare rebates and incentives are the major contributor to GP salaries, irrespective of workplace arrangements. Despite media reports suggesting that corporate general practices maximise MBS revenue by over servicing, there is no strong evidence for or against this claim. Further, increased throughput in line with financial incentives is not new, and was noted in the 1990s when comparing community health centre-salaried GPs and fee-for-service private GPs. This practice of over servicing is underpinned by the fee-for-service model, rather than the individual general practice structure.

The 2014-15 PSR report highlighted that approximately 50 per cent of GPs audited for MBS item over servicing were overseas-trained doctors; examination of ABS data for that period indicated that this was proportionate to their representation of the GP workforce FSE. Overseas-trained doctors are often employed by medical centre corporations providing services in rural Australia. Rural placement...
reduces the restriction to Medicare provider numbers\textsuperscript{16} for these doctors from 10 years down to five years, and in the interim, a Section 19AB Exemption enables them to claim for services provided in rural areas. Therefore, contract conditions for the five-year period are likely to be viewed in light of earlier access to Medicare-based income for any region of Australia, including urban locations. This strengthens the position of rural general practice owners when negotiating contracts. However, a recent report of GP over-supply in Australia suggests that, on completion of their five-year contract, these GPs relocate to inner regional and metropolitan areas that are already well serviced (Moynihan and Birrell, 2016). According to the authors, the consequence of this is that new overseas-trained doctors are issued visas to take over the rural practices; and subsequent re-location at the end of their contract influences competition for patients in non-rural areas, increases rates of bulk-billing and hence impacts on government costs.

Practices also claim incentives to bulk-bill; and where administrative costs can be reduced to counter the lower rebate level compared with private billing models, then bulk-billing with its reduced level of bureaucracy is commonly adopted. This is common in corporate general practices. For patients, this means reduced out-of-pocket costs. In contrast, where private-billing models are adopted, the level of out-of-pocket costs appears to be arbitrary, but responsive to market demand and perceived capacity to pay. Bulk-billing models are further encouraged by competition for patients, but sustainability in small practices is uncertain.

Together, the five aforementioned corporations currently account for approximately 355 medical centres, an increase over 2012 estimates by 16 per cent (306 practices in 2012). In 2010, approximately 10 per cent of practices claiming PIP were corporations (502 of 4 777 practices). Data on current estimates could not be located, but comparison of this with comprehensive Divisions’ data suggests that most corporations claimed PIP in that year. This is likely to reflect the availability of administrative support within corporations to deal with PIP claiming, compared with non-corporate practices. Although we were unable to locate similar comparisons for other claim items, it is likely that the improved efficiency of corporations with respect to lodging claims would extend to these as well.

With respect to future measures to ensure appropriate billing, there is a need for improved data collection and linkage with patient details and guideline recommendations. There is no evidence to suggest that this monitoring should target any one type of general practice over others.

\textsuperscript{16} Under section 19AB of the Health Insurance act 1973 a 10-year moratorium on access to Medicare Rebates applies to all overseas trained doctors and Foreign Graduates of Accredited Medical Schools.
Conclusions

Based on findings of this review, there is no publicly available evidence supporting the contention that corporate general practices generally impact negatively on patient care or MBS expenditure compared with non-corporate practices. Although there has been considerable media attention surrounding recent PSR auditing of practices for over-servicing, both corporate and non-corporate GPs, and local and overseas-trained doctors were investigated.

Since introduction of the Medicare system, the private business model of general practice has been underpinned by government MBS payments on a fee-for-service basis. Consequently, government incentives and MBS rebate regulation have a major impact on GP income. Initiatives aimed at increasing bulk-billing, and hence acceptance of the lower government recommended fee for services, have been successful. Practices based on a mix of bulk-billing and private billing, or private billing only set variable fees, dependent on estimates of patients’ ability to pay (usually guided by income) and GP attributes (female, Australian-trained, years of experience). However, current evidence suggests that practice competition has a major influence on the likelihood of bulk-billing, particularly in socioeconomically disadvantaged areas. Therefore, elimination of competition is likely to represent a major concern in terms of access to health care.

One clear finding from this review is that there is a paucity of good quality longitudinal data that measures economic, practice and patient outcomes and distinguishes between different types of practice (e.g., corporate and non-corporate practices). The literature abounds in a wide range of opinion on the topic of corporatisation and its effects on the health system and patient outcomes; yet very little of it is based on any objective exploration of data. This report has attempted to draw conclusions by bringing together many disparate sources of data, where possible, to demonstrate trends and identify areas that require attention.
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### Table 4  Summary of corporate general practices in Australia

<table>
<thead>
<tr>
<th>Company</th>
<th>Medical centres 2011</th>
<th>Medical centres 2015</th>
<th>Trend</th>
<th>Billing model</th>
<th>Australian Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonic Healthcare</td>
<td>129 IPN/9 Kinetic</td>
<td>165 IPN/47 Sonic</td>
<td>↑↑</td>
<td>Bulk-billing</td>
<td>• Pathology&lt;br&gt;• Radiology&lt;br&gt;• Medical centres/primary care&lt;br&gt;• Occupational and general medicine&lt;br&gt;• Screening services&lt;br&gt;• Clinical trial laboratory service&lt;br&gt;• Food and water testing&lt;br&gt;• Health technology#</td>
</tr>
<tr>
<td></td>
<td>Health/25 Allied</td>
<td>HealthPlus (IPN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medical Group</td>
<td>Medical Centres,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016b)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Health Care Ltd.</td>
<td>82</td>
<td>69 (Primary Health</td>
<td>↓</td>
<td>Bulk-billing but</td>
<td>• Medical centres&lt;br&gt;• Pathology&lt;br&gt;• Radiology&lt;br&gt;• In vitro fertilisation clinic&lt;br&gt;• Health technology*&lt;br&gt;• Private health insurance (via Transport Health acquisition)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Care Ltd, 2016a)</td>
<td></td>
<td>moving to private</td>
<td></td>
</tr>
<tr>
<td>Healthscope Limited</td>
<td>51</td>
<td>46 (excludes 5 skin</td>
<td>➔</td>
<td>Predominantly Bulk-billing</td>
<td>• Hospitals&lt;br&gt;• Medical centres&lt;br&gt;• Independence services (residential, attendant and post-hospital care)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>clinics and one breast diagnostic clinic) (Healthscope, 2015b)</td>
<td></td>
<td>(assumed)</td>
<td></td>
</tr>
<tr>
<td>Tristar</td>
<td>30</td>
<td>45 (Tristar Medical Group, 2016)</td>
<td>➔</td>
<td>Predominantly Bulk-billing</td>
<td>• Medical centres&lt;br&gt;• Pathology&lt;br&gt;• Radiology&lt;br&gt;• Medical centres including pathology and pharmacy</td>
</tr>
<tr>
<td>Ochre Health</td>
<td>14</td>
<td>30 (Ochre Health, 2016)</td>
<td>➔</td>
<td>Mixed private and bulk-billing</td>
<td>• Medical centres&lt;br&gt;• Pathology&lt;br&gt;• Radiology&lt;br&gt;• Medical centres (Melbourne only)</td>
</tr>
<tr>
<td>Eastbrooke</td>
<td>14</td>
<td>14</td>
<td>➔</td>
<td>Not indicated</td>
<td>• Medical centres&lt;br&gt;• Pathology&lt;br&gt;• Radiology&lt;br&gt;• Medical centres (Melbourne only)</td>
</tr>
<tr>
<td>Medical One</td>
<td>10</td>
<td>10</td>
<td>➔</td>
<td>Private</td>
<td>• Medical centres&lt;br&gt;• Pathology&lt;br&gt;• Radiology&lt;br&gt;• Medical centres (Melbourne only)</td>
</tr>
<tr>
<td>Medi7</td>
<td>5</td>
<td>5</td>
<td>➔</td>
<td>Not indicated</td>
<td>• Medical centres&lt;br&gt;• Pathology&lt;br&gt;• Radiology&lt;br&gt;• Medical centres (Melbourne only)</td>
</tr>
<tr>
<td>SmartClinics</td>
<td>11</td>
<td>11</td>
<td>➔</td>
<td>Private</td>
<td>• Medical centres&lt;br&gt;• Pathology&lt;br&gt;• Radiology&lt;br&gt;• Medical centres (Melbourne only)</td>
</tr>
</tbody>
</table>

*Medical Director software sold to Affinity Equity Partners in 2016 (Primary Health Care Ltd, 2016c); #In December 2015 Sonic Healthcare took over Precedence Health care including the cdmNet practice software solution.
Table 5  Comparison of datasets reporting on percentage of GPs according to practice size

<table>
<thead>
<tr>
<th>year</th>
<th>Divisions of General Practice</th>
<th>BEACH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>year</td>
<td>2-5</td>
</tr>
<tr>
<td>2008</td>
<td>Solo</td>
<td>37.2</td>
</tr>
<tr>
<td>2007</td>
<td>37.3</td>
<td>43.7</td>
</tr>
<tr>
<td>2008</td>
<td>Solo</td>
<td>36.2</td>
</tr>
<tr>
<td>2009</td>
<td>34.9</td>
<td>43.7</td>
</tr>
<tr>
<td>2010</td>
<td>36.5</td>
<td>43.7</td>
</tr>
<tr>
<td>2011</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: (PHCRIS, 2016, University of Sydney, 2016). NA=Not Available

Table 6  AMSTAR ratings of included systematic reviews

<table>
<thead>
<tr>
<th>AMSTAR</th>
<th>Details</th>
<th>(Adler et al., 2010)</th>
<th>(Bambra et al., 2014)</th>
<th>(Footman et al., 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Was an ‘a priori’ design provided</td>
<td>The research question and inclusion criteria should be established before the conduct of the review</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>2.</td>
<td>Was there duplicate study selection and data extraction?</td>
<td>There should be at least two independent data extractors and a consensus procedure for disagreements should be in place</td>
<td>Yes</td>
<td>yes</td>
</tr>
<tr>
<td>3.</td>
<td>Was a comprehensive literature search performed?</td>
<td>At least two electronic sources should be searched. The report must include years and databases used (e.g. Central, EMBASE, and MEDLINE). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found</td>
<td>Yes</td>
<td>yes</td>
</tr>
<tr>
<td>4.</td>
<td>Was the status of publication (i.e. grey literature) used as an inclusion criterion?</td>
<td>The authors should state that they searched for reports regardless of their publication type. The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status, language etc.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Question</td>
<td>Description</td>
<td>Yes</td>
<td>No</td>
<td>NA</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>5. Was a list of studies (included and excluded) provided?</td>
<td>A list of included and excluded studies should be provided</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>6. Were the characteristics of the included studies provided?</td>
<td>In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g. age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported.</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>7. Was the scientific quality of the included studies assessed and documented?</td>
<td>'A priori' methods of assessment should be provided (e.g., for effectiveness studies if the author(s) chose to include only randomized, double-blind, placebo controlled studies, or allocation concealment as inclusion criteria); for other types of studies alternative items will be relevant.</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>8. Was the scientific quality of the included studies used appropriately in formulating conclusions?</td>
<td>The results of the methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations.</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>9. Were the methods used to combine the findings of studies appropriate?</td>
<td>For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e. Chi-squared test for homogeneity, I²). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e. is it sensible to combine?).</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>10. Was the likelihood of publication bias assessed?</td>
<td>An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test)</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>11. Was the conflict of interest stated?</td>
<td>Potential sources of support should be clearly acknowledged in both the systematic review and the included studies</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>5/11</td>
<td>9/11</td>
<td>9/11</td>
</tr>
</tbody>
</table>
Summary of included survey sources

*Australian Doctor Survey*

In a voluntary survey conducted by the online publication Australian Doctor (Australian Doctor, 2012), the aim was to determine the working arrangements and attitudes towards corporate general practice among its readership. Table 7 provides a summary of findings from the 2012 survey. The final 323 survey participants had the following characteristics:

- 64% male
- 70% Australian trained
- 50% mid-career
- 39% corporate employee (17% Healthscope, 38% sonic Healthcare, 45% Primary Health Care Limited, 25% Other).
### Table 7  Summary of findings from the Australian Doctor survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are corporate practices attractive workplaces?</td>
<td>Attractive or very attractive corporate employees: 66% non-corporate employees: 9%</td>
</tr>
<tr>
<td>What has been the impact of corporate practices?</td>
<td>Some or great improvement: corporate employees: 43% non-corporate employees: 7%</td>
</tr>
</tbody>
</table>
| What are the most attractive features of corporates?                     | In order from highest rating: Corporate employees = Low administrative burden, working hours, sign on fee, low requirement for home/aged care visits, case mix, remuneration, work place culture, long running contracts.  
Non-corporate employees = Low administrative burden, sign on fee, low requirement for home/aged care visits, working hours, remuneration, case mix, work place culture, long running contracts. |
| What are the least attractive features of corporates?                    | In order from highest rating: Corporate employees= work place culture, long running contracts, remuneration, working hours, case mix, low requirement for home/aged care visits, sign on fee, in-house radiology/pathology, low administrative burden.  
Non-corporate employee = work place culture, long running contracts, working hours, remuneration, case mix, low requirement for home/aged care visits, in-house radiology/pathology, sign on fee, low administrative burden. |
| The corporate employer has a good reputation for: autonomy, workplace culture, clinical practice, remuneration. | Primary Health Care Limited (n=45):  
Autonomy 49%  
Workplace culture 27%  
Clinical practice 48%  
Remuneration 62%  

IPN (n=37):  
Autonomy 84%  
Workplace culture 78%  
Clinical practice 94%  
Remuneration 54%  |
| Yes I would sign on again OR want to work at a corporate                 | Corporate employees 55% yes, 32% no  
Non-corporate employees 7% yes, 62% no                                      |
BETTERING THE EVALUATION OF CARE AND HEALTH (BEACH)
From April 1998 to March 2011, the BEACH survey was conducted by the Family Medicine Research Centre (FMRC), University of Sydney, in collaboration with the Australian Institute of Health and Welfare (AIHW), under the AIHW Act. Since April 2011, it has been conducted by the FMRC. Until recently, BEACH was supported financially by government and private industry. BEACH is a continuous national study of general practice activity in which ever-changing random samples of about 1,000 general practitioners (GPs) participate each year. Each participating GP records details of 100 consecutive GP–patient encounters with consenting patients. By the end of its 16th year (March 2014), the BEACH database included records for almost 1.6 million GP–patient encounters from 15,759 GP participants, representing 9,950 individual GPs.

ANNUAL SURVEY OF DIVISIONS OF GENERAL PRACTICE (ASD)
From 1992 to 2012, PHCRIS was involved in the collection and collation of Divisions Network Reporting on behalf of the then Department of Health and Ageing (DoHA) (PHCRIS, 2016). All Divisions were accountable for their funding and required to complete the ASD, together with their contractual obligations to the DoHA of 12-month reporting against National Performance Indicators (NPIs). The ASD was an annual, standardised, comprehensive survey. With the exception of 2011-12, the survey achieved a 100% response rate, which allowed the identification of longitudinal patterns and trends in Division characteristics and activities. The main purpose of the Divisions of General Practice Program (funded by the Australian Government) has been to support and assist the primary health care capacity of Australian general practice in responding to health service challenges at the local level and in the broader sense to improve health service delivery to local communities, through local Divisions, State Based Organisations operating at state and territory level, and the peak national representative body, the Australian General Practice Network.

MEDICINE IN AUSTRALIA: BALANCING EMPLOYMENT AND LIFE (MABEL)
MABEL is a national longitudinal survey of doctors. Coordinated and initiated by the Centre for Research Excellence in Medical Workforce Dynamics, the programme was funded from 2012 to 2016 by the National Health and Medical Research Council. Beginning in 2008, a total of seven waves of MABEL have been conducted based on responses from a total of 15,311 voluntary respondents (varying between 1,500 and 3,371 per year).