

# South Africa's hospital sector: old divisions and new developments

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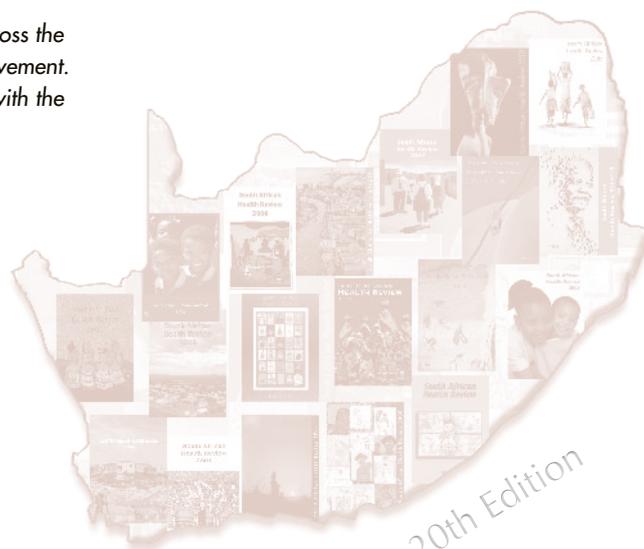
**T**he hospital sector in South Africa mirrors deep inequalities in the country as a whole. The private, for-profit hospital sector is well resourced and caters to a population that tends to be wealthier, urban and more likely to be formally employed. The public-hospital sector, catering to the majority of South Africans, faces lower human-resourcing ratios, financial constraints and ageing infrastructure.

This chapter contextualises the development of the two sectors, describes the current divide, and considers the implications in terms of equity, access and quality of care.

A unique dataset of quality-accreditation-survey scores was used, which allowed for analysis of the two sectors according to a common yardstick. These data reflect a wide array of structure- and process-related quality indicators; in addition, the patient perspective reflected in data from the General Household Survey was used to illustrate the quality differential. The research provides evidence of the polarisation between public and private facilities: private facilities consistently scored above public facilities across a range of accreditation categories, and there was far greater variability in the scores achieved by public facilities. The same polarised relationship was found to hold across key sub-components of the scores, such as management and leadership of hospitals in the two sectors.

We conclude that there is a need for the measurement of health outcomes across the system. Policy attention is required in terms of accountability and quality improvement. A focus on improving value in the system will, by necessity, have to engage with the discrepancies between the sectors.

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## Introduction

Deep-rooted and structural inequality is present in the economic and societal fabric of South Africa, including in the delivery of health services. The current healthcare system is born out of the country's apartheid legacy, and consequently there are systemic, and often stark, differences in healthcare outcomes by race<sup>1,2</sup> and geography, e.g. by province<sup>3</sup> or different neighbourhoods in the same city.<sup>4</sup>

The hospital sector is split along private and public lines. This chapter considers the equity of this structure in terms of populations served and access to facilities, and addresses the question of whether there are differences in the quality of care delivered by the two hospital sectors.

With the assistance of the Council for Health Service Accreditation of Southern Africa (COHSASA), it has been possible to compile a unique dataset, for the period 2001–2015, that includes information on both hospital sectors. The Council conducts quality accreditation surveys, which allowed for analysis of the two sectors according to a common yardstick.

This dataset and data from the General Household Survey (GHS) were analysed against the descriptive background of the two sectors, to consider whether quality differentials accentuate inequity in the health system. This has important policy implications as the country moves towards a system of National Health Insurance (NHI), with the underlying promise of increased equity in access to quality care.<sup>5</sup>

## Two sectors

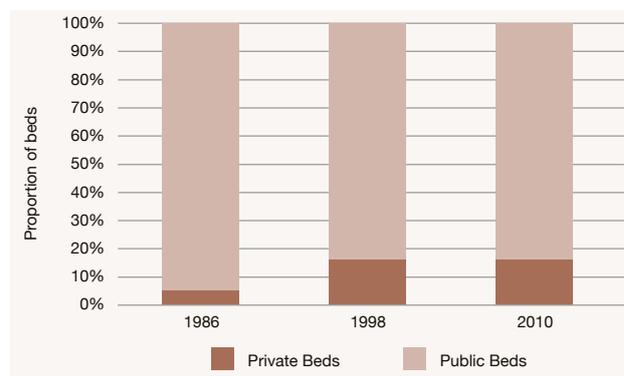
Health services in South Africa were racially segregated as a result of the Public Health Amendment Act of 1897.<sup>2</sup> The creation of the Bantustans after 1948 further entrenched these differences.<sup>2</sup> Each Bantustan<sup>a</sup> had its own health department but these were under-resourced compared with health departments in the rest of the country.<sup>2</sup> In the late 1980s, there were twice as many hospital beds per capita for the white population as for the black population.<sup>6</sup> Between 1976 and 1989, the total supply of hospital beds decreased from 4.7 per 1 000 of the total population to 3.7 per 1 000.<sup>6</sup>

Between 1984 and 1989, there was a deterioration in public hospitals as a result of weak macro-economic conditions limiting investment in facilities,<sup>7</sup> an exodus of staff emigrating and leaving for the private sector (at least in part for financial reasons),<sup>7</sup> and an increase in the supply of private hospitals.<sup>6</sup>

The post-apartheid policy focus of the National Department of Health (NDoH) was on primary care – this may also have de-emphasised the role of hospitals.<sup>8</sup> At the same time, there was growth in the proportion of beds located in the private sector, as shown in Figure 1. The private hospital sector has also consolidated over time. Today, more than three-quarters of private hospital beds are owned by three large for-profit hospital groups.<sup>9,10</sup>

Private facilities largely serve those covered by voluntary private healthcare-financing vehicles (medical schemes);<sup>11</sup> these individuals constitute 16% of the population.<sup>12,13</sup> Coverage patterns are determined inter alia by formal employment<sup>14</sup> and affordability.<sup>15</sup>

Figure 1: Proportion of beds in the private and public hospital sectors in South Africa, 1986–2010



Source: van den Heever, 2012.<sup>7</sup>

Medical-scheme coverage is concentrated in the top two income quintiles,<sup>16</sup> which in turn means that private hospitals tend to provide care to a more affluent population. Private hospitals are largely located in major metropolitan areas and hence serve a more urban population.<sup>10</sup>

The private hospital sector has been criticised for driving increases in healthcare expenditure over time,<sup>10,16,17</sup> as well as for being expensive by international standards.<sup>18</sup> It certainly constitutes a financially significant component of the health sector – expenditure on private hospitals accounted for 37% of annual medical scheme expenditure in 2013.<sup>19</sup>

By contrast, public hospitals provide care to the 84% of South Africans who are uninsured, albeit with approximately 70% of the country's usable hospital beds.<sup>20,21</sup> The public sector as a whole accounts for only half of total expenditure on healthcare,<sup>20</sup> and is therefore financially constrained in comparison to the private sector. The sector also faces lower human-resourcing ratios<sup>22</sup> and ageing infrastructure.<sup>23</sup> While public facilities have the right to levy user fees that are tiered on a means-tested basis, the reality is that care is largely free at the point of service. Revenue collected is less than 1% of total public-sector expenditure, and is primarily collected from institutional funders.<sup>15</sup>

Hospitals in the public sector can be categorised as follows: district health services manage district hospitals; provincial health services manage regional, tertiary and specialised hospitals; and central hospitals operate on a national level to provide both general and highly specialised services.<sup>24</sup>

The two sectors differ fundamentally in terms of their incentives, objectives and key stakeholders.<sup>25</sup> Other differences include:

- Employment of clinical staff: the public sector employs doctors, the private sector does not;<sup>10</sup>
- Rationing mechanisms: care in the public sector tends to be rationed both explicitly, via care protocols and formularies, and implicitly, via waiting lists and queues, while rationing in the private sector tends to be explicitly defined by the funders of care;<sup>26</sup>
- Input costs: the public sector has access to State tender prices for pharmaceutical products;<sup>27</sup> and

<sup>a</sup> Territories set aside for the black population in South Africa, as part of a policy of separate development.

- Outputs: for example, public facilities tend to see large numbers of outpatients,<sup>25</sup> while private hospitals see a far higher proportion of surgical cases than public hospitals.

## Methods

### Household survey data

The GHS is an annual, nationally representative household survey administered by Statistics South Africa.<sup>28</sup> It is described as “an omnibus household-based instrument aimed at determining the progress of development in the country”.<sup>28</sup> It measures the provision of services and level of household well-being across six areas: education, health and social development, housing, household access to services and facilities, food security, and agriculture.<sup>28</sup>

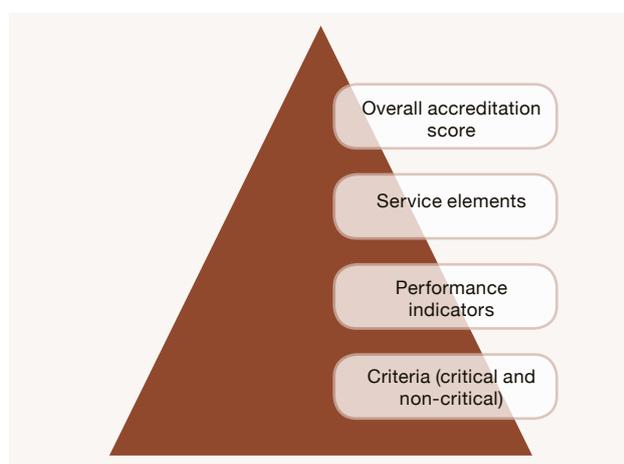
Bivariate analysis of the GHS data in this chapter provides a descriptive picture of how user complaints and visits differed between the two sectors.

### Accreditation data

The COHSASA data reflect a wide array of structure and process-related quality indicators; these measures have the benefit of being standardised across both sectors. The dataset consists of COHSASA accreditation scores given to 145 public-sector and 35 private-sector hospitals over the period 2001–2015.

The COHSASA accreditation surveys have a tiered structure, illustrated in Figure 2.

Figure 2: Tiered structure of the COHSASA survey of public- and private-sector hospitals in South Africa, 2001–2015



Source: Personal Communication.<sup>b</sup>

The COHSASA overall accreditation score is calculated based on an algorithm that weights the scores of the criteria (which are considered measurable elements). These are aggregated to give a score for the performance indicators, which are then aggregated to give the scores for each of the service elements. The aggregation of the service-element scores results in the overall facility score. A facility must achieve an overall score greater than 80%, and critical criteria must all be compliant for a facility to achieve accreditation.

<sup>b</sup> Personal Communication: Cheryl Adams, Knowledge Management and System Coordinator, COHSASA, 30 January 2017.

Over the years, surveys were conducted on various versions of the accreditation standards. All versions were made comparable to a set of standards 6.6, the latest set of standards, by matching comparable service elements.

### Analysis of accreditation data

The first survey score (referred to as the baseline survey score) for each hospital was used in our analysis. This smaller subset was available for 141 public hospitals and 26 private hospitals, for the period 2001–2014. The baseline reflects an initial assessment of the performance of each hospital before participation in the accreditation process. Thus the baseline survey score is more indicative of the underlying differences between the public- and private-sector facilities than the scores influenced by the COHSASA accreditation process.

Of the 41 service elements, only 26 were comparable across public- and private-sector facilities as the remaining 15 have limited applicability in the private sector. The average scores and variation in scores were compared across the public and private sectors at both an aggregate level and individually for the 26 common service elements.

### Limitations

Household surveys like the GHS are always reliant on recall, which is regarded as a limitation, but given that hospitalisation is a memorable event, this is not considered a significant concern in this case.

One of the key questions about the COHSASA dataset is how representative the sample is of public hospitals in South Africa, given that participation in accreditation may not be random. For the most part, the decision to participate lies with the province and not with individual hospitals.

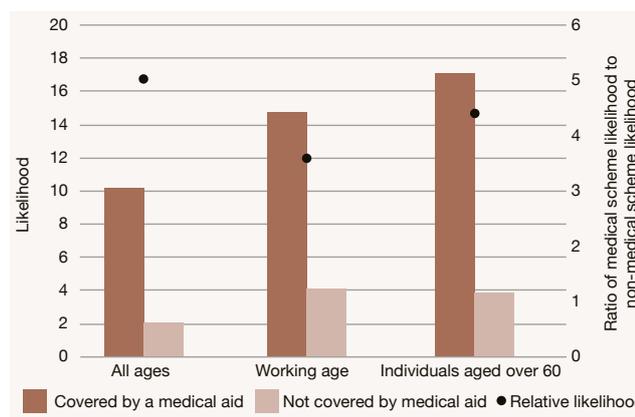
Given these concerns, an analysis was done of how various factors influence the likelihood of participation in public-hospital accreditation. A linear probability model was used. For the purposes of this analysis, we matched hospitals and feeder communities via the Census 2011.<sup>29</sup> Larger hospitals were found to be more likely to participate and remote hospitals less likely to participate than urban hospitals. Hospital type (district, regional, tertiary) did not influence the probability of participation. The effects of feeder-community per-capita income; employment rate; and access to piped water, potable water, toilets, electricity and refuse removal were not consistently statistically significant predictors of participation. The sample of participating hospitals is relatively representative of South African hospitals, with a slight over-representation of urban and larger hospitals. Nonetheless, it still provides valuable insight into differences between the two sectors.

### Differentials in access

If medical scheme coverage is used as a proxy for those making use of private hospitals, data from the GHS can be used to discern patterns in access.

It is clear from the GHS that the likelihood of accessing a hospital is far higher for those with medical scheme cover than it is for those without (Figure 3). This holds across age groups.

Figure 3: Likelihood of accessing a hospital for those with and without medical scheme coverage in South Africa, 2010–2013



Source: General Household Survey, 2010–2013.<sup>30–33</sup>  
Based on responses to the question “If anyone in this household gets ill and decides to seek medical help, where do they usually go first?”

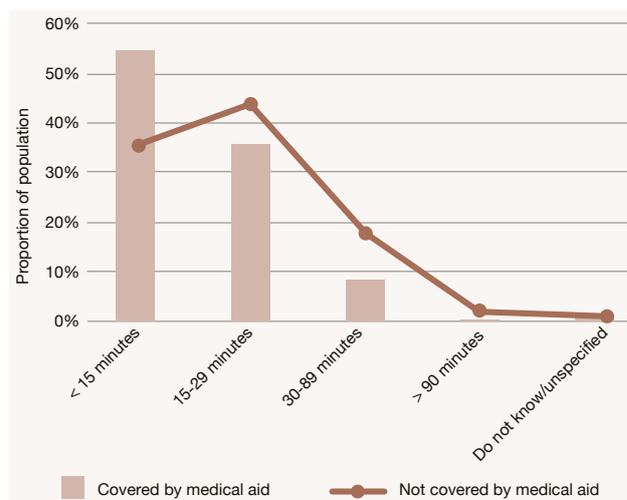
The differential in access exceeds the differential in the supply of usable beds per 1 000 lives: those with medical scheme cover reported being five times as likely to access a hospital, while there were approximately twice as many beds per capita in the private sector.<sup>c</sup> This may be due to other factors such as differentials in the average length of stay, the staffing ratio per bed<sup>d</sup> and the extent of gate-keeping in the two sectors. The public sector operates on a referral model (although there is evidence that referral steps are frequently bypassed<sup>34</sup>), while access to tertiary care for medical scheme beneficiaries is largely unfettered.

There were also differentials in geographical access, as illustrated in Figure 4 it was found that those covered by medical schemes are far more likely to be within a 15-minute radius of a health facility. Those who can afford medical scheme cover are also more likely to live in urban areas, and private hospitals are concentrated in these areas. By contrast, the public sector has to serve a far more geographically dispersed population. This inequity echoes the findings of other studies; for example, McLaren, Ardington and Leibbrandt found that black South Africans were three times as likely as white South Africans to live more than five kilometres from a primary health care facility.<sup>35</sup>

c Assuming that private hospitals are used by medical scheme beneficiaries, and public hospitals are used by uncovered citizens.

d For example, there were three anaesthetists in Mpumalanga in 2008.<sup>22</sup> This limits the available surgical capacity regardless of the number of available surgical beds in the Province.

Figure 4: Travel time to a health facility for those with and without medical scheme coverage in South Africa, 2015



Source: General Household Survey, 2015.<sup>36</sup>

The differential in access to hospitals was found to carry through to utilisation of care: the number of bed days per 1 000 covered lives in the private sector is close to double that in the public sector.<sup>e</sup> Higher levels of utilisation in the private sector are unlikely to reflect a higher burden of disease. The burden of HIV and tuberculosis (TB) falls largely on the public sector, with relatively low levels of HIV prevalence in the medical scheme population.<sup>12</sup> Both infectious disease and trauma have a strong relationship with poverty,<sup>37</sup> and we would therefore expect that the public sector faces a greater burden. The true differential in the burden of non-communicable disease between the two sectors is unknown, and will vary by disease due to differences in the underlying risk factors. Higher levels of access in the private sector can translate into higher diagnosis rates. There is some evidence that poor and rural communities are disproportionately affected,<sup>38</sup> and that poor South Africans tend to underestimate their health needs.<sup>39</sup>

### Quality of care across the two sectors

Given the inequitable distribution of financial and human resources<sup>40</sup> between the two sectors, it would be reasonable to expect the quality of care in the private sector to be higher. The private sector is widely perceived to offer higher and more consistent quality of care<sup>41</sup> – this translates into the willingness to purchase (increasingly expensive) medical scheme cover.<sup>42</sup> However, this is not to say that the private sector is without faults of its own. The high levels of resourcing in the private sector can lead to waste and over-utilisation. For example, the rate of Caesarean sections performed in the private sector (70.8%) far exceeds the rate in both the public sector (24.7%) and global norms.<sup>20,43,44</sup>

Care in the private sector tends to focus on curative, hospice services, with preventive and palliative approaches comparatively neglected.<sup>45,46</sup> In addition, care in the private sector tends to be highly fragmented, with little co-ordination of care between providers.<sup>47</sup>

e Based on data from the District Health Information Software and the Council for Medical Schemes.

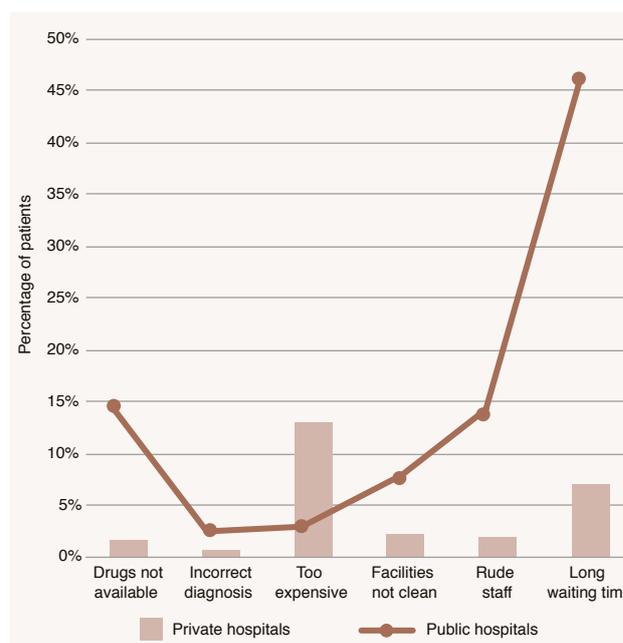
### The patient perspective

Respondents in the GHS reported higher levels of problems in public hospitals than in private hospitals, other than in the area of care being too expensive (Figure 5). It is to be expected that some of the reported problems are correlated with health outcomes (for example, cleanliness, drug availability and incorrect diagnosis). Long waiting times may also have impacted adversely on outcomes because the high time cost of a clinic visit may result in patients delaying healthcare consultations, resulting in delays in diagnosis and treatment.<sup>48</sup> However, the relationship will depend on the point in the care process at which patients have to wait, and the relative waiting lists for emergency, elective and non-elective care.<sup>49</sup>

Quality differentials are also reflected in the levels of patient satisfaction reported in the GHS (based only on those who declared themselves ill). Eighty-eight per cent of medical-scheme patients reported being either “very satisfied” or “somewhat satisfied” as opposed to 83% of non-medical-scheme patients (Figure 6).

Given that medical-scheme patients tend to have higher income levels than non-medical-scheme patients, and are paying for cover, we may expect that their expectations will be higher (i.e. if we adjust for expectations, the gap is likely to be greater).<sup>51</sup> However, it is also possible that patient satisfaction is potentially skewed by shorter waiting times and better ‘hotel’ amenities in the private sector. Higher levels of utilisation in the private sector may also mean that on average, the acuity of care required is lower.

Figure 5: Problems experienced by patients at public and private hospitals in South Africa, 2009–2010



Source: General Household Survey, 2009<sup>50</sup> and 2010.<sup>33</sup> Based on responses to the question “Did you experience any of the following during your most recent visit to the health worker/facility that you normally use?”

Figure 6: Level of satisfaction among medical-scheme and non-medical-scheme patients who are ill in South Africa, 2015



Source: General Household Survey, 2015.<sup>36</sup>

## Health outcomes

While the patient perspective on healthcare quality is revealing, it is important to measure quality of care in other ways too. For example, health outcomes such as mortality rates can be measured and reported,<sup>52,53</sup> as can adverse events such as hospital-acquired infections.<sup>54</sup>

While there are some statistics available on health outcomes, these are not consistently reported across both sectors. For example, there are reports of a large number of avoidable maternal, neonatal and child deaths in the public sector, a substantial proportion of which are related to failures in the health system.<sup>55–57</sup> Unfortunately, maternal deaths in the private sector are not assessed in the same way.

In the private sector, the three large hospital groups all publish key quality measures in their annual financial statements, albeit at a group-wide level. However, the choice of measures and the detail on how they are defined differ between the groups.

The key issue is that there is an absence of comparable, published quality measures in either sector for intra- and inter-sectoral comparisons.

## Structure and process

In the absence of meaningful measurement of health outcomes, it is possible to measure the structure of care provided, and the processes in place to deliver care.<sup>58</sup> In South Africa this is undertaken by both the Office of Health Standards Compliance (OHSC) and COHSASA.

The OHSC has developed National Core Standards as minimum standards for all healthcare establishments. The standards are part of the regulatory process prescribed in the National Health Amendment Act<sup>59</sup> and are assessed during mandatory inspections by the OHSC.

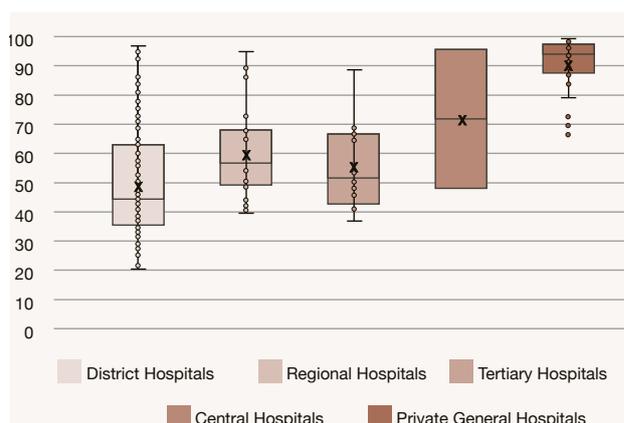
The OHSC conducted inspections of 1 427 public hospitals and clinics over a four-year period up to 31 March 2016. The results show that only 89 of these facilities met the pass mark of 70%. Unfortunately, the details of the facility scores have not been published.<sup>60</sup>

The accreditation process undertaken by COHSASA is voluntary and has a developmental component. The overall aim of accreditation is to improve the quality of care provided by hospitals by assessing the structure, functions and processes of the hospitals against standards. Organisations that apply for the accreditation process include individual hospitals, hospital groups, provinces and ministries of health in different African countries.

The two systems, namely mandatory minimum standards and a process for quality improvement, can be complementary as part of the overall strategy to improve health services across South Africa.

Figure 7 shows a box-plot of the accreditation scores for both public and private hospitals.

Figure 7: Accreditation scores for public and private hospitals in South Africa, 2001–2014



Source: COHSASA, 2001–2014.<sup>61</sup>

Private-sector scores are on average higher than public-sector scores,<sup>f</sup> and there is less variation between scores across individual facilities within the private sector.

Figure 8 compares the disaggregated scores for individual service elements. The service elements are sorted according to average public-sector scores (from lowest to highest).

It is clear that the relationship between the public and private hospital sectors holds across sub-components of the accreditation score. The scores differed significantly at the 5% level across all service elements. The largest differences in the average score were for the following elements (shaded grey in the figure):

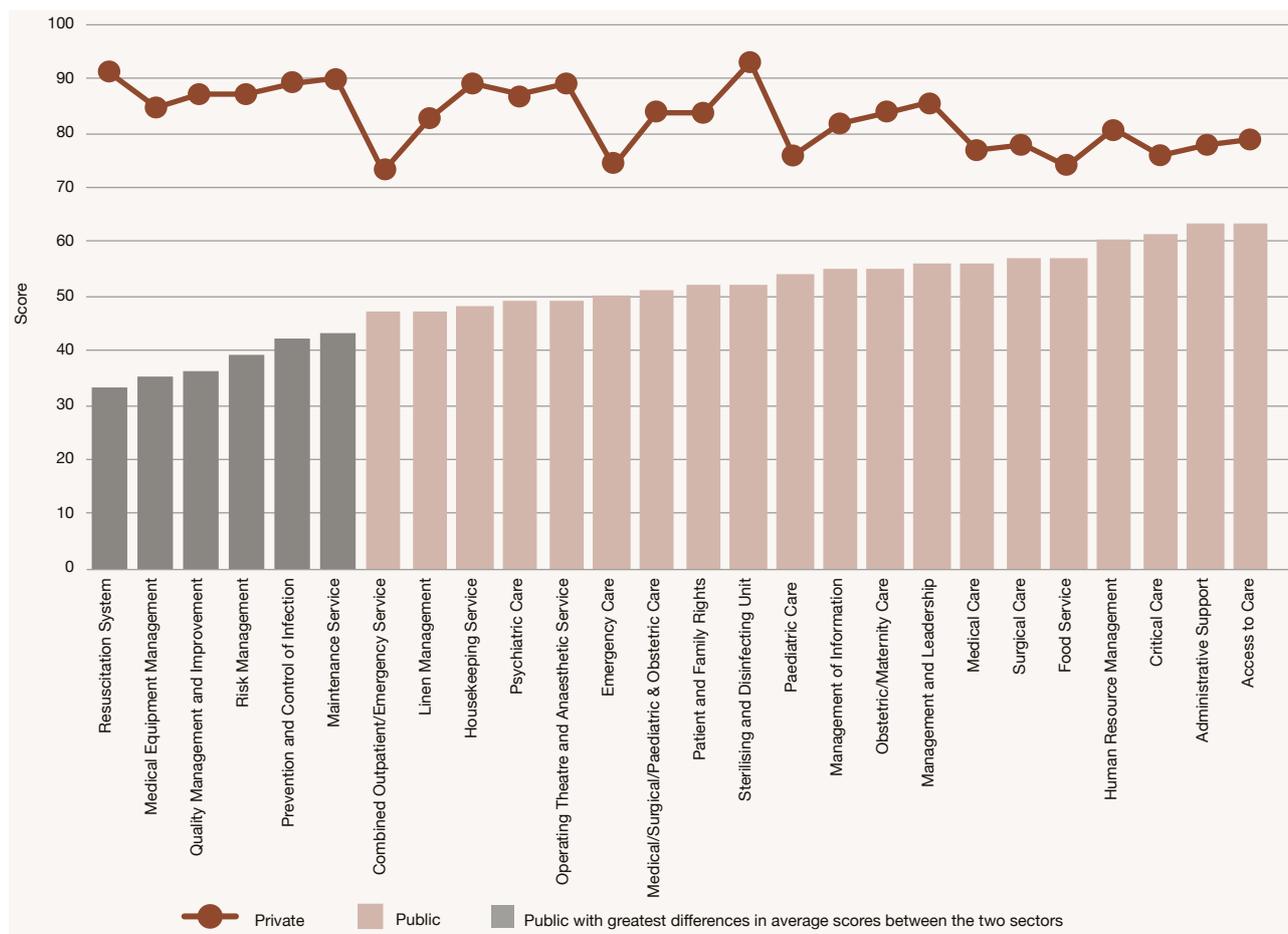
- resuscitation system;
- medical equipment management;
- quality management and improvement;
- risk management;
- prevention and control of infection; and
- maintenance service.

The extent of the differences in score for these service elements was large – on average a 50-point difference for these six elements. This result is especially concerning because of the relationship between these particular elements and patient safety. While all service elements potentially influence patient safety, these six elements have a more direct relationship with patient safety.

As with the overall accreditation scores, the scores for individual service elements were not only higher but also more consistent across private hospitals, indicating that the private hospitals are a more homogeneous group. This is illustrated in Figure 9.

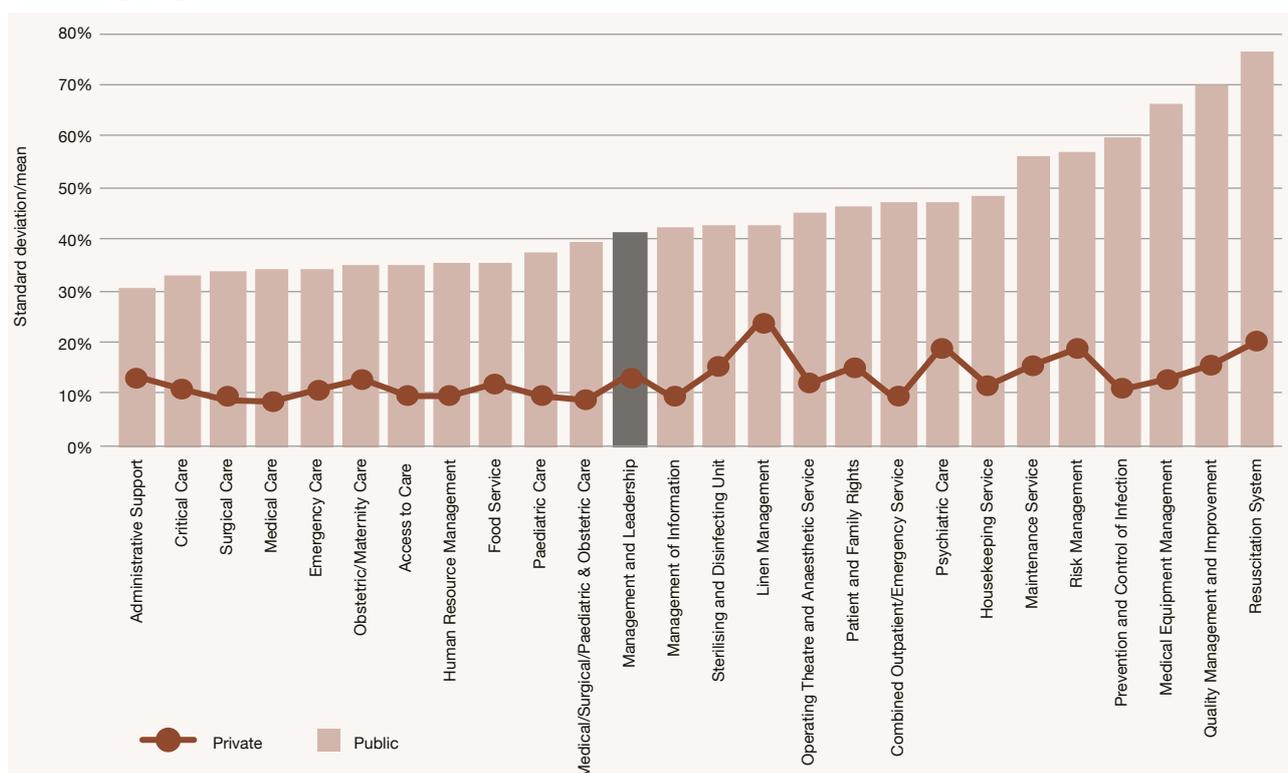
<sup>f</sup> Statistically significant at the 5% level.

Figure 8: Comparison of average service element scores for the public and private health sectors in South Africa, 2001–2014



Source: COHSASA, 2001–2014.<sup>61</sup>

Figure 9: Comparison of public and private hospital sector variation (standard deviation over mean) for each service element, South Africa, 2001–2014



Source: COHSASA, 2001–2014.<sup>61</sup>

The management and leadership service element is worth noting, as this would be expected to influence other aspects of quality.<sup>62–64</sup> Private hospitals scored on average 30 points higher than public hospitals on this element. The standard deviation relative to the mean was 14.3% for private health facilities, as opposed to 41.1% for public health facilities.

## Discussion

### Polarisation

South Africa has two vastly different hospital sectors. The private, for-profit sector is better resourced than the strained public sector, both financially and in terms of human resources per capita. Unsurprisingly, given the resourcing differences, data from the GHS show that users of public hospitals report higher levels of problems and lower levels of satisfaction than users of private hospitals. User experiences of hospitals matter, as this is likely to influence health-seeking behaviour and adherence to treatment.

Analysis of COHSASA accreditation data indicate an evident quality differential between public and private facilities: private facilities consistently score above public facilities across a range of accreditation categories, and there is far greater variability in the scores between public facilities.

The quality differential indicated by accreditation data support patient reports in the GHS. The accreditation data also highlight key differences between the two sectors across dimensions that relate to patient safety, and therefore cannot be ignored.

The low levels of variation in the service element scores for private hospitals point to a consistency in leadership, management, systems and incentives across hospitals. By contrast, the wide range of public-sector scores points to a variety of challenges across regions and levels of hospitals – not least of which are resource challenges.

### Measurement of health outcomes

Given that the ultimate aim of the health system is to improve health outcomes, the absence of consistent, facility-level measurement of health outcomes across both sectors is concerning.

There remains a question about the relationship between accreditation scores and health outcomes, particularly because there is a lack of evidence in the literature that a relationship exists between accreditation scores and health outcomes.<sup>65–68</sup> Preliminary findings of the authors' own work show that a negative relationship may exist between perinatal mortality and accreditation scores for hospitals that score above 70%.

### Policy implications

Quality differentials are both a symptom of structural inequality in the South African healthcare system, and an obstacle to planned health reforms. While it is essential to alleviate inequality, it is likely to be a challenging process for South Africa to bring the two sectors closer together. In particular, those with access to private care are likely to resist giving that up if quality differences between the two sectors persist. In 2009, McIntyre et al. found that individuals were willing to contribute to the public system only if they could be assured of the quality of the system.<sup>69</sup> Merely purchasing care from the private sector is unlikely to be a viable solution, given the urban

concentration of private facilities and, by implication, the absence of these facilities in rural areas.

If the National Health Insurance Fund were to purchase care from the private sector, and quality differences were to persist, careful thought would have to be given to which patients are able to access private care. Unless this is done carefully, pluralistic purchasing is likely to raise equity concerns.

## Conclusions and recommendations

While many of the reforms in the South African public health sector to date have focused on decentralisation, one of the implications of our analysis is that homogeneous approaches to hospital processes, policies and systems could assist in minimising variation in these factors across facilities.

As part of the reform, quality-improvement institutions that work across both the public and private sectors are essential. The OHSC is an important first step, but a further focus on both accountability and quality improvement (as opposed to measurement) is required. While the OHSC is currently able to identify problems, it is still unclear whether it can hold facilities sufficiently accountable, and as a regulator it is not mandated to facilitate the necessary improvement strategies. Consistent and transparent measurement of quality (particularly process and outcomes measures) would go some way towards improving accountability. One possibility would be collaboration between the private hospital association (Hospital Association of South Africa (HASA)), COHSASA and the OHSC in identifying and then publishing the results for the same quality measures across both sectors on an annual basis.

In a resource-constrained context, value<sup>9</sup> is more relevant than quality alone. The issues facing the public and private sectors are dramatically different – hence interventions are needed that both raise the minimum standard for all hospitals, and reduce waste and over-utilisation.

It is clear that quality improvement in the public-hospital sector is a vital part of the journey to universal coverage. Public-sector quality improvement is necessary for greater trust in the public-hospital system. Changing the financing of the system alone is likely to be insufficient to achieve universal access to quality care.

<sup>9</sup> Taking into account both quality of care and the cost of delivering that care.

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