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COVID-19: insights from contracting the private sector for critical care

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Whether the COVID-19 SLA is ultimately deemed successful or not, it provided a real-time demonstration of the complexities and constraints for such engagement within the South African context, and it showed how, with trust and commitment, we can develop solutions.

The COVID-19 epidemic was expected to result in shortages of public-sector critical care beds. This prompted the Western Cape Department of Health to explore ways to address the shortfall, culminating in a service-level agreement with the private sector and national level development of a system of reimbursement for critical care. This chapter describes the experience of formulating the agreement and the insights gained.

Since the shift of patients between the sectors did not materialise, the most important outcome was that the parties were able to conclude this agreement, and the engagement provided insights beyond the original problem. The process revealed a lack of national leadership and co-ordination capacity; high levels of fragmentation; different visions of what care should be provided; the complexity entailed in contracting; capacity constraints in both sectors; and data constraints to inform policy choices.

The most prominent lesson was that a trusting relationship was essential to the success of this initiative, built on a vision and a value system that all parties could endorse.

We recommend the establishment of national-level capacity for public–private engagement, reviewing the regulations constraining contracting, fast-tracking the national data management system, enhancing in-house administrative capacity to complement the use of intermediaries, conducting a critique of this engagement, and a cost assessment of the options for expanding critical care capacity.

It is premature to make a judgement on the success of the agreement. However, it provided a real-time demonstration of the complexities and constraints for such engagement within the South African context and it showed how, with trust and commitment, we can develop solutions. We should build on this experience by addressing the constraints, so that progress is made towards the more integrated health system as envisaged by National Health Insurance and required for universal health coverage.

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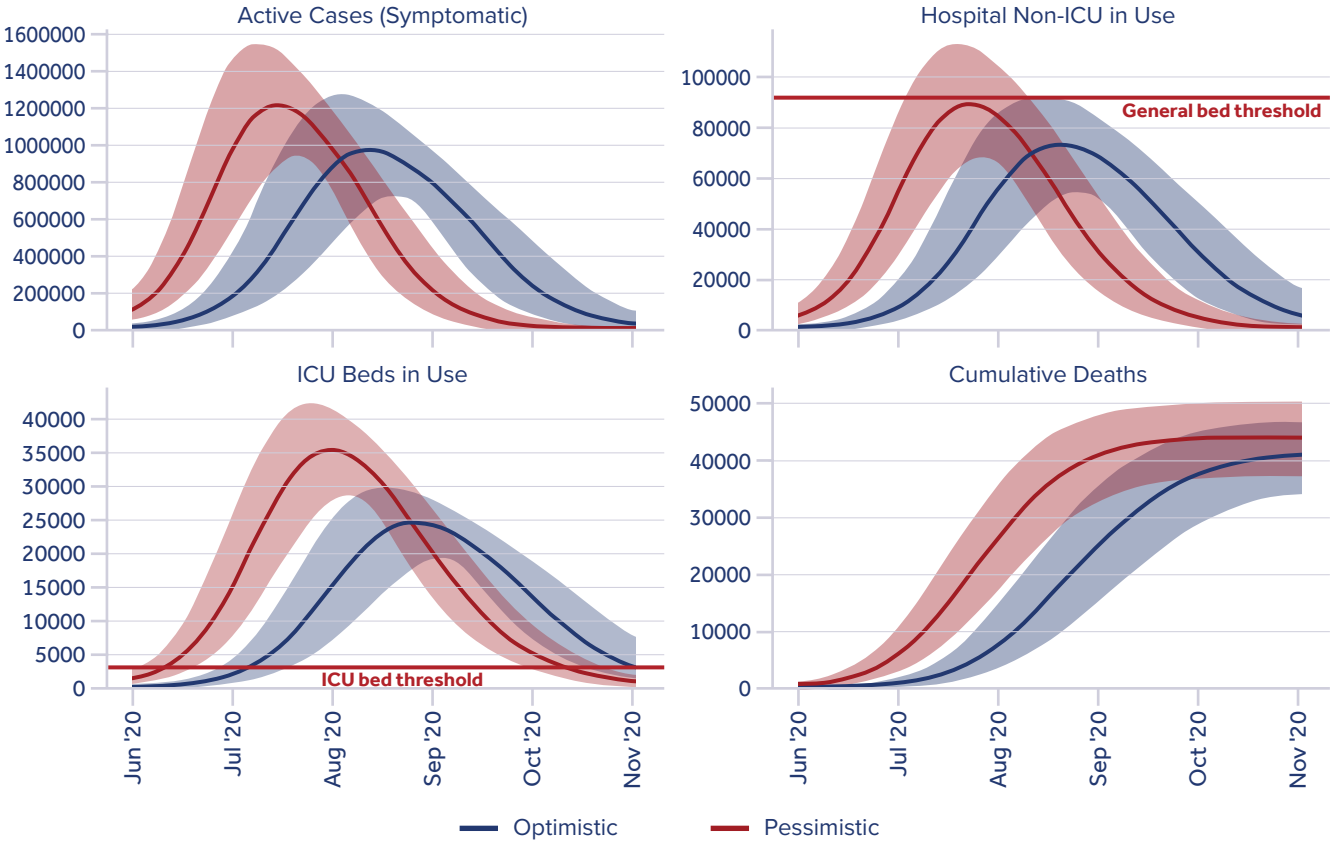
Introduction

Planning for the potential COVID-19 patient surge in South Africa began early in 2020 with the 20 March Plan endorsed by the World Health Organization (WHO). The European experience of rapid spread was bound to reach South Africa in the absence of travel restrictions, and on 5 March 2020 the first case was confirmed in KwaZulu-Natal.[1] COVID-19 was seen to be a highly contagious, dangerous respiratory virus that had overwhelmed acute and Intensive Care Unit (ICU) bed capacity in many countries and was expected to have a similar impact in South Africa.

A number of epidemic forecasting models emerged[2], but government relied mainly on the forecasts of the South African COVID-19 Modelling Consortium (Modelling Consortium)[3], which started publishing short- and long-term projections from April 2020. The Consortium's 19 May 2020 estimates (Figure 1) predicted that South Africa's ICU beds would exceed the ICU bed threshold (available public sector ICU capacity) by July 2020.

Figure 1: Early ICU bed projections, May 2020



Source: Modelling Consortium; 2020.[4]

The National Department of Health (NDoH) used the Modelling Consortium's forecasts to develop a separate model (Demand Model) to predict cases, bed requirements and deaths. Early versions of the model forecasted a massive need for additional ICU beds, with several versions predicting breaches of ICU and High Care bed capacity between April and July 2020 (Table 1). There were only 2 500 ICU beds in the public sector at baseline, with most facilities being located in urban areas.

Table 1: Projected demand and availability of critical care beds by province, May 2020[a]

Province	Projected demand	Beds available			Shortfall
		Public	Private	Total	
Eastern Cape	3 663	133	327	460	-3 203
Free State	1 591	78	300	378	-1 213
Gauteng	7 950	389	1 926	2 315	-5 635
KwaZulu-Natal	5 458	333	818	1 151	-4 307
Limpopo	2 656	55	55	110	-2 546
Mpumalanga	2 082	49	151	200	-1 882
Northern Cape	706	77	147	224	-482
North West	1 876	12	36	48	-1 828
Western Cape	3 924	424	943	1 367	-2 557
Total	**29 906**	**1 550**	**4 703**	**6 253**	**-23 653**

This prompted several provinces to explore other ways to address the expected shortfall in critical care beds. The Western Cape Department of Health (WC-DoH) initiative to contract private providers for critical care culminated in the endorsement of a service-level agreement (SLA). Following endorsement of tariffs by the Minister of Health, the WC-DoH signed SLAs with various private-sector players to provide additional critical care capacity.

This chapter describes the experience of formulating the critical care SLA. It considers the rationale and underlying ethical considerations; stakeholder engagement; clinical guidelines; data and technical support; legal issues; administration and risk management; payment models; and its implementation, before highlighting important insights arising from its formulation.

Despite evidence challenging the cost-effectiveness of intensive care[5], provinces explored ways to address the expected shortfall in critical care capacity, including expanding capacity in existing public facilities, building temporary capacity, and in-sourcing of capacity from the private sector. Ultimately, a combination of these approaches was adopted after considering factors outlined in Table 2.

Table 2: Consideration of public versus private options

	Expand public-sector capacity	In-source private capacity
Lead-times	• Expansion involves infrastructure, equipment, staffing • Long and uncertain lead times for sourcing requirements	• Most critical care capacity is in the private sector and are ICU rather than much needed high-care beds. • Lead-time is dependent on SLA being in place.
Flexibility	• Uncertain time horizon for expanded capacity requirement	• Use of existing capacity on a 'per need' basis
Costs	• Expanding capacity is expensive. • Uncertain time horizons make it difficult to assess return on investment.	• Purchase existing capacity • Control via SLA • Pay only for services used.

Once the decision was made to explore in-sourcing of private sector capacity, the contracting process required three critical elements:

- A tripartite SLA between the Provincial Department of Health, private hospitals and clinicians, and administrative intermediaries (AIs)
- A model for remunerating the private sector for COVID-19-related services
- A mechanism to govern the provisions of the SLA and deal with operational matters.

All parties committed themselves to the well-established ethical principles of care, respect for basic human rights,

a Personal communication: Nicholas Crisp, National Department of Health, 13 May 2020.

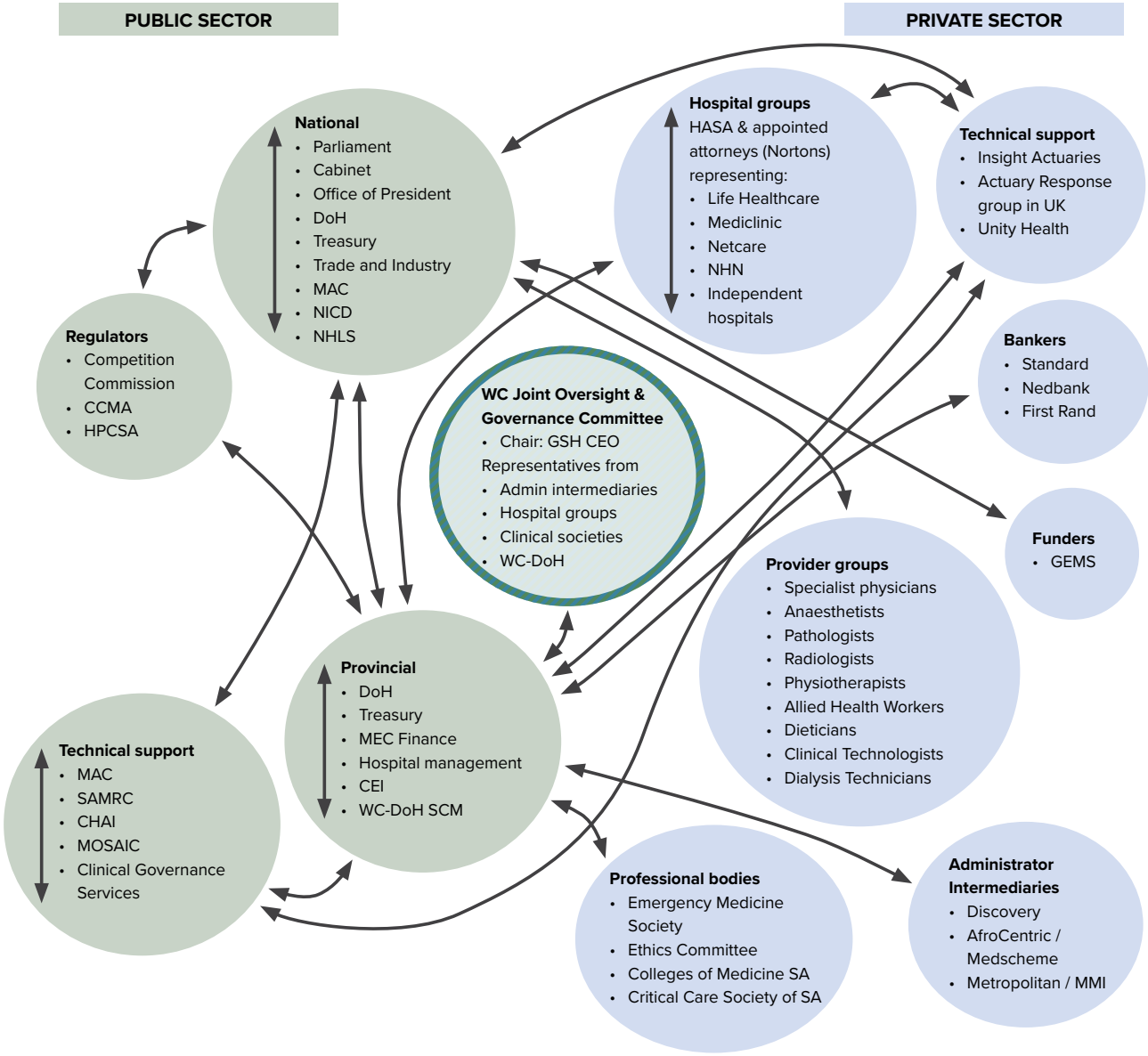
equity and justice. Clinical guidelines for treatment were designed to ensure that every person would be treated equally and equitably, whether insured or uninsured, and whether seen by public- or private-sector providers. Care protocols were based on the best available evidence; life and death decisions were to be made according to available resources and best outcomes for the patient, based on the Accountability for Reasonableness (A4R) principle.[6]

An independent Ethics Committee was established to review appeals on decisions related to patient care, chaired by a non-medical professor of Philosophy and Ethics, with representatives from the two largest public hospitals, a representative from the private hospital groups selected by the Hospital Association of South Africa (HASA), a palliative care expert, and community representatives.

Stakeholder engagement

Developing the SLA and establishing provincial-level governance was not a bilateral private–public process; a multiplicity of stakeholders within and between the two sectors had to be engaged, making the contracting environment very complex (Figure 2).

Figure 2: Stakeholder engagement in developing SLA



CCMA=Commission for Conciliation, Mediation and Arbitration; CEI=Centre For Entrepreneurship and Innovation; CHAI=Clinton Health Access Initiative; CMSA=Council for Medical Schemes South Africa; DoH=Department of Health; GSH CEO=Groote Schuur Chief Executive Officer; HASA=Hospital Association of South Africa; HPCSA=Health Professions Council of South Africa; MAC=Ministerial Advisory Committee; MMI=Momentum Metropolitan Holdings Limited; NHN=National Hospital Network; NHLS=National Health Laboratory Service; NICD=National Institute for Communicable Diseases; MOSAIC=Modelling COVID-19 Strategies in South Africa Collective; SAMRC=South African Medical Research Council; SCM=Supply Chain Management; WC=Western Cape; WC-DoH=Western Cape Department of Health; GEMS=Government Employees Medical Scheme

This complexity was compounded by underlying issues in the sectors.

In the public-health sector, these issues included:
- tensions arising from underlying political/ideological differences between those who wanted to 'commandeer' private-sector resources and others seeking to partner with the private sector;
- there being no single forum in which national and provincial departments could engage the private sector;
- a lack of trust between sectors and levels of government;
- complicated public sector supply chain processes; and
- a lack of capacity to administer an SLA.

The private sector had:
- a lack of trust in government and concerns about payment;
- complicated intra-sectoral relationships;
- informal incentive systems;
- fragmented components, each with its own governance structures and mechanisms; and
- no coherent voice or point of contact for engagement.

The need to respond to COVID-19 injected urgency into the search for constructive solutions. A multi-level approach was embarked upon, including the NDoH, the WC-DoH (which was battling an early epidemic peak), national specialist and professional bodies, and hospital groupings under the leadership of HASA. The Western Cape engaged the three largest medical scheme administrators as AIs to administer claims from providers for services rendered in terms of the SLA.

This stakeholder collective, chaired by a senior official from the WC-DoH, was attended by WC-DoH business managers, representatives of the hospital groups, and AIs. This led all parties towards a deeper understanding of the complexities, constraints, levers and mechanisms of engagement. A tangible outcome was the establishment of an operational model that incorporated contracting and oversight mechanisms. The Western Cape model was adopted by the NDoH and offered as a template for other provinces. Once agreements were finalised, some patients were referred from the public sector to test the system.

Clinical guidelines

Constraints and practice systems for professionals in the public and private sector are very different, so to ensure standardised, ethical and equitable care, a common set of treatment guidelines had to be agreed upon.

Public-sector specialists in critical, palliative and emergency care developed clinical protocols to assist decision-making, drawing on the expertise of various clinical associations, talking to colleagues elsewhere, and reviewing online information that was available at the time. These treatment algorithms took into account variables such as facility resources, the best evidence to determine futility of care, when to initiate palliative care, and when to initiate blood products.

The Western Cape guidelines for emergency, acute, ICU and palliative care were published on the WC-DoH website[7] as annexures to the SLA and were updated as new information emerged.

Caregivers were required to use the same guidelines for public- and private-sector patients. The extensive consultation process meant that the guidelines could be used nationally. This interaction provides a significant foundation for the future development of other care pathways. Although clinicians agreed on the guidelines, there were challenges to the application thereof and uniformity could not be assured, in part because private hospitals have no authority over independent practitioners in their facilities.

Data and technical systems

The NDoH had made progress with the basics of a national data management system to support National Health Insurance (NHI)[8] prior to the outbreak of the epidemic, but it was not sufficiently robust to manage data needs during the epidemic. There was no centralised database, relevant parties differed in their willingness to make data available, and there was no national technical support infrastructure in place to manage this kind of contracting.

The NDoH had a vision for countrywide data management and sharing, but provincial departments and private providers had set up independent data systems. NDoH digital capacity to manage NHI data was accelerated, with capacity and connectivity being improved at the NDoH, National Institute for Communicable Diseases (NICD) and the National Health Laboratory Service (NHLS). Private providers (initially laboratories) agreed to submit case data to the national system. Subsequently, provincial departments and private providers began to submit a wider array of data, of better quality and with greater regularity.

The epidemic revealed that much of the data required for good decision-taking were flawed or not available because:
- data definitions differ between providers;
- public-sector facilities have poorly disaggregated financial data;
- private-sector providers work with established tariffs ('prices' rather than 'costs') so comparing input costs to set fair tariffs was not possible;

- the three major hospital groups and the National Hospital Network quoted tariffs at 'cost', making it difficult to compare with annualised public-sector bed costs; and
- laboratory and radiology investigation tariffs are based on prices rather than costs. Here the NHLS served as a public-sector benchmark.

Indemnity and scope of practice

Rapidly rising medical malpractice claims are a concern in both sectors.[9–11] Indemnity against legal action emerged as a major concern. Private clinicians were willing to treat patients referred from the public sector (and to work in public-sector establishments) but were concerned about indemnity. They anticipated working in teams where some practitioners might provide clinical care beyond their specialist scope of practice. Some were concerned that patients could take action against them for clinical choices limited by the standardised Clinical Guidelines, or that workload pressures and accelerated turnaround times in facilities might expose other workers (from cleaners to engineers) to litigation.

The WC-DoH used Section 66(2)(b) of the Public Finance Management Act 1 of 1999 (PFMA)[12] to obtain approval from the Member of the Executive Committee (MEC) for Finance to fulfil "the indemnity requirements associated with contracting the services of clinicians for the medical treatment of state referred patients at private facilities". This wording is ambiguous and can be interpreted as indemnifying the financial commitment to the service rather than the medical risks inherent in the contracted service. No similar arrangements were made nationally or in other provinces. The Medical Protection Society (MPS) offered members increased cover for COVID-19-related care actions,[b] and the Health Professions Council of South Africa (HPCSA) indicated that it would take account of the exceptional circumstances of the pandemic in dealing with any alleged professional transgressions related to COVID-19 work.[13]

SLA administration

The public sector does not have administrative capacity to contract with multiple private-sector providers, so private AIs were contracted to deal with the hospital groups and administer individual admissions and payments for care. The public sector would work through the AIs, who would deal with the hospital groups and independent healthcare practitioners in accordance with the SLA. The SLA provided for a three-way contracting agreement (province, AI, private hospital), with the private hospitals choosing which AI they preferred to work with, and the practitioners in the hospital required to work with the chosen AI.

The approach leveraged existing AI relationships with provider groups for their expertise, databases and experience in dealing with claims. The approach came at no cost to the public sector, as the SLA called for the AI to be appointed and paid for by the private providers. Most AIs agreed to work *pro bono*. While the AI was responsible for claim administration and collation, the province retained responsibility for managing patient utilisation and clinical oversight (usually the responsibility of the referring public-sector clinician).

Payment model and rates

While the Western Cape focused on governance issues, a small national research group worked on developing the payment model and rates for remunerating private providers for COVID-19-related services rendered to public-sector patients.

Determining how providers would be remunerated required agreement on a payment model and payment rates for that model. Five separate contracting arrangements were developed for (a) hospitals (accommodation, nursing, personal protective equipment, gas, and other consumables); (b) the specialist physician team; (c) pathology; (d) radiology; and (e) allied care (physiotherapy, dietetics, clinical technology).

Choice of payment model

The choice of payment model is important, as incentives created by the model influence provider responses. The model must balance provider incentive with an acceptable level of risk to the provider. The challenge for the funder is to "selectively encourage the provision of appropriate, cost-effective treatments and discourage inappropriate or non-cost-effective care", and find an equilibrium price that does not incentivise under-provision of care.[14]

Three payment models were considered potentially feasible (Table 3).

b Personal communication: Graham Craig, Regional Business Development Director, MPS, to South African Private Practitioners Forum, 19 May 2020.

Table 3: Assessment of payment models

Payment model	Description	Incentives for providers	Assessment
Fee-for-service (FFS)	Reimburse providers for each service or procedure provided to the patient.	Over-servicing, reduce cost inputs	FFS is the dominant model in the SA private health insurance market. This highly itemised model was not adopted because of concerns regarding the high level of inefficiency and susceptibility to supplier-induced demand (highlighted by the HMI Inquiry[15]) and the onerous information, administration, management and oversight requirements, and associated costs. Paying the rate charged to non-medical aid patients was considered.
Per case	Pay providers a standard payment on a per-case basis. The payment may be adjusted for severity of case.	Increase cases, reduce inputs per case, reduce length of stay, maximise level of care efficiency	The per-case model is the preferred model of the NDoH in the long term and in the NHI proposals.[7] It removes the incentive to over-service and provides a strong incentive for providers to minimise the resources used for each case. However, without an allowance for severity of case mix, it incentivises providers to treat only less-severe cases, and with allowance for case mix, it incentivises providers to 'up code' and charge for more severe cases. To set the overall fee per case type, it is necessary to determine the: • case types by level of severity; • bundle of services and expected length of stay for each case type; and • price for the bundle of services. There are few data and no previous history of charging on this basis. The first two elements could not be determined with any certainty. The estimation of resource requirements per case was based on various levels of severity and existing treatment guidelines. However, new guidelines were emerging so rapidly that consensus could not be established. This complicated resource estimation and introduced uncertainty that made negotiations with provider groups difficult. The information, administration and oversight requirements of this model are operationally complex. It requires consistent and comprehensive clinical data, and a computerised information system that records and groups cases into payment categories. The per-case model is preferred for the long term, but is not considered feasible in the short term.
Per diem	Pay providers a fixed daily rate that does not vary with the services provided but may be specific to the level of care, e.g. ICU day vs general ward day.	Increase length of stay, reduce inputs per hospital day	The per diem model was chosen as the starting point for contracting with the private sector as the middle way between the FFS and per case models. This model reduces the incentive to over-service. There is less risk of unnecessarily extending the length of stay or 'gaming' the level of care by making use of higher-cost beds. The expected shortage of beds during the epidemic meant that the risk of extending stays was minimal. The risk of gaming the level of care was managed by structuring a 'flat per diem rate'. Determining expected resource utilisation on a per diem basis for different levels of care was less daunting than making this determination on a per case basis. The information, administration, management and oversight requirements of the per diem model are lower than those for the other models.

The State consequently decided to purchase a global package of 'critical care per day' which incorporated High Care and Intensive Care to avoid incentivising the over-use of ICU care. This was the type of care that the public sector expected might exceed their capacity. The key challenge in the negotiations around the per diem model was identifying and reaching agreement on what constituted the typical 'package of critical services per day' for an 'average' COVID-19 case using available utilisation data and treatment protocols. The services to be provided could vary depending on underlying demographics, the health status of the patient, and the severity of the case. Private providers were reluctant to agree to a single hybrid package of services and tariffs, and consequently, two adjustments were made. Firstly, specific 'carve-outs' were excluded from the global package in response to the unpredictability of need for adjunct services, and fees were determined for each. These carve-outs included the cost of surgical equipment surcharges by hospitals, costs related to the treatment of dialysis and renal and blood products, and an agreed list of infrequently requested and expensive pathology tests. Secondly, separate tariffs were developed for general ward care (for patients transitioning out of critical care to discharge), and for 'palliative care' (for patients transitioning out of critical care to demise), as it became evident that it would be difficult for the State to fund patients for extended stays at the agreed critical care daily rate, and that some patients would die and not be discharged.

Determining payment rate

Setting a rate for services that balanced what was 'fair' and sustainable for both parties required establishing a 'base tariff' and testing its reasonableness. The approach used to price each component of the tariff (Table 4) was endorsed by the Minister of Health, after testing with provider groups.

Table 4: Approach to determining a global fee

Group	Approach used
Hospitals	Scheme-specific tariff information was unavailable, so the published GEMS non-negotiated hospital tariff schedule for hospitals was used as the benchmark. The starting point of the calculation was to set a single 'Flat Critical Care Rate' which combined High Care and Intensive Care. A ratio of 55% High Care and 45% ICU was adopted. 'Non-tariff item loading' for items such as Pharmacy and Ward Stock was added as a percentage overhead, set at 40% because of expectedly high consumable costs for COVID-19 care. The modelled amounts were compared with submissions made by hospital groups.
Specialist Physician Team	The costing of specialist teams was calculated using: (a) itemised codes proposed by specialists and adjusted Government Employees Medical Scheme (GEMS) rates to derive a cost per day; (b) average Department of Public Service and Administration (DPSA) remuneration for the applicable Occupation-specific Dispensation (OSD) groups, converted to hourly and daily amounts and weighted to numbers of patients that a team can care for; (public-sector health profession salaries are set by OSD group); and (c) laboratory carve-outs set at the GEMS Emerald Value Option (EVO) rates.
Pathology	The adjusted GEMS rate for the potential package of tests to be done over the duration of the patient's admission, divided by days in hospital, was used to derive the per diem pathology fee. This was compared to the NHLS rate to test for consistency.
Radiology	The adjusted GEMS rate for the potential investigations over the duration of the patient's admission, divided by the days in hospital, was used to derive the per diem radiology fee.
Allied care (Physiotherapy, Dietetics, Clinical Technology)	The costing of allied practitioner care was calculated using: (a) itemised codes proposed by an independent actuary; (b) average DPSA remuneration for the applicable OSD groups, converted to hourly and daily amounts and then weighted to numbers of patients that a team can care for.

The fees for critical care endorsed by the Minister of Health are summarised in Table 5.

Table 5: Bed fees (Rands)

Description of Service	Palliative Care beds	General beds	Critical Care (High Care & ICU beds)
Facility fees / Private hospitals	990	2 972	11 749
Specialist Physician Team	151	476	2 493
Pathology / Laboratory			588
Radiology / Imaging		632	632
Allied Care			694
Total	**1 141**	**4 080**	**16 156**

Adoption and use

The SLA was finalised in the Western Cape late in the first wave. It was endorsed by the NDoH and made available to other provinces, but its adoption and implementation has been limited.

During the first wave, six Western Cape patients were transferred to private facilities and the process was found to work smoothly. Early in the second wave, 10 patients were transferred to the private sector. As at the onset of the third wave, the SLA had not been initiated because private hospitals had reached capacity. The SLA remains valid for the duration of the Disaster Act proclamation, and may be initiated when necessary. No agreements based on the SLA template have been signed in other provinces. The Western Cape group interacted with public-sector counterparts in other provinces in the first and second wave, and had contact from Gauteng in the third wave. At the time of writing, Gauteng, with a surplus of unused infrastructure, was experiencing critical care capacity issues.

Key findings

This public–private sector engagement, driven by the imminence of COVID-19 critical care shortages, produced a comprehensive SLA, reimbursement method and tariffs – one response to a very complex challenge. However, this SLA has yet to be fully tested. The WC-DoH transferred only 16 patients to the private sector in the first and second waves, but in the third wave, private-sector ICU facilities reached capacity before initiating the SLA. No contracts based on the SLA template have been signed in other provinces.

Several factors appear to have contributed to the low take-up of the SLA. Early forecasts of massive critical care need in the public sector turned out to be overstated. Many provinces opted to expand public capacity rather than make use of private-sector capacity – either by freeing up beds for COVID-19 by de-escalating other services and/or by commissioning new COVID-19 designated critical care centres. The underlying rationale for these decisions is not clear at this time, but could be related to a combination of provinces (1) not requiring private capacity, (2) not being made aware of the SLA, (3) not being supportive of the approach implied by the SLA, and/or (4) not having the capacity to implement the SLA.

Despite the low take-up, the engagement process provided insights beyond the original problem. The most prominent was that a relationship of trust is essential to the success of this public–private sector initiative, built on a compelling vision and a value system that all parties can endorse.

Conclusions

It is too early to judge whether the COVID-19 SLA was a success and whether it provides a template for future engagements. Whether it is ultimately deemed successful or not, it provided a real-time demonstration of the complexities and constraints for such engagement within the South African context, and it showed how, with trust and commitment, we can develop solutions. We should build on this experience by addressing the constraints, so that progress is made towards the more integrated health system envisaged by NHI and required for UHC.

Recommendations

Public-sector stewardship, infrastructure and technological capability for engaging the private sector is lacking at the national level and varies widely across provinces. The absence of central leadership and co-ordination will

weaken future initiatives, as parallel national and provincial paths emerge. The conclusion of separate agreements with each province is a duplication that must be avoided. We recommend the establishment of national-level capacity for public–private engagement. The WC-DoH Business Development Unit[16] that led this process is one example. Similar units should be developed and mandated to develop public–private engagement frameworks, co-ordinate or support provincial efforts, engage private-sector players, and provide a repository for agreements and protocols. Developing such structures aligns with plans for NHI, which will purchase services from public and private providers. While the pandemic injected urgency into this engagement, it would be preferable to have a strong framework for collaboration built during non-emergency conditions. This capacity will be critical as the sectors engage to provide the universal health coverage (UHC) envisaged in the National Health Act[17] and National Health Insurance Bill.[8]

The engagement highlighted the shortcomings of the regulatory framework to enable public–private contracting, particularly with regard to indemnity cover for private providers. We recommend that the Treasury, NHI Bill and National Health Act Regulations be reviewed to address these shortcomings. We also recommend that the NDoH develop a stronger legal framework to enable contracting nationally, allowing a national system of standard tariffs for public purchasing of privately delivered health services to be developed and gazetted.

There were difficulties in accessing the utilisation, cost and tariff data required to determine remuneration models for public–private engagements. We recommended that:

- definitions must be standardised in a formal national Data Dictionary;
- facilities and practitioners must be connected and uniquely identified in a Master Facilities List and Provider Registry;
- data must be detailed at health-facility level for local management of services, but should feed into a national-level database;
- data in the national repository must be accessible from local systems; and
- NHI-envisaged technical support systems, including a Health Technology Assessment and benefit-pricing capability, must be established immediately.

Cumbersome procurement and limited public-sector administrative capacity hindered the process, but private intermediaries were able to provide support. The intermediary model worked, but we recommend that this be complemented by enhanced in-house capacity in future. Experiences with the current vaccine roll-out seems to endorse this approach.

This effort to ensure critical care capacity was one of many responses to the COVID-19 pandemic. It was a pragmatic response driven by urgency and initially by poor predictive information. The merits of public–private engagement are contested in the literature. A critique of this experience in relation to the broader social, political and economic[5] implications of engagement, previous public–private engagements[18–19], and responses to COVID-19 elsewhere[20], would be valuable. A cost-efficiency assessment of the different options for expanding critical care capacity is essential.

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