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### **Foreword**

When it comes to service delivery and access in both the public and private health sectors, COVID-19 has put everything to the test. It has demonstrated how central public health security is to health and livelihoods, and how pandemic health emergencies expose the weaknesses and vulnerabilities of health systems, costing lives and causing immeasurable damage to economies. Few could have imagined the impact of COVID-19 when this pandemic reached our shores in March 2020.

But it has also created opportunities for rapid innovation, and out of sheer necessity, has increased and enabled cross-sectoral collaboration, and public-private partnership initiatives. It is against this backdrop that Health Systems Trust (HST) in collaboration with the Health Economics and AIDS Research Division (HEARD) – a research unit based at the University of KwaZulu-Natal – launches its special edition of the *South African Health Review*.

This edition considers the government's and broader health sector's response to COVID-19, explores the current challenges facing the health system at this unprecedented time, and reflects on lessons learnt for future for public health emergencies. The chapters offer information on, inter alia, the challenges of balancing lives with livelihoods, and the impact of COVID-19 on different cadres of healthcare workers, especially Community Health Workers who found themselves at the forefront of our COVID-19 response. Other areas covered include the impact of COVID-19 on vulnerable populations like children, persons with disabilities, farmworkers, migrants, and the poorest in our society.

We thank HEARD, as well as members of the Editorial Advisory Committee, for their contribution in guiding the content of the *Review* towards featuring these multiple perspectives, thereby adding to the publication's richness and diversity. We also extend our thanks to the Ministerial Advisory Committee on COVID-19 for their contribution to this edition, and to the Johnson & Johnson Foundation for their generous support for its production.

Developing this edition in the midst of loss and uncertainty has been difficult, and its completion is due in large part to the tenacity and dedication of all those who contributed to its delivery.

On behalf of the Board of Health Systems Trust, I thank the authors, reviewers, Editorial Advisory Committee members, editorial team, and administrative personnel who worked tirelessly to produce this *Review*. Your commitment and expertise have collectively ensured another excellent edition of the *South African Health Review* – a valuable resource for the health sector and the country. We thank you for your contribution.

Dr Dumani Kula

Chairperson, HST Board of Trustees

# Message from the Ministerial Advisory Committee on COVID-19

Thursday 5 March 2020 has been widely acknowledged as a significant date in South Africa's history. On that morning, the National Institute for Communicable Diseases (NICD) confirmed that a patient suspected of having COVID-19 had tested positive for the disease. This was the first documented patient with SARS-CoV-2 virus infection in South Africa, marking the start of an epidemic which manifested in a disastrous roller-coaster of disease and death. This had an impact on individuals, families and communities, but also – and especially – on healthcare delivery systems and the broader social and economic environment, with devastating consequences.

This catastrophe demanded an all-of-society response from every sector by the State and civil society, and the establishment of the Ministerial Advisory Committee (MAC) on COVID-19 was just one of the efforts to help inform mitigation of the pandemic impact. Technical Working Groups convened under the auspices of the MAC to provide evidence-based advice on specific issues as requested by the national health leadership, and a wide range of topics have been addressed, with advisories posted on the Department of Health's website. Advances in technology and genomics resulted in rapid establishment of diagnostic tests as well as vaccine efficacy trial results within 12 months of the global pandemic outbreak.

World-class South African scientists once more raised the flag by identifying emerging variants, including the Beta variant of concern (VoC) in December 2020. Genomic surveillance, and clinical and laboratory data analysis have enabled the modelling consortium to effectively guide the response.

Currently widely discussed beyond the MAC, is the critical question of how best to manage COVID-19 as an endemic disease, and strategies to integrate it into the healthcare system. The broad array of practitioners, policymakers and academics participating in this edition of the *South African Health Review* make a significant contribution to addressing this challenge.

The chapters in this *Review* reflect the complexity of COVID-19 in South Africa, and the authors, Health Systems Trust are commended for their commitment to the important task of documenting the various aspects of the pandemic, despite the demands required of some who are deeply involved in mitigation efforts.

Furthermore, the editorial team and supporters are thanked for this timeous publication of a comprehensive account of COVID-19 in South Africa. Assembling a cohort of authors from such diverse disciplines and experiences in the time of COVID-19, and producing a publication of the quality, relevance and accessibility that have become the hallmarks of this publication, constitutes an outstanding achievement, reaffirming the significant contribution it continues to make to the country's health system, now and into the future.

Professor Marian Jacobs
Professor Koleka Mlisana

Co-Chairs: Ministerial Advisory Committee on COVID-19

11 November 2021

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### **Editorial**

#### Introduction

On 11 March 2020, the World Health Organization declared COVID-19 to be a global pandemic.<sup>a</sup> The first person in South Africa identified as having contracted COVID-19 (diagnosed on 5 March 2020) was a traveller returning from Italy. By 4 January 2022, South Africa had recorded 3 475 512 confirmed COVID-19 cases, 3 224 152 recoveries, and 91 312 deaths.<sup>2</sup> When the first cases were diagnosed in early March 2020, it was already evident that many other countries were experiencing rapidly growing epidemics arising from imported infections.

The South African government's response began on the 15 March 2020 through a declaration of a national state of disaster that included instituting travel bans for visitors from high-risk countries, banning large gatherings, closing more than half of its land borders, and shutting schools. This was followed up with a first lockdown (26 March to 16 April 2020) that entailed closing all borders and confining everyone not performing essential services to their homes, except to buy groceries and medicine or to collect social security benefits. Between March 2020 and December 2021, we experienced four waves of infections, a series of stringent lockdowns, continual reiteration of social interventions (handwashing, the use of sanitisers, physical distancing and the wearing of masks), and gradual expansion of a vaccination programme. As of 4 January 2022, 28 032 640 vaccines had been administered, with 44.89% of the adult population having been vaccinated. Additionally, the vaccination programme has been made available for children from 12 to 17 years of age.3 The current fourth wave of the pandemic has been marked by the spread of the highly transmissible Omicron strain of the virus.

As found with previous pandemics (e.g. SARS, Ebola, HIV), the COVID-19 pandemic has required intense examination of our health systems and exposed their fragility. Questions that come to mind include: What is the state of healthcare delivery? Does our health system have the resilience and responsiveness to cope with public health emergencies and emerging pandemics? How should we address the disparities in coverage and resource allocations and their implications for health outcomes? How can we be better prepared for future pandemics?

The 24<sup>th</sup> edition of the *South African Health Review* (SAHR) presents evidence of steps taken towards answering these questions. This edition describes some of the key

challenges facing our health system and, through germane illustrations, actions that lead to adaptable and innovative responses to the epidemic in South Africa. The 29 chapters are authored by a diverse range of public health practitioners who offer a range of experiential and reflexive perspectives in responding to the pandemic.

These accounts encompass topics depicting the impact of COVID-19 on existing health services and programmes; the impact of socio-economic disparities on adherence to non-pharmaceutical interventions (NPIs) and access to vaccines and treatment; the rationing of healthcare services and implications for achieving equity of access to these services; the emergence of innovative collaborations, networks and partnerships; the impact of measures taken to balance saving lives with saving livelihoods; and emerging lessons for future management for prevention of pandemics and other public health emergencies.

#### **Overview of chapters**

The suite of chapters is presented in five sections. The first section shares insights on evidence-informed decision-making to inform national responses amid the many uncertainties that typify the effects of the pandemic. Section two describes lessons learnt from the experiences of service providers and vulnerable populations. Sections three and four examine sectoral collaborations and the COVID-19 response in relation to the needs of vulnerable groups. The final section covers barriers to service access, and availability of vaccines and other COVID-19 health products for the general population.

#### National-level responses

Evidence-informed decision-making is the fundamental ethic of medical scientists and practitioners. Chapters in this first section outline evidence-to-policy approaches utilised for developing national strategies to protect both lives and livelihoods. In Chapter 1, for example, Blecher and colleagues review the economic and epidemiological modelling that was used to inform priority-setting for public finance on health and income protection. Following up on this topic in Chapter 2, Silal et al. describe the COVID-19 Modelling Consortium's approach for modelling cases, hospital admissions, deaths and costs, and how this supported government's planning and budgeting for COVID-19-related health care.

a Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus.

South Africa's COVID-19 contact tracing in conjunction with screening, testing and surveillance systems is the subject of Chapter 3, in which Modisenyane et al. critically examine current test and trace measures and opportunities to further strengthen surveillance systems in South Africa.

A rapid review mechanism that was implemented to enable the development of evidence-informed clinical treatment and prevention recommendations for COVID-19 by adapting global evidence is described by Leong et al. in Chapter 4. In a different vein, Chapter 5, written by Dempster and colleagues, attaches voices to data as the authors reflect on COVID-19-related queries received through the National Institute for Communicable Diseases public and clinical hotlines.

#### Impact on health services and populationbased experiences

In Chapters 6 to 14, authors share the experiences of first responders and the general population in relation to the pandemic. Insights on public and private healthcare service provision are provided by nurses, psychiatrists and occupational therapists regarding their interactions with the public. Authors in this section also explore the COVID-19 experiences of vulnerable populations, including people living with disabilities and children.

In Chapter 6, Kelly et al. share poignant insights on how public healthcare facility nurses in Eastern Cape Province navigated service delivery dilemmas during the first wave of the pandemic. In Chapter 7, Mametja et al. draw from data on hospital admissions and mortality outcomes to identify COVID-19 risk groups among members of the Government Employee Medical Scheme across the three COVID-19 waves, these groups being personnel in the Departments of Health, Police Services and Correctional Services.

Chapter 8 by Solanki et al. shares experiences on formulating a public–private partnership service-level agreement to address shortfalls in COVID-19 critical care capacity in the public sector. The usefulness of the Health Technology Assessment process in South Africa is the subject of Chapter 9, in which Cleary and colleagues showcase examples of a cost assessment for COVID-19 in-patient care as important for guiding healthcare resource allocation.

Strengthening the health system to maintain essential health services during the COVID-19 pandemic is critical, and in Chapter 10, Pattinson et al. examine the impact of the first and second COVID-19 waves on maternal perinatal mortality and the use of maternal and reproductive health services. Many children contracted COVID-19 in the Western Cape Province in the first 12 months of the pandemic, with thousands more being affected by the illness and deaths of relatives. In Chapter 11, Shung-King et al. review the COVID-19 response and its impact on children in the Western Cape.

In Chapter 12, Ned et al. focus on people living with disabilities, bolstering the argument that health services are not disability-inclusive and that this population experiences significant states of vulnerability. Chapter 13, by Kim et al., vividly describes psychiatric workers' mental health experiences during the pandemic across southern Gauteng and shares key policy recommendations for improving public mental health. Uys and colleagues, through their qualitative study described in Chapter 14, share knowledge of the impact of COVID-19 on rehabilitation services offered by occupational therapists in both private and public healthcare facilities.

#### Sectoral-level responses

In this section, Chapters 15 to 20 illustrate intersectoral collaborations in response to COVID-19 and identify lessons for improving emergency preparedness and health systems strengthening.

In Chapter 15, Rossouw and colleagues describe how an underprepared South African health research ethics ecosystem spontaneously organised itself to form the 'Research Ethics Support in COVID-19 Pandemic' (RESCOP) committee. Health system resilience in the context of COVID-19 is the key theme for Vallabhjee et al., who in Chapter 16 present health management experiences and learning in the Western Cape Province. Chapter 17, written by Schneider et al., documents intersectoral collaboration across government sectors before and during the COVID-19 pandemic in the Western Cape, together with the lessons and opportunities that these experiences offer for maintaining health and wellbeing.

Community Health Workers have continued to play a crucial role during COVID-19, including case identification and referrals for testing and to health facilities. Madikizela and colleagues, in Chapter 18, focus on the leveraging of Wardbased Primary Health Care Outreach Teams for communitybased screening and testing. Johnson and Frantz authored Chapter 19 to share insights on how Community Health Workers coped during the pandemic and the usefulness of skills learnt in a self-management training programme; they showed that skills such as self-care and adaptability improved as a result of the intervention and advocate for use of this resource to manage work and home stress. In Chapter 20, Bust and colleagues describe the formation and development of the South Africa Collaborative COVID-19 Environmental Surveillance System (SACCESS) network during the pandemic, which relies on this collaboration to screen municipal wastewater for the virus and to manage environmental water quality.

#### Addressing vulnerable populations

'Leaving no one behind' is the foundational tenet for universal health coverage. Chapters 21 to 24 explore lessons learnt from the COVID-19 response for vulnerable populations. In Chapter 21, de Gruchy and Vearey highlight the structural challenges and restrictions faced by migrants (both citizens and non-citizens) in accessing COVID-19-related health care. In Chapter 22, Pillay and Coulson describe a case study of a rural agricultural non-governmental organisation in Limpopo Province that supported farming communities in remote areas with personal protective equipment, workplace and community COVID-19 screening, and distribution of food. Scheibe and colleagues, in Chapter 23, focus on the plight of homeless people and those with opioid dependence in Tshwane, and illustrate how the COVID-19 pandemic brought their health and social challenges to the fore. In the final chapter of this section, Van der Linde et al. explore the feasibility of an early child development telehealth intervention applied in the context of pandemic lockdown restrictions.

### Pharmaceuticals, vaccines and health indicators

The chapters in this section cover structural and social barriers against access to and the availability of COVID-19 vaccines. The content elucidates inequities in the global vaccination initiatives. In Chapter 25, for example, Vawda et al. explore the role of intellectual property rights in relation to the availability of and access to vaccines, and argue that 'vaccine nationalism' has been largely responsible for causing global supply shortages and preventing equitable distribution across the world.

Chapter 26 uses micro-data from a nationally representative survey to analyse trends in use of masks and handwashing and in vaccine hesitancy. As the national vaccine programme expands, Kohler et al. advocate for the government to continue with accurate, continuous and targeted communication on public health interventions.

In Chapter 27, Hart and colleagues examine the extent to which public health measures in response to COVID-19 are enabling equitable access to health care for people living with disabilities. They reiterate the call for government to adopt a disability-inclusive focus in policy-making.

In Chapter 28, Gittings et al. present the voices of adolescents and young people on their views of low vulnerability to disease, mistrust of the government and scientists, and the perceived effectiveness and safety of vaccines. The authors found that rather than a lack of information, a lack of trust in international and national responses was a significant impediment to vaccine acceptability.

In a fitting way to close the edition, Chapter 29 by Ndlovu et al. focuses on a repository of data (specifically on health status, health service and socio-demographic indicators) to demonstrate how COVID-19 has affected the provision

of health care in South Africa. These data were sourced primarily from national routine data sources, but also drew on findings from major surveys and global reports. The authors foresee that as South Africa transitions from a pandemic response to managing COVID-19 as an endemic disease, a key task will be to retain what is most useful in health information systems and other innovations.

#### Conclusion

The chapters in this edition address the public health lessons that have been learnt during the pandemic, changes that have been adopted, and the transformations that will be needed to achieve a more responsive and equitable health system. This edition highlights the abiding importance of data and information for making rational health decisions, the strength of multi-sectoral partnerships, and the need for strong legislative and ethical mechanisms to underpin improvement of healthcare services and to facilitate health research. These lessons will hopefully be considered in conversations on evolving South Africa's COVID-19 strategy towards an acceptance that the virus will become endemic, and that through a combination of increased vaccination, boosters and acquired immunity, we are able to minimise hospitalisation, severe illness and death, reduce stresses on the health system, and manage the epidemic without reinstituting lockdowns and the resultant detrimental impact on the economy and our social lives.

Kaymarlin Govender, Gavin George, Ashnie Padarath and Themba Moeti

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