

## Statement: Academic freedom and the values of science

### Academy of Science of South Africa (ASSAf)

25 May 2020

The Academy of Science of South Africa (ASSAf) wishes to record its grave concerns about the political attack on one of its Members, Professor Glenda Gray, who is also President of the South African Medical Research Council (SAMRC) and a member of the Ministerial Advisory Council (MAC) appointed by the Minister of Health to advise on matters relating to the management of the Covid-19 pandemic.

In mid-May 2020, Professor Gray participated in media interviews during which she - among other prominent scientists - expressed criticism on the implementation of some aspects of the lockdown regulations announced by government. The lockdown itself is a mechanism to contain the spread of the coronavirus among the population of South Africa.

In a measured reply, the Minister of Health issued a statement disputing aspects of Professor Gray's reported remarks. He also expressed concern that such views made by a member of the MAC could undermine public confidence in the efforts by government to issue regulations in good faith so as to give effect to policy. The Minister was in his rights to challenge Professor Gray on her views regarding certain aspects of the lockdown regulations.

What we, however, find extremely alarming is the subsequent actions by the Acting Director General of the Department of Health, Dr Anban Pillay. Dr Pillay did something that should raise red flags in our constitutional democracy. It is not simply that he accused this globally renowned scientist from making false allegations without compelling evidence for his case. Dr Pillay went further. He abused the power of his office to write to the Chairperson of the Medical Research Council recommending an investigation into the conduct of its President for the simple reason that she held different views from the political authorities on the lockdown restrictions. Without much subtlety, he reminds the Board Chair that the SAMRC is "an entity" of government implying that scientists working there have no independent voice - a position that has been challenged in other statements defending the statutory independence of the SAMRC.

As serious, Dr Pillay's actions represent a violation of the right to academic freedom that includes the right to freedom of academic research (s.16 (d) of the Constitution). We therefore wish to record our objection in the strongest possible terms to what appears to be the bullying of a scientist who not only heads up one of the nation's most prestigious research institutions, but who has a

history of courageous service as a medical professional in fighting epidemics such as HIV/AIDS and now COVID-19.

On matters of COVID-19, scientists around the world disagree on things like modelling projections of infection and death rates, as well as the efficacy of full and partial lockdown strategies as mitigating measures. This is, after all, a novel coronavirus and nobody has perfect knowledge on the course and effects of the disease on human populations. It is in this context that we believe Professor Gray's views were completely within her competence as a researcher and medical specialist of international standing. It is also her right as a scientist to differ from political authority on questions of science.

As the Academy of Science of South Africa, we believe that freedom of scientific enquiry is fundamental to the health of our constitutional democracy. Academics and researchers need the space to undertake independent research in an environment that is free from fear, intimidation and political interference. To threaten researchers and to muzzle their voice would have a chilling effect on creativity, innovation and experimentation.

We believe that the spirit of science was beautifully captured in President Ramaphosa's address to the nation on 24 May 2020 when he said that "We appreciate the diverse and sometimes challenging views of the scientists and health professionals in our country, which stimulate public debate and enrich our response."

It is this spirit that should inform the public response to science and scientists as they do their vital work.

On behalf of the Council of the Academy of Science of South Africa

Professor Jonathan D Jansen, President

Professor Barney Pityana, Vice-President

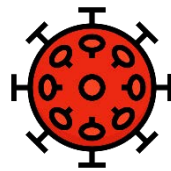
Professor Brenda Wingfield, Vice-President





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## REPORT ON ASSAf'S RESPONSE TO THE COVID-19 PANDEMIC



The [Statement](#) by the Academy of Science of South Africa (ASSAf) on the Implications of the Novel Coronavirus (SARS-CoV-2; COVID-19) in South Africa, was published on 2 March 2020, three days before the first COVID-19 positive case was announced in the country. The COVID-19 pandemic, hailed as an “unprecedented” event, culminated in the announcement of the national disaster management plan by President Ramaphosa on 15 March, followed by the lockdown measures which came into effect on 26 March 2020.

As of 21 May 2020, there are 19137 confirmed COVID-19 positive cases in the country, with 369 deaths reported. With 8950 people who have recovered from the disease, there are now 9 818 active cases. These are the types of daily statistics we have grown accustomed to in South Africa, together with the statistics published internationally. On 8 April 2020, during his daily update on CNN on the COVID-19 pandemic in New York, Governor Andrew Coumo reminded us about the human factor when we deal with statistics: “Every number is a face, every face is a family.”

ASSAf is mindful of the human consideration and societal impact of its activities as outlined in the mission to *use science for the benefit of society* (See Figure 1). As a Membership-based organisation, this mission is achieved in part through the work of the ASSAf Members who represent all fields of scientific enquiry and includes the full diversity of South Africa's distinguished scientists. ASSAf Members provide evidence-based solutions to national problems, inspiration for the use of science, technology and innovation to drive scientific curiosity, as well as facilitation of public understanding of the nature, scope and value of the scientific and technological enterprise.

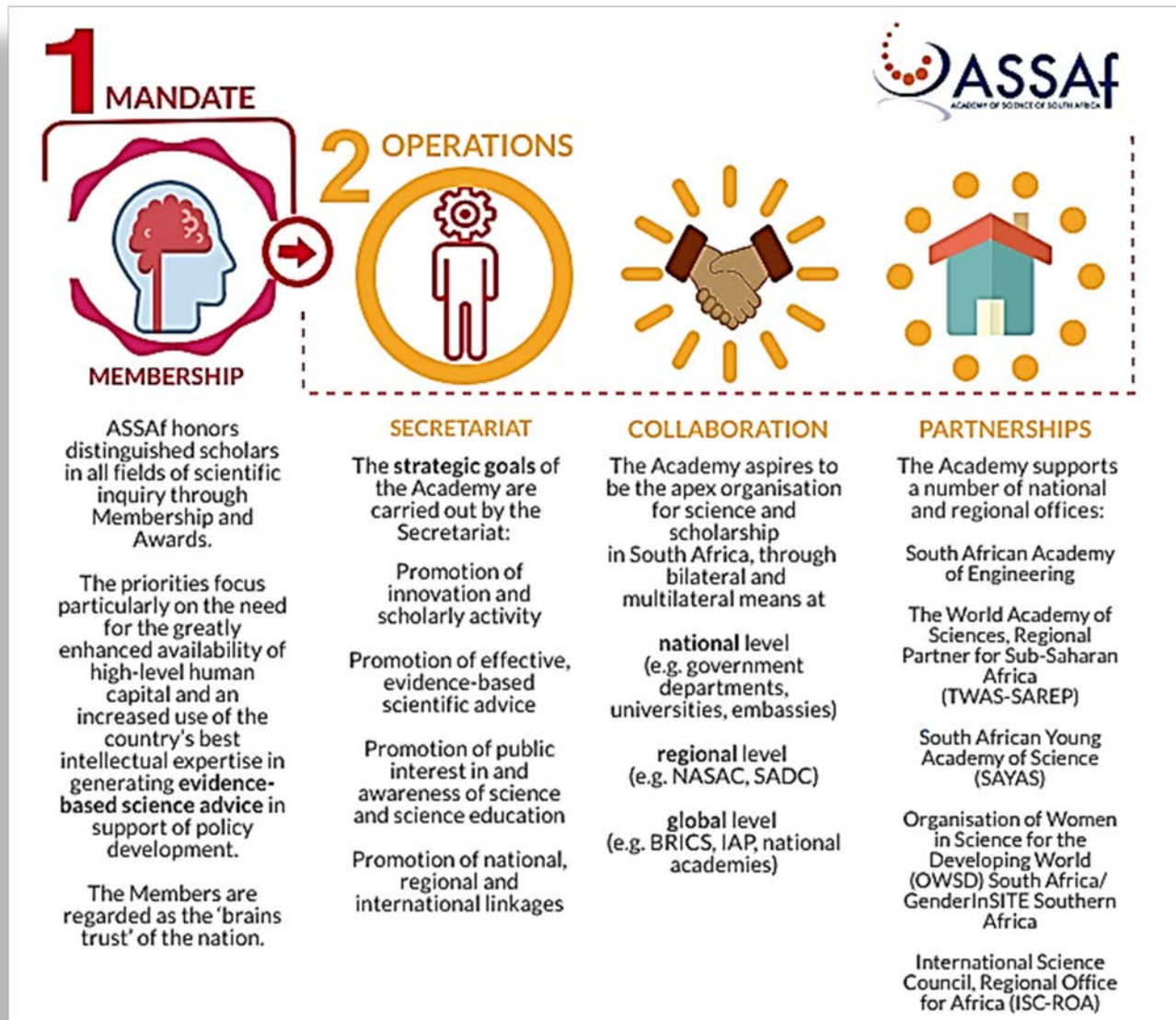


Figure 1: Operational model of the Academy of Science in South Africa

## 1. MEMBERSHIP

ASSAf Members feature prominently in the **Ministerial Advisory Committee** on COVID-19. Professor **Salim (Slim) Abdool Karim** (Co-Director of the Centre for Aids Research in Africa, UKZN), chairs the Ministerial Advisory Committee. Two of the four sub-committees are chaired by ASSAf Members: Public Health Strategies – Professor **Shabir Madhi** (Professor of Vaccinology, University of Witwatersrand) and Research – Professor **Glenda Gray** (South African Medical Research Council (SAMRC) President and Chief Executive Officer).

Professors **Fiona Tregenna** (University of Johannesburg (UJ)), **Imraan Valodia** (University of the Witwatersrand (Wits)) and Dr **Renosi Mokate** (World Bank) are members of the **Presidential Economic Advisory Council** which have been consulted widely by Government for information and recommendations during and after the nation-wide interventions to contain the spread of the coronavirus.



Professor **Helen Rees** (Wits Reproductive Health & HIV Institute), leads the drug trial component linked to the development of a vaccine against the SARS-CoV-2 virus.

Professor **Dorrit (Dori) Posel** is currently a co-investigator of the [Coronavirus Rapid Mobile Survey \(CRAM\)](#) being led by the Department of Economics at Stellenbosch University. This work draws on the National Income Dynamics Study (NIDS) sampling frame to construct a nationally-representative panel sample of 10,000 individuals that will be phoned and surveyed every month for the next six months.

A number of Members were signatories to an [open letter](#) to President Ramaphosa and the Cabinet from 76 South African economists, economic and business analysts (30 March 2020). The letter outlines 18 measures which government needs to undertake in order to support and stabilise the economy, and to ensure that the most vulnerable people and businesses will be protected. The measures are based on five requirements of economic interventions: 1) support households and communities; 2) protect workers; 3) sustain businesses; 4) strengthen public health interventions; and 5) strengthen the economy.

### Communicating to the public

To manage the COVID-19 pandemic, we rely on a constant stream of information. This information is important as it forms the basis on which individuals and Governments make important decisions. ASSAf Members have played a significant role in providing evidence-based advice, research findings and information to support Government initiatives in the fight against the COVID-19 pandemic.

Members have authored or co-authored articles, engaged with the media – print, radio and television - and used their profiles to alleviate fear and provide the public with evidence-based information. The ASSAf secretariat has been tracking these [contributions](#) on the ASSAf Website. ASSAf Members' responses to the pandemic (including research articles, letters, media interviews, public webinars), are shared to the public domain through ASSAf's social media platforms.

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## 2. SECRETARIAT

### 2.1 COUNCIL

Council Members have actively reviewed and endorsed national and international Statements related to the COVID-19 pandemic.

The ASSAf Council, and representatives of the [Standing Committees on Health](#) have endorsed an [open letter](#) signed by the InterAcademy Partnership (IAP). The letter titled "Health Inequity during the Pandemic: A Cry for Ethical Global Leadership" has been sent to the United Nations (UN) Secretary General.

### 2.2 STANDING COMMITTEES

ASSAf secretariat have engaged with Standing Committee Members to actively stimulate discussion and to plan for future studies.





The **Standing Committee on the Science for the Reduction of Poverty and Inequality** met virtually to discuss potential activities. These included an assessment of long-term responses to the impact of the global slowdown that seems inevitable, and to provide input to the policies and programmes being put in place, and later revised by government, for the immediate management of the pandemic in South Africa and its economic fall-out. Currently under consideration:

- Policymakers' booklet which calls for simultaneous consideration of poverty, inequality and climate change in times of crises with COVID-19 as context.
- Statement on integrating the issues of poverty, inequality and climate change in development planning with COVID-19 pandemic interventions as an example.
- A public event to debate the integrity and public availability of the science behind the decision-making.
- A public event to discuss the value and mode of integrating sciences and disciplines to ensure holistic approach to the pandemic.

#### Standing Committee on Biosafety and Biosecurity

- Consensus Study: *The State of Laboratory Biosafety and Biosecurity in the SADC Region*. The objectives of this study are mapping existing assets (including infrastructure, resources, human capacity, and training programmes) in the SADC region in relation to whole-of-government laboratory biosafety and biosecurity; as well as mapping existing country-specific legislation, frameworks, laboratory licencing, policies, guidelines, comprehensive oversight and monitoring systems. This proposal is based on disease outbreaks not respecting borders, including COVID-19 now, thus the need for a regional approach. This is a follow-up to the [study](#) on *The State of Biosafety and Biosecurity in South Africa* (2015). The study panel includes experts from 10 countries in the SADC region and initiated in June 2019.

#### Standing Committee on Health

- COVID-19 Africa Rapid Grant Fund: ASSAf is a member of the NRF-led team which is working on setting-up this Fund.
- Collaboration with the UK Academy of Medical Sciences (UK AMS): ASSAf together with the UK AMS will co-host an international virtual workshop alongside other countries from low- and middle-income settings on the response to COVID-19 at the end of June/beginning of July 2020. The workshop will consider the current response to COVID-19 pandemic in eight low- and middle-income countries across the world and ask how we can build on the lessons learned and identify opportunities to better support the global response to the pandemic. Proposed focus of the meeting will be on three specific areas: Public health response; Social and behavioral response; and Clinical response
- This collaboration is a follow-up on the [joint report](#) released in February 2020 on issues of multimorbidity.
- The Committee will be meeting on 22 May 2020 to discuss activities that are underway and/or proposed in response to COVID-19.

ASSAf will convene a meeting of members of all the Standing Committees to discuss an integrated approach to dealing with the health, economic and social consequences on the pandemic.

## 2.3 SCHOLARLY PUBLISHING ACTIVITY

- **South African Journal of Science (SAJS)**

The *South African Journal of Science* is a multidisciplinary journal published bimonthly by ASSAf. The SAJS mandate is to publish original research with an interdisciplinary or regional focus, which will interest readers from more than one discipline, and to provide a forum for discussion of news and developments in research and higher education. The following is proposed:

- Two Commentaries relating to COVID-19 to be published in the July issue.
- A themed issue on reflections on COVID-19 from different perspectives (e.g. health, social and economic) to be published in 2021.

A popular article on “Viral spreading in a small world” by Professor Jane Carruthers (SAJS Associate Editor Professors Amanda Weltman ), South African Young Academy of Science (SAYAS) Member and Jeff Murugan (University of Cape Town (UCT)), was published on the [SAJS website](#) and is also available on the [ASSAf institutional repository](#). The article received 475 views (mostly from Italy, South Africa and the USA) and was downloaded 70 times in the first 10 days.

- **SciELO SA**

Currently [SciELO SA](#) hosts 79 prestigious South African open access journals in its collection. As pre-print articles dealing with COVID-19 become available within the [SciELO Network](#) they are made available on the ASSAf [News webpage](#). Thus far almost 90 articles are available. New articles are also emailed to ASSAf Members and the SciELO SA mailing list groups, and SciELO SA articles dealing with COVID-19 will be sent to the SciELO Network to be highlighted in the [SciELO in Perspective Blog](#) dedicated to COVID-19.

## 2.4 SCIENCE EDUCATION

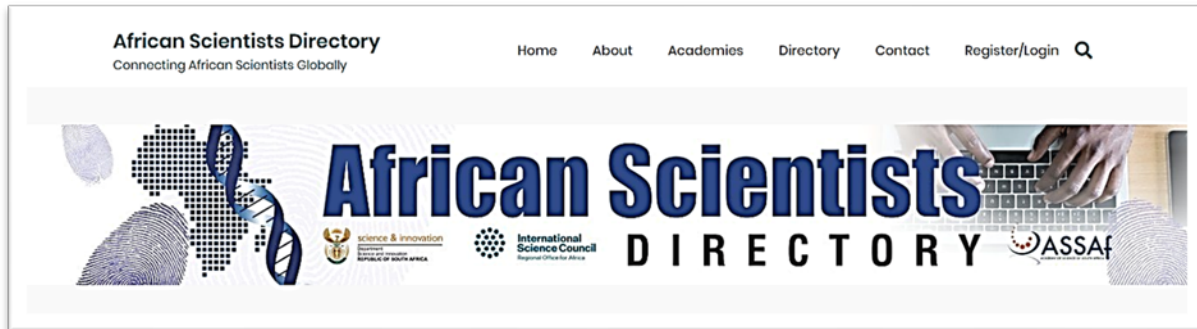
### **Quest: Science for South Africa**

*Quest* is a full-colour, quarterly, popular science magazine aimed specifically at the youth and the general public who have an interest in the sciences. It aims to present the country's foremost scientific work in an accessible form and can be used to support curricula work at various levels and institutions.

The Quest-team embarked on promotion of mathematics and science classes for grade 10–12 learners on [Facebook](#) since 1 April 2020. Tips and information sharing regarding the Departments of Basic Education (DBE) and of Higher Education and Training (DHET) homeschooling on the [Quest website](#), and utilising Twitter to share [information](#) regarding online support and developments in the education sphere due to the COVID 19 pandemic.

### 3. COLLABORTIONS

#### 3.1 AFRICAN SCIENTIST DIRECTORY



The [African Scientist Directory](#) was collaboratively developed by the International Science Council (ISC) Regional Office for Africa (ROA) and ASSAf, with funding made available by the South African Department of Science and Innovation (DSI). It is currently maintained by ISC ROA, with support from a number of partners.

The African Scientists Directory aims to benefit individual scientists, science organisations and more on national, regional, and global levels to Collaborate; Build Trust; Increase Impact; and Connect. The African Scientists Directory profiles a number of eminent virologists via this directory's news feed.

#### 3.2 AFRICAN COLLABORATIONS

Engagement with other African national academies of sciences include (to date):

- ASSAf through the Network of African Science Academies (NASAC), shared its COVID-19 statement with other academies of science on the continent.
- ASSAf through its website disseminated the [NASAC](#) and [Cameroon Academy of Sciences statement](#) on COVID-19.
- Keeping track of news articles from various African countries, which focus on actions taken to manage COVID-19.
- TWAS' [Statement](#) on COVID-19 calling for global collaboration inclusive of developing countries to combat the pandemic (see also section 4.3).

It has been proposed to the DSI that ASSAf work with NASAC, TWAS SAREP, and ISC ROA on a study that can be conducted post COVID-19. This will include estimations of countries impacted, with mappings of the impact; response to the economy; human health impacts; regional response to socioeconomic impact; role of the African Union; and rolling out of stimulus packages. The proposed study could be an opportunity for ASSAf to partner with the Human Sciences Research Council (HSRC).

#### 3.3 OVERSEAS COLLABORATIONS

In February 2020 during the peak of COVID-19 infection in China, ASSAf sent a letter of support to the President of the Chinese Academy of Sciences (CAS).



ASSAf shared its statement on the “Implications of Novel Coronavirus (SARS-CoV-2; COVID-19) in South Africa” with the IAP. The statement has been made available on the IAP website and is accessible to over 130 national academies and regional academies.

ASSAf and the German National Academy of Sciences Leopoldina have been sharing statements on the impact of the pandemic. The following statements were shared by Leopoldina with ASSAf:

- [Coronavirus Pandemic in Germany: Challenges and Options for Intervention](#)
- [Coronavirus Pandemic – Measures Relevant to Health](#)
- [Coronavirus Pandemic – Sustainable Ways to Overcome the Crisis](#)

In April 2020, ASSAf contacted the Cuban Academy of Sciences to explore cooperation in areas of mutual interest. ASSAf proposed working together with the Cuban Academy of Sciences in exchanging information relevant to COVID-19.

ASSAf supported the [open letter](#) drafted by the Brazilian Academy of Science to the UN entitled “Health Inequity during the Pandemic: A Cry for Ethical Global Leadership”, which highlights the plight of the vulnerable and marginalised populations worldwide.

Four ASSAf Members have been nominated to serve on the [IAP’s ad hoc COVID-19 Advisory Committee](#). The IAP hopes to convene a group of about 50 experts to provide science-based responses to the multitude of doubts and queries related to the pandemic. The group will be multidisciplinary in nature and no single expert or field of specialisation can provide clear simple responses to the many queries. Likewise, advice from experts in certain countries may not fit the on-the-ground situation in other countries.

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## 4. PARTNERSHIPS

### 4.1 Gender in Science, Innovation, Technology and Engineering (GenderInSITE)

GenderInSITE (GIS) through its Africa focal point has been collecting news articles and scholarly articles that apply a gender lens to the coronavirus pandemic. The articles are then disseminated through the [GIS Africa website](#) and social media pages. The role of GenderInSITE African Regional Focal Point is focused on efforts to raise the awareness of the public and scientists around the links between COVID-19 and gender, and the value of understanding these linkages.

### 4.2 International Science Council (ISC)/ ISC Regional Office for Africa (ISC ROA)

- [ISC Headquarters](#)

The ISC Headquarters set up a [COVID-19 Global Science Portal](#). This portal provides an overview of response to the coronavirus pandemic by the ISC community. It shares scientific commentary and analysis, and provides access to information on various initiatives, highlighting the scale and scope of response, and encouraging ISC members and partners to collaborate and share best practices during this global emergency. ROA



contributed to this portal by obtaining and sharing views from the young scientists on how the pandemic has [adversely affected transdisciplinary research in Africa](#). The ISC Office encourages other stakeholders and partners from the continent to share information on this portal.

- **The International Network for Government Science Advice (INGSA)**

The INGSA headquarters established a [hub of information and resources about the science-policy interface of the pandemic](#), as it occurs globally and in individual jurisdictions. This network is about the processes of mobilising and providing evidence-informed advice to decision-makers as well as coordinating advice and action across jurisdictions and globally. ISC ROA as Secretariat of the INGSA-Africa Chapter was approached to encourage members of the Chapter to contribute [to a knowledge base from which lessons from actions that take place at the interface between science and policy](#) can be drawn.

The ISC ROA also collaborated with the INGSA headquarters to identify suitable experts from African countries as collaborators in running a policy tracker to collect and track national and sub-national pandemic response policies and actions for comparative analysis. The project has since been running smoothly with submissions from several African countries on COVID-19.

- **Local Initiatives**

Following a meeting that was held together with the DSI, HSRC and ASSAf, ISC ROA's [Health and Human Wellbeing Consortium](#) led by Prof Charles Wambebe, is developing a project proposal, in collaboration with the Indigenous Knowledge based Technology Innovation Division of the DSI on the evaluation of African natural products from plants and animals to boost human immune responses to the COVID-19. Prof Wambebe is also collaborating with the DSI and the Organisation for Economic Cooperation and Development.

#### **4.3 Organisation for Women in Science in the Developing World (OWSD) South Africa National Chapter (OWSD SA NC)**

OWSD SA NC has engaged its members with the initial response to the Covid-19 outbreak and has steadily been receiving responses from members and their work in this regard. OWSD SA NC aims to compile a knowledge product at the end of this which documents the active engagement of women scientists and technologists during this time.

#### **4.4 South African Young Academy of Science (SAYAS)**

##### **COVID-19 Health messaging**

Given the unprecedented global challenge caused by COVID-19, the scientific community can however contribute to mitigating the effects of the pandemic, and actively engage in the science-policy-society interface. In a bid to do this, SAYAS translated the general health messaging around the virus into local languages: Sepedi, Tshivenda, Afrikaans, isiXhosa, isiZulu, Sesotho, Northern Sesotho, siSwati and Xitsonga; and a few more for dominant migrant groupings in South Africa – Shona, Swahili, Portuguese,



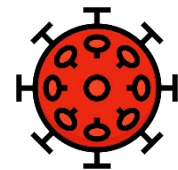
Lingala and French. These have been disseminated mainly online through the [SAYAS website](#), social media platforms (Twitter and Facebook feeds) and by SAYAS members.

The initial work done by SAYAS members in translating COVID-19 health messaging into local languages in South Africa was picked up by the Uganda National Young Academy who did similar work based on the SAYAS English template, translating this to the various languages of Uganda.

The COVID-19 pandemic has presented an unprecedented global challenge. Various SAYAS members have also written informative articles on the impact of the virus and undertaken engagements in various other ways such as holding discussions on community radio. These have been captured on the [SAYAS website](#).

## CONCLUSION

Going forward, ASSAf will encourage its Members to work collaboratively in an effort to use an evidence-based approach to provide attainable solutions to the many problems facing the country. ASSAf's unique strength is the disciplinary diversity of its distinguished Members who have attained national and global recognition. Through strategic partnerships, we can use science and humanitarian considerations towards planning a way forward to alleviate the distress caused by the current situation. ASSAf supports the rebuilding of a country for all South Africans.



## ASSAf Statement on the Implications of the Novel Coronavirus (SARS-CoV-2; COVID-19) in South Africa

In December 2019 a novel coronavirus (now known as SARS-CoV-2) was identified in a cluster of hospitalised patients with pneumonia with a possible common source of exposure in a food market in the capital city of Wuhan, in the Chinese Province of Hubei. This strain of coronavirus, although not previously identified in humans, is phylogenetically very similar to the SARS-CoV that caused an epidemic of severe acute respiratory syndrome (SARS; pneumonia) in the Chinese Province of Guangdong in 2002. This is the third time in two decades that a zoonotic coronavirus has crossed species to infect human populations, the other epidemic being the MERS-CoV outbreak in 2010 in the Middle-East, with the largest number of cases in Saudi Arabia. As with other respiratory illnesses caused by common coronavirus and other viruses, infection with SARS-CoV-2 (also referred to as COVID-19 if causing disease), causes mild symptoms including a sore throat, cough and fever. In some persons, usually the elderly or people with pre-existing medical conditions (such as diabetes and heart disease), the infection can be more severe and can lead to severe pneumonia, respiratory or kidney failure, and ultimately death. Importantly, it is not known whether individuals with Human Immunodeficiency Virus (HIV) or underlying Tuberculosis (TB), both of which are highly prevalent in South Africa, are at increased risk for severe disease following infection with SARS-CoV-2. This is especially relevant based on evidence that individuals living with HIV have an eight-fold greater burden of hospitalisation for pneumonia due to influenza virus, and a three-fold higher case fatality risk.

As of 28 February 2020, there have been approximately 78,000 identified cases of COVID-19, and 2,800 deaths. This is in contrast to the approximately 8,500 and 2,500 cases reported for the previous SARS-CoV and MERS-CoV epidemics, respectively. Although the case fatality risk of SARS-CoV-2 is lower (approximately 2%) compared to SARS-CoV of 2002/3 (10%; 800 deaths) or MERS-CoV (35%; 866 deaths), transmission of SARS-CoV-2 has been more widespread. To date the majority of COVID-19 cases are in Wuhan and the greater Hubei Province in China, however, as of 28 February 2020 COVID-19 cases have been identified in more than 40 countries, including epidemics in Iran, South Korea and Northern Italy. Furthermore, isolated imported cases have been identified in at least three African (Egypt, Algeria and Nigeria) countries. This indicates that the virus is likely to spread to other African countries, including South Africa which is considered high risk due to people travelling in and out of the country to affected areas. The ability of African countries to timeously detect the virus in the absence of robust surveillance systems, as well as the ability to scale-up resources to attend to additional demands posed by an outbreak are of concern. To address this, countries in the African region are receiving international support to strengthen surveillance and access to diagnostics, infection control and clinical care. The test of the success of this important global intervention will be the ability of resource - constrained countries to respond to imported cases or wider outbreak should this occur.

In South Africa, the National Institute of Communicable Diseases (NICD) has one of the most effective surveillance programmes in the region and serves as a reference laboratory for a number of African countries. For the surveillance system to work well, it is important for health services to be alert to identification of possible cases so that appropriate diagnostic and infection control measures are taken. The South African Department of Health and the NICD have been pro-active in implementing a comprehensive multisectoral plan across all provinces, offering laboratory and healthcare worker training aimed at strengthening surveillance, infection control and clinical care. This is complemented by continuously updated guideline documents shared with the many stakeholders in the private and public health sector. However, as seen in China and South Korea, in the event of a major outbreak of SARS-CoV-2 in South Africa, the ability of our health services to adequately respond may be stretched. Consequently, a low threshold for testing of suspected cases of COVID-19, early isolation of highly suspicious cases, and possibly quarantine of their close contacts (for at least 14 days if confirmed in the index case) may need to be exercised to mitigate widespread transmission of SARS-CoV-2 in South Africa.

## **ASSAf Statement on the Implications of the Novel Coronavirus (SARS-CoV-2; COVID-19) in South Africa**

Furthermore, with healthcare workers attending to COVID-19 cases being at particularly high risk of infection, it is essential that all healthcare workers be trained to be rigorous with routine infection control practices, especially hand hygiene (using soap or alcohol solutions) when attending to patients with respiratory symptoms and more generally. Such infection control practices, in addition to reducing risk of infection by SARS-CoV-2, are also critical for reducing risk of acquisition of other infections (including the influenza virus which usually circulates in South Africa from April to August). Also, proper hand hygiene practices among health workers (and others), is critical to address the current public health emergency of the high burden of multi-drug resistant bacterial invasive disease already existent in our hospitals.

At a recent meeting of researchers and experts convened by the World Health Organisation, many unanswered questions about SARS-CoV-2 and COVID-19 were identified and an urgent global research agenda developed. This includes better understanding of the natural history and epidemiology of SARS-CoV-2, immunological markers of infection, studies to identify effective therapeutics, diagnostics and vaccines. Noting the stigma and community concern that this outbreak is causing, a complementary socio-behavioural research agenda was also prioritised. A 'One Health' approach to identifying and managing the reservoir and intermediate hosts is critical to control. Such research and development are key to the response to outbreaks of emerging and re-emerging pathogens, as evidenced by the recent Ebola virus outbreaks in Africa which have been mitigated by the development and successful deployment of countermeasures such as rapid diagnostics, vaccines, therapeutics supported by intensive community engagement.

In conclusion, the Academy of Science of South Africa (ASSAf) supports the pro-active stance of the National Department of Health, the NICD and other stakeholders in the preparation for the possible importation of SARS-CoV-2 into South Africa. Nevertheless, we recommend increased investment in surveillance structures to support timeous response to suspected cases of COVID-19 (and their contacts), and increased support for the public healthcare service to facilitate effective management of cases. Also, it is essential that the significant training of healthcare workers already undertaken be expanded and reinforced on infection control practices in general. Furthermore, it is important to pro-actively counter any rumours and false-science which have the potential to cause widespread social and economic stress if not countered by evidence-led initiatives.

The current outbreak of SARS-CoV-2 has been declared a 'public health emergency of international concern' by the World Health Organisation, with strong indicators that it could soon be declared a pandemic. In addition to the health consequences of such a pandemic, the SARS-CoV-2 epidemic is already having an economic impact, with most major financial markets reporting large declines over the past week, and threats that a pandemic could affect economic growth globally. This is of particular concern to a country such as South Africa, which has been bordering on a recession and where economic growth has been stagnant over the past few years. While the world has responded rapidly, our ability to contain and stop this outbreak depends on the collective response of governments, scientists, the global community and of citizens, and we all have a role to play in this response.

*ASSAf wishes to thank Professors Shabir Madhi, Lucille Blumberg, Helen Rees and other ASSAf Members who contributed to this Statement.*