



**UNIVERSITIES
SOUTH AFRICA**

Engagement and Research in Response to COVID-19

Introduction: The information contained in this report was compiled from inputs received directly from public universities (on request of the USAf Office) from 31 March to 29 April. In addition to this report, USAf has produced *Research* and *Emergency Teaching and Learning During the COVID-19 Era* reports. The former chronicles universities' extensive research contribution to the fight against COVID-19, while the latter is self-explanatory.

Name of institution	Engagement in support of Government and other entities in their response to COVID-19	Engagement Outcomes (realised or anticipated)
Cape Peninsula University of Technology	<p>CPUT engaged various entities towards collaboration in the development and manufacturing of protective gear for use by frontline health personnel and the broader public. The engaged entities were:</p> <ul style="list-style-type: none">• The Department of Trade and Industry's CTFL Masterplan and Industrial Policy Action Plan Team and the manufacturing industry, towards the design of facial masks• The provincial government of the Western Cape; UWC's Dental Department; WITS, UCT and Groote Schuur Hospital towards the development of N95 facial protective gear; ventilators and protocols for testing those ventilators.	Face masks for public use; Face masks and shields for medical personnel, and ventilators for use in public hospitals
Central University of Technology	CUT's Centre for Rapid Prototyping and Manufacturing (CRPM), the Product Development Technology Station (PDTS), the Centre on Quality of Health and Living (CQHL), and CUT Innovation Services (CUTis) has been engaging the Free	Non-invasive ventilators, oxygen connectors and splitters, mouth pieces/masks, ventilation helmets,

	<p>State provincial Departments of Health and Education, and the private sector towards the development of hospital equipment and protective gear for public use.</p> <p>The University also signed an agreement with VW South Africa to manufacture masks, by using material that VW has available.</p>	<p>shields as well as sanitisers in aid of Pelonomi, Universitas and National hospitals in Bloemfontein); also linking with national groups in the Western Cape, KwaZulu-Natal and Gauteng</p> <p>Face masks for use in VW's spray booths.</p>
Durban University of Technology	<p>Engagement of:</p> <ul style="list-style-type: none"> • The KwaZulu-Natal provincial government and the SA Medical Research Council towards analysis of epidemiological data to inform strategic planning. • The eThekweni Municipality on Lessening the Social and Economic Impact of COVID-19 	<p>Empirically informed strategic planning</p> <p>Interventions in protection of the homeless</p>
Nelson Mandela University	<p>Nelson Mandela University engaged the Eastern Cape provincial government and the Nelson Mandela Bay Municipality towards developing a custom-made solution for capturing data for case identification, lab tests and contacts tracing. The comprehensive solution is already in use.</p> <p>Still in support of the provincial government and the local municipality, the Centre for Community Technology (CCT) Faculty of Education produced a video and multimedia materials in three languages to create COVID-19 awareness. The Centre also designed an audio solution and wrote hard copy story books (In isiXhosa, Sesotho and Afrikaans) to educate families in rural and township context.</p> <p>The School of Engineering, together with eNtsa (an Engagement Institute within the Faculty of Engineering, Built Environment and Information Technology) engaged WSU towards collaborating on using the reverse engineering technology in the design of a plunger system to replace the flow timer on the Nuffield ventilator.</p>	<p>Effective and uniform data capturing in the Eastern Cape and Nelson Mandela Bay Metro</p> <p>Multi-lingual public information and awareness creation</p> <p>Improved ventilators for use in the Eastern Cape Province</p>

<p>North-West University</p>	<p>The Faculty of Natural and Agricultural Sciences, through Dr Hazel Mufhandu, Senior Lecturer in Virology, has been raising public awareness of COVID-19 on the Tswana and Sotho-speaking SABC radio stations of Motswedding and Lesedi FM, and also via community radio stations in the North West Province. The Mafikeng Campus Science Centre and other NWU experts are also planning to do their bit in spreading the message through Tswana and Afrikaans community radio stations in their immediate localities of Mafikeng, Potchefstroom and the Vaal.</p> <p>The University has also been engaging the provincial Department of Health for support in contact tracing and monitoring (surveillance), data capture; epidemiology modelling and trend analysis on the spread of the disease</p> <p>The African Centre for Disaster Studies within the Unit for Environmental Sciences and Management, which is involved in scenario planning as part of the multi-institutional COVID-19 modelling teams, has been advising the provincial Department of Health on the state of COVID-19 nationally, and also on drafting of protocols for quarantine sites and lockdown.</p> <p>The Indigenous Knowledge System (IKS) Centre is engaging the Department of Science and Innovation towards working with traditional African healers to advise the President on the competencies of this group in solving the pandemic.</p> <p>The Faculty of Health Sciences is collaborating with Austell Laboratories (Pty) Ltd, a wholly owned South African pharmaceutical company, towards developing a diagnostic tool with a turnaround capability of one and a half hour.</p> <p>The Food Security Department, through the Centre for Advanced Manufacturing (CFAM) under the Faculty of Engineering, engaged the Premier of the North West Province on the possibility of the Department producing instant porridge from their agro processing plant, in support of the Provincial government towards food relief to vulnerable communities in the province, particularly during the national lockdown. CFAM was developing a proposal which would require the involvement of the provincial government in this regard.</p> <p>The NWU Medical Device Development and Commercialisation Group and its affiliates within the Faculty of Engineering have been engaging their partners within UCT, CUT, SU, VUT, CSIR, Aerosud and Progressus Digital towards urgent development of medical equipment which, as at the end of March, was reported to be in short supply. They also approached the Industrial Development</p>	<p>Public awareness</p> <p>Disease control</p> <p>Health advice for intervention planning</p> <p>Indigenous knowledge sharing towards solving the pandemic</p> <p>Potentially improved diagnostic capability</p> <p>Enhanced food security</p> <p>Potentially bolstered medical equipment</p>
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	<p>Corporation (IDC) and the Department of Trade and Industry (DTI) about funding this initiative. The products they are looking at are masks for health professionals, swabs/test kits, sanitiser, invasive and non-invasive ventilators, spare parts, hospital beds and linen.</p>	
<p>Rhodes University</p>	<p>RU has heeded calls of the national, provincial and local government structures to lend a hand to the fight against COVID-19. Engagements are taking place at various levels:</p> <ul style="list-style-type: none"> • Professor Justin Jonas of the Department of Physics & Electronics provides technical advice to the National Task Team coordinating the production of ventilators for South Africa • Professor Michael Rogan of the Neil Agget Labour Studies Unit is a member of the Presidential Task Team looking into social policy measures to assist informal workers affected by the COVID-19 crisis. • The Community Engagement Division, in collaboration with the SARCHI Chair in Biotechnology Innovation and Engagement have been producing public information and education materials (posters, pamphlets). They disseminated them in the neighbouring communities in English and isiXhosa, to promote responsible and hygienic practices around COVID-19. • RU's Communications and Advancement Division liaises with the Eastern Cape Provincial Disaster and Security team on the University's support programme in the context of COVID-19. The division is also leading a social media communication campaign in the surrounding communities. • Other public communication work is being driven through Grocott's mail, an award winning community newspaper run by the School of Journalism and Media Studies, and Rhodes Music Radio, a community station which has re-configured its regular programming to accommodate public information on the corona virus. • While RU's Psychology Department produced guidelines for safeguarding emotional and mental health during the lockdown, the Centre for Social Development and the SA Numeracy Chair have produced educational entertainment material in support of parents in home-schooling their children. Individual staffers of RU have also provided online videos on fitness and other support sessions. Other RU volunteers have delivered food parcels to the neighbouring needy communities. 	<p>Technical advice</p> <p>Policy advice</p> <p>Public information and COVID-19 awareness</p> <p>Public information and COVID-19 awareness</p> <p>Public information and COVID-19 awareness</p> <p>Mental health guidelines; home schooling parental support; fitness; food parcels and other community support</p>

	<ul style="list-style-type: none"> The RU Vice-Chancellor set up a Coronavirus Response Task Team to co-ordinate the University's response and to keep the RU informed and updated on interventions of the University in the prevention of this disease from spreading, and in its containment once cases are identified. 	Staff awareness; disease prevention and containment and general information updates to the RU community
Sefako Makgatho University of Health Sciences	<p>SMU, through the Acting Vice Chancellor, Prof Lekan Ayo-Yusuf participates in the Ministerial PSET Covid-19 Task Team, which guides the response of the PSET sector to the pandemic and advises on its implications for the sector and in society.</p> <p>SMU also advises the government on the effects of COVID-19 on public health, by playing a role on the Public Health Ministerial Committee on COVID-19. Prof Mathilda Mokgatle from the School of Health Care Sciences is SMU's representative to this Committee, which provides high-level strategic advice to the Minister of Health and supports the national Department of Health in its response to the COVID-19 outbreak in South Africa. SMU's contribution is to provide research-based evidence in support of Public Health and Community responses to the epidemic, and to provide input to prevention and control guidelines and health messages.</p> <p>Alongside those from TUT and WITS, SMU researchers also responded to an invitation from the Gauteng Department of Health (GDOH) to develop a readiness tool in combating Covid-19. The three institutions and experts representing Gauteng Department of Health, UNICEF and WHO developed such a tool which assessed the availability of infrastructure and resources needed to respond to the health care needs within the growing epidemic in the Gauteng Province.</p>	<p>Policy advice</p> <p>Strategic public health advice.</p> <p>A tool determining provincial health readiness to combat COVID-19 in Gauteng</p>
Stellenbosch University	<p>Engagement that started with Gauteng Health in 2019 to gather data on general reflections of rehabilitation clinicians (occupational therapists, occupational therapy assistants and technicians, physiotherapists, speech and hearing therapists, audiologist and podiatrists) was extended at the onset of COVID-19 to also incorporate data pertaining to this era. The Department of Occupational Therapy, Health and Rehabilitation Sciences in the Faculty of Medicine and Health Sciences is involved.</p> <p>The Department of Family and Emergency Medicine in the same faculty is also providing technical expertise to the Cape Town Metro District Health Services on de-escalation of facility based primary care services and escalation of community-based primary care services. For example, the Department advised on a shift</p>	<p>Occupational health research leading to informed policy advice and potential to improve public health management in the Gauteng Province</p> <p>Logistical advice for improved public health management in the Cape Town Metro</p>

	<p>towards home deliveries of 200,000 prescriptions per month for patients with chronic diseases so they do not have to come to the facility.</p> <p>SU's leading researchers are part of a team engaging the policy makers in the Presidency and the National Treasury on the Coronavirus Rapid Mobile (CRAM) Survey, which is exploring changes in social and economic outcomes of COVID-19 in a nationally-representative sample of 10,000-20,000 South African individuals, over the next six months. The researchers are looking at indicators such as child hunger, unemployment and income. Also involved are researchers from UCT, Wits, UWC and UJ.</p>	<p>Insights on socio-economic consequences of COVID-19; Potential policy influence</p>
University of Cape Town	<p>Prof Bruce Bassett from the Department of Mathematics and Applied Mathematics has been engaging the City of Cape Town on epidemiological modelling of COVID-19 in the city.</p> <p>UCT's leading researchers are part of a team engaging the policy makers in the Presidency and the National Treasury on the Coronavirus Rapid Mobile (CRAM) Survey, which is exploring changes in social and economic outcomes of COVID-19 in a nationally-representative sample of 10,000-20,000 South African individuals, over the next six months. The researchers are looking at indicators such as child hunger, unemployment and income. Also involved are researchers from SU, Wits, UWC and UJ.</p>	<p>Technical advice for disease control</p> <p>Insights on socio-economic consequences of COVID-19; Potential policy influence</p>
University of Johannesburg	<p>UJ's leading researchers are part of a team engaging the policy makers in the Presidency and the National Treasury on the Coronavirus Rapid Mobile (CRAM) Survey, which is exploring changes in social and economic outcomes of COVID-19 lockdown in a nationally-representative sample of 10,000-20,000 South African individuals, over the next six months. The researchers are looking at indicators such as child hunger, unemployment and income. Also involved are researchers from SU, Wits, UCT and UWC.</p> <p>COVID-19 Outreach/ Op-eds (Seale/Marwala/Mbuvha/Graham/Khan)</p>	<p>Insights on socio-economic consequences of COVID-19; Potential policy influence</p> <p>Public information</p>
University of KwaZulu-Natal	<p>At the onset of the pandemic, UKZN established a COVID-19 War Room, housed in the College of Health Sciences and led by the DVC of the College, Professor Busi Ncama and Professor Mosa Moshabela, Dean and Head of the School of Nursing and Public Health. The War Room provides advice to UKZN and the KZN Department of Health on all aspects of COVID-19.</p>	<p>Policy advice</p>

<p>University of Limpopo</p>	<p><u>Encouraging students and staff to do their bit in their communities:</u> UL's first response to the virus was to mobilise the University community to assist in communicating the Public Health Precautionary measures. The University communication platforms were used to relay the messages.</p> <p>Specialists in the Faculty of Health Sciences, especially the joint appointees, assist the Limpopo Department of Health through the development of intervention plans, add to testing capacity and the compilation of Health Precautionary messages -- among other matters.</p> <p><u>Using Radio Turf to reach local communities:</u> The University's radio station is one of the resources being used to deliver awareness messages and the need to comply with the regulations set to curb the spread of the virus. This is a useful and efficient resource that reaches out to thousands of listeners in the Turf community.</p> <p>Finally, staff within the UL research entities such as the Dikgale Health and Demographic Surveillance System (HDSS), VLIR and DIMAMO (Dikgale, Mamabolo, and Mothiba) have mobilised their staff to use their research infrastructure for public testing against the coronavirus. Professional nurses training within UL have availed themselves to assist with extended virus testing services.</p>	<p>Public information and awareness creation</p> <p>Health Interventions and messaging advice</p> <p>Public information and awareness creation</p> <p>Public testing capacity to reach 100 000 community members in 18 000 households</p>
<p>University of Pretoria</p>	<p>Engagement activities have taken two forms: a response to the local context and communication to the UP community as reported below:</p> <p><u>Capacity Support and Volunteering</u></p> <ol style="list-style-type: none"> 1. Senior medical students volunteered and are currently deployed in hospitals and other facilities to support doctors. 2. A cellphone application has been developed for doctors to manage COVID-19 cases in the hospital setting. 3. UP'S MakerSpace Centre is producing 3D-printed visor frames for facial shields for use by healthcare workers in Gauteng. 4. The Faculty of Health Sciences has been leading and has been proactive in installing sanitisers throughout the Faculty, developing education material, producing videos and video clips on preventative measures. 	<p>Capacity support to Pretoria hospitals and health workers in the Gauteng Province</p>

University of the Western Cape	UWC's leading researchers are part of a team engaging the policy makers in the Presidency and the National Treasury on the Coronavirus Rapid Mobile (CRAM) Survey, which is exploring changes in social and economic outcomes of COVID-19 in a nationally-representative sample of 10,000-20,000 South African individuals, over the next six months. The researchers are looking at indicators such as child hunger, unemployment and income. Also involved are researchers from SU, Wits, UCT and UJ.	Insights on socio-economic consequences of COVID-19; Potential policy influence
University of Venda	UNIVEN participates in the District Disaster Management Team and District Technical Command Council where it reports on progress regarding interventions in mitigating the impact of Covid-19	University updates on COVID-19 related actions
University of the Witwatersrand	<p>WITS's leading researchers are part of a team engaging the policy makers in the Presidency and the National Treasury on the Coronavirus Rapid Mobile (CRAM) Survey, which is exploring changes in social and economic outcomes of COVID-19 in a nationally-representative sample of 10,000-20,000 South Africans over the next six months. The researchers are looking at indicators such as child hunger, unemployment and income. Also involved are researchers from SU, UCT, UWC and UJ.</p> <p>As a partner to the Gauteng City-Region Observatory (GCRO), WITS also engaged this entity towards developing an interactive map showing the vulnerability of the Gauteng province to COVID-19, as part of WITS Big Data research. See more in the Research Report. The GCRO is a partnership between Wits University, the University of Johannesburg and the Gauteng Provincial Government. Its mandate is building strategic intelligence through improved data, information, analysis and reflective evaluation for better planning, management and co-operative government.</p> <p>Wits University engaged and partnered with and the Gift of the Givers Foundation in setting up a COVID-19 Testing Station on the WITS Braamfontein Campus on Enoch Sontonga Road. Gift of the Givers manages the testing station, while Mullah Laboratories co-ordinates the sites; reports to the National Institute for Communicable Diseases (NICD) and provides results to the referring doctor.</p> <p>The WITS Health Consortium divisions have also been engaging the national Department of Health, the National Institute for Communicable Diseases and the National Health Laboratory Services on new research projects (on new therapies and vaccines) aimed at strengthening the country's response to the pandemic. Professor Helen Rees, the Executive Director of the Wits Reproductive Health and</p>	<p>Insights on socio-economic consequences of COVID-19; Potential policy influence</p> <p>Disease spread forecasts and policy advice for timely control measures</p> <p>Improved public health response for COVID-19 containment</p> <p>New treatment therapies for improved COVID-19 response</p>

	<p>HIV Institute (Wits RHI) and Professor Jeremy Nel, are leading players in this regard.</p> <p>The WITS Health Consortium also leads the South African research team in the 10-nation Solidarity clinical trials aimed to identify the most effective treatment against COVID-19. These clinical trials are being co-ordinated by the World Health Organisation.</p> <p>Furthermore, several WITS professors have been appointed to various government committees or sub-committees to provide counsel in the management of the COVID-19 from various perspectives. Among them, Professor Martin Veller, Dean of the Faculty of Health Sciences is a member of a Ministerial Committee providing clinical management advice on COVID-19.</p> <p>As a direct contribution to society, the WITS Centre for Deaf Studies (CFDS) is keeping the deaf community informed about the coronavirus pandemic. When the President addressed the nation on 15 March, the CFDS ensured there was a full live stream interpreting by a Deaf person through the use of relay interpreting – a practise of translating messages from one language to another through a third language for a targeted audience. As part of awareness-raising, the Centre also produced “Corona Info for kids”, an educational video teaching deaf children about the deadly virus. The Centre has since added subtitles to videos being circulated on the coronavirus to create inclusivity and enable Deaf and hard of hearing people to watch and share these videos with their hearing family and friends. Professor Claudine Storbeck, Director for CFDS, has been leading these initiatives.</p> <p>After the onset of the national lockdown on 31 March, a group of 78 academics from Wits wrote an open letter urging President Cyril Ramaphosa for more significant action balancing health and economic safeguards to protect citizens. While commending the President and his Cabinet for the bold and decisive public health measures taken in response to the COVID-19 pandemic, the academics were also suggesting additional measures to stabilise the economy and assist those hardest hit by the crisis. The academics comprised economists, business analysts, researchers and economic justice advocates.</p> <p>Soon thereafter, six leading Wits professors developed and shared a strategy for a revised lockdown, which apparently influenced government’s decision to review the regulations that governed the initial national lockdown.</p>	<p>New treatment therapies for improved COVID-19 response</p> <p>Strategic medical counsel informing national policy interventions</p> <p>A more inclusive public awareness, information and education drive on COVID-19</p> <p>Economic policy advice</p> <p>Policy advice seeking to balance safety and economic safeguards</p>
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	<p>On 1 April, 2020, the Wits School of Molecular and Cell Biology donated medical gloves for frontline healthcare workers at Chris Hani Baragwanath Hospital in Soweto, in an effort coordinated by Professor Yasien Sayed in the Protein Structure Function Research Unit (PSFRU) in the School of Molecular and Cell Biology – assisted by Dr Pieter De Maayer, Dr Angela Botes and Dr Vanessa Meyer. Fifty-six boxes containing 50 pairs of gloves each were donated.</p> <p>In the COVID-19 Special Issue of the Wits Journal of Clinical Medicine, published in April, 2020, medical researchers present the first clinical data on COVID-19 published in South Africa. The journal, published by Wits University Press under open access conditions, presents, among others, ethical difficulties that health professionals will face regarding COVID-19 patients. Topics covered in this edition range from the clinical, through ethical, to the social dynamics of its impact. Highlights include:</p> <ul style="list-style-type: none"> • Diagnosis of COVID-19: Considerations, controversies and challenges in South Africa • Social dimensions of COVID-19 in South Africa: A neglected element of the treatment plan • Clinical ethical challenges in the COVID-19 crisis in South Africa • Potential impact of SARS-CoV-2 infection in HIV-positive patients in South Africa • COVID-19: The concept of herd immunity – is it a strategy for South Africa? <p>The edition features much more. Academics and students may freely access Covid-19 resources published in the Wits University Press eBook collection for free in your university library through JSTOR and Proquest until 1 July 2020.</p>	<p>Public health intervention</p> <p>Public access to scientifically researched and credible information on COVID-19</p> <p>Guidelines to health workers on ethical and other decision-making;</p>
<p>Walter Sisulu University</p>	<p>WSU has been engaging Nelson Mandela University's eNTSA (an Engagement Institute within the Faculty of Engineering, Built Environment and Information Technology), on collaborating in the design and development of a non-invasive mechanical ventilator, using reverse engineering technology.</p> <p>Through Professor Hyera, Head of Public Health, WSU actively engages the provincial government of the Eastern Cape, advising task teams.</p>	<p>Provision of critical medical equipment for the Eastern Cape health facilities</p> <p>Technical and policy advice</p>

	Prof Zingela, Head of Psychiatry, is also training health care officials.	Health care training for officials in the provincial government
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