

A photograph of three scientists in a laboratory setting. They are wearing white lab coats and safety glasses. One scientist on the left is wearing blue gloves and holding a document. The other two are looking at the document. The background is a blurred laboratory with various pieces of equipment. The image has a purple and blue color overlay.

# INTELLECTUAL **RESOURCES**

## INTELLECTUAL RESOURCES

CANSA's intellectual resources comprise our organisational, knowledge-based intangibles, including:

- intellectual property, such as patents, copyrights, software, rights and licences
- 'organisational capital' such as tacit knowledge, systems, procedures and protocols
- our cancer research.



**3** GOOD HEALTH AND WELL BEING



**4** QUALITY EDUCATION



**8** DECENT WORK AND ECONOMIC GROWTH



**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



**17** PARTNERSHIPS FOR THE GOALS



## RESEARCH

CANSA's core research focus is on reducing risk, early detection and diagnosis, and optimising patient care and support, including palliation. CANSA uses evidence-based research to inform our advocacy work, our health education programmes, and our service to those living with cancer and members of the public. Funds were used across only four research programmes categorised Type A, B and C.

## CANSA RESEARCH GOALS

### TO CONTRIBUTE TO ADDRESSING THE CANCER BURDEN IN SOUTH AFRICA

- Through funding high-quality, relevant (to South Africa/low- and middle-income countries), high-impact research focused on:
  - Reducing risk and exposure to risk
  - Early detection
  - Meeting the needs of cancer patients
- [Across our research programmes A, B, C]

### TO INFORM CANSA'S OFFERINGS (SERVICE, EDUCATION OF THE PUBLIC AND ADVOCACY EFFORTS)

- Through conducting and funding research that informs how we can better communicate risk to the public via our health campaigns
- Through conducting and funding research that optimises service delivery for cancer patients and those affected by cancer
- Through conducting research that strengthens advocacy efforts
- [Across our research programmes A, B, C]

### TO STIMULATE INTEREST IN AND GROW FUNDING FOR CANCER RESEARCH IN SOUTH AFRICA

- Through attracting overseas funding for South African cancer research
- Through funding projects that enable researchers to then leverage larger, international grants
- Through developing a platform for South African participation in international research consortiums
- [Primarily Type A]

## HOW CANSA CREATES VALUE THROUGH RESEARCH

### INPUTS WHICH ENABLE CANSA TO IMPLEMENT RESEARCH INITIATIVES

- Research-related expertise within CANSA's research department
- CANSA's funding for research
- CANSA's research track record and credibility
- Collaborative partnerships
- Established and growing

### IMPLEMENTATION OF RESEARCH INITIATIVES

- Type A – by research grant holders funded for their projects by CANSA and who independently conduct studies and report progress and results. CANSA's research committee and department provide oversight on the progress of these reports. Researchers are also required to acknowledge CANSA in their published work.
- Type B and C – through partnerships and collaborative work, students who choose projects from a list of topics shared by CANSA with academic institutes, finding areas of mutual interest with researchers by way of discussion and networking and aligned to cancer control priorities in South Africa.

## OUTPUTS FROM RESEARCH INITIATIVES

- Advanced degrees and research capacity building in South Africa
- Dissemination of information through conference presentations and journal publications
- Use of data from studies to inform advocacy activities and engage with the National Department of Health on legislation and cancer policy
- Use of data to inform health-promotion activities, including health awareness campaigns, and the development and potential testing of material developed for health promotion and CANSA campaigns

## THE SHORT-, MEDIUM- AND LONG-TERM OUTCOMES OF RESEARCH INITIATIVES

### SHORT-TERM

- Collaboration, partnership, awareness and prioritisation of key cancer-control issues in South Africa

### MEDIUM-TERM

- Building trust and credibility
- Sharing and enabling research expertise multi-directionally
- Raising awareness and education on cancer and cancer research

### LONG-TERM

- Building cancer research capacity in South Africa
- Building credibility and a track record for CANSA's research department and researchers involved
- Using data to help inform cancer policy
- Advocating for legislation
- Improving knowledge, attitudes and practices related to cancer control among the South African public
- Using data to inform CANSA offerings

## EXTERNAL INFLUENCES AFFECTING CANSA'S RESEARCH INITIATIVES

- Funding
- Cancer-control priorities in South Africa
- Opportunities for collaboration with academic institutions in areas of mutual interest as per our research goals

- Researchers' interest and initiative
- Affiliations and relationships of CANSA research staff with academic institutions and researchers
- Adequate staffing in the CANSA research department

## RELATIONSHIPS PARAMOUNT TO ENABLE THE CONTINUED VALUE CREATION OF CANSA'S RESEARCH INITIATIVES

- Members of our research committee
- Local and international academic institutions and researchers
- National Department of Health
- Potential funders
- Other local and international cancer associations

## RESOURCES REQUIRED TO ENABLE CANSA'S RESEARCH INITIATIVES

- Financial resources (funding)
- Research capabilities
- Collaborative partnerships

### OBTAINING RESOURCES

- Financial resources (funding) – bequests, fundraising, grant applications
- Human resources – research committee members, attracting appropriate talent to CANSA's research department, finding appropriate academic partners
- Social and relationship resources (collaborative partnerships) – relationship building through commitment to and engagement on research work

### RESOURCE USAGE

- Research grant funding covers the costs of the research project or, in some cases, partly funds the costs of the research project,
- CANSA's research team and committee members are engaged at all levels of our research strategy, grant administration, peer review of grant applications, and progress reports. Our research team is also involved in co-supervision of projects, conceptualisation of projects, implementation, analysis and write up, with the level of involvement varying per project or research type.
- CANSA helps engage with technical experts and creates potential for further funding.

## HOW CANSA'S RESEARCH INITIATIVES CREATE VALUE FOR THE ORGANISATION AND ITS STAKEHOLDERS

CANSA's research is fundamental to our strategic purpose and mission.

Our research initiatives build credibility for the organisation and positively add to CANSA's reputation in our commitment to health promotion and risk reduction, early detection, education and support. Furthermore, CANSA's research initiatives help to strengthen and inform our service offerings and build partnerships for a stronger collective effort in advocating for cancer control.

### ESTABLISHING PRIORITIES AND INVESTMENTS FOR RESEARCH RESOURCES

During the year, CANSA implemented its revised research strategy, particularly for Type A. We believe we can play a better role in formulating health policy to control cancer in South Africa through scientific, evidence-based information. We launched a consultative process to establish the priorities and best investments for our research resources. This is intended to reposition CANSA's research programme to target the challenges of cancer risk reduction, early detection and survivorship in South Africa.

The methodology selected for the consultation process was a combination of quantitative and qualitative approaches, divided into phases one and two. Phase one included a survey, while phase two will include smaller group consultation meetings.

A decision was made to align with the National Department of Health (NDoH) regarding the cancers to be prioritised in South Africa, as laid out in the National Cancer Strategic Framework for South Africa 2017-2022 (NSFSA). As such, cervical, breast, prostate, lung and colorectal cancers were selected for focus in the revised research strategy. These five cancers reflect the highest incidence cancers in South Africa according to the most recent report available at that time from the National Cancer Registry (2017) and, based on this data, collectively account for 37% of the national cancer burden. In line with the NSFSA, cancers of childhood, adolescence and young adulthood were also included.

Through an iterative process and consultation both internally within CANSA and with our research committee members, a final database consisting of 137 participants representing funders of cancer research, clinicians, policymakers and civil society organisations were invited to participate in the survey.

The following summarised priorities were identified and the new approach will be implemented as of 2021/2022.:

- Research should address the improvement of prevention and early detection of cancer in addition to treatment and cancer care
- Projects will be evaluated on the potential they have to achieve the most impact on cancer control in South Africa and based on criteria that are multi-disciplinary and collaborative, influence policy, and have local research capacity building and ability to attract potential partnerships (local or international) that open doors for further funding
- The application process was revised that allows potential applicants to first submit a letter of interest or pre-proposal to allow RESCOM members to review and invite participants to submit a full application which allows less reliance on lengthy peer-reviews for many projects which would not be funded

## TYPE A RESEARCH

The Type A funding programme accounts for the majority of CANSA's annual expenditure on funding cancer-related research. Up until April 2019, approximately a total of R6 million was allocated to these projects annually - R1m per project over three years.

Final decisions regarding projects to be funded were made by CANSA's research committee, facilitated by external peer reviews, and with consideration of strategic focus areas and funds available. The funding arrangement with each university or institution required them to provide 25% of this funding should a project be selected for funding through the review process as described above.

Projects were funded across a diverse spectrum of areas, targeting risk reduction, management and improved outcomes for the most common cancers in South Africa, including breast, cervical, prostate, colorectal and lung cancers. Types of research funded included research across the basic and clinical sciences and within the public health arena.

After a decision was made in 2016 to increase the focus of funding on public health-related research, the funding call included a focus towards research in this field – an attempt to encourage applications from public health researchers.

Our Type A research focuses mainly on early detection, cancer risk reduction and optimal patient care. Projects of up to a maximum of R300 000 per annum each were funded. CANSA funded 75% of grants only. Applicants' relevant institutions augmented the remaining 25% for a period of three years.

We continued to support 25 research projects at universities, granted bursaries to post-graduate students, and helped fund research initiatives. Projects are funded in the following areas of study:

- Epidemiology and determinants of the burden of cancer in South African populations and interventions to address these
- Health seeking behaviours to improve early detection, diagnosis and interventions to reduce cancer risk
- Optimal patient care including clinical care, rehabilitation, and palliation
- Health services and health systems strengthening, including research relating to pathways to cancer care
- Health economics of cancer, including the economic burden of cancer, its risk factors and cost effectiveness research
- Research relating to cancer biology/ biochemistry/ molecular biology as these relate to risk reduction, early detection and both definitive and supportive patient care

See [www.cansa.org.za](http://www.cansa.org.za) for a detailed summary of projects currently funded.



## HOW CANSA DETERMINES PROJECT GRANTS

The rules and regulations governing the award of CANSA research grants is documented and is the guidance that grantees are required to follow should they be awarded a CANSA research grant in the Type A programme. Factors mainly used for determining grants include significance, relevance, innovation, approach, researcher, Institution/environment and feasibility. In the reporting period, CANSA regulations governing awarding of grants was updated to include that CANSA will not fund novel drug development related projects. However, we will consider exceptional proposals related to drug development for which strong preliminary data has been developed and such projects should also be receiving significant financial support from other funding agencies or industry.

Determining grants – Type A programme:

- 1 Funding call
- 2 Application - letter of Interest and full proposal per invitation
- 3 Internal and external peer review
- 4 Research committee discussion and decision

## PUBLICATION AWARDS

CANSA rewards researchers who publish their work in accredited journals with an amount based on the impact factor of the journal and the order of authorship.

In the year under review, CANSA awarded R109 000 to six researchers at three universities for 16 publications. Awarded to the following Professors: Jennifer Geel, Chris Mathew, Hannah Simonds and Francois van der Westhuizen and Doctors' Catherine Kaschula and Antonia Serafin

## GRADUATES ARISING FROM CANSA GRANTED PROJECTS

CANSA acknowledges the importance of building the capacity of a new generation of cancer researchers to further develop much-needed advances in cancer research in South Africa. Where appropriate, Type A grants permit students to work under the supervision of the principal investigator and grant holder to obtain a postgraduate qualification. A total of seven researchers completed their CANSA research grants. Emanating from these projects were the following 15 degrees awarded to students:

Msc – 9      PhD – 4      BSc - 1      MPH – 1

Students are from Universities of Pretoria and Cape Town

## TYPE B RESEARCH: REDUCING RISK

This is research conceptualised and conducted by CANSA, sometimes in collaboration with other institutions. Projects are typically smaller and focused on reducing public exposure to environmental cancer risks. The results inform CANSA health education and campaigns, advocacy activities and CANSA Seal of Recognition programme decisions. The duration of these projects is from one month to four years. Progress made includes a decision to follow a new way of working on health campaigns going forward by looking more critically at the way we communicate health information to the public, and to explore ways of improving /optimising this.

## OUR TYPE B RESEARCH FOR THE REPORTING PERIOD

	TOPIC	PARTNER/S	DESCRIPTION
1	Study on knowledge, attitudes and behaviour surrounding e-cigarettes	University of Cape Town – Masters student	Perceptions and beliefs regarding the safety of e-cigarettes is currently unknown and yet this product contains numerous carcinogens. The student completed the research for the thesis and is preparing a paper for publication with support from supervisors. CANSA will use the findings as a basis for a campaign on e-cigarettes targeted at young people in the future. These findings also support the revised Tobacco control act and current related advocacy activities.
2	Cancer-related lifestyle risk, knowledge, risk perception, and intention to screen in a socio-economically diverse urban population in South Africa, developed by CANSA	Wits School of Public Health – Master's in Public Health student	The CANSA Lifestyle Risk Assessment Tool was developed to assess modifiable risk factors for cancer, such as obesity, diet, physical activity, sexual and sun-related behaviours. An MPH student is testing the tool with a sample drawn from Soweto for his MPH thesis. This study provides the opportunity to test a tool and increase our understanding of the awareness of cancer risk in this community. It has also helped to engage important stakeholders in public health with a view to future engagement and collaboration. Two additional fieldworkers have been trained and data collection commenced in April 2021.
3	Knowledge, attitudes and practices of traditional healers, primary healthcare service providers and men in rural Vhembe District, Limpopo Province, South Africa	University of Pretoria, University of Venda	<p>Several findings from various undertakings of the South African Prostate Cancer Study show that men living in rural areas of South Africa are at a 1.6-fold greater risk of presenting with lethal prostate cancer than men from urban areas, the risk for lethal prostate cancer is significantly increased within the Vhembe district of Limpopo, and prostate specific antigen (PSA) screening will greatly alleviate the burden of prostate cancer in South Africa.</p> <p>Given the importance of knowledge and awareness of prostate cancer in screening and early detection, it is imperative to understand the knowledge, attitudes and practices regarding prostate cancer in this at-risk group (men in Vhembe) and that of service providers they may consult with (traditional healers and health workers). Also, given the extremely rural and remote setting, the findings of the study could inform an intervention to improve prostate cancer awareness and early detection in a highly-targeted and culturally-relevant way that could potentially become an applicable methodology in other rural settings.</p> <p>Researchers planned field visits in the reporting period and data collection is scheduled for the current year (within lockdown regulation).</p>



## TYPE C RESEARCH: ENHANCING SERVICE DELIVERY

These projects aim to enhance CANSA's service and support of patients and survivors

### OUR TYPE C RESEARCH FOR THE REPORTING PERIOD INCLUDED

TOPIC	
1. An explorative study of mental health outcomes of cancer survivors staying at CANSA Care Homes in association with University of Cape Town's Knowledge Co-op – Master's in Sociology student	Mental health outcomes, including psychological and emotional effects of living with cancer through treatment and survivorship, are often only considered secondary to the direct treatment of cancer, while they have a significant impact on psychosocial health and quality of life. Following a delayed start due to COVID-19, the study continued with collection of data virtually. Findings from this study are helping to support and inform protocols in CANSA Care Homes for people living with cancer.
2. Ironman (International Registry for Men with Advanced Prostate Cancer)	Funded by the Movember Foundation, CANSA is co-ordinating South Africa's participation in a global observational study on advanced prostate cancer (overseen by the Prostate Cancer Clinical Trials Consortium) aimed at determining the best way to manage advanced prostate cancer. Medical history, treatment information, blood samples, and patient-reported outcomes are collected from all participants to investigate which treatment and care practices deliver the best outcomes. The study provides a contribution towards improving outcomes for the treatment of men with advanced prostate cancer (highest incidence cancer in men in South Africa). The study was put on hold due to COVID-19 and other factors.
3. Adolescents and young adults with cancer (AYAs)	A study focussing on identifying the information and psychosocial needs of AYAs in South Africa, to develop a training manual to be used by staff working with this group to deliver a support intervention in a group setting. The smaller and qualitative component of the study is being conducted by master's in public health student at the Charlotte Maxeke oncology unit. There is a scarcity of investigation into the specific needs of adolescent cancer survivors and this study can identify the health service, psychosocial and informational needs of adolescent cancer survivors in South Africa, and how these can be addressed. The study outcomes will further contribute to an evidence base that informs the work of support organisations (NGOs) and may help to inform clinical support service provision.
4. Identification of palliative care needs in cancer patients reporting to the surgical emergency centre of Tygerberg Academic Hospital	Data collection started in late March 2020 and was impacted by the COVID-19 lockdown, which caused some delays and necessitated the accessing of electronic records manually. A final report and manuscript submitted for publication in October 2020. There is a lack of information in cancer related palliative care and the study will assist with CANSA Service and Advocacy teams who are actively involved in supporting the palliative needs of cancer patients. Will also aid in better referral for palliative care which is integral to our goals of improving care and support of cancer patients.

## AG OETTLÉ MEMORIAL AWARD

The AG Oettlé Memorial award is presented in remembrance of the late Dr Oettlé, a cancer researcher and epidemiologist working in the South African Institute for Medical Research in Johannesburg in the 1960's, financed by CANSA. His research over 16 years strengthened the theory that environment may play a considerable role in causing cancer. He discovered an epidemic of oesophageal cancer in Africa and particularly the East Coast of South Africa. After his premature death, his family and colleagues created the Oettlé Memorial awards to be awarded by CANSA to recipients who had significantly contributed to cancer control in South Africa.

## 2020 OETTLÉ MEMORIAL AWARD

Paul Ruff aligns the spirit and action required of AG Oettlé Medal awardees. In particular, his approach that entails use of scientific evidence-based research to optimise prevention and management of cancer in South Africa.

Professor Paul Ruff has been Chief Specialist, Professor and Head of the Division of Medical Oncology of the Department of Medicine at the University of Witwatersrand Faculty of Health Sciences and Charlotte Maxeke Johannesburg Academic Hospital since 2002. He runs the Medical Oncology Research Laboratory at the University of the Witwatersrand Faculty of Health Sciences. In collaboration with the Wits Health Consortium, Professor Ruff also runs the Johannesburg ONCOLOGY Clinical Trial Unit performing clinical trials in various cancers.

As a medical oncologist, Professor Ruff sees all types of cancer patients, but his primary research interest is in colorectal cancer. He also has an interest in AIDS-related malignancies. Paul serves on a number of committees appointed by the Minister of Health. He is chairman of the South African National Cancer Registry Scientific Advisory Committee and is a past member of the Inaugural South African Bone Marrow Registry Management Board. He is a member of the Research Committee of CANSA and has held various posts in the South African Society of Medical Oncology, including its chairmanship from 2008 - 2013. Professor

Ruff was also appointed as one of two African representatives to the International Affairs Committee of the American Society of Clinical Oncology in 2013.

Paul's publication record illustrates his extensive research in the field of cancer. He has authored or co-authored over 70 papers in peer-reviewed journals, recently including several landmark papers on use of biological therapies for advanced colorectal cancer. In addition, Professor Ruff has presented over 140 papers and 45 posters at local and international scientific meetings. He has published a paper on the treatment of metastatic colorectal cancer in the New England Journal of Medicine in 2009, that was cited 2 937 times and for which he was named the most cited researcher in the Wits Faculty of Health Sciences in 2015. Paul has three other publications in the field of cancer that have each been cited over 830 times.

CANSA honours this distinguished clinician and scientist in recognition of his remarkable contribution to use of research and experimental evidence to advance management of cancer.

