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South African Medical Research Council

# news

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Research Day  
2008

Cape women's  
project  
kicks off

Reduced salt  
diet for  
hypertension

Results of  
national  
health survey

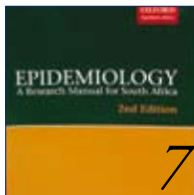


BUILDING A HEALTHY NATION THROUGH RESEARCH



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# Editorial



*Dear Reader,*

*In line with South Africa's health priorities by which the 42 research units, centres and lead programmes of the MRC are categorised cardiovascular disease and diabetes, cancer, public health, health promotion, brain and behaviour as well as women, maternal and child health are focused on in this edition.*

*The three-pronged women's intervention project on page 4 aims to reduce high incidences of substance abuse (and its related health risks), sexual violence and finally, to provide women with healthy, yet affordable eating options. We also report on another health study which is first in its kind – findings of the national stress and health study conducted between 2002 and 2004. Where the national household surveys lack specifics, this study on page 20 provides valuable information, not only to support other research projects but also aid with the compilation of mortality statistics on common mental health disorders in South Africa.*

*An intervention study around drug-treated hypertension found that reduced salt in five basic foods may bring about lower blood pressure levels. We also feature highlights from a recent world cancer congress held in Switzerland, findings from MRC research conducted in the Eastern Cape this year. We take a look at the newly established oncology research unit on page 22. We further focus on the differences between the first national household survey and we release the most recent results of the second demographic and health survey of 2003 on page 17.*

*Because this edition had an article which focused on women particularly, our next edition (early 2009) aims to reflect on findings from a research study conducted with a group of men. And following a lull in the production of MRC News, I trust that this edition will continue to attract contributions from all research staff of the MRC.*

*Best wishes  
Lenadine Koza*



Some of the women's project team members present at the launch of the project site, pictured from left to right: Ms Nuraan Fakier (MRC), Ms Felicia Browne (RTI), Ms Nomalipheze Sitawutawu (MRC), Ms Petronella Goliath-Soyizwaphi (MRC), Prof. Charles Parry (MRC), Ms Alet Van Staden (MRC), Ms Fazlin Jappie (MRC), Ms Cindy Forward (MRC) and Dr Wendee Wechsberg (RTI).

# PROJECT FOR WOMEN UNDERWAY ON CAPE FLATS

A study comprising about 900 African black, as well as coloured women who use alcohol and one or more drugs is currently underway in Mitchell's Plein on the Cape Flats. The project was initially developed as a pilot study to test whether a women-focused HIV risk reduction intervention was more effective in a group setting or at individual level.

The first of the three interventions is a gender-based one to discuss the risks of women in relation to HIV, with a focus

on gender-based violence and additional drug-related risks. At the official launch of the project from its operational site recently, Dr Wendee Wechsberg from RTI International noted that "when women drug and drink they're giving away their power and they need to know what to do to reduce their sexual risk and they need to know what violence prevention methods are." When the project was started every woman recruited reported using at least two drugs over the previous 90 days, that they had sexual intercourse

over the last month of that three-month period and had given written consent to participate in the study.

All the eligible and currently enrolled participants from Crossroads, Delft, Gugulethu, Khayelitsha, Nyanga and Philippi either earn an income of less than R1500 per month or they are unemployed. Study coordinators confirmed that the majority of the women were unemployed. Dr Wechsberg emphasised that the project is not an HIV prevention initiative, it should rather be seen

Women from more than six Cape townships will receive skills in the risks related to alcohol and drug abuse, how they can build their power in sexual negotiations, how to deal with and avoid conflict and violence, how they can reduce their risk of being a victim of violence, as well as receive valuable nutritional information in a unique women-centred study, as LENADINE KOZA reports.

as a women's health study. "We are going to look at behavior changes over three, six, nine and 12 months. It is very important to have follow-ups", she added. HIV testing will be done on a completely voluntary basis.

Participants have been electronically randomised into either the woman-focused arm, the nutrition-control arm or the voluntary HIV-testing arm of the study, with every session designed

lot of white bread, yet we know that wholewheat bread is more expensive – although we can only eat one slice (of wholewheat)', so I said if you can only eat one slice it really is less expensive." So the whole intervention is about what's healthier and what's best for you. Unlike the other two interventions included in the study, Dr Wechsberg confirmed that the nutrition aspect is something which had not been piloted elsewhere before. The South

to the project site we will feed and clothe the children (with donations received from the public), we will try and make the kids' corner as comfortable as possible," Fakier said. Facilities to bath and have cooked meals are made available to study participants who request them.

In other research initiatives, the Medical Research Council (MRC)'s Alcohol and Drug Abuse Research Unit (ADARU) and the



to last no longer than two hours.

The nutrition intervention is specifically designed for the South African context to teach healthy eating habits to women who are trying to survive on tight monthly budgets. "We worked with the women in the townships, to discuss the issues of poverty and the kind of foods that they could get. The whole intervention was really developed with women, knowing their health needs. So when they said to me: 'we eat a

African Department of Health has already indicated its willingness to endorse the much-needed nutrition intervention as soon as it becomes established.

Ms Nuraan Fakier, MRC Project Manager of the study said that women in all the three groups received health kits on their different visits. "Included in the kits are three female condoms and 10 flavoured male condoms as well as toiletries and toys (for children). If women come with their children

Gender and Health Research Unit collaborated with RTI International to review the findings and policy implications of several related research projects to determine the profile of vulnerable drug using female populations in South Africa.

The Pretoria study (2001-2008) was adapted from an evidence-based, woman-focused HIV prevention intervention which had been operating in the United States for the past 10 years. Key findings from the Pretoria arm of



the study included a significant reduction in the levels of alcohol use, as well as reduced dagga (cannabis) and crack cocaine use after three and six months respectively. Women were also successfully taught how to negotiate condom-use, even if they were under the influence of drugs. A significant number of women also reported a decrease in violence inflicted by their main sexual partners.

The 2004-2006 study (Study I) was a randomised control study aimed at examining the effectiveness of a woman-focused intervention for high-risk behaviours either at group or individual level. The Cape Town trial reported reduced levels of drug use, increased levels of condom use, as well as fewer incidences of physical and sexual abuse among african black and coloured ethnic groups.

The 2005-2008 study (Study II) comprised a rapid ethnographic assessment to profile the drug use patterns and HIV risk behaviours among drug-using, street-based sex workers in selected “hot spots” of Cape Town, Durban and Pretoria. It was reported that



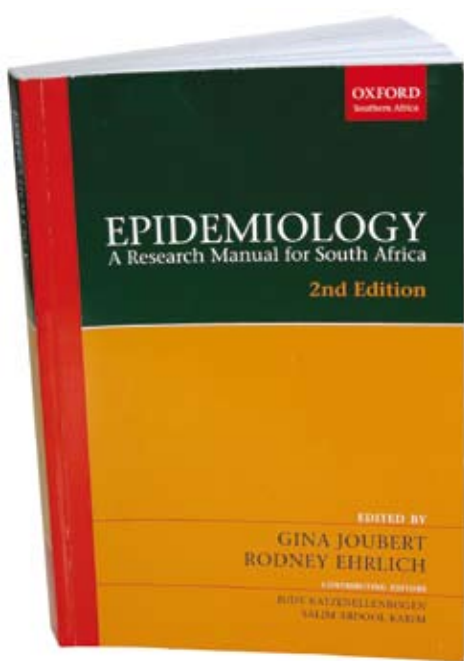
sex work was closely linked to buying, selling and using drugs. Sex workers were often controlled by individual pimps (who are often the landlords of these sex workers) and drug dealers – “this context engenders considerable risk for accelerating the spread of HIV”, according to study findings. Nongovernmental organisations in Durban, Cape Town and Pretoria have, since the project’s inception, indicated a willingness to expand and “address both sexual and drug-related HIV risks in vulnerable populations”. The province also experienced an increased uptake of voluntary counselling and testing services since the project’s was started.

The impact of the community-based HIV prevention intervention *Stepping Stones* on the sexual health of rural South African youth in the Eastern Cape was part of a study conducted from 2002-2006 (Study III). Even though it was impossible to measure a reduction in new HIV infections, reports said that “the incidence of genital herpes was 33% lower in men and women in the *Stepping Stones* programme. *Stepping*

*Stones* effectively changed men’s gender-related behaviour”. In 2006 the link between methamphetamine (Tik) and other drug use on sexual risk behaviour of 13 to 20-year-old women in poor Cape Town communities was examined (Study IV). Tik use has been associated across numerous studies linked with having multiple partners and trading sex for drugs.

A collaborated research and policy document (RTI and MRC) recently reported that an estimated 5.7 million people were living with HIV in South Africa and 350 000 of them died of AIDS in 2007. It stated that “among all demographic groups, a greater burden of the disease falls to individuals who are disadvantaged, underserved and vulnerable. This is especially true for women, where the HIV level among women of childbearing age is currently at 29% and increasing. Young women aged 15-24 are at particular high risk, accounting for 90% of all new HIV infections among this age group.”

Funding has become available for other exciting collaborations between the MRC and RTI to conduct similar interventions to the women-focused study, but aimed at couples. The key person liaising between the RTI and MRC women’s projects who may be contacted for further information is Dr Bronwyn Myers, ADARU Specialist Scientist. Her e-mail address is [Bronwyn.Myers@mrc.ac.za](mailto:Bronwyn.Myers@mrc.ac.za).



New developments in the field of epidemiology research and the success of the first edition were two main reasons why the updated version was needed.

## NEW EPIDEMIOLOGY TEXTBOOK

Oxford University Press South Africa (OUPSA) recently launched the second edition of *Epidemiology: a Research Manual for South Africa* to provide practical guidance on population-based health.

Prof. Debbie Bradshaw, Director of the Burden of Disease Research Unit at the Medical Research Council, is confident that the manual offers a cut above the rest: "I haven't seen another textbook that offers this approach, because it not only tells you what to do, which is what most textbooks do, it's also got an element of how to do it." When Prof. Abdool Karim was appointed as Director of the Centre for Epidemiology Research in South Africa, he initiated talks between the MRC and OUPSA to publish the in-house manual which had already served many training workshops and local courses in epidemiology.

In 1997 *Epidemiology: a Manual for South Africa* was launched by OUPSA as a textbook. Every effort was made to use South African-based examples so that the students could easily relate to them. In 2005 Prof. Gina Joubert, who had left the employ of the MRC at the time, teamed up with Prof. Rodney Ehrlich from the University of Cape Town to work on the second edition of the textbook. The new title amplifies the book's focus on how to do research. A wide range of South Africans have collaborated to include new developments in epidemiology and data analysis. The strong links between epidemiology and biostatistics are maintained as well as the clear communication style of the preceding edition.

The success of the first edition, coupled with new developments in the field of epidemiology research, prompted OUPSA to commission the new edition. "Completely new additions to the book include a new section on human rights and advocacy as part of the chapter on general philosophical

issues in epidemiology, and two completely new chapters: those of HIV and infectious disease epidemiology. Overall, this comprehensively updated edition of *Epidemiology* maintains the focus on epidemiology as a discipline and incorporates the changes in policy, as well as new findings and research methodologies," says Hanli van Schalkwyk, Higher Education Sales and Marketing Director of OUPSA.

Prof. Carl Lombard, Director of the MRC Biostatistics Unit, reviewed many of the chapters and was particularly impressed with the inclusion of new methods such as cluster randomised trials. He also observed that "the book highlights the extensive range of applications of epidemiology and biostatistics, from infectious diseases to occupational health". Clearly this new edition is going to serve the new generation of health researchers well and will make an invaluable contribution to building capacity to conduct quality research in South Africa, Prof. Lombard concluded.

Contrary to popular belief that healthy living is too costly for ordinary people, a research study has demonstrated that hypertension can be managed if salt consumption is significantly reduced, especially in processed foods, reports LENADINE KOZA.



# REDUCE SALT INTAKE FOR LOWER BLOOD PRESSURE

It is widely accepted that excess dietary salt contributes to increased blood pressure. The World Health Organisation has identified hypertension as the third leading cause of disease burden worldwide, ahead of both smoking and unsafe sex.



In South Africa, it is estimated that there are about 6.3 million people living with high blood pressure (HBP), but the diagnosis and management of the disease is poor. Only 39% of those with HBP report that they have the condition; only 29% of those diagnosed are treated and a mere 14% of cases of HBP have blood pressure levels that indicate good management of the condition. However, it is those with normal blood pressure levels who may be more at risk due to complacency than those with HBP levels. It is estimated that half of all diseases caused by HBP occur amongst individuals

with blood pressure levels below 140/90mmHg. Perhaps more important than drug therapy, is dietary changes for hypertension, particularly with regards to a reduced salt intake.

The Chronic Diseases of Lifestyle Research Unit of the



Medical Research Council (MRC) has conducted a series of studies to inform population-based strategies to lower blood pressure in the community at large. Dr Karen Charlton and Prof. Krisela Steyn led an intervention trial that investigated how salt reductions in commonly consumed foods could impact on blood pressure levels. In three ethnic groups, it was found that the daily salt consumption exceeded the maximum recommended intake of 6g of salt per day. Black, coloured and white people all had mean salt intakes of 7.8g, 8.5g and 9.5g respectively. Similar levels were reported during

a separate Gauteng study.

Most of the salt in our diets is found in processed foods. Of all food items, bread has been identified as the single highest contributor to the total salt intake of South Africans. In a significant collaboration between the MRC and three leading food industry partners, commonly consumed foods were modified in salt content (brown bread, margarine, soup mix, stock cubes and a flavour enhancer). Nutrients known to be beneficial to blood pressure control, namely potassium, magnesium and calcium, were simultaneously increased in the test foods.

The impact of the modified foods on blood pressure levels was tested in an 8-week randomised, controlled trial conducted in Langa (a Cape Flats township) in 80 black South African men and women with drug-treated HBP. The intervention comprised the provision of the five modified food items, plus an additional 500ml of fermented milk (i.e. Maas) per day, as well as a salt replacement. The control diet provided the same quantities of the targeted foods to households, but of standard, commercial composition as well as 500ml of artificially sweetened cold drink daily. Great care was taken to ensure that the test foods



were identical in appearance, taste and texture to the normal varieties of these foods in order to ensure compliance and acceptability of the foods. A dedicated food packer and driver helped to package food bags ziplined to the participants. In other words, people were unable to identify whether they were “test” or normal products.

One of the potential public health problems with advising people to cut down on their salt

intake is that iodine intake may be compromised. In South Africa, all salt which is sold for human consumption must be fortified with iodine. Iodine is an important nutritional component which ensures a well-regulated metabolism and is essential to a growing foetus during pregnancy. Dietary modelling by Charlton and other researchers has shown that it is possible to meet iodine intake requirements whilst consuming the recommended

upper limit of 6g of salt per day, provided that the mandatory levels of salt iodisation are achieved by salt producers.

The results of the intervention indicated that by replacing commonly consumed foods with reduced salt products significantly lowered blood pressure by 6.2 mmHg (95 % CI: 0.9 to 11.4) for systolic BP. In terms of 24-hour ambulatory BP response, the largest intervention effect was seen for systolic BP during waking hours (reduction of 5.1 mmHg). Diastolic BP reduction was lower and non-significant at -2.7 mmHg. On a population level, it is estimated that the blood pressure lowering effect of this dietary intervention would result in a 20% reduction in the number of deaths attributed to HBP, preventing more than 9 000 deaths in one year (Dr Rosana Norman personal communication, based on the secondary analysis of the South African Demographic and Health Survey data to estimate the disease burden attributable to HBP in South Africa for the year 2000).

The worldwide initiative World Action on Salt and Health (WASH) comprising 325 members from 79 different countries aims to assist individual countries to implement strategies to lower salt intake by 25 % over the next five years. Around the world, most countries have adopted the same target for salt intake, namely 5-6 grams per day or less.



## DR CHARLTON IDENTIFIED THE FOLLOWING PRIORITIES FOR A SUCCESSFUL SALT REDUCTION STRATEGY:

Government should engage the food industry and encourage at least 25 % reduction in salt content across product ranges. The best example of this approach is seen in the United Kingdom, where large amounts of salt were removed from the food supply, to a large extent, due to the catchy advertisement campaigns and widespread coverage of the Food Standards Agency (FSA) salt reduction education programme.

The South African Heart and Stroke Foundation's *Heart Mark* serves as a guideline and incentive for consumers to identify heart-smart product alternatives. Consumers must become more

aware of the link between an excessive salt intake and increased blood pressure levels and there has to be government commitment to this topical area of research.

The labelling of food products to indicate their salt content must also be clear and easy for the lay person to read and inform them about healthy food options. A consumer awareness campaign would assist the public when reading food labels and deciphering other nutritional packaging information. Since most South Africans access nutrition information through the media, typically television and radio, it is an excellent way to distribute health

messages on blood pressure control.

The Department of Health must constantly engage with the food industry to ensure that messages are consistent. One of the Food-based Dietary Guidelines, initiated by the Department of Health advises to "use salt sparingly". Consumers need information in order to make informed food choices. The 8-week blood pressure intervention trial on sodium-reduced products was part of Dr Charlton's PhD thesis. Findings from the study were published in the journal *Public Health Nutrition* and the MRC published a policy brief in September 2007.



Prof. Jacquie Greenberg (one of the speakers at MRC Research Day) is a Genetics Professor at the MRC/UCT Human Genetics Research Unit. She specialises in inherited blindness and genetic conditions which lead to mental or physical impairment. Some of Prof. Greenberg's current research focuses is on translational genetics and she also recognises the need for genetic counselling research and aims to broaden the scope of this new profession on South African soil.

# MRC RESEARCH DAY 2008

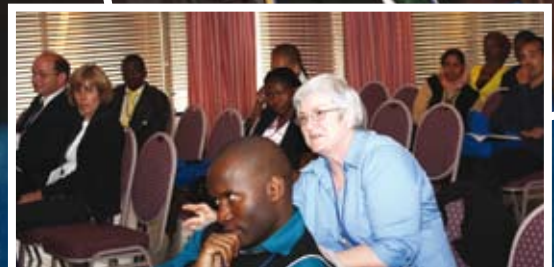


## HIGHLIGHTS FROM MRC RESEARCH DAY 2008

On 16 and 17 October South African Medical Research Council researchers showcased their Masters' and Doctorate level research studies at an event which recognised excellent research from within the organisation as well as at higher education institutions.

Following the interest received from a successful pilot run of the event in 2007, the 2008 one was aimed at a bigger audience and with three different themes. The population health category comprised research geared towards providing new health knowledge;





translating it and existing knowledge into programmes and actions that would ultimately lead to actual and measurable improvements in population health; and maintaining the health of those who are in a state of wellness. The second category was health systems, settings and policy. It is a category further complicated by the variations of the public and private health care sectors, but also traditional medicines. In the category disease and disease mechanisms, the research approach has shifted from being predominantly organ based to being either genomic, non-genomic or a combination of the both.

# URBAN OR RURAL LIVING — *Which is healthier?*

The last three decades have shown that many chronic diseases like heart disease, diabetes and hypertension are featuring significantly in terms of overall morbidity and mortality. *Dietary changes and the health transition in South Africa: implications for health policy*, examined some of the major risk behaviours, i.e. a westernised diet, physical inactivity, and tobacco use of the population to explain some of the disease patterns. LENADINE KOZA summarised some of the most significant findings below.

The report, released in 2006 contains peer-reviewed information from various individual studies which researchers warn do not necessarily reflect the typical South African profile. In many instances

there have been no prior data, therefore, researchers have only been able to use existing information for the different population groups. The SA Medical Research Council's Burden of Disease and Chronic

Diseases of Lifestyle Research Units collaborated to produce the in-depth technical report. "Dietary changes and the health transition in South Africa: implications for health policy,"



examined some of the major risk behaviours, i.e. a westernised diet, physical inactivity, and tobacco use of the population to explain some of the disease patterns. The report, released in 2006 contains peer-reviewed information from various individual studies which researchers warn do not necessarily reflect the typical South African profile. In many instances there have been no prior data, therefore, researchers have only been able to use existing information for the different population groups.

According to the report hypertensive heart disease and diabetes accounted for 68 per 100 000 and 54 per 100 000 deaths respectively, according to a 2003 national study. Together,

cardiovascular disease and diabetes, accounted for 19% of the total deaths and cancers accounted for a further 7.5% of mortalities.

Extensive studies on dietary intake showed that the black population was undergoing a transition from the traditional high fibre, high carbohydrate intake to a more typically-western diet, which has an increased fat and added sugar intake, a lower unrefined carbohydrate intake and an increased intake of animal protein sources and unsaturated fat. The other ethnic groups (white, coloured and Indian) already ate foods from westernised diets. These eating patterns were evident from the high prevalence of overweight and obesity in the adult and

child populations despite the fact that stunting and chronic energy deficiency remains widespread among large proportions of infants and children. The high prevalence of overweight and obesity can also be attributed to the finding that more than half of the population is sedentary at work and during their leisure times. These low movement lifestyles, in turn, help to explain the increased prevalence of cardiovascular disease, diabetes, hypertension, and certain cancers, as does the high prevalence of tobacco and alcohol-use, particularly among the youth. A 2003 survey found that the prevalence of smoking cigarettes (both daily as well as occasionally) was higher in 14-year-

*(Continues on next page)*



## URBAN OR RURAL LIVING — WHICH IS HEALTHIER?

old adolescent males (21.5%) than in females (15.7%). The survey also found that by time they reach age 16, 30.4% of males had already started smoking cigarettes – 18-year-old males had a prevalence rate of 38%.

There had been a significant drop in life expectancy from 61.6 in 1992 to a projected low of 49.6 in 2006. The severity of the impact of the AIDS epidemic on women was evident in the vast difference between female and male life expectancy predictions, from 8 years in the early 1990s to less than 4 years in 2010. By the year 2000 the mortality of women had increased more than two-fold in the age group 25-29 years and that of men had increased one and a half times in the 30-39 age-group, according to a 2004 study.

A 2003 study projected that, “over the next two decades, between 50 000 and 60 000 children per year will be infected with HIV. This, in turn, will impact on the nutritional needs of these children, many of whom already live in a vulnerable psychosocial, financial and infrastructural environment.”

The South African National Burden of Disease Study for 2000 estimated that during that year chronic diseases were responsible for 37% of the deaths, followed by HIV/AIDS, which caused 30% of

deaths. Hypertensive heart disease and diabetes were two of the leading causes of fatal diseases in the year 2000. These conditions co-existed with incidences of low birth weight, protein energy malnutrition and other infectious diseases, which are also leading causes of death.

According to a 1996 study which examined the macronutrient intake of black adults living in Cape Town, the intake of carbohydrates decreased from 61.4% to 52.8% with increased time of city living. “In contrast, fat intake increased from 23.8% to 31.8% over time spent in the city. Protein intake remained more or less the same over time, although the contribution of animal protein increased, whereas the amount of plant protein decreased.

Fibre intake also decreased significantly from 20.7g to 16.7g with increased time living in the city,” according to findings. Various household surveys reported that the amounts consumed by black adults from different food groups changed with increasing time spent in Cape Town. There was a higher consumption of meat, fruit and vegetables, fats and non-basic foods such as drinks and sweets, while there was a lower consumption from the dairy and cereal groups. A larger consumption of sugar-containing foods in urban compared with rural areas was also significantly evident.

The National Food Consumption Survey (NFCS) of 1999 reported that the energy intakes of the rural groups were less than the recommended nutrient intake (RNI) values. “This was also the case for vitamin A, vitamin C, niacin, vitamin B6 and zinc. For foliate and calcium, urban and rural intakes were less than the RNIs”.

An important aspect about the study was the disparities that were found in intakes between urban and rural areas. For most nutrients, the mean values in urban areas were significantly higher compared with those in rural areas. “Although rural dwellers have a higher cereal and vegetable intake, the urban adults and children far exceed the consumption for most other food groups. This is particularly true for sugar, meat, vegetable oil, dairy, fruit, roots, tubers and alcohol consumption,” the NFCS reported.

Other findings (from 1988, 1989, 2001 and 1993) indicating unhealthy eating habits showed that the white population consumes food which is typically western, has a high fat, low carbohydrate, low fibre and high free-sugar intake. Rural black African populations ate mostly traditional food which is high in carbohydrates, low in sugar and moderately high in fibre, while the black African urban population showed an adoption of western eating habits – their carbohydrate and fibre intakes were lower, while their fat intake was higher.

# SA DEMOGRAPHIC AND HEALTH SURVEY 2003

The Department of Health (DOH) recently released its comprehensive 2003 SA Demographic and Health Survey Full Report. It is the second and largest national household health survey since the initial post-democracy one conducted in 1998. The new survey had more extensive questions around sexual behaviour, and included a men's module, and nutrition and physical inactivity sections in the adult health module.

In the 2003 report a chapter has been included that reports on the health, health service utilisation and living conditions of South Africa's older population (60 years or older) and how that has changed since. Introduced by the DOH in 1998 to track key indicators, the surveys have been led by Dr Lindiwe Makubalo of the Health Information and Epidemiology and Research cluster.

Associate Prof. Debbie Bradshaw, Director of the MRC Burden of Disease Research Unit, played a pivotal role in the provision of technical support throughout the designing, fieldwork training, conducting, analysis and write-up phases of the SADHS 2003. Together with Prof. Krisela Steyn, then Director of the MRC Chronic Diseases of Lifestyle Research Unit,

an innovative adult health module was developed for the 1998 survey which was repeated and extended in the 2003 survey. With the support of Ria Laubscher from the MRC Biostatistics Unit, MRC's Jané Joubert led the Report-Writing Coordination Team, facilitating contributions from 35 subject experts from science institutions, universities and the Departments of Health and Social Development.

The 2003 survey pointed to an increasing trend in the under-five mortality rate in the five years preceding the survey which highlights the importance and urgency to identify the determinants of the increased child mortality rate.

The latest survey indicated that women reported antenatal care for 92% of births in the preceding five years. Delivery in health facilities has increased to 89% compared with 84% observed in the previous survey. Much of this increase in public health service utilisation has occurred in the rural areas, with an increase from 74% in 1998 to 89% in 2003. Amongst women who delivered their last babies outside a health facility, 80% reported receiving no post-natal check-up and only

13% received check-ups within two days. Quality of care, however, remains a challenge as indicated by the mortality audit data collected by the MRC Maternal and Infant Health Care Strategies Research Unit.

Undernutrition, recognised through underweight and stunting in children, did not show significant signs of improvement since the early 1990's. The survey found that the higher the education levels of mothers were, the better the chances were of their children receiving adequate nutrition. The prevalence of undernutrition was slightly higher than the levels reported in earlier surveys, such as the vitamin A survey conducted in 1994.

Trials conducted in other countries have shown that vitamin A supplementation can reduce child mortality by about 25% and that exclusive breast feeding is also an important factor that can reduce mortality. However, less than 40% of children were reported to have received such supplementation (vitamin A) in the six months prior to the 2003 survey. Furthermore, the survey showed that only 8% of babies were exclusively breast-fed until six months of age. Developing

the infant feeding policy has been challenging in the context of the HIV epidemic as the virus can be transmitted from mothers to their babies through breast feeding. The DOH in 2007 issued a clear feeding policy for infants and young children recommending exclusive breast-feeding for the first six months followed by sustained breast-feeding for two years or longer. The guideline indicates that HIV infected women should receive counselling on the infant feeding options to enable them to make an informed decision. Mixed feeding has been shown to be the worst option. Exclusive breastfeeding should be recommended unless replacement feeding is acceptable, feasible, affordable, sustainable and safe.

Results from the second SADHS indicate worrying trends in risk factors for chronic diseases. It was found that obesity and a high salt and alcohol intake were equally common in people with hypertension in the new survey as they had been in the 1998 survey – highlighting the need to continuously promote healthy living. A diet low in salt was identified as an important step towards lowering high blood pressure levels. (Related MRC research published elsewhere in this publication evaluated the impact of a reduced salt content by people with hypertension). Fifty-five percent of women and 30% of men aged 15 years and above were found to be overweight or

obese. The 2003 survey further found that 48% of men and 63% of women had high levels of inactivity. The insufficiently active lifestyles were, not surprisingly, higher in urban settings than in rural ones, according to the 2003 SADHS.

The survey showed that smoking has declined in men aged 15 years and above (42% in 1998 compared with 35% in 2003), but not in women (11% in 1998 when compared with 10% in 2003). The overall decline in prevalence of smoking was supported by other data and may reflect government's strong tobacco control initiatives. However, smoking prevalence has not declined among young people.

A new chapter on the health of older persons, defined as being 60 years and older, found that some of the basic living conditions of older persons had improved by the time the second survey was done. However, low levels of education in rural areas in particular may have other health implications. The main concerns were that in areas where there had been poor education levels, it would be even more difficult to promote healthy living, as well as manage existing diseases in an already strained public health care system.

The SADHS includes extensive information about HIV and sexual behaviours. The number of young women who have ever heard of AIDS has declined since the 1998 survey. Knowledge of condom use and having sex with

an uninfected partner as HIV prevention methods, were known by about three-quarters of men (76%) and even fewer women.

Around 77% of women believed a healthy looking person can be infected with HIV, a considerable increase compared with the 1998 survey where only 55% agreed that a healthy-looking person could be infected with HIV/AIDS. Although there has been an increase in understanding that infection is not possible through mosquito bites, only 57% of women rejected the claim. The knowledge that HIV could be transmitted from mother-to-child (MTC) was known by less than half of men (48%) and slightly more women (57%).

In 2003, 19% of women and 20% of men reported that they had been tested for HIV and had received the results. Even though testing rates were higher, a proportion of men and women who had been tested claimed that they were never informed of their HIV-status. In 2003, HIV testing in the voluntary counselling and testing and prevention of MTC transmission programmes was not yet universally available. Discussion of HIV and AIDS prevention was reported by 80% of women during their antenatal visits in the three years preceding the survey.

Compared with the 1998 SADHS, teenage pregnancy and fertility rates have decreased. By age 19, 27% of women had given birth in 2003, compared

with 35% in the previous survey. Rates particularly dropped in rural areas, from 21% in 1998 to 14% in 1998. However, modern contraceptive use remained high and seems to have increased since the 1998 survey was done. Sexually active women reported a noticeable increase in the use of male condoms. Fortunately, the number of women who prefer using male condoms has increased from 2% in 1998 to 8% in 2003.

A more than four-fold increase from 4% to 18% in the 15-19 age groups points to a particular improvement in acceptance, accessibility or availability of the method by younger generations. It is important to recognize that this means that more than 80% in the age group are potentially still exposed to pregnancy and sexually transmitted infections (STIs).

Approximately 53% of all women aged 15-49 years knew the importance of condom-use, whilst only 3% reported ever using it. Oral contraceptive use has decreased slightly while injectable contraceptive use has increased from 30% to 33%, with young women preferring the 2-monthly method and older women the 3-monthly injections. Even though there was an increase in the use of dual protection, emergency contraceptive use remained very low.

It raised more concern that despite the relatively high levels of contraceptive use, the proportion of

women who had knowledge about the fertility period in their cycle was very low (12%) and there had not been any improvements in this regard since the 1998 survey.

The most frequently attended health care facility by adults 15 years or older was public health services (20%) followed by private health care services (15%). The survey showed that over 22% of adult patients were unhappy with the services rendered in public hospitals/clinics/community health centres, while 13% and 8%, respectively, were unhappy with services from a dentist and private doctor. Dissatisfaction with public hospitals and community health centres was the highest in Gauteng and the Eastern Cape.

This unhappiness was more often expressed by people living in urban areas than it would have been found by the rural dwellers. The major reasons for dissatisfaction in public sector hospitals and community health centres were long waiting times, staff attitude, prescription medication not available and staff shortages. Long waiting times, staff attitude and doctors and pharmacists being too expensive were the main reasons for dissatisfaction with private sector facilities, and short consultations and cost were the most common reasons cited when private doctors were evaluated.

Women aged 15-49 years living in rural areas had more

problems with cost, distance and transport in reaching health services than those living in urban areas. A mere 14% of adults reported access to some form of medical aid or benefit, suggesting a decline from the 18% found in the 1998 SADHS. Limpopo, North West and KwaZulu-Natal were the provinces with the lowest benefit coverage—all below 10%, while Gauteng and the Western Cape had the highest proportions of their populations covered – over 20%.

The SADHS has an essential role to play in monitoring health trends in the country. A third SADHS is planned for 2009, and the Burden of Disease Research Unit together with others in the MRC is assisting the Department of Health in planning for this. Responding to recommendations from the 2003 SADHS, the MRC's Associate Prof. Debbie Bradshaw is confident to see improvements in the quality of the data collection, improved systems in place to expedite the data capture, analysis, and write-up processes, all culminating into a more timely publication of 2009 results to contribute to the past decade's initiatives to extend and improve population-based health and demographic data in South Africa.

The full report can be downloaded from: <http://www.mrc.ac.za/bod/sadhs.htm> or <http://www.doh.gov.za/facts/sadhs-f.html>



Anxiety disorders were rated as the highest of the most prevalent lifetime mental disorders affecting South Africans, according to the first nationally-representative stress and health study, reports LENADINE KOZA.

# FINDINGS FROM FIRST NATIONAL STRESS AND HEALTH STUDY

The South African Stress and Health (SASH) study conducted between 2002 and 2004 was the first nationally-representative study of common mental disorders in South Africa. A total of 4351 South African adults were interviewed using a comprehensive structured interview, which was administered in seven languages. The study was part of the World Health Organisation's World Mental Health Surveys, which were done using analogous methodology, and which allow the South African data to be compared with those in other countries.

Findings from the SASH study revealed high 12-month and lifetime prevalence estimates of psychiatric disorders, confirming the importance of these conditions in a developing country, according to Prof. Dan Stein and Prof. Soraya Seedat of the MRC Anxiety and Stress Disorders Research Unit who were investigators on the SASH study. Of the lifetime disorders, alcohol abuse topped the ratings at 11.4%, while major depressive disorders were estimated at 9.8%. The most prevalent forms of (lifetime) mental disorders were anxiety disorders, rated highest at 15.8%. Substance use disorders such as alcoholism had a prevalence of 13.3%. In the class of 12-month disorders the prevalences were: anxiety disorders (8.1%), followed by substance use disorders (5.8%) and mood disorders (4.5%).

Prevalence rates were higher than in a number of other developing countries, but not as high as in developed countries. Of particular concern were our high

**Table 1: Provincial 12-month prevalence estimates (%) of DSM-IV/WMH-CIDI disorders.**

Province	All Disorders	Specific disorders (grouped)				N
		Anxiety	Mood	Substance use	Impulse	
Western Cape	23.0 <sup>†</sup>	13.0 <sup>NS</sup>	7.1 <sup>†</sup>	7.1 <sup>†</sup>	2.2 <sup>NS</sup>	448
Free State	26.2 <sup>†</sup>	18.0 <sup>†</sup>	9.0 <sup>†</sup>	7.3 <sup>†</sup>	2.8 <sup>†</sup>	423
North West Province	18.5 <sup>NS</sup>	11.0 <sup>NS</sup>	2.9 <sup>†</sup>	6.0 <sup>NS</sup>	0.9 <sup>NS</sup>	453
Limpopo	18.3 <sup>NS</sup>	12.6 <sup>NS</sup>	3.1 <sup>†</sup>	4.5 <sup>NS</sup>	1.0 <sup>NS</sup>	420
KwaZulu-Natal	17.9 <sup>NS</sup>	9.5 <sup>†</sup>	5.2 <sup>NS</sup>	4.5 <sup>NS</sup>	1.9 <sup>NS</sup>	749
Gauteng Province	17.4 <sup>NS</sup>	11.2 <sup>†</sup>	5.3 <sup>NS</sup>	4.9 <sup>NS</sup>	2.5 <sup>†</sup>	591
Mpumalanga	15.9 <sup>NS</sup>	12.5 <sup>NS</sup>	3.6 <sup>NS</sup>	1.9 <sup>†</sup>	0.2 <sup>†</sup>	415
Eastern Cape	15.7 <sup>†</sup>	10.8 <sup>NS</sup>	5.0 <sup>NS</sup>	2.8 <sup>†</sup>	0.5 <sup>†</sup>	619
Northern Cape	18.5 <sup>NS</sup>	11.6 <sup>NS</sup>	5.1 <sup>NS</sup>	6.4 <sup>NS</sup>	1.0 <sup>NS</sup>	233
South Africa	18.8%	23.0%	10.1%	4.9%	1.6%	4351
†p < 0.05						
NS p > 0.05						

rates of alcohol use disorders; we have the highest in the world after the Ukraine.

The study provided a good deal of information on disability associated with psychiatric disorders, and on treatment patterns in South Africa. The median onset age was estimated at 21 for substance use disorders, 32 for anxiety disorders and 37 for mood disorders; so these are chronic conditions. Furthermore, only 15.9% of people with any disorders receive treatment and of those being treatment, "the majority (35.5%) receive their care from general medical practitioners". "Treatment rates for those with psychiatric disorders are low in comparison to those with general medical disorders. The rates are particularly low in those with substance use disorders." Prof. Stein highlighted.

A broad range of other findings and publications have already emerged from SASH. These include analyses of rates of trauma exposure in South Africa (eg domestic violence), analyses of particular behavioural problems

(eg suicide), analyses on the effects of particular stressors (eg HIV) and on the effects of the Truth and Reconciliation Commission. Local publications often address the extent to which there are differences across racial groups, while the global analyses allow a comparison between findings in South Africa and those elsewhere.

There is a high unmet need in the area of mental health, despite the effectiveness and cost-effectiveness of mental health treatment. For example, data from the WHO show that the costs of treatment for depression are relatively low, but that the costs of untreated depression are extremely high and contribute significantly to the global burden of disease. There is a need to improve screening for common mental disorders, to decrease stigmatisation and to improve mental health literacy.

The data from the SASH study provides a unique opportunity for policy makers to examine local data on the prevalence and treatment of mental disorders for global evaluations.

The newly established Oncology Research Unit is based at the MRC headquarters in Ridge Road, Overport where much of the research will be undertaken. However, the research activities are not confined to only that which is undertaken at the MRC. Numerous collaborations exist with other academic institutions both nationally and internationally so as to harness and draw on the strengths of individuals within these institutions, pool resources and integrate the best minds to explore and mine untapped knowledge in

medicines (ATM) in cancer prevention, cancer risk, cancer treatment and cancer management.

We must understand that cancer afflicts all communities and worldwide, the burden of disease impinges on the lives of tens of millions annually making it a major and increasing public health problem worldwide. In South Africa published data show that in the year 2000, cancers as a group accounted for 41 691 (deaths) (7.5% of all deaths) and was ranked as the fourth leading cause of death for all persons and

## NEW ONCOLOGY RESEARCH UNIT FOR MRC



Following his new appointment as Director of the Medical Research Council (MRC)'s new cancer research unit, PROF. VIKASH SEWRAM shares some of his immediate plans with *MRC News*.

the domain of oncology.

The Unit is focused on research that combines the disciplines of cancer epidemiology, clinical biochemistry, molecular biology, analytical chemistry and toxicology to bring about an understanding in the relationship between lifestyle and the environment on cancer risk. Research is also aimed at finding out the causes of cancers and in particular the role of complementary and alternative medicines (CAM) including African traditional

the second leading cause of death among older (60+ years) persons.

What we do know is that cancer develops as a result of several factors, some of which may be universally common and some of which are only locally significant. The complexities result primarily because South Africa consists of such a diverse and heterogeneous population which cumulatively contributes to the huge burden of cancer within the country. Therefore, understanding risk factor profiles within communities

is important in estimating the burden and magnitude of risk in the population.

Furthermore, due to the burden of cancer and the need for improved outcomes and quality of life, cancer patients have joined a global trend of seeking supplemental therapy to conventional oncology care, usually without their physicians' knowledge. Among the most common forms of such therapies used by cancer patients are plant-based natural products and dietary supplements including antioxidants, megavitamins, and herbal remedies such as ginseng, ginkgo biloba, ginger, garlic, and feverfew. The extensive use of such products by cancer patients raises multiple questions and challenges for the physician. Limited scientific and supporting clinical data exists on the efficacy and safety of many such products hence advising patients about when to or when not to use them during the course of illness is difficult. This is true for each stage of cancer care, whether it be prevention, acute active care (radiation, chemotherapy, surgery), and post-acute care (follow-up visits and prevention of recurrence). The integration of plant-based products and dietary supplement use into modern oncology care must therefore be backed by scientific evidence as some products might biochemically interfere with the effect of chemotherapy or radiation therapy either negating or intensifying its action.

The Unit will also focus on developing methods for the early detection and diagnosis of tumours early in the disease process, before the tumour invades surrounding tissue. This can dramatically improve the patient's odds for successful treatment and eliminate a large portion of cancer deaths. In particular we will be focusing on identifying biomarkers for hard to detect cancers, such as ovarian and pancreatic cancers, and finding new biomarkers for prostate cancer and oesophageal cancer.

My goal right now is to build on our research strengths, improve research infrastructure and promote multidisciplinary and collaborative research.

We need to invest resources in increased networking and cross-sectoral collaboration with others to help get the job done faster and also with expertise that we may not have in-house. By pooling one's financial and intellectual assets one will be able to achieve results greater than either of you could have achieved alone. But you also need to work with people that support you and also share in your vision. Working as part of a team has always been the key to success. In an increasingly competitive world it is often the success of partnership that determines the success of the endeavour.

There is a dearth of expertise in South Africa with regards to oncology research training and through the process of research we

hope to develop multidisciplinary human capacity and capability in cancer aetiological research relevant to South Africa and to provide epidemiological training in cancer surveillance. This multidisciplinary approach is consistent with international trends in public health research as it makes possible the establishment of biological plausibility through laboratory-based investigations, and throws light on public health interventions.

The results or data generated by the projects will lead to greater understanding of the risks associated with cancer within defined South African population groups. These projects will also contribute to the surveillance of cancer, hence understanding the distribution of these cancers for screening, prevention and management purposes. In addition, the use of complementary and alternative therapies within the oncology setting will be investigated with scientific rigour making it possible for the medical fraternity to advise patients accordingly about the use such therapies in the entire cancer continuum. Such research will have implications for cancer screening and management policies as well as treatment guidelines. Furthermore, the results will be utilised as a basis for exploring new directions in cancer research as a result of the new knowledge generated from the current and proposed new studies.



Cancer is devastating populations around the globe, while available treatment options are still out of reach of most communities, write NONTUTHUZELO SOMDYALA and LENADINE KOZA.

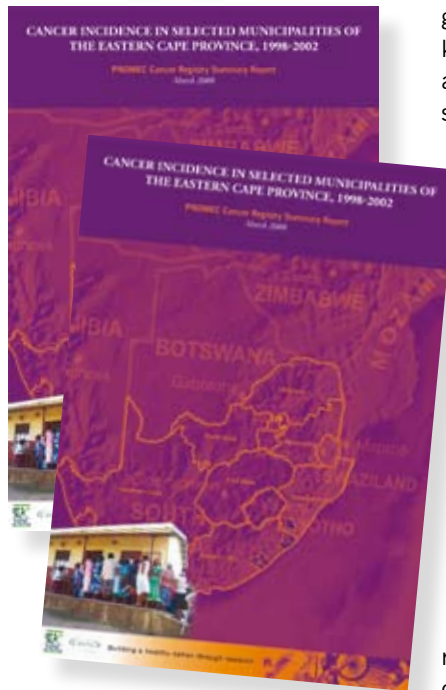
About 2700 delegates from 126 countries around the globe recently gathered in Geneva, Switzerland for the International Union Against Cancer (IUAC)'s Biennial World Cancer Congress.

The gathering which took place from 27-31 August this year aimed to combine and strengthen existing measures around the advancement of cancer control and prevention. Outgoing IUAC President Dr Franco Cavalli in his opening speech of the 2008 IUAC congress sited poverty-related tumours, cancers linked to western populations, a lack of primary and secondary prevention, as well as treatment resources as the main areas of concern. "If we are to save millions of lives, it is essential to put cancer on the global public and political agenda," Dr Cavalli

## WORLD CANCER CONGRESS HIGHLIGHTS GAINS VS GAPS

said. “The new World Cancer Declaration 2008 is an optimistic approach to tackling the cancer crisis – the time is right to make cancer control a development priority; this is where the true breakthrough is needed in the interest of health development; in a spirit of social justice and solidarity and for the sake of fairness in the prevention of human suffering,” he added.

Ms Nontuthuzelo (Ntuthu) Somdyala, Scientist from the Burden of Disease Research Unit of the South African Medical Research Council indicated that the gathering offered “a unique opportunity to connect with international and multi-disciplinary groups” by bringing together researchers, educators, scientists, advocates, cancer programme coordinators, information officers, public health organisations, patient groups, the scientific (including medical) community and governmental agencies. “It was an unparalleled opportunity to enhance the global fight against cancer,” Somdyala said. She presented a poster based on a report on the cancer incidence in the rural region of the Eastern Cape Province of South Africa, compiled during March 2008. Results of this report reflected oesophageal cancer as the leading type amongst males, accounting for 42.2% of total cancers, followed by lung (7.9%), prostate (6.9%), liver (5.8%), larynx (3.6%) and mouth



(3.2%) cancers. Among females, cervical and oesophageal cancers were the leading types, respectively accounting for 38.8% and 31.5% of the total cancers, followed by breast (11.4%), ovarian (1.5%) and liver (1.2%) cancers.

The congress iterated the fact that more has in all likelihood been learnt about cancer over the past decade than in all preceding centuries. However, an increase in cancer knowledge does not guarantee that it is evenly distributed and widely accessible. “Despite the unprecedented understanding of cancer coupled with phenomenal advances in biotechnology, the

gap between what is scientifically known and what is practically applied, is widening on a global scale,” Somdyala observed. “This is reflected by the fact that in developed countries, the estimated 5-year survival rate of all cancer cases is 50-60% whilst in developing countries it is 30-40%. There are also remarkable variations in the types of cancer that predominate in different parts of the world and unacceptable disparities exist between countries in terms of access to quality information, prevention, screening and treatment as well as palliation.”

The programme of the recent international congress was developed around the following five tracks: cancer epidemiology, surveillance, prevention and control; tobacco control; research and treatment (as well as knowledge transfer); supportive care; and capacity development. A total number of 124 scientific sessions had been delivered throughout the duration of the five-day gathering. These were divided into daily plenary sessions comprising workshops, poster presentations, symposia and satellite sessions – presented by experts in the field of cancer control.

From a global perspective scientific-based knowledge is currently sufficiently advanced to prevent at least one-third of all cancers, to cure a further one-

third (given early diagnosis) and to permit effective treatment and pain control for the remainder. The IUAC feels that the cancer burden could be significantly reduced if existing knowledge is made available and applied globally. Recent advances, such as the HPV vaccine discovery in cervical cancer prevention, mean that controlling the disease in developing countries is becoming feasible for the first time. New screening methods (visual inspection with acetic acid [VIA], HPV DNA, etc.) which are increasingly being used in pilot studies are providing viable alternatives to pap smears.

MRC Poster presentation on cancer incidence in EC Province

The PROMEC Population-based Research Unit of the South African Medical Research Council, currently housed in the Burden of Disease Research Unit, was compiled and published as the *Cancer Registry Summary Report, March 2008*. The report recorded cancer incidence rates and patterns of about 1.4 million people in 10 magisterial areas around the former Transkei region from 1998-2002. The said rates are resultant of an ongoing descriptive observational study based on the rural population-based cancer register of the SAMRC.

The population in the research area reflects that the area is a labour reservoir with lower numbers of working age adults than might be expected, accompanied by higher proportions

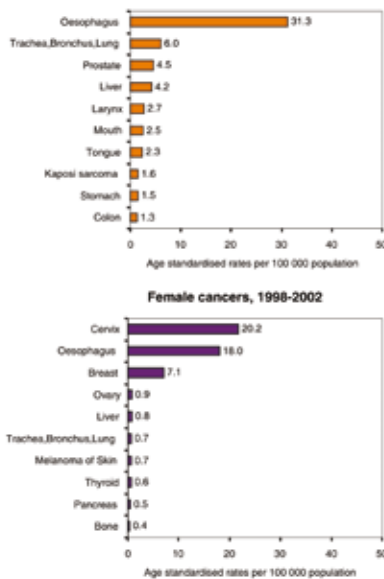


Figure 4: Annual age standardised rates (per 100 000 population) of cancers by sex, 1998-2002

***The incidence of male and female cancers recorded in the cancer Registry Summary Report (2008) from 1998-2002.***

of children and older persons, particularly women. In addition, migration due to work has a long history in South Africa, as well as the circulatory movement of people between urban and rural homes. Statistics South Africa in 2001 indicated that a large proportion of households in the area do not have any toilet facilities (51%) nor access to piped water. Furthermore, unemployment levels were as high as 73% in some areas.

Cancer data were manually abstracted from the medical records of 19 collaborating hospitals and a pathology laboratory based within the National Health Laboratory Services. Data included

demographic variables, tumour characteristics, types and behaviour as well as other vital statistics. A total of 2829 cases was reported, of which 1184 (41.8%) were males and 1645 (58.2%) were females. A consistent, annual number of about 566 (237 male and 329 female) were reported on average, but they were a bit lower in 1999 and 2000. It is believed that some cases might have been missed through visiting hospitals outside the registration area since most collaborating hospitals were upgraded and refurbished during this period. Further results of this study revealed oesophageal cancer as the leading type amongst males, accounting for 42.2% of total cancers, oesophageal cancers as the leading type, followed by lung (7.9%), prostate (6.9%), liver (5.8%), larynx (3.6%) and mouth (3.2%) cancers. Among females, cervical and oesophageal cancers were the leading types, accounting for 38.8% and 31.5% of the total cancers respectively, followed by breast (11.4%), ovarian (1.5%) and liver (1.2%) cancers.

Collaborating hospitals in the registration area over the 5-year period reported 1633 cancer cases (57.2%), while the referral hospitals contributed 1196 cases (42.3%). It is noted in the Eastern Cape summary report that a high percentage (57.2%) of cancer cases were clinically diagnosed, possibly due to the scarcity of oncology specialists in rural areas.





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