

HUMAN AND SOCIAL DYNAMICS (HSD) RESEARCH SEMINAR SERIES

# SUBSTANCE ABUSE, HARM REDUCTION AND HARM PREVENTION, SETTING A RESEARCH AGENDA

2 March 2015

Research Seminar  
Report



science  
& technology

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REPUBLIC OF SOUTH AFRICA



HSRC  
Human Sciences  
Research Council



*Substance Abuse, Harm Prevention and Harm Reduction  
Setting a Research Agenda  
DST & HSRC Human and Social Dynamics Research Seminar 2 March 2015*

**Department of Science and Technology (DST)  
Human and Social Dynamics (HSD) Research Seminar  
Substance Abuse, Harm Prevention and Harm Reduction:  
Setting a Research Agenda**

**Department of Science and Technology (HSRC)  
Human Sciences Research Council (HSRC)  
University of Cape Town (UCT)**

2 March 2015  
Townhouse Hotel  
Cape Town

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## **ACRONYMS AND ABBREVIATIONS**

|        |                                                           |
|--------|-----------------------------------------------------------|
| A      | Answer                                                    |
| ACASI  | Audio Computer-Assisted Self Interview                    |
| AIDS   | Acquired Immune Deficiency Syndrome                       |
| AOD    | Alcohol and Other Drug                                    |
| ASSIST | Alcohol, Smoking and Substance Involvement Screening Test |
| BMI    | Brief Motivational Interview                              |
| C      | Comment                                                   |
| CBT    | Cognitive Behavioural Therapy                             |
| CDA    | Central Drug Authority                                    |
| DST    | Department of Science and Technology                      |
| GDP    | Gross Domestic Product                                    |
| HIV    | Human Immunodeficiency Virus                              |
| HSRC   | Human Sciences Research Council                           |
| KZN    | KwaZulu-Natal Province                                    |
| MI     | Motivational Interview                                    |
| MRC    | Medical Research Council                                  |
| NIDA   | National Institute on Drug Abuse (USA)                    |
| Q&A    | Questions and Answers                                     |
| Q      | Question                                                  |
| SAPS   | South African Police Service                              |
| SARS   | South African revenue Service                             |
| SBI    | Screening and Brief Intervention                          |
| SBIRT  | Screening, Brief Intervention and Referral for Treatment  |
| TB     | Tuberculosis                                              |
| UN     | United Nations                                            |
| UCT    | University of Cape Town                                   |
| US     | United States                                             |
| UWC    | University of the Western Cape                            |
| WHO    | World Health Organisation                                 |
| WHO-SA | World Health Organisation South Africa                    |

## **PREFACE: THE PURPOSE OF DST RESEARCH SEMINARS**

The Department of Science and Technology (DST) Human and Social Dynamics Research Seminar Series is designed to: (i) showcase research and knowledge production in the Social Sciences and Humanities (SSH) which is generated by the National System of Innovation (NSI); (ii) serve as a vehicle for disseminating research evidence to wider and diverse audiences; (iii) operate as a platform for the sharing of local and international expertise and experience; and (iv) promote research and knowledge production in the Humanities that benefits and enhances the NSI.

The HSD Research Seminar Series aims to:

- Disseminate scientific research findings and transmit a body of new knowledge (through an interactive process of critical dialogue and collegial critique) to the SSH research community and other interested actors in the NSI;
- Provide an avenue for rated and other researchers, including researchers from rural-based universities, to engage in knowledge dialogues across faculties and with other interested actors in the NSI;
- Present and discuss new and ongoing research, identify research gaps, and suggest new research agendas in SSH with a view to forging closer links between the research communities in these fields;
- Reinforce the visibility of SSH research to the higher education and science council sector;
- Enhance wider public understanding of the SSH, including the value and status of both individual and team-based research; and
- Strategically promote, develop, and coordinate collaborative and interdisciplinary research within and between Higher Education Institutions and Science Councils.

## **EXECUTIVE SUMMARY**

This Research Seminar, which was held on 2 December in Cape Town, formed part of a series facilitated by the Department of Science and Technology aimed at wider dissemination and application of research in the social sciences and humanities. The seminars bring together local and international researchers to discuss the latest research, identify research gaps, suggest new research agendas and explore potential policy relevance. The seminar was attended by representatives of national and provincial government, researchers from South African universities and research organisations, and experts on substance abuse from South Africa, the World Health Organisation and the United States.

After a brief scene setting by *Prof Neo Morojele*, Medical Research Council (MRC), *Dr Temba Masilela*, Human Sciences Research Council (HSRC) and *Prof Priscilla Reddy*, HSRC, the seminar began with an overview of the substance abuse situation globally and in South Africa presented by *Dr Paul Seale*, Mercer University School of Medicine, USA. *Seale* summarised the South African drug situation as follows. Lifetime drug use prevalence is 13.3%, resulting in substance abuse in 3.9% and dependence in 0.6%; there are high levels of inhalant use among youth; cannabis (*dagga*) is the drug of choice among those in substance abuse treatment; methamphetamine (*tik*) abuse is common in the Western and Eastern Cape; there is increasing use of over-the-counter and prescription medicines, especially by youth, which includes the highest use of methaqualone (*mandrax/Quaalude*) in the world. There is also cause for concern because of emerging new concoctions such as *nyaope (whoonga)* which may contain *dagga*, heroin, household cleaner, rat poison, and the HIV drug Efavirenz.

*Seale* emphasised the importance of contextual issues in a country, such as level of urbanisation, socio-economic status and ethnic diversity, which can affect substance abuse. He pointed out that this determines whether interventions are appropriate and said that caution must be exercised when importing materials from elsewhere. He also spoke about stigma and quoted from the US National Institute on Drug Abuse's mission statement saying that we need to "change people's perceptions, replacing stigma and shame with a new understanding of addiction as a treatable disease."

*Prof Pamela Naidoo*, HSRC, said that drug abuse is estimated to cost South Africa R20 billion a year and combined drug and alcohol abuse costs the economy R130 billion a year. We need data that informs us about the changing trends of substance use and abuse and surveys are still the best method. *Naidoo* described several surveys that have provided information on alcohol and other drug abuse in South Africa but most are restricted to sub-groups such as treatment centre attenders or schools and as such cannot provide nationally representative data. She argued that we must continue with surveys but use innovative approaches to reach adolescents who are out of school and drug users who are not in treatment. National surveys every 3-5 years will allow trends to be followed, interventions to be assessed and budgets better targeted.

*Dr Katherine Sorsdahl*, University of Cape Town, spoke on the importance of interventions and how these can make a difference. Several interventions were reviewed which demonstrated how task-shifting can be put into practice and that Screening and Brief Interventions can be feasible and acceptable without the use of additional resources. The challenge is how to scale these interventions up and to make them routinely available in all parts of the country.

The afternoon session allowed delegates to work in smaller groups to discuss three topics, namely:

1. Substance Abuse Research: Priorities.
2. Longitudinal Surveys: Should the focus be the population or specific target groups?
3. Prioritizing specific target groups for substance abuse prevention and harm reduction interventions.

Group1 identified an audit of existing research as its first priority and argued for regular, nationally representative surveys every 3 to 5 years. More research is needed on effectiveness of treatment and to explore multi-level influences, such as social support, family and community.



Group 2 identified a data gap regarding the burden of substance abuse at national level and that longitudinal studies would help generate reliable information on incidence, prevalence and trends. Baseline household surveys should be used to identify priorities for more in-depth studies and interventions.

Group 3 Identified several research gaps and highlighted target groups that are neglected. These include the prison population, out of school youth, children under 14 years, and those with low literacy who may be difficult to reach with conventional prevention programmes. Greater involvement of ex drug users in prevention was advocated since they are a potential source of peer educators. Finally, this group called for more innovative use of media and advertising.

## **BACKGROUND**

On 12 May 2014, a workshop took place in Pretoria, South Africa, which focused on substance abuse, harm reduction and harm prevention. The workshop - a joint initiative by the Department of Science and Technology (DST) and the Human Sciences Research Council (HSRC) - brought together various stakeholders across sectors and civil society. Invitations were extended to the Central Drug Authority (CDA); South African Revenue Services (SARS); Departments of Health, Social Development, Justice, Crime Prevention and Security; the National Youth Development Agency; South African Police Services (SAPS); the Medicines Control Council; representatives from the South African Community Epidemiology Network on Drug use (which included academics and scientists); and the World Health Organization, South Africa (WHO-SA).

The workshop was very well attended and a large majority of the stakeholders expressed concern that South Africa has only just begun to address the issue of substance abuse prevention by imposing, for example, increased taxes on alcoholic beverages and introducing harm reduction strategies. In addition, the workshop also revealed that we have fairly adequate knowledge of the direct and indirect impacts of alcohol and freely available illicit drugs, such as mandrax and cocaine, but we have inadequate knowledge about the vast array of other licit and illicit drugs, including indigenous ones like *'nyaope'* and prescription drugs.

Given the above scenario, DST and the HSRC made a joint decision to maintain the momentum of interest and concern around substance abuse and harm prevention and proposed a follow-up seminar to formulate and launch a *research agenda*. The event was also to plan a national epidemiological survey which would run every three to four years to establish the prevalence of substance use and abuse of licit and illicit drugs at all life stages over time (longitudinally). Reliable, representative data will enable all stake-holders and sectors to tackle the problem, using an evidence-based approach.

## **SUBSTANCE ABUSE IN SOUTH AFRICA**

### ***The scourge of substance abuse***

The Prevention of and Treatment for Substance Abuse Act has been passed and the government has approved a National Drug Master Plan for 2013/2017 that is being implemented to reduce the demand for and supply of abused substances, and to reduce the harm caused by substance abuse (National Drug Master Plan, 2012).

The South African government recognises the central role that the abuse of alcohol and drugs plays in crime, unemployment, road traffic accidents and other social pathologies (Lightowers, 2011). The illicit drug trade is linked to international organised crime, terrorism, human trafficking, money laundering and the illicit arms trade (Parry et al., 2006; SAPS, 2013).

Substance abuse has been implicated in disrupting family functioning and social cohesion and is a predictor of a range of traffic and violence related injuries, domestic violence, gang violence, robbery and assault (Affinnih et al., 2005; National Drug Master Plan, 2012; WHO, 2014). Effects are evident amongst vehicle occupants, pedestrian road users, as well as victims and perpetrators of interpersonal violence.

Research on this scourge of substance abuse is fairly conclusive. SAPS data shows a 123% increase in drug-related crimes since 2003/4; and driving under the influence of alcohol increased by 148% (SAPS, 2013). The national injury mortality surveillance system on post-mortem investigations found that 54% of violence-related deaths and 52% of transport-related deaths were alcohol-related. A study at five trauma units in Cape Town, Durban and Port Elizabeth found that one-third of patients were tested positive for cannabis; 15% for metaxalone; and 14% for 'white pipe' (combination of cannabis and metaxalone) (Parry et al., 2004; Parry et al., 2005). Violence is strongly related to use of substances (67% alcohol; 45% illicit drugs; 84% at least one substance; 40% cannabis; 17% white pipe)

and a similar trend exists for transport accidents (42% alcohol; 36% illicit drugs; 67% any substance; 31% cannabis; 10% white pipe).

For specific external causes of violent death, alcohol and drugs are frequently associated with instances of the use of sharp objects, blunt objects and firearms. In traffic-related deaths, positive testing for alcohol and/or drugs is also common for pedestrians, drivers and to a lesser extent, passengers. These trends reflect US findings, where 92% of perpetrators of intimate partner violence admitted to using drugs or alcohol prior to the assault; 67% had used a combination of cocaine and alcohol; and 45% of reckless drivers were found to be positive for cannabis (dagga), and 25% for cocaine (WHO, 2009). More than ten million adolescents and adults have admitted to driving under the influence of illicit drugs. The estimated direct cost of licit and illicit drug use in the US in 2007 was \$US193 billion, while the indirect cost in lost productivity, healthcare expenses, law enforcement and criminal justice costs amounted to US\$223 billion dollars (Executive Office of the President, 2012).

The effects of illicit drugs on injury depend on drug type, dosage and demographics. Amphetamines and cocaine are associated with violence; opiates with illegal opiate procurement and sex work; cannabis affects concentration and reaction times. Withdrawal symptoms occur in the case of alcohol, meth and meth amphetamines, benzodiazepine and cocaine. A range of system influences exist at a family level (parental use of drugs, exposure to violence) or at other social levels (drug availability and dealing, nightlife environment, exposure, the culture of using drugs and neighbourhood deprivation) or at the individual level (age, psychiatric factors, history of victimisation, social functionality) (Dunlap et al., 2010; WHO, 2012).

#### ***Substance abuse and risk of disease onset***

Alcohol, tobacco, a poor diet and lack of physical exercise are key modifiable and preventable risk behaviours associated with non-communicable diseases such as cardiovascular diseases, cancers, diabetes, mental illness and chronic respiratory diseases (Marrero et al., 2012; Saxenian, 2013). A relationship exists, for example, between volume of alcohol consumed per day and relative risk of hypertension. Similar patterns exist for tobacco use where there is evidence to show that smoking is a key risk factor for a range of cardiovascular, respiratory and other diseases, and cessation of tobacco use is associated with significant improvements in health (Stephen et al., 2013).

Alcohol drinkers have a 77% higher risk of HIV infection than their non-drinker counterparts and a three-fold higher risk of TB infection exists for people who drink more than 40g of alcohol per day or who have an alcohol use disorder (Baliunas, 2010; Schneider, et al., 2014). Additionally, a greater chance of non-adherence to medication exists amongst individuals who use or are dependent on alcohol and a worse prognosis and more rapid disease progression is likely (Rehm et al., 2010; Naidoo et al., 2013). People with TB who drink heavily have higher relapse rates than people with TB who do not drink alcohol at all (Rehm et al., 2009; Peltzer et al., 2012). Cardiovascular diseases, mental illness and chronic respiratory conditions are associated with the use of cocaine and a range of other substances and the injecting of illicit drugs and sharing of needles is commonly associated with infection with HIV and TB.

#### ***Implications of what we know about substance abuse***

In South Africa we have a fairly good knowledge about the negative effects of substance abuse and have consequently been able to intervene at various levels to reduce these effects for the more commonly known licit and illicit drugs that are consumed. Interventions have taken many forms, including economic reforms such as imposing 'sin' tax on alcohol; community-level monitoring and policing; work-place interventions; and individual level rehabilitation programmes.

We know, for example, that alcohol is a significant predictor of poor health outcomes and reduced quality of life. Recognizing the disastrous direct and indirect effects of alcohol on individual health, the health of others, and the public health care system, the minister of the National Department of Health in SA is not only keen to restrict the sale of alcohol to selected hours, he is also motivating for a ban on alcohol advertising.



While many substance abuse reduction interventions work well, we do not have sufficient evidence that these interventions are both effective and efficient. Developing a research agenda for the purpose of not only proving that interventions are effective, but that interventions can be scaled up for population level effect, proving efficiency, becomes critical.

## **DO WE KNOW ENOUGH ABOUT THE EXTENT OF SUBSTANCE USE AND ABUSE IN SOUTH AFRICA?**

### ***Setting a research agenda***

Generally, we know 'enough' about substances that are freely advertised (such as alcohol and tobacco), and readily available, even though they are illicit (such as methamphetamine). We have insufficient knowledge, however, about the extent of the abuse of other substances such as caffeine, cannabis, cocaine, hallucinogens, inhalants, nicotine, opioids, phencyclidine, sedative hypnotics, and other prescription and over-the-counter medical drugs.

Given the gaps in our knowledge, we need regular, national surveys to be conducted at least once every three to four years to establish the epidemiological pattern of substance use and abuse across South Africa to provide the evidence-base for policy development and implementation. A longitudinal national survey is a reliable design to enable researchers to ascertain the prevalence and incidence of substance abuse of the wide spectrum of existing and new licit and illicit drugs. Data from nationally representative surveys will allow the country to work towards incremental progressive realisation of a 100% substance-free South Africa.

Sustainable funding should be secured for surveys of households, schools, other educational institutions and of service providers. Issues to be surveyed should include the experience and nature of cultural practices, peer pressure, traditions, costs, substance types (legal, illegal, homebrews, mampoer, tot-tot, glue), quantities, risk factors, access to treatment, substance suppliers, skills levels of service providers, gender, impact (psychological, social, economic), bio-indicators (blood, hair, nail samples), age of onset, household income, educational level, employment status, and health status. Self-reported survey data should be compared with third party reporting using triangulated methodologies and where possible biological markers should be used to verify the self-report data. GIS mapping should be used to determine distribution of trends in relation to location of local shebeens and pubs. Institutions should share and harmonise research efforts.

Clearly, a synergistic, co-ordinated effort is required across sectors to implement strategies for substance abuse prevention. The results of surveys and other data gathering efforts will be used to inform these strategies.

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## **THE SEMINAR**

The slides used in the presentations summarised below are provided in Appendix 4 and can also be accessed online via the *Policy > Action Network* web site <http://www.pan.org.za/node/9852>.

## **WELCOME, BACKGROUND AND PURPOSE OF THE SUBSTANCE ABUSE SEMINAR**

### ***Prof Neo Morojele, Alcohol, Tobacco and Other Drug Research Unit, South African Medical Research Council***

Neo Morojele welcomed delegates and explained that the seminar was a follow on from a previous seminar in May 2014. The focus of the meeting was to be on how to formulate a research agenda on substance abuse for South Africa.

Morojele then asked the delegates to observe a minute's silence to remember *Sarah Fisher*, who ran the Substance Misuse Advocacy Research and Training (SMART) organisation in the Western Cape and had suddenly passed away. Sarah was known to many in the substance abuse community and will be remembered as a passionate advocate for the rights of people with substance abuse problems.

### ***Dr Temba Masilela, Deputy CEO, Human Sciences Research Council (HSRC), South Africa***

Temba Masilela explained the Department of Science and Technology's (DST) focus on evidence-based policy making and desire to promote dialogues between researchers and policy makers. This seminar was an opportunity for the research sector to engage with government about systematic and sustainable support for a programme of research that would address crucial policy and community-level issues.

### ***Prof Priscilla Reddy, Deputy Executive Director, HSRC***

Priscilla Reddy also welcomed the delegates and added that the HSRC is not only interested in surveillance but also in developing and testing interventions. HSRC also produces policy briefs designed to provide information for policy makers to support evidence-based interventions. Two policy briefs relating to substance abuse have been produced recently: one is specifically on tobacco control and the other a more general one on alcohol use.<sup>1</sup>

## **SESSION 1**

### **SETTING A SUBSTANCE ABUSE RESEARCH AGENDA FOR SOUTH AFRICA:**

#### **LESSONS FROM THE UNITED STATES AND GLOBALLY**

### ***Dr Paul Seale, Mercer University School of Medicine, Georgia, USA***

Paul Seale described the key global issues for substance abuse as being: accelerating urbanisation and the urban-rural divide; deepening income inequality; ethnic diversity; and education. South Africa is 64% urbanised and the urban-rural divide is expressed in differences in income, resources, education and cultural identity. Economic disparities are large in both developed and developing countries with the poorest 50% of the population often controlling less than 10% of the wealth. In terms of ethnic diversity it is inappropriate to think of a nation as one conglomerate and we need to consider the needs of different ethnic groups. The USA is comprised of 63% white, 17% Hispanic, 13% Black or African American, 5% Asian and about 2% other groups. The South African population is also diverse and we therefore need to consider cultural and language diversity. Illiteracy is now about 7% but many do not read on a daily basis and are functionally illiterate which means they do not deal well with material in written form.

About 5% of people aged 15 to 64 use illegal drugs worldwide; 2.5% use them regularly and 10-13% of these are problem users. Thus use of drugs is risky and 1 in 7 ends up as a problem user. The most

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<sup>1</sup> HSRC Policy Briefs are available at <http://www.hsrc.ac.za/en/ria/policy-briefs>



common drugs abused are cannabis (dagga), opiates and opioids, cocaine, amphetamines and other stimulants, and ecstasy.

The US counts drug abuse costs as about \$500 billion annually. Substance abuse contributes to 1% of all deaths, through links to accidents, injuries, HIV, hepatitis, TB, and comorbidity with mental illness. There is also decreased productivity, including workplace injuries and accidents (0.3-0.9% of GDP); drug-related crime (90% of drug-related costs); family/social disintegration; loss of employment; failure in school; and domestic violence.

Globally there has been a shift in drug use from developed to developing countries. High population growth, a younger population, rapid urbanisation, increasing gender equality, and globalisation of the illicit drug economy have all contributed to this situation. Economies in transition and developing countries have become increasingly affected by illicit drug use. In absolute numbers, there are almost twice as many illicit drug users in these countries. Males outnumber females for most substances and there is an expanding range of substances. There is a substantial 'treatment gap' which means that only 1 in 5 of those who need treatment receives it.

In South Africa, country-specific issues can be summarised as follows:

- Lifetime drug use prevalence is 13.3%, resulting in substance abuse in 3.9% and dependence in 0.6%;
- High levels of inhalant use among youth;
- Cannabis (dagga) is the drug of choice among those in substance abuse treatment;
- Methamphetamine (tik) abuse is common in Western and Eastern Cape;
- Increasing use of over-the-counter and prescription medicines, especially by youth;
  - largest use of methaqualone (mandrax/Quaalude) in the world, often smoked together with cannabis ("white pipe");
  - Emergence of *nyaope (whoonga)* which may contain dagga, heroin, household cleaner, rat poison, HIV drug Efavirenz and is popular especially among the Zulu-speaking Black population in the Durban area.

So how do we approach this epidemic? We must be mission focused, prioritised, strategic, prevention-based and gather epidemiological data as the first step. The US National Institute on Drug Abuse (NIDA) has a mission which aims to bring the power of science to bear on drug abuse and addiction, which resonates closely with the approach of DST in South Africa. It also seeks to reduce the burden of drug abuse and addiction and its consequences. Crucially, they seek to "change people's perceptions, replacing stigma and shame with a new understanding of addiction as a treatable disease."

Understanding can be improved by defining addiction more clearly, i.e. that addiction is because the part of the brain that allows us to make choices is not working properly and some people are more vulnerable to this condition than others, as is the case with many other diseases. More black people become addicted to drugs than other ethnic groups and there are specific environments that are high risk, such as homes with no parents or high levels of stress.

The neurobiology of addiction has been elucidated and it is possible to decrease stigma and increase support for prevention, treatment and research by increasing understanding of addiction as a disease. Genetics plays an important role and contributes 50% of the risk of addiction and this risk increases when there is use of alcohol, tobacco or other drugs during adolescence.

Drug surveys are important because they:

- inform us of the prevalence of unhealthy substance use;
- identify areas of special need;
- highlight new emerging substances, their effects and consequences; and
- raise consciousness by educating the public and policymakers.

Survey data can be obtained from various sources. School surveys are suitable for information on adolescents; household surveys provide overall prevalence of use; and emergency department surveys can detect new trends and potential consequences. Data derived from addiction treatment programmes can provide information on the substances which are causing the most severe impairment and addiction. This is the approach used in the US with the Treatment Episode Data Set and in the South African Community Epidemiology Network on Drug Use.

In the US the Centers for Disease Control run the Youth Risk Behaviour Survey in schools. This is a voluntary survey which employs various techniques to ensure confidentiality, including computer scanable answer sheets and sealed envelopes to increase confidence in the anonymity of responses. The US National Survey on Drug Use and Health is carried out with 67 000 persons per year using a random sample of households. Less sensitive questions can be administered by interviewers but Audio Computer-Assisted Self Interviewing (ACASI) produces better results.



**Figure 1 Audio Computer-Assisted Self-Interviewing**

Self-reported information about substance abuse is “good but not perfect” and estimates prevalence within 1-2% for most substances if adequate privacy and confidentiality measures are in place. It is less reliable for stigmatised drugs like cocaine. Biomarker testing results in a small increase in detection but causes higher refusal rates and many drugs have a short half-life, unless testing hair. A study by McNeely et al., 2014 compared biomarker testing with the interview and ACASI system. Biomarkers revealed actual prevalence of 29.2% compared to 27.7% using the other methods, which suggests that the improvement in accuracy is probably not worth the extra cost.

Seale then described some drug and alcohol issues in traditional cultures from South America. Life transitions led to experimentation which, combined with stress and social pressure, could lead to perpetuation of drug use. There were no funds available to set up treatment centres and self-help groups depended heavily on written materials which were inappropriate for a society where most were illiterate. Thus there was a need for an entirely new approach. They taught through storytelling, which was the preferred learning style of oral learners (illiterate and semi-literate peoples), and they mobilised the faith community. This enabled them to reach areas that many government health programmes found hard to reach, mobilized large numbers of volunteers, and provided an alcohol-

and drug-free support group in villages where abstinence was the exception. Such interventions are currently being tested in Brazil, Guatemala, Peru, Uganda and the US.

Three culturally-grounded interventions were described.

1. *The Cherokee Talking Circle*. The more people stay grounded in their own culture and identity the greater the likelihood they will stay abstinent from alcohol and drugs. They identified core cultural values of being responsible, disciplined, and confident which led to recognition that “this excessive use of alcohol and drugs is not who we are as people”.

2. *CHOICES Plus Program*: Outpatient clinic intervention. This identified high risk users for alcohol, drug and tobacco exposed pregnancies and showed good success in a nine-month intervention follow up.

3. *Ethics First for Africa: Reducing risky behaviours through principles and values education*.

This is based on a programme used in Latin America and now running in Uganda. The programme promotes 40 values and ethics principles to adolescents. The programme does not speak directly about drugs, alcohol, or sex, but talks about how to have a lifestyle that you can be proud of. The outcomes include: decreased drug and alcohol use; better school performance; decreased theft and violence; a dramatic drop in the teenage pregnancy rate; and reductions in sexually transmitted diseases. The curriculum for this intervention is available for use as Open Source material and partners are being sought for formal evaluation.

Seale concluded that:

- substance abuse is a growing problem in South Africa and around the world;
- the risk of substance abuse is high among those encountering major times of transition;
- there is a high cost, both financially and in terms of human suffering;
- substance abuse surveys can help identify the burden of substance abuse and where to focus intervention efforts;
- prevention efforts are an important, cost-effective method for protecting adolescents; and
- an important principle is to pay attention to cultural needs and preferred learning styles of patients and clients

## **Q & A**

**Question (Q): Paul Seale.** What are the substance abuse issues in the areas where you live and work?

**Answer (A): Ivan Kortje, Rural Institute for Education and Training Family Guidance Centre.** The one challenge we have is that substance abuse is complicated because there are other social issues that go with it. It comes as a package. It is often only at high school that teachers pick up a history of alcohol abuse as part of a child’s growing up leading to learning problems. The monster we face is increasing social problems and we need a holistic approach to deal with it.

**Comment (C): Paul Seale.** The problems get entangled as they advance, for example drug addiction and HIV, social needs in the family, issues of drug supply. In the US an office was set up during the Reagan administration for the ‘war on drugs’ which focused on trafficking and law enforcement. But subsequently we realised that you cannot just work on the supply but had to work on the demand as well. That’s why this kind of meeting is so important, because we have education in the room, we have law enforcement in the room, we have medical experts in the room and we have addiction specialists, and we have to see how to integrate those services as much as possible and, if we can, do a lot of work on the prevention side.

**Q: George Petros, DOH.** You showed data from schools and household surveys. Why not tertiary institutions?

**A: Paul Seale.** It depends when and where people start abuse. In the US, abuse is common at 15 but that may not be the same in South Africa. Household surveys can find those who have already

dropped out of school. But if experimentation is happening at tertiary institutions then work needs to be done there.

**Q: Jackie Mangoma, Lovelife.** What is the role of qualitative research? We found this gave more information. Also, there is often a focus on young men but girls are also involved.

**A: Paul Seale.** Most of our work has been qualitative. We spoke to former users about how they managed to stop in order to learn from their experience to help others. In Venezuela we found that cultural transitions were very difficult. When people moved to cities, large supplies of alcohol were available but there were no societal controls in place to prevent misuse. In the city the role models were not positive but exerted peer pressure without pointing out the risks. Qualitative data is very important for finding out why people are using and how they stop. We need to understand what the forces are that are driving people.

## **SESSION 2**

### **THE EPIDEMIOLOGICAL PATTERN OF SUBSTANCE ABUSE IN SOUTH AFRICA: THE NEED FOR LONGITUDINAL SURVEYS AT POPULATION LEVEL, AS WELL AS TARGET/KEY GROUPS**

***Prof Pamela Naidoo, HSRC***

Pamela Naidoo began her presentation with some definitions because with many sectors involved we need a common language and common definitions. The most important of these in the current context being substance abuse, as defined in the National Drug Master Plan (2013-2017)<sup>2</sup> developed by the Department of Social Development. Substance abuse is: "The misuse and abuse of legal or licit substances such as nicotine, alcohol, over-the-counter and prescription medication, alcohol concoctions, indigenous plants, solvents and inhalants, as well as the use of illegal or illicit substances" (p 19). Other definitions included "surveys" which assess people's feelings, attitudes, beliefs, knowledge, and risk-taking behaviours at one or more times; and "key Populations" which were defined as the more vulnerable and most-at-risk populations (e.g. youth and young adults, shift workers, chronic pain sufferers). Population samples are needed if we are to describe drug abuse overall.

The cost of licit and illicit drug use in the US was estimated to be \$193 billion in 2007, and excessive alcohol use cost the US \$223 billion in lost productivity, healthcare expenses, law enforcement and criminal justice costs. In South Africa drug abuse is estimated to cost the country R20 billion a year and combined drug and alcohol abuse costs the economy an estimated R130 billion a year. We need data that informs us about the changing trends of licit and illicit substance use and abuse and surveys are still the best method to answer key research questions about the population at large and about key populations.

Surveys have several advantages. They are versatile and can be applied equally well to research with individuals, groups, organizations, communities, or populations to answer various research questions. They can also be adapted to modern technology, for example using Internet-based surveys which have lower costs and potentially faster turn-around times. We need specific objectives which address the 'why' (theory or policy behind the research); 'what' (the research question); 'who' (study sample), 'where' (study site); and 'how' (questions that need to be answered before the study begins). There are some disadvantages too. Survey participation rates are falling and measures to obtain high response rates are costly. Traditional sampling frames are weakening (e.g. telephone surveys are no longer as reliable because of the increased numbers of mobile phone users) and alternative sources of statistical information are driven by technology based methods.

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<sup>2</sup> Dept of Social Development and Central Drug Authority, 2013. National Drug Master Plan (2013-2017). [http://www.dsd.gov.za/index2.php?option=com\\_docman&task=doc\\_view&gid=414&Itemid=3](http://www.dsd.gov.za/index2.php?option=com_docman&task=doc_view&gid=414&Itemid=3)

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Most of our current knowledge about substance abuse and misuse comes from epidemiological surveys which, when properly conducted with large sample sizes, can produce precise estimates. It is also possible to combine datasets, e.g. using scenario analysis (Orsi et al., 2010) or exploratory methods using hierarchical linear modelling.

There are potential methodological errors which can result from non-probability or convenience samples but these methods can be used for hard to reach populations. Coverage errors can result from being too selective. Non-response issues arise when people are reluctant to disclose substance abuse and this may underestimate overall substance abuse. Measurement errors may occur with self-reported information because many give socially desirable responses. Biomarker testing helps confirm levels of toxicity when people admit to taking drugs but frequently underestimate the amount.

Naidoo then presented summaries of some global and local substance abuse surveys and the lessons that can be learnt from them. These surveys are summarised in Table 1.

**Table 1 Showcasing Global and Local Substance Abuse Surveys**

| Survey                                                                                                                                                                                                             | Knowledge Gained                                                                                                                                                                                                                                                                                                                                          | Value of findings                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>USA</i>                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                         |
| <i>Racial/Ethnic patterns in Substance use initiation among 18-31 year old, low-income women (Wu et al, 2010).</i>                                                                                                 | White women: initiated tobacco and beer/wine at earlier ages and also more likely to use illicit drugs at this point. African-American and Hispanic women initiated tobacco and beer/wine at much later ages than white women but were more likely to use illicit drugs.                                                                                  | Implications for intervention, treatment and health promotion for this target group.                                                                                                    |
| <i>National Survey of Drug Use and Health. Article based on survey report focussing on the adolescent group (Ford et al, 2012).</i>                                                                                | Religiosity reduces the odds of tobacco use, heavy drinking, prescription drug misuse, marijuana use, and other illicit drug use.                                                                                                                                                                                                                         | Implications for prevention and intervention programmes with faith-based organizations                                                                                                  |
| <i>Survey of 100 Community Colleges on Student Substance Use, Programming, and Collaborations (Chiauzzi et al, 2011).</i>                                                                                          | Participants reported a number of alcohol and other drug (AOD) related concerns. Despite limited staff and funding dedicated to AOD, institutions are implementing a number of programmes. They are also collaborating with a number of on and off-campus groups.                                                                                         | Substance Abuse Programmes can be implemented using a collaborative approach (on and off-site) in this target group.                                                                    |
| <i>South Africa</i>                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                         |
| <i>South African National HIV, Incidence, Behaviour and Communication survey (SABSSM) (Shisana et al, 2009, 2014.) Article based on survey conducted in 2008 (Peltzer et al, 2011).</i>                            | Alcohol drinking patterns (harmful and hazardous) disaggregated for culture/race, age, sex, socio-economic-status, education and location (urban-rural) National data for 15 years and older.                                                                                                                                                             | Implications for prevention and intervention programmes at population level.                                                                                                            |
| <i>South African Stress and Health (SASH) study. Article based on survey conducted in 2002-2004 (van Heerden et al, 2009).</i>                                                                                     | Use of alcohol, tobacco, and cannabis disaggregated for culture/race, age and sex. Adult data.                                                                                                                                                                                                                                                            | Implications for prevention and intervention programmes for adult target group.                                                                                                         |
| <i>Leisure time, physical activity and sedentary behaviour, and substance use among in-school adolescents in eight African countries. Article based on report focussing on 13-15 year olds (Peltzer al, 2010).</i> | Frequency of alcohol consumption and higher socio-economic status were significantly associated with leisure time physical activity, while tobacco, illicit drug use, and mental health variables were not. Leisure time sedentary behaviour of five and more hours spent sitting on a usual day were highly associated with all substance use variables. | Specific information for targeted interventions in a key population.                                                                                                                    |
| <i>Survey on substance use, risk behaviour and mental health among grade 8-10 learners in schools in the Western Cape, 2011. (Morrojele et al, 2011).</i>                                                          | Provincial data on school-going adolescents with respect to patterns and frequency of substance use and abuse. Data gathered on alcohol, tobacco, cannabis, methamphetamine and mandrax.                                                                                                                                                                  | Implications for prevention and intervention programmes for educational institutions. Also helps to guide action plan across sectors (e.g. SAPS, Social Development, Health and so on). |

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| <b>Survey</b>                                                                                | <b>Knowledge Gained</b>                                                                                                                                                                                                                                                     | <b>Value of findings</b>                                                                                                                                      |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>South African Demographic and Health Survey (SADHS) (2003).</i>                           | Patterns of alcohol and tobacco use among adults. National level data.                                                                                                                                                                                                      | Implications for prevention and intervention programmes for risk factors for cancer, coronary heart disease etc. Also helps guide action plan across sectors. |
| <i>Adolescent Alcohol Use in rural South African High Schools (Onya et al, 2012).</i>        | Gender differences in alcohol consumption in rural areas with males 2.4 times more likely to drink than females.                                                                                                                                                            | Information for targeted interventions among adolescents in rural communities.                                                                                |
| <i>The 3rd South African National Youth Risk Behaviour Survey, 2011 (Reddy et al, 2013).</i> | Alcohol, tobacco, cannabis, inhalants, mandrax, cocaine, heroin, club drugs, whoonga, methamphetamine (tik), and over-the counter and prescription drugs use and abuse among school going grades 8-10 learners at National Level (disaggregated for provincial level data). | Implications for prevention, health promotion and intervention programmes for a targeted population. Also has policy implications.                            |

Naidoo proposed the following issues and strategies as a way forward for research on substance abuse harm reduction and harm prevention.

1. We need to **improve survey designs**.
2. We need to be **innovative** to capture epidemiological patterns using **technology-based solutions**.
3. **Surveys dedicated to substance use conducted regularly every 3 to 5 years** offer a systematic source of up-to-date and comprehensive information on substance use and abuse.
4. Ideally, data collected should include **both biomarkers and self-report data**.
5. Data from population-based surveys and key populations should ultimately inform **health, social and economic policies**.
6. Data from population based surveys and key populations will **inform the development of new treatment programmes and guide the modification of existing ones**.
7. The **epidemiological pattern of substance use and abuse at Provincial Level** will enable the development of context-specific prevention, treatment and health promotion programmes and guide inter-sectoral involvement (e.g. Education, South African Police Service, etc.)

## **Q&A**

**Comment (C): Ivan Kortje, Rural Institute for Education and Training Family Guidance Centre.** We find a difference between different cultural groups. Our clients are 90% coloured and a few black and it seems that some cultural groups have greater resistance to drugs. Black girls do not use drugs easily but coloureds will.

**Q: Michelle Andipatin, UWC.** My question is how do we link knowledge to effecting change? StatsSA talk about the importance of data but there is not enough recognition that data is valuable. We sometimes base our decisions on survey data with poor response rates.

Another issue we are facing is that the intervention programmes do not speak to the policy on drugs. We need something more strategic.

**A: Pamela Naidoo.** Involving other sectors should help to contribute to knowledge generation and we must have a legal person who can fully interpret the policy brief.

**C: Priscilla Reddy, HSRC.** There is something I would like to put on the agenda for later discussion. We have had an exposé of the surveys that are available, and some of these will be repeated, but where we struggle is raising funds for developing and testing interventions. We must move beyond best guess scenarios. A lot of money goes into testing a new drug and more money is needed for testing of interventions and then, if they work, taking them to scale.

**C: Fatima Isaacs, Western Cape Department of Social Development.** The Western Cape has a budget for substance abuse but it is not all that well informed by these surveys. I will be taking back the information from the surveys that we have heard about today. I definitely see a gap in terms of how we allocate our budget and the information from a survey dedicated to substance abuse every 3 to 5 years would be valuable.

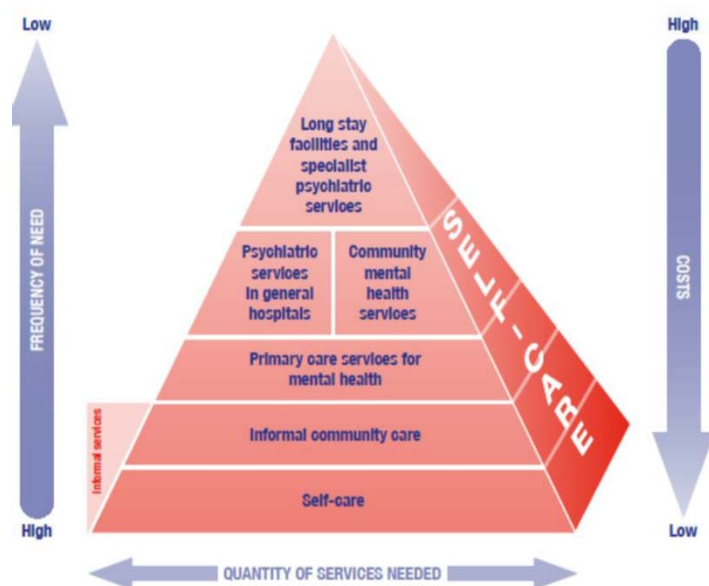
**C: Pierre Viviers, National Department of Social Development.** There are many parliamentary questions about treatment and the SACENDU data [which focuses on treatment centres] is useful. But there are gaps that we need more information for and one challenge is with children. A few years ago, we realised that many more children were experimenting with drugs and specialised treatment centres were set up. But these treatment centres are under-utilised and one is going to be closed because it is not being used. We need researchers to help prevent us making such costly mistakes.

### SESSION 3

#### ADDRESSING SUBSTANCE USE IN LOW RESOURCES SETTINGS: LESSONS FROM INTERVENTION RESEARCH IN SOUTH AFRICA

*Dr Katherine Sorsdahl, Department of Psychiatry and Mental Health, University of Cape Town*

The prevalence of alcohol and other drug use in South Africa is high with about 13% of South Africans suffering from a substance use disorder in their lifetime. Hazardous or harmful alcohol use is among the highest in the world.



**Figure 2 Optimal service mix for a substance abuse treatment system (World Health Organisation)**

The World Health Organisation (WHO) has described an optimal service model for mental health services (Figure 2). All but the very top of this pyramid involves self-care. Much of this self-care is informal, through family and friends or community agencies such as traditional healers, religious advisers, police, or teachers. The next level of care is the primary health care services for mental health which is where screening and brief interventions and referral to treatments can take place. After this come community mental health services such as rehabilitation centres and day hospitals. We know that people do better in many of these community mental health services than they do in psychiatric hospitals. Then there are psychiatric services in general hospitals, which is more for people with acute problems and, finally, long stay facilities and specialist psychiatric services. This optimal use of services does not really occur in the South African context yet, but we want to work on these



services. The frequency of need decreases as we move up the pyramid, so that not many people require long stay facilities, where the costs are the highest, whereas self-care is inexpensive, but the need is very high.

There is limited treatment available. In the Western Cape there are 32 residential and 16 outpatient facilities and in Gauteng, 18 residential and 8 for outpatients, but in some provinces, such as Northern Cape, there is nothing. Limpopo and Mpumalanga have 1 residential facility each. Often it is only those with the most serious abuse or dependence that access facilities because of the structural barriers to accessing care. One solution is to broaden the base of services and provide different services for people at various levels and determine this by the need. Task shifting from specialists to non-specialists is part of the strategy.

The WHO identifies four potential levels of task shifting from mental health specialists to non-specialists. The specialists provide supervision and training but the tasks are carried out by (1) doctors, or (2) nurses, or (3) community health workers, or (4) people living with these disorders. South Africa's Mental Health Care Policy Framework (2013-2017) embraces task shifting as a strategy for introducing more substance use services into primary health care settings.

#### *Adapting evidence-based interventions for use in South Africa*

Sorsdahl then described four interventions which had been adapted for use in South Africa and were being evaluated. Most of these conform to the task shifting framework WHO level (2) nurses or (3) community health workers.

##### *1. Jooste Day Hospital Mannenberg.*

Eighty per cent of patients seeking psychiatric care at this site were substance abuse related. A substance abuse centre was set up in the hospital staffed by a social worker and an auxiliary social worker with an administrative assistant. Nurse-led screening and referral to the centre was put in place with a second screening done by the auxiliary social worker using the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). A Brief Motivational Interview (BMI) was used with referral for treatment for the 'high risk' group.

The project relied on case finding by nurses. Of the 127 patients that went to the centre, 44% reported poly-substance abuse. Sixty eight per cent received Screening, Brief Intervention and Referral for Treatment (SBIRT), 32% received Screening and Brief Intervention (SBI) only, 50% took up referral. Of those who took referral, only 55% were satisfied with the services they received. Poor uptake of referral was ascribed to attitudinal barriers to treatment and structural barriers.

##### *2. Antenatal Personal Support Project (Mitchells Plain)*

This was a community health worker-based support system for pregnant women to help them cope with psycho-social pressures and to overcome dependency on tobacco, alcohol and/or drugs. The pilot site was a community-based antenatal clinic and Midwife Obstetrics Unit run by midwives, i.e. in the primary health care setting. The target population was low-income women at high risk for poor pregnancy outcomes and high levels of depression, smoking and drinking. Screening for depression was nurse led (using the Edinburgh Postnatal Depression Scale) and first referral was to an HIV counsellor for HIV counselling and testing, screening for alcohol, tobacco and other drug use and then delivery of the 5As brief motivational intervention (Ask, Assess, Assist, Advise, Arrange). The project was supposed to provide universal screening but only 43% of first bookings were actually screened. Twenty six per cent disclosed smoking tobacco, which is what previous studies have found, but only 2% disclosed alcohol and other drugs, which is far lower than expected. The low initial screening by nurses was apparently due to nurses either not knowing what they had to do or because it implied additional work. Subsequently, screening rates improved but low disclosure of alcohol, tobacco and other drug use means that it is difficult to intervene. Another challenge was the lack of an appropriate referral pathway for patients with depression. This has been addressed by adding a mid-level counsellor to the project.

### **3. Substance use and *TR*auma *InterV*ention (*STRIVE*)**

STRIVE was a randomised controlled trial that aimed to address gaps in services by testing two brief, evidence-based interventions for risky alcohol and drug use among adults at public emergency departments in poor areas. This initiative compared the effectiveness and feasibility of these brief interventions in real-world emergency settings. It screened patients presenting at emergency services for alcohol and other drug (AOD) use. Those who were rated at moderate to high risk received one of two brief interventions (ASSIST-linked Brief Intervention or MI modified Problem Solving Therapy) to patients presenting at emergency services; compare the effectiveness of these two interventions against a control group (psycho-education only) on AOD outcomes and the feasibility of implementing these interventions in real-world emergency settings; and compare the cost effectiveness of the two brief interventions.

Extensive preparatory work was completed to develop this particular intervention, including:

- Epidemiological study: Are problem solving deficits present among people with substance use problems;
- In-depth interviews with 24 emergency department health workers to establish what would be feasible and acceptable within the context;
- Expert inputs: Stakeholder meetings;
- Adapted intervention and process of SBIRT for this setting;
- Pilot-test with 20 patients: examine initial outcomes and process evaluation;
- Further adaptations made before testing in small trial.

The intervention required a lot of homework and this was difficult for those with low literacy. This was addressed using a buddy system. More than 2700 people were screened in the evaluation period, of whom 19% met the inclusion criteria (demonstrating need), 74% of eligible participants were interested in participating (acceptability), and 58% completed all 5 sessions of the intervention (feasibility), although patient feedback suggests 3-4 sessions would be better.

The study showed positive outcomes after 3 months' follow up. It was concluded that it is feasible to conduct Screening Brief Interventions to reduce substance use and depression among patients presenting for emergency services with minimal additional health resources. Future research that matches intervention conditions on dosage, includes at least 6 to 12 months follow up, and has sufficient statistical power to examine differential response to the interventions is needed before claims can be made about the effectiveness of problem solving therapy in emergency department settings.

### **4. Project *TIME*: *T*reatment of *t*ik and *M*ethamphetamine use**

This study was to determine the feasibility, acceptability and effectiveness of a seven session Cognitive Behavioural Therapy (CBT) intervention for South Africans with methamphetamine use disorders. It involved modifying an existing 7 session CBT intervention developed for impulse control disorders; testing feasibility and acceptability on 60 patients with methamphetamine abuse or dependence; and examining impact on primary and secondary outcomes (validated with drug tests).

The study is ongoing but 300 people have been screened and 48 participants selected to date. The intervention is acceptable to patients and 75% of those who initiated treatment completed all sessions.

## **Q&A**

**Q: Ashraf Kagee, Stellenbosch University.** How confident are you in the screening instruments and how sure are you about false positives and false negatives?

**A: Katherine Sorsdahl.** There is definitely underreporting but this would have the effect of making those who were motivated to change more likely to screen positive.

**Q: Charl Davids, UWC.** Have the tools been translated into Afrikaans or IsiXhosa?

**A: Katherine Sorsdahl.** Yes, we have done both but most people seem to prefer the English version.

**Comment: Charl Davids, UWC.** If we recognise that substance abuse is a disease it makes it easier to include it in the public health system because it is then no longer seen as additional work but a necessary part of the diagnostic process.

**C: Katherine Sorsdahl.** We are doing screening and brief interventions for those at risk in order to address prevention so they may not actually have the disorder. There is a big difference between this and treatment.

**C: Ivan Kortje, RIET.** We find that it is easier if a client is referred from a mental health approach because this seems to bring in more information. Some of our clients that have been in abuse for a while need to be in a protective environment because the community cannot look after them if they are brain damaged. We need somewhere to maintain them – if not they resort to crime. It is not just counselling they need but longer term support.

**Q: Paul Seale, Mercer University.** Can you explain how you dealt with the challenge of low literacy levels and written material for the problem solving intervention?

**A: Katherine Sorsdahl.** We tried to make it more pictorial and brought in buddies to help with homework. The ones that did not like it were the ones with literacy problems.

**Q: Paul Seale.** For the pregnancy data, pregnant women who know the potential impact of drugs and alcohol are very reluctant to disclose. Some of the older questionnaires in the US (e.g. TWEAK) ask not how much they drink but how much they can tolerate, because women will admit that it takes several drinks for them to get drunk, but not necessarily admit that they are doing that during the pregnancy.

**A: Katherine Sorsdahl.** We have not addressed this yet but are working towards computerised screening or alternative ways of asking the questions. They fear that their baby may be taken away if they admit to substance abuse and there is some lack of understanding about confidentiality.

**Q: Jackie Mangoma, Lovelife.** Is there a component covering socio-economic issues? Wouldn't multifaceted interventions that include gender inequality etc and the structural drivers that need to be addressed be more effective?

**A: Katherine Sorsdahl.** This calls for a trans-diagnostic intervention without working in silos. It is not just one issue – depression and substances must both be addressed. We have only looked at those with substance abuse first and have not tried starting with, say, depression.

**Q: Pamela Naidoo, HSRC.** Clearly there is lots of potential from these studies. The Western Cape has some excellent models but are we able to provide advice to other provinces or to national directly?

**A: Katherine Sorsdahl.** Neo Morojele is doing the same type of intervention in Gauteng. Most of them perform similarly but they may need cultural adaptation.

**C: Charl Davids, UWC.** These interventions are carried out at the registered facilities but there are many unregistered ones that may do good work. We need to include them in data collection

## **SESSION 4**

### **BREAKAWAY GROUPS**

Session four comprised breakaway groups to discuss the following three themes:

1. Substance Abuse Research: Priorities
2. Longitudinal Surveys: Should the focus be the population or specific target groups?
3. Prioritizing specific target groups for substance abuse prevention and harm reduction interventions

## **SESSION 5**

### **FEEDBACK FROM THE FACILITATORS OF BREAKAWAY GROUPS**

#### **1. Substance abuse research: priorities**

- Conduct an **audit of substance abuse research**.
  - Much research has been done but some of it is not widely available.
  - An audit of research could allow more effective pooling of resources.
  - The audit must include measures of reliability, validity, etc. so that 'best practices' are promoted rather than 'best guesses'.
- Regular/systematic **prevalence** information must be collected.
  - There is information available from various studies but we need to bring information from the different studies together. This should not only come from treatment centres.
  - Use **regular, nationally representative, surveys at 3-5 year intervals** to monitor trends and emerging drugs.
- Determine how well interventions are **coordinated** between different agencies.
  - For example, initial treatment may be through the department of health but when patients are discharged who takes care of follow-up? This usually falls to social development but is there sufficient coordination?
- Develop systematic models for **patient management and tracking**.
  - Greater inter agency cooperation may require policy change.
- Research on **contextual issues** is needed.
  - Models developed in other countries are often applied in South Africa without modification because they are copyrighted and may not be changed. Are they appropriate for our context and have they been adequately tested?
- Research on **effectiveness of treatment** is needed.
  - There are too many examples of merely counting the number of patients that have been through a programme without proper evaluation and follow up of longer term outcomes.
- Develop consistent **outcome indicators**.
  - Properly defined indicators for prevention and treatment success are needed.
- Conduct research on the **multi-level influences on the individual**.
  - There is much focus on the individual but we need to better understand social support, the role of family and the community.
- Carry out more work on the **role of identity** in substance abuse.
  - Various speakers mentioned different patterns of substance abuse for different ethnic groups but this issue goes beyond ethnicity. It includes culture, religion and even neighbourhood or community identity.
- Explore **coping strategies, support structures and resilience**.
  - More work is needed on the role of family and other support structures.
  - Why do some people succumb to substance abuse and others resist it within the same context/community?

## **2. Longitudinal surveys: should the focus be the population or specific target groups?**

- Longitudinal surveys are **expensive** which can be challenging because of financial limitations.
- But there is a **data gap at national level** because we do not know the burden of substance abuse.
- **Baseline household surveys** will allow us to **identify priorities** for more in-depth studies and interventions.
  - Once quantified, important target groups can be investigated using other methods.
  - The research question determines whether a longitudinal design is appropriate.
- Nationally representative longitudinal data will allow us to generate **reliable data on incidence, prevalence and trends**.
- Researchers' interests often determine the direction of research which can lead to a **bias** in reporting. A population survey can help remedy this situation.
  - For example, foetal alcohol syndrome appears to be very common in South Africa but it may be because it has been over-studied. There are pockets of data but no aggregated data for the whole country.

## **3. Prioritising specific target groups for substance abuse prevention and harm reduction interventions**

### *Specific target groups*

- **Prison population.**
  - Many of interventions operate in silos; for example, there are medical interventions but few psycho-social ones.
- **Out of school youth** and those with **low level literacy**.
- **Reintegration of ex drug abusers.**
  - Which programmes work? People may go for treatment but there is not enough research on reintegration into society. Do people use the skills they have gained to gain employment? Is there more potential for public-private partnerships to assist with reintegration?
  - Making more use of ex drug abusers in school life orientation programmes. Developing skills for ex-addicts, identifying peer educators, and establishing support groups.
- **Patients with dual diagnosis**
  - There is a need for greater cooperation between the Departments of Social Development and Health.
- **Children under 14**
  - Most treatment centres will not take children under 14.
  - There is insufficient information on interventions for younger children.
- **Drug suppliers** need to be included in prevention measures.
  - The focus is usually on the drug addict but little is done about the suppliers.
  - Law enforcement does not appear to be doing enough.
- **Rural/farm population**
  - There is still a culture of addiction and alcohol use on farms. Literacy levels also present a problem.

### *Other issues*

- **Normalisation of substance use**, eg cannabis/dagga.
  - This applies not only to Rastafarians but also to the general population where dagga has almost become normalised and is not seen as a problem.
- **Media interventions**
  - Advertising and unconventional messages should be explored, e.g. televised prevention messages and community outreach.
  - There is an opportunity in forthcoming legislation against alcohol advertising which may help prevent the glamorisation of alcohol.

## **MAIN CONCLUSIONS AND RECOMMENDATIONS**

### *General issues*

- Substance abuse surveys can help us identify the burden of substance abuse and where to focus intervention efforts.
- Prevention efforts are an important, cost-effective method for protecting adolescents.
- Interventions must pay attention to cultural needs and preferred learning styles of potential beneficiaries.
- While dealing with drug suppliers is important we must work on the demand side as well. The solutions depend on combined efforts from education, law enforcement, medical expertise such as addiction specialists, and integrating these services as much as possible.
- Biomarkers help confirm levels of toxicity for those who admit to using drugs, which is important because many underestimate their use, but requesting samples may reduce response rates.
- Ideally, data collected should include both biomarkers and self-report data.
- We need to be innovative to capture epidemiological patterns using technology-based solutions, e.g. audio assisted computer self-interviewing.
- Data from population-based surveys and key populations is necessary to guide health, social and economic policies.
- Data from population based surveys and key populations will inform the development of new treatment programmes and guide the modification of existing ones.
- The epidemiological pattern of substance use and abuse at Provincial level will enable the development of context-specific prevention, treatment and health promotion programmes and guide inter-sectoral involvement (e.g. Education, SAPS, etc.)
- More money is needed for thorough testing of interventions and then, if they work, taking them to scale.
- The South African Mental Health Care Policy Framework (2013-2017) embraces task shifting as a strategy for establishing more substance abuse services in primary health care settings. Several promising task shifting models using nurses or community health workers are currently being evaluated (see paper by Sorsdahl).

### *Recommendations for research*

- We need more data on the changing trends of licit and illicit substance use and abuse.
- An audit of substance abuse research was called for in order to make existing research more widely available and to assess reliability and validity of results.
- Although costly, population surveys are still the best method to answer key research questions about the national population and for key sub-populations.
- Surveys dedicated to substance use conducted every 3 to 5 years will offer a systematic source of up-to-date and comprehensive information on substance use and abuse and fill an important information gap in terms of where to allocate budgets.
- Nationally representative longitudinal data will generate reliable data on incidence, prevalence and trends.
- More research is needed to ensure that interventions imported from other countries are appropriate for the South African context. This is especially important for interventions that cannot be modified owing to copyright issues.
- Effectiveness of treatment and rehabilitation needs to be properly evaluated. There is still a tendency for services to merely count patient throughput without determining longer term outcomes.
- Patient management and tracking is a problem, particularly when referring them to other services, e.g. from health to social development or vice versa.
- Conduct research on the multi-level influences on the individual to better understand social support, the role of family and the community, coping strategies and resilience.
- Specific target groups for further investigation include: prisoners, out of school youth, children under 14, those with low literacy and ex drug users.

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- Advertising and unconventional messages should be explored, e.g. televised prevention messages and community outreach.



## **APPENDIX 1: PROGRAMME**

### **PROGRAMME**

Chair: Prof Neo Morojele, South African Medical Research Council, MRC

Rapporteur: Professor John Seager, freelancer

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**08:00-09:00: Registration/Tea/Coffee**

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**09:00-09:15: Introduction**

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09:00 – 09:10 Introduction and Setting the Stage for the Seminar  
Prof Neo Morojele, South African Medical Research Council, MRC

09:10-09:15 Welcome: Background and purpose of the Substance Abuse Seminar  
Dr Temba Masilela, Deputy CEO, Human Sciences Research Council, South Africa  
and Prof Priscilla Reddy, HSRC

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**09:15-10:15: Session 1**

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09:15-09:45: Setting a substance abuse research agenda for South Africa: Lessons from the United States and globally.

Dr Paul Seale, Mercer University School of Medicine, Georgia, United States of America

*Substance abuse in South Africa is a complex mosaic, with contributions from dramatically different urban and rural areas, traditional and industrialized cultures, and a combination of known illicit drugs and emerging substances whose contents and consequences are just now being explored. Setting a research agenda is an important priority for understanding and confronting substance use patterns that have important consequences for many sectors of society including government, education, healthcare, social science, policymakers, and law enforcement. This talk will seek to draw lessons from approaches the US and other nations have utilized to define a research mission, gather epidemiologic data, identify the impact of substance abuse on various sectors of society, assess available resources and engage participants from both the public and private sector in the search for solutions. Data will be shared demonstrating the value of gathering epidemiologic data from multiple sources such as periodic adolescent questionnaires, adult household surveys and emergency healthcare settings. Prevention, early intervention and harm reduction programs from across the globe will be shared which demonstrate the powerful effect of delaying adolescent substance use in decreasing substance use disorders; the value of culturally grounded interventions in decreasing substance use in traditional cultural settings; the ability of school interventions based in positive psychology to increase student well-being while also decreasing substance use; the ability of faith-based initiatives to mobilize large numbers of community members in prevention efforts; and the power of values-based education to modify unhealthy adolescent behaviours. Participants will have an opportunity to share their own thoughts on South Africa's most pressing needs in this area, how they should be*

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*prioritized, and how existing resources can be mobilized to gather critical information and take action.*

09:45-10:15 Q & A

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**10:15-11:15: Session 2**

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10:15-10:45: The epidemiological pattern of substance abuse in South Africa: The need for longitudinal surveys at population level, as well as target/key groups  
Prof Pamela Naidoo, HSRC

*A research agenda has to be formulated with a view to conducting a national epidemiological survey every three to four years to establish the prevalence of the various forms of substance use and abuse of licit and illicit drugs at all ages and life stages over time (longitudinally). Representative national data at population level, as well as for key populations such as youth and young adults, will provide the evidence for the extent and type of interventions that need to be implemented to reduce the harm associated with substance use and abuse. Epidemiological surveys are important to enable key stakeholders across sectors, such as the SAPS, the Department of Education, the Department of Health, SARS, Border Control, intervention researchers and practitioners, and so on, to respond timeously by "actioning" their preventive substance abuse measures and increasing surveillance where appropriate.*

10:45-11:15 Q&A

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**11:15-11:30: Tea/Coffee**

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**11:30-12:30: Session 3**

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11:30-12:00: Addressing substance use in low resources settings: Lessons from intervention research in South Africa  
Dr Katherine Sorsdahl, UCT

*Substance-use disorders represent a major public health problem, both globally and in South Africa. The existing substance abuse treatment system relies heavily on the provision of high-threshold treatment services offered by specialist service providers, with few low- threshold early intervention services available. One way of improving access to treatment in South Africa is to increase the range of treatment services available in order to ensure that services cover the full continuum of care. In this presentation, we reflect upon the lessons learned from four pilot studies that attempted to adapt various evidence based interventions for use in the South African population. We present an overview of each study; evidence of its feasibility, acceptability and impact on substance use outcomes; and the challenges to implementing these programs as planned.*

12:00-12:30 Q&A

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**12:30-13:30: Lunch**

**13:30-14:30: Session 4**

**13:30-14:30** Breakaway Groups  
Facilitators: Dr Taskeen Khan, WHO - SA; Dr Anesh Sukhai, SAMRC; Dr Anam Nyembezi, HSRC; Dr Zaino Peterson, HSRC  
Themes:  

1. Substance Abuse Research: Priorities
2. Longitudinal Surveys: Should the focus be the population or specific target groups?
3. Prioritizing specific target groups for substance abuse prevention and harm reduction interventions

**14:30-15:00 Session 5: Feedback session**

**14h30-15h00** Feedback from the facilitators of the Breakaway Groups  
Chair: Dr Neo Morojele, MRC  

1. Substance abuse research: priorities
2. Longitudinal surveys: should the focus be the population or specific target groups?
3. Prioritising specific target groups for substance abuse prevention and harm reduction interventions

**15h00-15h15: Closure**

15h00-15h15 Vote of thanks: Prof Pamela Naidoo  
Closure and key message(s) from today's seminar: Prof Neo Morojele, MRC

**Departure**

## **APPENDIX 2: BIOSKETCHES**

**DR TASKEEN KHAN** is the national World Health Organisation advisor on Non-Communicable Diseases, Risk factors, Mental health (including substance abuse), Violence & Injuries. She is a medical doctor specialised in public health medicine with additional postgraduate qualifications in psychiatry & health economics. Her special interests include mental health, substance abuse & addiction medicine.

**DR TEMBA MASILELA** is the Deputy CEO of Research at the Human Sciences Research Council (HSRC), South Africa. His wide-ranging research interests include social policy, public management reform, social innovation, research communication, the research-policy nexus, and stakeholder engagement. He was the founding director of the Policy Analysis Unit at the HSRC and was previously the executive director of the Policy Analysis and Capacity Enhancement cross-cutting programme at the HSRC.

**PROF NEO MOROJELE** is a Chief Specialist Scientist and the Deputy Director of the Alcohol, Tobacco and Other Drug Research Unit of the South African Medical Research Council. She is also an Honorary Associate Professor in the School of Public Health at the University of the Witwatersrand and the University of Cape Town. She completed a PhD in Psychology at the University of Kent at Canterbury, UK, and a postdoctoral research programme at Mount Sinai School of Medicine in New York, USA.

Prof Morojele has experience conducting substance use research in treatment, school, bar, community and health care settings. Her current research focuses mainly on alcohol policy, and on alcohol, sexual risk behaviour, HIV and AIDS. She is the Associate Editor for Africa for the Journal of Substance Use; an Associate Editor of the African Journal of Drug and Alcohol Studies; and a Consulting Editor of the International Journal of Alcohol and Drug Research. She has authored over 50 papers in scientific journals as well as numerous book chapters. She is a member of the WHO Expert Working Group on the Classification of Substance-Related and Addictive Disorders of the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders.

**PROF PAMELA NAIDOO** is a Research Director in the Population Health, Health Systems and Innovations (PHHSI) programme at the HSRC. She also holds an Extraordinary Professorship at the University of the Western Cape. She has an Honours in Psychology and a Master's in Clinical Psychology from the University of Durban-Westville (now UKZN) and a Master's in Public Health from the University of Cape Town, and a Doctorate in Philosophy from the University of Natal (now UKZN).

Before joining the HSRC in July 2010, she was a Professor of Psychology in the Faculty of Community and Health Sciences at the University of the Western Cape. She has extensive experience in research management, reviewing for national and international peer-reviewed, accredited journals and health ethics. She has also established valuable local and international research linkages and collaboration.

Her areas of research interest broadly straddle psychology and public health. Her research engagements and publications are located within chronic, terminal, infectious and life-style diseases (e.g. rheumatoid arthritis, cardiac disease, TB and HIV/AIDS). She is specifically interested in mood (e.g. depression) as a mediator/moderator variable between disease and disease outcome (e.g. quality of life, adherence to treatment and prevention programmes). At present her primary research activities are in HIV and TB co-infection, with a focus on the relationships between biomedical, behavioural, social and cognitive factors.

**DR ANAM NYEMBEZI** is a post-doctoral research fellow at the Human Sciences Research Council. He holds a PhD in Work and Social Psychology from Maastricht University, the Netherlands. He has extensive experience in quantitative and qualitative research methods. His professional activities have been directed towards, transforming public health policy and policies impacting on health promotion, health education and disease prevention. He has successfully coordinated and assisted in various national and community research projects, which involved liaison with government personnel, various House of Traditional Leaders and community members. He has published in peer reviewed journals.

**DR ZAINO PETERSEN** is a Postdoctoral research specialist based at the Population Health, Health Systems and Innovation programme at the HSRC. She holds a PhD from the Department of Public Health and Clinical Medicine at Umeå University in Sweden. She is currently working on the Maternal and Infant Mortality and Morbidity Surveillance project (MIMMS) and is also coordinating HealthRise SA, which is a 5-year programme that supports the design of community-based projects aimed at expanding access to care for people living with cardiovascular disease (CVD) and diabetes.

She previously worked on the Substance Abuse Treatment Service Quality project, an initiative of the Medical Research Council. She was also involved in the Reference Group to the United Nations on HIV and Injecting Drug Use, which collected and analysed global data on HIV/AIDS among injecting drug users. Her specific interests include interventions aimed at reducing tobacco, alcohol and other drug use among women of reproductive age. She is also has a keen interest in injection drug use, improving rehabilitations services and aftercare following rehabilitation.

**PROF PRISCILLA REDDY** is the Deputy Executive Director, within the Population Health, Health Systems and Innovations (PHHSI) Research Programme at the HSRC and started on 1 January 2013.

Prof Reddy was the Director of the Health Promotion Research and Development Unit of the South African Medical Research Council (MRC). She founded this research unit in 1995 as a new discipline to South Africa; and has developed it into a very successful and vibrant research Unit, by raising research grants (over R53 million (US\$ 7 million) in the past 10 years) and training 12 doctoral level graduates registered with Maastricht University.

Prof Reddy holds an MPH from the University of Massachusetts (1992 first class pass, as a Fulbright Scholar); and a PhD from Maastricht University (1999) WOTRO Scholar. She has been a Visiting Professor at the Nelson R. Mandela School of Medicine at the University of KwaZulu-Natal; and Visiting Associate Professor at the Rollins School of Public Health at Emory University, the School of Nursing and Health Studies at Georgetown University; and the School of Public Health at the University of Michigan, Ann Arbor and School of Public Health, University of Massachusetts. Prof Reddy is known nationally in South Africa and internationally as making significant contributions to behavioural science in the fight against HIV/AIDS, tobacco control, and adolescent health.

She has held many prestigious professional appointments, including President Bush's PEPFAR Advisory Committee, IOM's Committee on Antiretroviral Drug Use in Resource-Constrained Settings 2003/2004, and the World Health Organization Health Promotion Glossary Reference Group 2003. Prof Reddy has been the PI for the SA YRBS (Youth Risk Behaviour Survey) in 2002, 2008 and 2011; and GYTS (Global Youth Tobacco Survey) studies 1999, 2002, 2008 and 2011. She has been awarded highly prestigious research grants such as NIH R01s on smoking harm reduction in school learners; the prison population; and a SA Department of Health research study on STD clinics. Prof Reddy was also the PI on a Population Council Grant for the evaluation of school-based HIV/AIDS programs; and a tuberculosis research grant for the International Development and Research Council. She was also the local Co-PI in South Africa of an NIH-funded supplement on HIV prevention/intervention targeting prison populations, and a CIFAR grant targeting HIV negative women (SISTA SA). She was appointed to South Africa's National Health Research Committee by the Minister of Health.

Prof Reddy was a Member of the Academy of Science of South Africa (ASSAf), and a member of its governing Council. She has given talks and lectures at many prestigious institutions such as the Academie des Sciences in Paris, the Institute of Medicine, and universities such as Harvard, Emory, Georgetown, and Massachusetts.

Prof Reddy has served on the boards of several peer-reviewed journals. She was the Associate Editor of the Health Education Research (African Region) Journal and editorial board member on the International Quarterly of Community Health Education: A Journal of Policy and Applied Research; Health Promotion International; Health Education & Behaviour and AIDS Bulletin.. Prof Reddy was a Reviewer and Writer for the WHO Information Series on Health Promotion; Social Science and

Medicine Journal; Health Education Research Journal and the Indian Journal of Community Health. She is also currently the Social Science Representative of the Online Science Advisory board.

Prof Reddy's skills in leadership, management and diplomacy are therefore considerable. Her passion lies in capacity development for which she has received the NST award for research Capacity Building in 2004. She has directly supervised or served as examiner for doctoral candidates in South Africa, Zimbabwe, Kenya, Nigeria, Sudan, Tanzania and the Netherlands. She is currently supervising 5 PhD candidates who will graduate within the next 4 years.

**PROF JOHN SEAGER** is a freelance research consultant with over 30 years public health research experience in Africa. His research has covered AIDS and development, tuberculosis, diabetes care, urban health systems, and social determinants of health. He holds a BSc (Hons) in Zoology and a PhD in Ecology and Population Dynamics at the University of Wales and has completed advanced training in Epidemiology and Public Health in the US, UK and South Africa. He is an Extraordinary Professor in the School of Public Health at the University of the Western Cape and an Extraordinary Professor at the University of Stellenbosch.

His main research interest is social determinants of health among the poor in developing countries. Recent work includes health systems evaluation, HIV and AIDS, homeless populations and social aspects of climate change. Prof Seager is a reviewer for local and international journals and his publication record spans the authoring and co-authoring of more than 60 journal articles, 50 research reports and 100 presentations at scientific meetings.

**DR PAUL SEALE, MD**, a graduate of Baylor College of Medicine, is Professor and Director of Research in the Department of Family Medicine at Navicent Health and Mercer University School of Medicine in Macon, Georgia (USA) and is certified by the American Boards of Family Medicine and Addiction Medicine. Since completing a faculty development fellowship sponsored by the US National Institute on Alcoholism and Alcohol Abuse (NIAAA) and National Institute on Drug Abuse (NIDA) in 1987-1988, he has been involved in research, teaching and clinical practice related to unhealthy substance use for more than twenty-five years in both the US and abroad. His research in this field has included involvement in numerous studies funded by the US National Institutes of Health (NIH), Centers for Disease Control (CDC), Substance Abuse and Mental Health Services Administration (SAMHSA), and the Betty Ford and Conrad Hilton Foundations. Since 2008 he has served as principal investigator and medical director on multiple SAMHSA-funded projects which have trained more than 600 physicians, nurse practitioners and health education specialists in the south-eastern US in screening and brief intervention (SBI) for drug, tobacco and alcohol misuse, implemented SBI in 26 clinical settings and provided screening to more than 100,000 patients and interventions to more than 14,000 patients.

Along with colleagues from Mercer University, the University of Texas and other institutions, he has published more than 30 peer-reviewed articles on substance abuse related topics. He also serves on the clinician advisory boards of the Providers' Clinical Support Systems for both Opioids and Medication Assisted Treatment (funded by SAMHSA) and the National Addiction Transfer Technology Center's Hospital Brief Intervention Group. His activities as a clinician researcher, medical educator, substance use consultant and physician volunteer have taken him from the White House in Washington, DC to American Samoa, Russia, Mexico, Costa Rica, Venezuela, Peru, Guatemala, Brazil, India, China, Thailand, the Philippines and Vietnam. His research interests include alcohol and drug screening and brief intervention, validation of substance abuse screening instruments, cultural adaptation and translation of evidence-based practices to novel populations, prevention and intervention for substance use problems in indigenous populations, screening and intervention approaches for diabetes and prediabetes, and faith-based approaches to health behaviour change.

**DR KATHERINE SORSDAHL** is a Senior Lecturer in the Department of Psychiatry and Mental Health at the University of Cape Town, where she leads Addictions research. With a background in clinical/health psychology her focus has been on integrating mental health services into primary healthcare with a focus on task shifting. Task shifting these psychosocial interventions is essential given the lack of specialist healthcare providers and the infrastructure to support these types of interventions.

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**DR ANESH SUKHAI** is a Senior Scientist with the Violence, Injury and Peace Research Unit, which is co-directed by the South African Medical Research Council (SAMRC) and University of South Africa (UNISA). He has a Doctorate in Philosophy, completed as a Ford Foundation International Fellow at the School of Environmental Sciences, University of East Anglia (Norwich, UK), and a Master's in Public Health from the University of Western Cape. He also has an earlier background in Emergency Care Medicine and Town and Regional Planning. His key areas of research are in injury epidemiology, especially in determinant-based research on road traffic injuries. He has worked on studies relating to injury and substance abuse surveillance, indicator and observatory development, road rage and aggressive driving, predictor modelling of temporal and spatial variations in injury, and childhood & city-level traffic safety interventions. Emerging interests are with happiness and wellbeing related research. Anesh has authored several national and international journal articles and book chapters, and served as a reviewer for academic journals. In addition, he has participated in several scientific, advisory, policy development, and training initiatives relating to road safety and injury prevention. Before joining the SAMRC in 1998, Anesh worked as an Advanced Emergency Care Practitioner, providing Advanced Life Support care, support and training in the sector.



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**APPENDIX 3: ATTENDANCE**

| No. | Title | Name        | Surname     | Position/Department                                         | Organisation                                                        | Telephone/Cell               | E-mail address                                       |
|-----|-------|-------------|-------------|-------------------------------------------------------------|---------------------------------------------------------------------|------------------------------|------------------------------------------------------|
| 1   | Dr    | Michelle    | Andipatin   | Head of Psychology Department                               | University of the Western Cape                                      | 021 9592283                  | mandipatin@uwc.ac.za                                 |
| 2   | Mr    | David       | Bayever     | Deputy Chair                                                | CDA, and Head: Division Pharmacotherapy and Pharmacy Practice, Wits | 083 586 1953                 | david.bayever@wits.ac.za                             |
| 3   | Ms    | Nwabisa     | Bikitsha    | Master's Research Intern                                    |                                                                     | 021 466 7808                 | nbikitsha@hsrc.ac.za                                 |
| 4   | Ms    | Francis     | Carelse     |                                                             | Early Years Services                                                | 074 492 5216                 | francism@earlyyears-services.co.za                   |
| 5   | Dr    | Lisa        | Dannatt     |                                                             | UCT                                                                 | 021 404 5482                 | lisadannatt@yahoo.com                                |
| 6   | Ms    | Vanessa     | Darsamo     |                                                             | UCT                                                                 | 0606874901                   | Darsamovanessa@gmail.com;<br>nicolevellios@gmail.com |
| 7   |       | Charl       | Davids      | Psychology Department                                       | UWC                                                                 | 021 959 283/3092             | cdavids@uwc.ac.za                                    |
| 8   | Ms    | Yvette      | du Plessis  | Wc Wfw Sd Manager                                           | Department Environmental Affairs                                    | 021 941 6020<br>082 808 9881 | Yduplessis@Environment.Gov.Za                        |
| 9   | Ms    | Valerie     | Fichardt    | PAN website                                                 | HSRC                                                                |                              | vfichadt@hsrc.ac.za                                  |
| 10  | Dr    | Maria       | Florence    | Lecturer                                                    | UWC                                                                 | 082 489 8072                 | mflorence@uwc.ac.za                                  |
| 11  |       | Peter       | Franks      | SPL                                                         | Stellenbosch University                                             | 021 851 4764                 | peterefranks@gmail.com                               |
| 12  | Ms    | Arlene      | Grossberg   | Organisational staff                                        | HSRC                                                                | 012 302 2811                 | ACGrossberg@hsrc.ac.za                               |
| 13  | Ms    | Fatima      | Isaacs      |                                                             | WC DSD                                                              | 021 483 8442                 | Fatima.Isaacs@westerncape.gov.za                     |
| 14  | Mr    | Julian      | Jacobs      |                                                             | HSRC                                                                |                              |                                                      |
| 15  | Prof  | Ashraf      | Kagee       | Senior Lecturer                                             | Stellenbosch University                                             | 021 808 3442<br>083 443 3002 | skagee@sun.ac.za                                     |
| 16  | Mr    | Kamaloodien | Kamaloodien |                                                             | UWC                                                                 |                              | kkamaloodien@uwc.ac.za                               |
| 17  | Ms    | Gadija      | Khan        |                                                             | HSRC                                                                | 081 271 1126                 | gkhan@hsrc.ac.za                                     |
| 18  | Dr    | Taskeen     | Khan        | Technical officer Non-Communicable Diseases & Mental Health | WHO SA                                                              | 012 305 7709                 | khant@who.int                                        |
| 19  | Ms    | Zuzi        | Khuzwayo    | Staff                                                       | HSRC                                                                |                              | Zkhuzwayo@hsrc.ac.za                                 |
| 20  | Mr    | Ivan        | Kortje      | Executive Director                                          | RIET family guidance centre                                         | 083 400 1590                 | rietchild@telkomsa.net                               |
| 21  | Ms    | Louina      | Le Roux     |                                                             | SANCA national                                                      | 082 492 0982                 | sancanational@telkomsa.net                           |
| 22  | Dr    | Duncan      | Lavrenson   |                                                             |                                                                     | 082 882 0178                 | drlavrnson@mweb.co.za                                |
| 23  | Ms    | Maria       | Mabena      | Deputy Commissioner Health                                  | Correctional Services                                               | 012 307 2310                 | Yvonne.Mashaba@dcs.gov.za;                           |

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| No. | Title | Name          | Surname       | Position/Department                                  | Organisation                              | Telephone/Cell                    | E-mail address                                                   |
|-----|-------|---------------|---------------|------------------------------------------------------|-------------------------------------------|-----------------------------------|------------------------------------------------------------------|
|     |       |               |               | Care Services                                        |                                           |                                   | maria.mabena@dcs.gov.za                                          |
| 24  | Dr    | E             | Mabuza-Makoko | Secretariate                                         | CDA                                       | 079 496 8687                      | evodiam@socdev.gov.za; evodiam@dsd.gov.za                        |
| 25  | Mrs   | Tami          | Magnin        | Social Development Coordinator                       | Department of Environmental Affairs       | 021 441 2767                      | Tmagnin@environment.gov.za                                       |
| 26  |       |               |               |                                                      |                                           |                                   |                                                                  |
| 27  | Dr    | Jackie        | Mangoma       | Executive Manager                                    | New Lovelife Trust                        | 082 968 6448                      | jaqualine.mangoma@lovelife.org.za                                |
| 28  | Ms    | Cecilia       | Maphai        | Deputy Director: Policy For Substance Abuse          | National Department of Health             | 082 509 8616                      | MaphaC@health.gov.za                                             |
| 29  | Dr    | Temba         | Masilela      | DCEO, Research                                       | HSRC                                      | 012 302 2348                      | Tmasilela@hsrc.ac.za                                             |
| 30  | Dr    | Sagren        | Moodley       | Director: Social Development Analysis                | Department of Science and Technology      | 012 843 6421                      | sagren.moodley@dst.gov.za                                        |
| 31  | Prof. | Neo           | Morojele      | Alcohol, Tobacco and Other Drug Research Unit        | MRC                                       | 012 339 8535                      | Neo.Morojele@mrc.ac.za                                           |
| 32  | Prof. | Pamela        | Naidoo        |                                                      | HSRC                                      | 083 776 1144                      | Pnaidoo@hsrc.ac.za                                               |
| 33  |       | Mametja Faith | Namathe       | Social Work Policy Manager                           | Department of Social Development          | 082 351 8734                      | faithna@dsd.gov.za                                               |
| 34  | Prof  | Daniel        | Ncayiyana     |                                                      |                                           |                                   | profdjn@gmail.com                                                |
| 35  | Ms    | Mpho          | Nche          |                                                      | National Youth Development Agency         | 011 834 7660                      | mpho.nche@nyda.gov.za; mphon@nysu.org.za                         |
| 36  | Prof  | Peter         | Nyasulu       | Acting Head: School of Health Sciences               | Monash University                         | 011 950 4329                      | Peter.nyasulu@monash.edu                                         |
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| 41  | Mr    | Raphael       | Kolbee        | ECD Field Worker                                     | Early Years Services                      |                                   | intern3@earlyyearsservices.co.za                                 |
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*Substance Abuse, Harm Prevention and Harm Reduction  
Setting a Research Agenda  
DST & HSRC Human and Social Dynamics Research Seminar 2 March 2015*

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**APPENDIX 4: PRESENTATIONS**



**Setting a Substance Abuse Research Agenda  
for South Africa:  
Lessons from the United States and Globally**


**J. Paul Seale, M.D.**  
Professor & Director of Research  
Department of Family Medicine  
Navicent Health &  
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www.sbirtonline.org

### Key Global Issues in 2015: Urban-rural Divide

- Differences in
  - Income
  - Resources
  - Education
  - Cultural identity




United Nations, 2014; World Bank, 2015



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### Objectives

- Provide a global overview of substance abuse and its impact on multiple sectors of society
- Discuss the importance of gathering epidemiologic data from multiple sources
- Share lessons learned about substance abuse in other societies in transition
- Describe examples of prevention & early intervention programs which
  - Employ innovative strategies for reaching oral learners
  - Link with faith-based organizations to expand services
  - Offer culturally-grounded interventions
  - Utilize schools & clinics as venues for prevention efforts
  - Use values-based education to decrease unhealthy behaviors



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### Key Global Issues in 2015: Economic disparity

In developed and developing countries alike, the poorest half of the population often controls less than 10% of the wealth




1


Deepening income inequality

### Key Global Issues in 2015: Accelerating Urbanization

- Worldwide: 54% of people live in urban areas (2014)
  - By 2050, 66% will live in urban areas
- South Africa: 64% of people live in urban areas



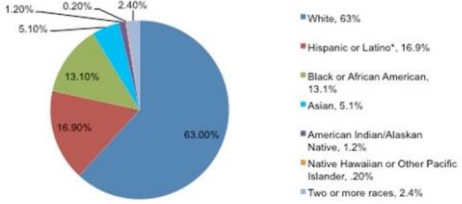
United Nations, 2014; World Bank, 2015



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### Key Global Issues in 2015: Ethnic Diversity

**U.S. Population by race/ethnicity (2012)**



| Race/Ethnicity                            | Percentage |
|-------------------------------------------|------------|
| White                                     | 63%        |
| Hispanic or Latino*                       | 16.9%      |
| Black or African American                 | 13.1%      |
| Asian                                     | 5.1%       |
| American Indian/Alaskan Native            | 1.2%       |
| Native Hawaiian or Other Pacific Islander | 20%        |
| Two or more races                         | 2.4%       |

Natural Resource Ecology Laboratory, 2014



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## S. Africa: “Rainbow People of God”



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## Issues of Literacy: S. Africa is 7% illiterate 32% have < 7<sup>th</sup> grade education

Literacy and basic education levels of South Africans aged 15 and over

| Level of Education                                   | 1995 October Household Survey | 1996 General Population Census | 2001 General Population Census |
|------------------------------------------------------|-------------------------------|--------------------------------|--------------------------------|
| Full general education (Grade 9 and more)            | 14.3 million (54%)            | 13.1 million (50%)             | 15.8 million (52%)             |
| Less than full general education (less than Grade 9) | 12.2 million (46%)            | 13.2 million (50%)             | 14.6 million (48%)             |
| Less than grade 7                                    | 7.4 million (28%)             | 8.5 million (32%)              | 9.6 million (32%)              |
| No schooling                                         | 2.9 million (11%)             | 4.2 million (16%)              | 4.7 million (16%)              |

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## South Africa: Ethnic Diversity

South African Population:  
 Census 2011 (% of total)



Natural Resource Ecology Laboratory, 2014

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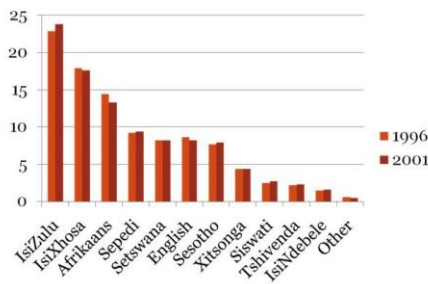
## Global Drug Use Trends

- 5% of adults ages 15-64 use an illegal drug each year
  - 2.5% of adults use drugs more regularly
  - 10-13% of those who use are problem users
- Increasing injection drug use, esp. in Africa
  - 20% infected with HIV
  - 47% infected with Hepatitis C
  - 15% infected with Hepatitis B

UNODC World Drug Report, 2012

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## South Africa 2015: Language Diversity



Distribution of the population by language spoken most often at home-1996 and 2001

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## Most Common Drugs Abused

- Cannabis
- Opiates & opioids
- Cocaine
- Amphetamines & other stimulants
- Ecstasy

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### Consequences & Cost:

#### U.S. Cost=\$500 billion annually

- Health—1% of all deaths, links to accidents, injuries, HIV, hepatitis, TB, & comorbidity with mental illness
- Decreased productivity, including workplace injuries and accidents (0.3-0.9% of GDP)
- Drug-related crime: theft/fraud, burglary, robbery, shoplifting, etc. (90% of drug-related costs)
- Family/social disintegration, loss of employment, failure in school, domestic violence

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### Global Drug Use Trends 2010

- Concentration among youth, esp. urban males
- Males outnumber females for most substances, except for prescription psychotropic meds
- Expanding range of substances
- Treatment gap: only 1 in 5 who need treatment receive it

UNODC World Drug Report, 2012

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### Global Drug Use Trends 2010

- Shift from developed to developing countries
  - High population growth
  - Younger population
  - Rapid urbanization
  - Increasing gender equality
  - Globalization of illicit drug economy

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UNODC World Drug Report, 2012  
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### Country-specific Issues: S. Africa

- Lifetime drug use prevalence 13.3%, resulting in substance abuse in 3.9% and dependence 0.6%
- High levels of inhalant use among youth
- Cannabis (dagga) is most drug of choice among those in substance abuse treatment
- Methamphetamine (tik) common in W. & E. Cape
- Increasing use of OTC/Rx meds especially by youth
  - largest use of methaqualone (mandrax/Quaalude) in the world, often smoked together with cannabis ("white pipe")
  - Emergence of nyaope (whoonga)=dagga, heroin, household cleaner, rat poison, HIV drug efavirenz, esp. among Zulu speaking Black population in Durban area

Stein et al, 2008; SACENDU, 2014; Grelotti et al, 2014

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### Global Drug Use Trends 2010

"...countries with economies in transition and developing countries have become increasingly affected by illicit drug use, as they have experienced a range of socioeconomic changes. In absolute numbers, there are almost twice as many illicit drug users in [these] countries..."

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### How Do We Approach This Epidemic?

- Mission-focused
- Prioritized
- Strategic
- Prevention-based
- Gather epidemiologic data as first step

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## NIDA's Drug Abuse Mission

- To bring the power of science to bear on drug abuse and addiction
- To reduce the burden of drug abuse and addiction and the related consequences for individuals and society at large
  - Support and conduct research across a broad range of disciplines
  - Ensure the rapid and effective dissemination and use of research results to improve practice and inform policy

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## Strategic Goals & Objectives

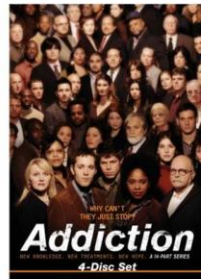
1. **Prevention:** Prevent the initiation of drug use and the escalation to addiction in those who have already initiated use
2. **Treatment:** To develop successful treatments for drug abuse and addiction and improve treatment accessibility and implementation.
3. **HIV/AIDS:** To diminish the spread of drug abuse-related HIV and minimize the associated health and social consequences, including AIDS

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## NIDA's Drug Abuse Mission

- To change people's perceptions, replacing stigma and shame with a new understanding of addiction as a treatable disease
- [http://www.hbo.com/addiction/thefilm/supplemental/6212\\_what\\_is\\_addiction.html](http://www.hbo.com/addiction/thefilm/supplemental/6212_what_is_addiction.html)



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## Why Are Drug Surveys Important?

- Inform us of prevalence of unhealthy substance use
- Identify areas of special need
- Highlight new emerging substances, their effects and consequences
- Raise consciousness by educating the public and policymakers

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## Key Findings

- Neurobiology of addiction has been elucidated—decrease stigma and increase support for prevention, treatment and research by increasing understanding of addiction as a disease
- Important role of genetics—contributes 50% of the risk of addiction
- Vulnerability of the adolescent brain—risk of addiction increases with early use of alcohol, tobacco or other drugs during adolescence

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## Sources of Survey Data

- School surveys--adolescent use
- Household surveys--overall population prevalence
- Emergency Departments (Drug Abuse Warning Network)—detects new trends in substance use & potential consequences
- Treatment Episode Data Set (TEDS)—data from addiction treatment programs; substances which are causing the most severe impairment and addiction

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### Youth Risk Behavior Survey (CDC)

- anonymous, voluntary school survey
- desks are spread throughout the classroom
- record their responses directly in a computer-scannable booklet or answer sheet
- use a sheet of paper or an envelope to cover their responses
- seal their questionnaire booklet or answer sheet in an envelope before placing it in a box

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### How Reliable is Self-report?

- “Good but not perfect”—able to estimate prevalence within 1-2% for most substances if adequate privacy and confidentiality measures are in place
- Less reliable for more stigmatized drugs (cocaine)
- Self-administered surveys are better than face-to-face interviews
- ACASI is helpful for subjects with lower literacy
- Biomarker testing results in small increases in detection of drug use (problems: cost, short half-life for all tests except hair, consent, refusal rate)

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### National Survey on Drug Use and Health (67,000 persons/year)

- House to house survey, randomly selected households, 1-2 people per household
- Less sensitive items are administered by interviewers
- Most questions are administered with audio computer-assisted self-interviewing (ACASI)
- Respondents read questions on computer screen and hear questions read to them via headphones
- Enter their answers directly into the computer either by using the keyboard or a touch screen

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### How Useful is Biomarker Testing?

- Interviewed 390 patients in NYC indigent clinic
- Prevalence of drug abuse: 28%
  - 21% illicit drugs
  - 12% prescription drugs
- 108 reported drug use via interviews/ACASI system
  - 18 patients had positive saliva samples (16% of users)
    - 8 reported drug use to interviewer doing diagnostic interview
    - 12 reported drug use to computer (ACASI system)
    - 6 patients were detected only by saliva testing, so that actual prevalence=29.2%, not 27.7%—WORTH THE COST?

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McNeely et al, 2014



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### Alcohol and Drug Issues in Traditional Cultures in Transition

- Role of alcohol/drugs in developing societies
- Impact of life transitions (e.g., going to the city for education, moving to urban areas, dramatic social change) on risk of substance use
- Important role of social pressure, especially in traditional societies, in perpetuating problem substance use

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## Caribs—Rural Mountain Villagers



## Focus Groups: Traditional Drinking Patterns

- Before significant contact with White culture, production of alcohol was carefully controlled
  - 3 or 4 times a year, on special occasions, made by an individual with the secret knowledge of how to brew
  - Hollow out a dugout canoe, fill it with corn mash, cause it to ferment, then call people from the whole surrounding area to come to a celebration
    - Men: bring bows & arrows, drink and fight to see who was the strongest
    - Women: drink and dance until they fell down intoxicated
    - @2-3 days, alcohol ran out, & all went home

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## Arawaks: from desert to the city



## Experiences from the Americas

- 1993 working among indigenous group in Venezuela and began to hear repeated stories of problems related to heavy drinking
- Hesitant to get involved: didn't know cultural context, no treatment resources in the area
- Decided to conduct a formal study of prevalence of drinking & explore the meaning through focus group discussions
- SHOCK: 88% of men, 8% of women=problem drinkers

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## Destructive Impact of Cultural Change

- 1945 1st permanent white settlements in the area, roads into town, sudden access to large amounts of alcoholic beverages
- Culture was experiencing extreme pressures: prejudice, poverty, illness, violence, and watching the slow destruction of their way of life.
- Alcohol: brief periods of pleasure; temporary anesthetic to forget the pain of what some have called an intergenerational grief.
- Drinking to intoxication became more and more frequent, 1-2x per month, and consequences became much more severe

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## Two Key Destructive Elements

- Some found they were no longer able to stop, once they started drinking
- Drinking became integrated into their way of life, and those who wanted to stop were not allowed to
- **OUR REALIZATION: NONE OF THE TRADITIONAL U.S. APPROACHES WERE RELEVANT**—no funds to set up treatment centers, and self-help groups depended heavily on written materials, for this society where most were illiterate
- Need to create an entirely new approach

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## Ongoing Pilot Testing

- Brazil
- Guatemala
- Peru
- Uganda
- U.S.
  
- Interested in research partners to carefully assess outcomes of these programs

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## Story-Based Curricula for Prevention & Treatment

**Global Resilience Oral Workshops (GROW):** A Character- Based Program for Increasing Adolescent Resilience



**Celebration of Liberation:** 9 Steps for Overcoming Alcohol & Drug Problems



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## 1. Culturally-grounded Interventions: The Cherokee Talking Circle



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Lowe et al, 2012

## Two Important Features

- Taught through storytelling
  - Preferred learning style of oral learners (illiterate and semi-literate peoples)
- Mobilized the faith community
  - Able to reach areas that many government health problems find hard to reach
  - Mobilized large numbers of volunteers
  - Provided an alcohol- and drug-free support group in villages where abstinence was the exception

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## Culturally-grounded Interventions: Cherokee Talking Circle

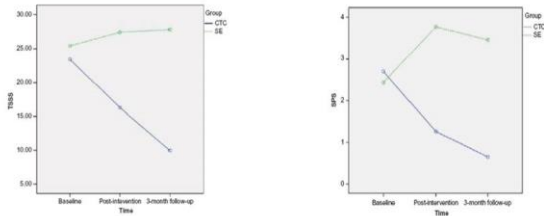
- Identified core cultural values of being responsible, disciplined, and confident
- Developed a 10 session manual-based intervention (English & Cherokee language) to enhance responsibility, discipline and confidence and decrease substance use
- Conducted confidential group that met in form of talking circle 45 minutes per week for 10 weeks
- Used scores on GAIN-Q scores to measure changes in emotional distress and substance problems after course & 3 months later

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Lowe et al, 2012

### Changes in GAIN-Q Scores: Declines in total symptoms and substance problems



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### 3. Ethics First for Africa: Reducing Risky Behaviors Through Principles & Values Education

- Adolescent curriculum used extensively in Tororo district of Uganda (high HIV infection, teen pregnancy, unemployment, alcohol & drug use)
- 40 values & ethics principles which contribute to success in life
- Previously used in Latin America and the Caribbean and shown to create positive behavior change in schools, prisons, court system

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### 2. CHOICES Plus Program: Outpatient Clinic Intervention

- Identified 261 multi-ethnic (Black, Hispanic, White) primary care pts at risk for alcohol-tobacco- and drug-exposed pregnancies by screening
- During two 1-hour Motivational Interviewing sessions, offered patients opportunity to address either birth control, risky substance use or both
- Measured reductions in risk for substance-exposed pregnancies

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### Principles & Values Education

- Topic areas: patience, humility, anger management, honesty, hard work
- Taught through 1 hour weekly lessons in roundtables of ~8 individuals each
- Students read and comment on essay regarding ethical principle
- Session ends with self-evaluation & personal activity to “test this principle”

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### Results: Project CHOICES Plus

- 9 month relative risk reduction of 37.4% for alcohol-exposed pregnancy
- 9 month relative risk reduction of 45.4% for tobacco-exposed pregnancy
- New intervention to directly address cannabis



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### Outcomes

- Decreased drug and alcohol use
- Better school performance
- Decreased theft & violence
- Dramatic drop in teen pregnancy rate from 30/yr to 0-1/yr
- Reductions in STDs
- Curriculum available for use as Open Source material
- Seeking research partners for formal evaluation

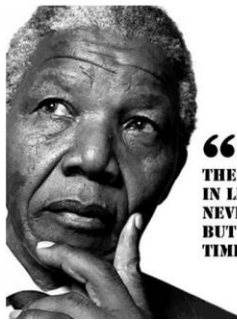
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## Summary and Conclusions

- Substance abuse is a growing problem in S. Africa and around the world
- Risk of substance abuse is high among those encountering major times of transition
- High cost in dollars and human suffering
- Substance abuse surveys can help us identify the burden of substance abuse and where to focus intervention efforts
- Prevention efforts are an important, cost-effective method for protecting adolescents
- Important principles: attention to cultural needs and learning styles of our patients & clients

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“  
THE GREATEST GLORY  
IN LIVING LIES NOT IN  
NEVER FALLING,  
BUT IN RISING EVERY  
TIME WE FALL. ”

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## THE EPIDEMIOLOGICAL PATTERN OF SUBSTANCE ABUSE IN SA: THE NEED FOR LONGITUDINAL SURVEYS AT POPULATION LEVEL AND TARGET GROUPS

Professor Pamela Naidoo

*Population Health, Health Systems & Innovation (PHHSI)*: Human Sciences Research Council (HSRC), South Africa, & Extraordinary Professor at the University of the Western Cape (UWC)  
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Townhouse Hotel, Cape Town, 2 March 2015



## DEFINITIONS

In order to contextualize this presentation please note the **definition** of each of the following key terms:

**Substance Abuse:** The National Drug Master Plan (2013-2017) [NDMP] developed by the Department of Social Development defines substance abuse as: “*The misuse and abuse of legal or licit substances such as nicotine, alcohol, over-the-counter and prescription medication, alcohol concoctions, indigenous plants, solvents and inhalants, as well as the use of illegal or illicit substances*” (p 19).



## DEFINITIONS cont...

**Surveys:** “Are systematic methods for determining how a sample of participants respond to a set of standard questions attempting to assess their feelings, attitudes, , beliefs, knowledge, risk-taking behaviours and so on, at one or more times”





## DEFINITIONS cont...

**Population:** A research population (target population) is generally a large collection of individuals that is the main focus of a scientific enquiry. Population level research is usually done for the benefit of the population.

**Key Population:** More vulnerable and most-at-risk populations (e.g. youth and young adults; shift workers; chronic pain sufferers)



## SURVEYS IN GENERAL

### ADVANTAGES

- The survey method uses **interviews, questionnaires**, or some combination of the two
- It's **versatile** (chameleon-like): since the first stage of its development in the 1930's survey methods have adapted to changes in society, exploiting new technologies (e.g. internet-based technologies)
- **Internet-based surveys** offer low per respondent costs and very fast turnaround of data records (among other advantages)



## INTRODUCTION

- Adequate evidence has been generated locally and internationally to demonstrate the **pervasive nature and effect of substance abuse** on individuals, families, communities and the workplace
- The Cost of licit and illicit drug use is staggering (e.g. illicit drug use cost the US an estimated \$193 billion in 2007, and excessive alcohol use cost the US \$223 billion in lost productivity, healthcare expenses, law enforcement and criminal justice costs)



- In SA drug abuse is estimated to cost the country R20 billion a year and combined drug and alcohol abuse costs the economy an estimated R130 billion a year



## SURVEYS IN GENERAL cont..

- Can be applied equally well to research with individuals, groups, organizations, communities, or populations to answer various research questions
- Prior to conducting a survey one should have a clear idea of the following in order for the survey to be considered good one :  
**Objectives: why** (theory or policy behind the research); **what** (the research question); **who** (study sample), **where** (study site); and **how** (questions that need to be answered before the study begins)



## INTRODUCTION cont...

- Real and potential risks for substance abuse among key populations such as adolescents and pregnant women, vulnerable families and communities, and specific types of paid work environments (such as shift work) need to be identified through '**best-practice**' methods such as **informed screening strategies**
- **We need data that informs us about the changing trends of licit and illicit substance use and abuse**
- **Surveys are still the best method to answer key research questions about the population at large and about key populations**



## SURVEYS IN GENERAL cont..

- Another advantage is that surveys can use different **modes of administration** for the data collection: face-to-face interviews, telephone interview, group self-completion and postal self-completion (or a combination of these strategies)
- Despite disadvantages we still look for evidence in numbers to guide decisions in government, health, natural and social sciences and so on, so the demand for **survey statistics** continues !



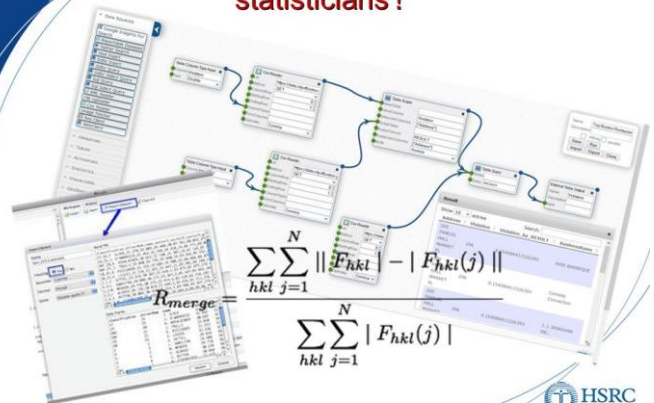
## SURVEYS IN GENERAL cont..

### DISADVANTAGES

- **Participation rates** in household surveys are **declining**
- Surveys seeking **high response rates** are experiencing huge cost inflation
- **Traditional sampling frames** are weakening. Alternate sources of statistical information are driven by **technology based methods**
- **Previously reliable modes of data collection have changed since the 1990s:** For e.g. telephone survey frames declined in coverage because of the increase in the number of mobile phone users



It can get complicated...that's when we use statisticians!



## SURVEYS SPECIFIC TO SUBSTANCE USE AND ABUSE

### THE IMPORTANCE AND ADVANTAGES OF SURVEYS

- Our **current knowledge** about substance abuse misuse, globally and nationally, comes primarily from epidemiological surveys
- When surveys are **well conducted** using **probability sampling methods** with large sample sizes, the smaller the variance and the more precise the estimates of population parameters (e.g. substance abuse rates)



## SURVEYS SPECIFIC TO SUBSTANCE USE AND ABUSE cont...

### Methodological Failures

These following sources of error can contribute directly to the failure of surveys:

- **Sampling Errors:** when a sample design is constructed that leaves some element with a zero probability of being selected, sampling error is present
- Examples of **commonly used non-probability, or convenience sampling methodologies** that are being used in substance use epidemiology include snowball sampling, venue sampling and respondent driven sampling



## SURVEYS SPECIFIC TO SUBSTANCE USE AND ABUSE cont...

- Possible to **combine data sets** as illustrated by Orsi et al (2010) using "scenario analysis" in a US community-based substance use study in two communities with different participation rates (one high and one low)
- **Exploratory methods:** Use hierarchical linear modelling with combined data sets



## SURVEYS SPECIFIC TO SUBSTANCE USE AND ABUSE cont...

- **Non-probability sampling methodologies** are usually used in "**hard-to-reach**" **key populations** such as illicit drug users. This is a **cost-effective method** but it **fails to yield representative data**
- **Probability sampling methodologies using small sample size** are **more likely to fail** to produce precise estimates of population characteristics
- **Coverage errors:** happens when sampling frames fail to cover all persons to which inferences are made (e.g. surveys of special populations such as trying to estimate substance abuse among the homeless by sampling the homeless currently living in shelters only)





### SURVEYS SPECIFIC TO SUBSTANCE USE AND ABUSE cont...

- **Nonresponse:** unwillingness or unavailability of participants may underestimate substance abuse behaviour
- Nonresponse-ness in longitudinal substance abuse surveys is common
- **Measurement Errors:** *self-report data* is often inaccurate because many respondents report “**socially desirable**” responses. Ideally **biomarkers/toxicology findings** from assays of respondents hair, saliva, and urine specimens should be collected. When *self-report* is compared against **biomarkers**, respondents are found to **under-report** the extent of substance abuse behaviour



### Showcasing Global and Local Substance Abuse Surveys cont...

**SURVEY:** National Survey of Drug Use and Health (USA)  
Article based on survey report focussing on the **adolescent group** (Ford et al, 2012)

**Knowledge gained:** Religiosity reduces the odds of tobacco use, heavy drinking, prescription drug misuse, marijuana use, and other illicit drug use

**Value of findings:** Influence of culture and religion on substance use and abuse in this targeted age group. Once again this has implications for prevention and intervention programmes which may need to involve faith-based organizations



### SURVEYS SPECIFIC TO SUBSTANCE USE AND ABUSE cont...

- Under-reporting of alcohol use, for example, can vary by age, gender and consumption levels
- **Other common measurement errors** include: misunderstanding the questions, not following the skip patterns
- **Processing Errors:** not accounting for missing data
- **Conceptual Failures:** failures of non-use; failures of misuse; failure to anticipate new questions (such as detecting new or emerging substance abuse patterns) and ethical failures



### Showcasing Global and Local Substance Abuse Surveys cont...

**SURVEY:** A Survey of 100 Community Colleges on Student Substance Use, Programming, and Collaborations (US) (Chiauzzi et al, 2011)

**Knowledge gained:** Participants reported a number of alcohol and other drug (AOD) related concerns. Despite limited staff and funding dedicated to AOD, institutions are implementing a number of programmes. They are also collaborating with a number of on and off-campus groups

**Value of findings:** Substance Abuse Programmes can be implemented using a collaborative approach (on and off-site) in this target group



### Showcasing Global and Local Substance Abuse Surveys

**SURVEY:** Differential Racial/Ethnic patterns in Substance use initiation among young, low-income women (US) (Wu et al, 2010). Conducted among 18-31 year olds

**Knowledge gained:** *White women:* initiated tobacco and beer/wine at earlier ages and also more likely to use illicit drugs at this point. *African-American and Hispanic women* initiated tobacco and beer/wine at much later ages than white women but were more likely to use illicit drugs

**Value of findings:** Has implications for intervention, treatment and health promotion for this target group



### Showcasing Global and Local Substance Abuse Surveys cont...

**SURVEY:** South African National HIV, Incidence, Behaviour and Communication survey (SABSSM) (Shisana et al, 2009, 2014.) Article based on survey conducted in 2008 (Peltzer et al, 2011)

**Knowledge gained:** alcohol drinking patterns (harmful and hazardous) disaggregated for culture/race, age, sex, socio-economic- status, education and location (urban-rural)

**National data for 15 years and older**

**Value of findings:** Has implications for prevention and intervention programmes at **population level**





### Showcasing Global and Local Substance Abuse Surveys cont...

**SURVEY:** South African Stress and Health (SASH) study  
Article based on survey conducted in 2002-2004 (van Heerden et al, 2009)

**Knowledge gained:** use of alcohol, tobacco, and cannabis disaggregated for culture/race, age and sex. **Adult level data**

**Value of findings:** Has implications for prevention and intervention programmes for adult target group



### Showcasing Global and Local Substance Abuse Surveys cont...

**Survey:** South African Demographic and Health Survey (SADHS) (2003)

**Knowledge gained:** Patterns of alcohol and tobacco use among adults. **National level data**

**Value of findings:** Has implications for prevention and intervention programmes for department of health given that **alcohol and tobacco** use present as **risk factors for cancer, CHD** and so on. Also helps to guide action plan across sectors



### Showcasing Global and Local Substance Abuse Surveys cont...

**Survey:** Leisure time, physical activity and sedentary behaviour, and substance use among in-school adolescents in eight African countries. Article based on report focussing on 13-15 year olds (Peltzer al, 2010) **Knowledge gained:** Frequency of alcohol consumption and higher SES were significantly associated with leisure time physical activity, while tobacco, illicit drug use, and mental health variables were not. Leisure time sedentary behavior of five and more hours spent sitting on a usual day were highly associated with all substance use variables **Value of findings:** specific information for **targeted interventions in a key population**



### Showcasing Global and Local Substance Abuse Surveys cont...

**SURVEY:** Adolescent Alcohol Use in rural South African High Schools (Onya et al, 2012)

**Knowledge gained:** Gender differences in alcohol consumption in rural areas with **males 2.4 times more likely to drink than females**

**Value of findings:** specific information for **targeted interventions among adolescents in rural communities**



### Showcasing Global and Local Substance Abuse Surveys cont...

**Survey:** Survey on substance use, risk behavior and mental health among grade 8-10 learners in schools in the Western Cape province, 2011 (Morejele et al, 2011)

**Knowledge gained:** **Provincial data** on school-going adolescents with respect to patterns and frequency of substance use and abuse. Data gathered on alcohol, tobacco, cannabis, methamphetamine and mandrax

**Value of findings:** Has implications for prevention and intervention programmes for educational institutions. Also helps to guide action plan across sectors (e.g. SAPS, Social Development, Health and so on)



### Showcasing Global and Local Substance Abuse Surveys cont...

**Survey:** The 3<sup>rd</sup> South African National Youth Risk Behaviour Survey, 2011 (Reddy et al, 2013)

**Knowledge gained:** alcohol, tobacco, cannabis, inhalants, mandrax, cocaine, heroin, club drugs, whoonga, methamphetamine (tik), and over-the counter and prescription drugs use and abuse among school going grades **8-10 learners at National Level (disaggregated for provincial level data)**

**Value of findings:** Has implications for prevention, health promotion and intervention programmes for a **targeted population**. Also has **policy implications**



### PROPOSED WAY FORWARD FOR RESEARCH ON SUBSTANCE ABUSE HARM REDUCTION AND HARM PREVENTION

- Need to **improve survey designs**
- Need to be **innovative** to capture epidemiological patterns using **technology-based solutions**
- **Surveys dedicated to substance use conducted regularly every 3 to 5 years** is a systematic way of providing up-to-date and comprehensive information on substance use and abuse
- Ideally data collected should be **both biomarkers and self-report data**
- Data from population based surveys and key populations will ultimately inform **health, social and economic policies**



### PROPOSED WAY FORWARD FOR RESEARCH ON SUBSTANCE ABUSE HARM REDUCTION AND HARM PREVENTION cont...

- Data from population based surveys and key populations will **also inform the development of new treatment programmes and guide the modification of existing ones** across the country
- The epidemiological pattern of substance use and abuse at **Provincial Level** is also important to enable the development of context-specific prevention, treatment and health promotion programmes. Will also guide **inter-sectoral involvement** (e.g. Education, SAPS, and so on)



### Addressing Substance Use in Low Resources Settings: Lessons from Intervention Research in South Africa

Dr. Katherine Sorsdahl  
 Department of Psychiatry and Mental Health  
 University of Cape Town



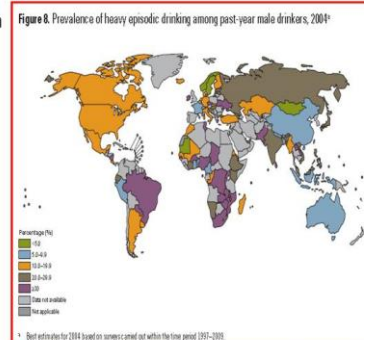
### Objectives of Presentation

- To describe the substance use treatment gap in South Africa.
- To reflect upon the lessons learned from four pilot studies that attempted to adapt various evidence based interventions for use in the South African context.



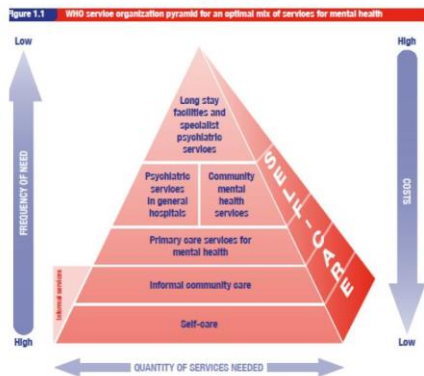
### South Africa: challenged by substance use disorders

- Prevalence of AOD use in South Africa is high
- High levels of hazardous/harmful alcohol use
- South Africa (SA)'s substance abuse treatment system is underdeveloped
  - Significant treatment gap:
  - Numerous barriers: including poor access to services; disparities in access to services





### Optimal service mix for a substance abuse treatment system



### Adapting evidence based interventions for use in SA

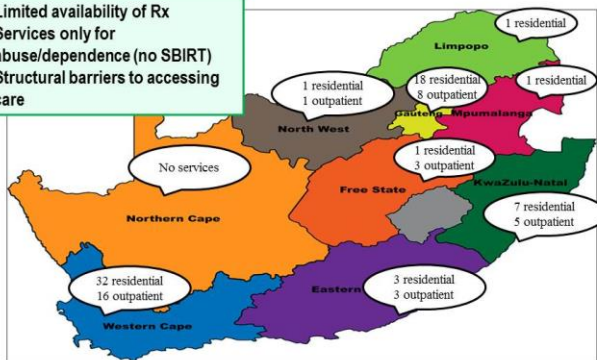
1. Jooste project: SBIRT in day hospital
2. ApSUP: SBIRT in MOUs
3. STRIVE: SBIRT in ED settings
4. Project TIME: adapting an intervention for meth use



- Almost all within a task shifting framework (level 2 or 3)
- Provide:
  - overview of programmes,
  - key findings
  - lessons learned in terms of implementation

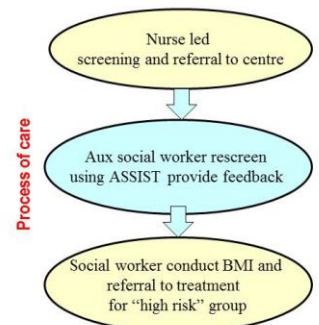
### Type of treatment services available by province

- Limited availability of Rx
- Services only for abuse/dependence (no SBIRT)
- Structural barriers to accessing care



### 1. Jooste day hospital project

- 80% of patients seeking psychiatric services at this site had substance use problems, but no services at the hospital.
- A substance use centre located within the hospital was created. Staffed by a social worker, an auxiliary social worker and an administrative assistant.
- Evaluation of first 7 months of service (3 month follow-up)



### Task shifting as a strategy for addressing human resource challenges

| STAFF CATEGORY             | AVAILABLE IN THE PUBLIC SECTOR (2010) |
|----------------------------|---------------------------------------|
| Psychiatrists              | 0.28 per 100 000                      |
| Psychologists              | 0.32 per 100 000                      |
| Nurses (in psychiatry)     | 10.8 per 100 000                      |
| Social workers             | 0.4 per 100 000                       |
| Occupational therapists    | 0.13 per 100 000                      |
| <b>Nurses and midwives</b> | <b>490 per 100 000</b>                |

Where some tasks performed by mental health specialists are shifted to non-specialists.  
**4 levels of task-shifting:** 1) doctors 2) nurses, 3) community health workers, or 4) people living with these disorders.

- Specialists provide supervision and training to non-specialists.
- SA's mental health care policy framework (2013-2017) embraces task shifting as a strategy for introducing more substance use services into PHC settings.

### Key findings: feasibility, acceptability, initial outcomes

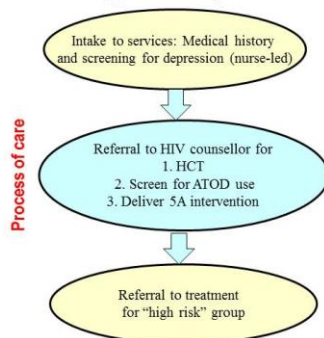
- Universal screening did not occur: "case-finding by nurses"
- 127 patients went to the centre
  - 44% reported poly-substance use
  - Mainly reported dagga, alcohol, methamphetamine use
  - 68% received SBIRT, 32% received SBI only:
  - Uptake of referrals was less than 50%
  - Poor uptake due to attitudinal barriers to treatment and structural barriers
  - Where uptake occurred, only 55% of patients were satisfied with the services they received

|                                | Pre-post intervention comparison |             |              |              |              |
|--------------------------------|----------------------------------|-------------|--------------|--------------|--------------|
|                                | Pre                              |             | Post         |              | p<           |
|                                | Mean                             | SD          | Mean         | Sd           |              |
| <b>Total Substances (n=93)</b> | <b>37.6</b>                      | <b>8.43</b> | <b>17.01</b> | <b>17.19</b> | <b>0.001</b> |
| Alcohol (n=25)                 | 34.52                            | 8.82        | 10.56        | 13.58        | 0.001        |
| Dagga (n=26)                   | 36.63                            | 9.33        | 13.77        | 17.06        | 0.001        |
| Mandrax (n=9)                  | 36.78                            | 3.73        | 20.11        | 16.78        | 0.030        |
| Meth (n=22)                    | 40.18                            | 6.63        | 23.18        | 18.75        | 0.001        |
| Opioids (n=8)                  | 45.75                            | 5.65        | 20.88        | 18.61        | 0.010        |



## 2. Antenatal Personal Support Project

- A CHW- based support system for pregnant women to help them cope with psycho-social pressures and to overcome dependency on tobacco, alcohol and/or drugs
- Pilot site: Community based antenatal clinic/MOU run by midwives (PHC tier)
- Target Population: Low-income women at high risk for poor pregnancy outcomes – high levels of depression, smoking, drinking.
- In average month: 650 first bookings; 2200 follow ups; 300 deliveries



## Feasibility and acceptability of ApSupp

### Universal screening:

- Over 6 months 3407 women presented for their first booking visit. Only 1468 (43%) women were screened.
- Lower than expected rates of disclosure: 26.4% disclosed smoking tobacco, and 2% disclosed alcohol and other drug use.

### Women's preliminary responses to the intervention

- Participants significantly decreased their tobacco use ( $p < 0.001$ ).
- No significant reduction in alcohol and drug use following receipt of the intervention.

### HCW's Perceptions of Barriers to Delivering SBIRT

- Increase in workload
- Unclear/not consulted on expectations regarding implementation
- Women did not disclose ATOD use
- Lack of referral pathways for people with problems



## Objectives of STRIVE

- To screen patients presenting at emergency services for alcohol and other drug (AOD) use.
- To administer one of two brief interventions (ASSIST-linked Brief Intervention or MI modified problem solving therapy (PST) to patients presenting at these emergency services.
- To compare the effectiveness of these two interventions against a control group (psychoeducation only) on AOD outcomes and the feasibility of implementing these interventions in real-world emergency settings.
- To compare the cost effectiveness of these two brief interventions.

## Emergency Departments in Primary Health Care



- 24-hour public emergency departments located within primary health care settings in low SES communities
- Triaged according to severity- those with life threatening injuries or medical conditions are taken to secondary or tertiary hospitals
- Busiest times on weekends and pay days:
  - Very high proportions of alcohol and other drug-related injuries (up to 50% of all patients at some sites)
  - Recidivism is high



SUBSTANCE USE AND TRAUMA INTERVENTION



## STRIVE (Substance use and Trauma InterVention)

AIM: To address gaps in current services by testing two brief, evidence-based interventions for risky alcohol and drug use among adults at 3 emergency departments. This initiative proposes to compare the effectiveness and feasibility of using these brief interventions in real-world emergency settings.

## Developing an intervention for this setting

- Epi study:** Are problem solving deficits present among people with substance use problems
- In-depth interviews** with 24 ED health workers in ED settings: what would be feasible and acceptable within context
- Expert inputs:** Stakeholder meetings
- Adapted intervention and process of SBIRT for this setting
- Pilot-test** with 20 patients: examine initial outcomes and process evaluation
- Further adaptations made before testing in small trial







### Screening (SBIRT)

- CHWs approached patients for screening after they had been triaged for illness or injury severity and while they were waiting for a consultation with the attending doctor.
- To be eligible, participants had to be at least 18 years of age and screen at moderate or high risk for substance-related problems using the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST).
- Screening occurred at all hours of day, including night sheets and on weekends
- Participants who enrolled in programme were asked to complete a baseline questionnaire before being randomised to 1 of 3 interventions.



### Key findings: feasibility and acceptability

- >2700 people screened in evaluation period,
  - 19% met criteria for inclusion (need)
  - 74% of eligible participants were interested in participating (acceptability)
- Feasibility of 5 session intervention
  - 58% completed all sessions,
  - patient feedback suggest 3-4 sessions would be better
- Acceptability of CHW-delivered intervention
  - Providers: need dedicated rather than designated staff



### Training of Peer Counsellors



- All of the peer counsellors originated from the communities served by the selected emergency services.
- **Intervention training included:**
  - 18 hours of training in motivational interviewing training,
  - 12 hours (1.5 days) of a training program in PST

#### Other training Included:

- alcohol and illicit drugs and the risks associated with substance use,
- using and scoring the ASSIST, (iii) ethics of research and importance of maintaining confidentiality and reporting adverse events, (iv) the intervention protocol, and (v) the process of referring patients for specialized care.

To ensure intervention fidelity, peer counsellors participated in biweekly supervision and debriefing sessions.

### 3 month substance use outcomes

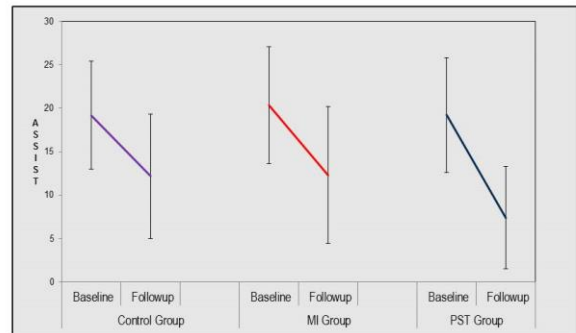
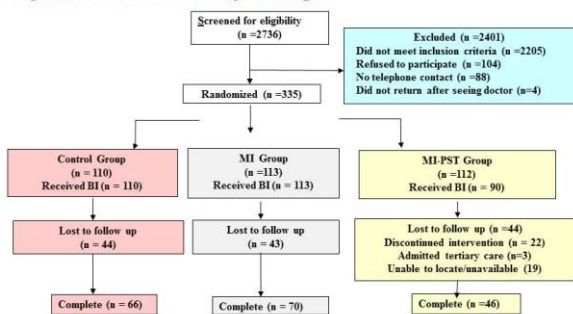


Figure 2: Participant Flow Chart

### Project STRIVE: Study Design



### 3 month outcomes

|                       | MI vs Control (Contrast 1) |            | MI/CG vs MI-PST (Contrast 2) |                |
|-----------------------|----------------------------|------------|------------------------------|----------------|
|                       | Adjusted Mean              | 95% CI     | Adjusted Mean                | 95% CI         |
| Substance Use: ASSIST | -0.02 (1.00)               | -2.01-1.96 | -1.71 (0.82)                 | -3.36 - -0.08* |
| Depression: CES-D     | 2.15 (1.59)                | -0.99-5.29 | -3.33 (1.46)                 | -6.24 - -0.42* |

**Cost-effectiveness analysis:**  
Found MI-PST more cost effective than MI or CG alone for reducing substance use involvement and depression



## Conclusions

It is feasible to conduct SBIs to reduce substance use and depression among patients presenting for emergency services in a LMIC such as South Africa with minimal additional health resources.

Future research that matches intervention conditions on dosage, that includes at least a 6 and 12 month follow up period to facilitate the collection of more distal outcomes data and that is sufficiently powered to examine differential response to the interventions are needed before claims can be made with any certainty about the effectiveness of PST in ED settings.

## The Intervention

- Session 1: Motivational Interviewing
- Session 2: Begin to identify Triggers
- Session 3: Behavioral Intervention, preparation for Meth use Triggers
- Session 4: Exposure therapy (via guided imagery)
- Session 5: Impulsive Beliefs: Cognitive Therapy
- Session 6: Relapse Prevention
- Session 7: Family involvement (Optional).

## Project TIME: Treatment of tlk and Methamphetamine use



### AIM

- To determine the feasibility, acceptability and effectiveness of a 7 session CBT intervention for South Africans with methamphetamine (MA) use disorders.

### OBJECTIVES

- To modify and adapt an existing 7 session CBT intervention developed for impulse controls disorders, to South Africans with methamphetamine use disorders.
- To pilot test the feasibility and acceptability of this intervention with 60 patients who have MA abuse or dependence.
- To examine the impact of the intervention on primary and secondary outcomes

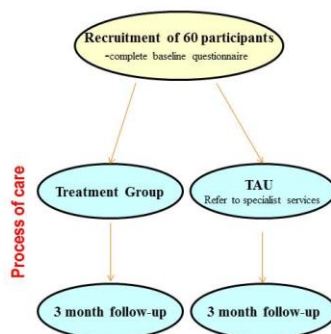
## Progress so far

- Screened over 300 people (There is a need for an intervention of this type).
- Recruited 48 participants to date.
- The intervention is acceptable to patients (75% who initiated treatment completed all sessions).



## Procedure

- **Recruitment:** from NGOs, waiting lists for inpatient facilities & advertisements in local newspapers.
- **Eligibility Criteria:** be between 18 and 65 years of age, at least grade 9, must meet DSM-IV criteria for methamphetamine abuse or dependence according to the Mini-International Psychiatric Interview (MINI), and methamphetamine must be their drug of choice.
- **Primary Outcome:** Frequency of methamphetamine use (days per week) validated with drug tests.



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