



**other impacts of HIV and
AIDS in South Africa**

RESEARCHERS



HSRC
Human Sciences
Research Council

5th SAHARA Conference

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SAHARA Conference, Midrand

1 December 2009

Introduction

Department of Social Development identified a need to:

- **Monitor the demographic and social impact of HIV/AIDS**
- **Identify vulnerable segments**
- **Develop indicators to monitor the social impact and other aspects of the epidemic**
- **Review, update and define indicators to monitor the social impact and other aspects of the epidemic.**

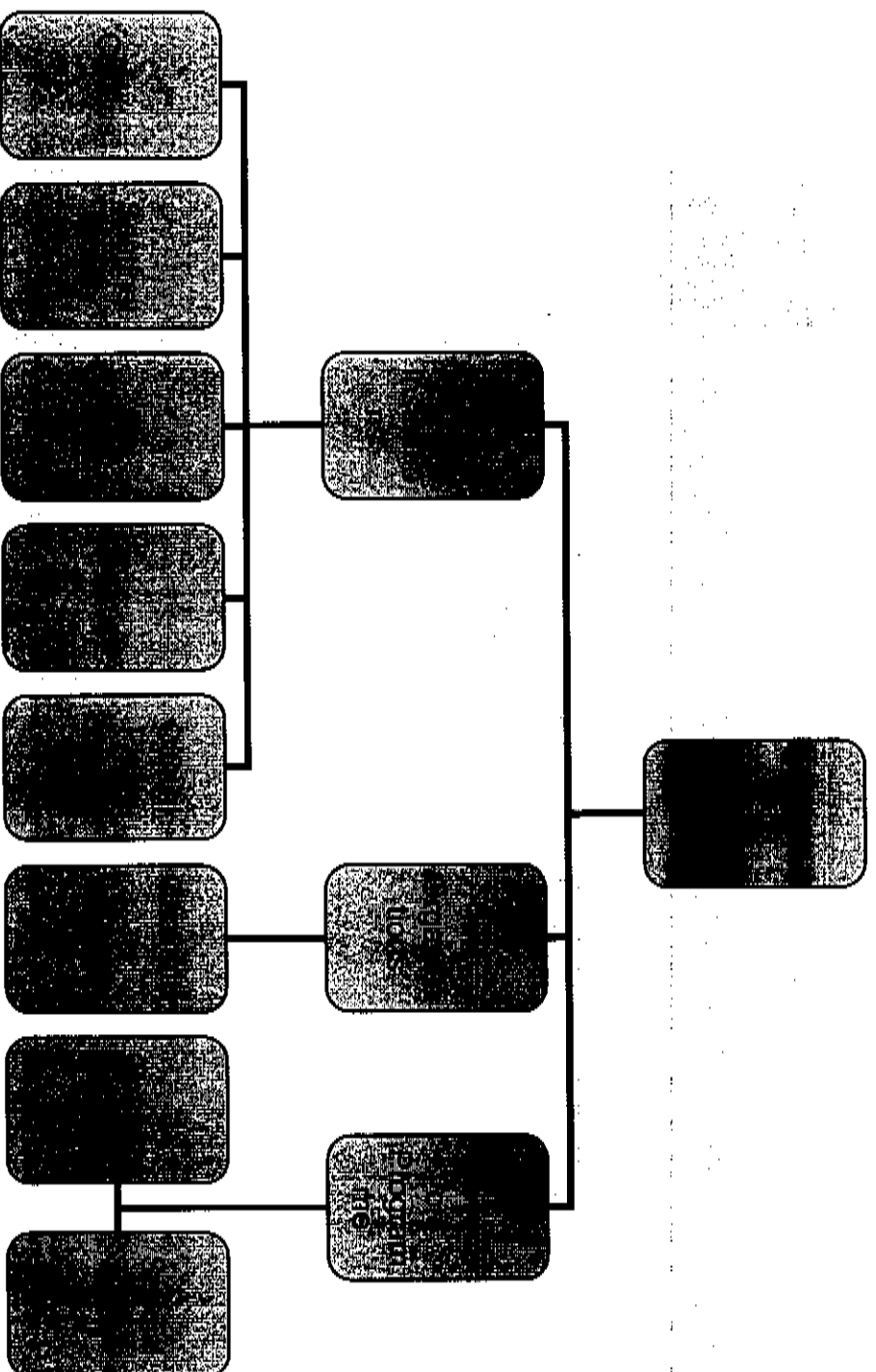
Research Methods

- A systematic search for the most recent (published and unpublished) data for monitoring indicators;
- Reviewing, updating and defining the indicators using the most recent data;
- Validation process with key informants from selected government departments and parastatal organisations.

Indicators to monitor impact of AIDS:

1. Death rate among the population aged 15-49
2. Under-5 mortality rate (U5MR) and Infant mortality rate (IMR).
3. Cause-specific mortality rate

Data sources for reviewing, updating and defining HIV/AIDS indicator



Death rate in the age group 15-49

- Number of deaths (D) occurring within that age group in a specific year, expressed as a proportion (per 1 000) of the size of the mid-year population (N)

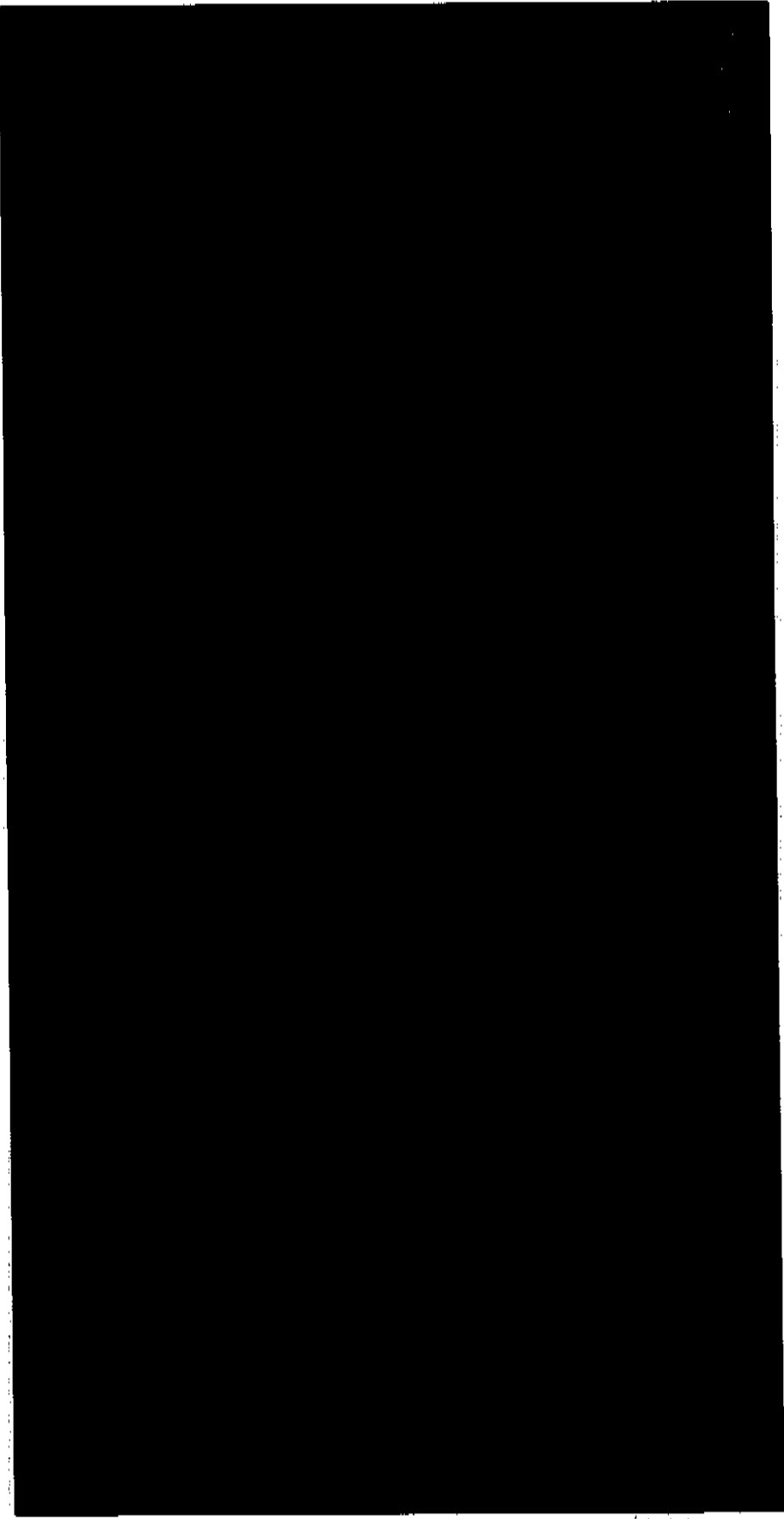
The number of persons aged 15-49 dying in a given year (D)

$$\frac{\text{The number of persons aged 15-49 dying in a given year (D)}}{\text{X 1,000 population}}$$

Data on death rate in the age group 15-49

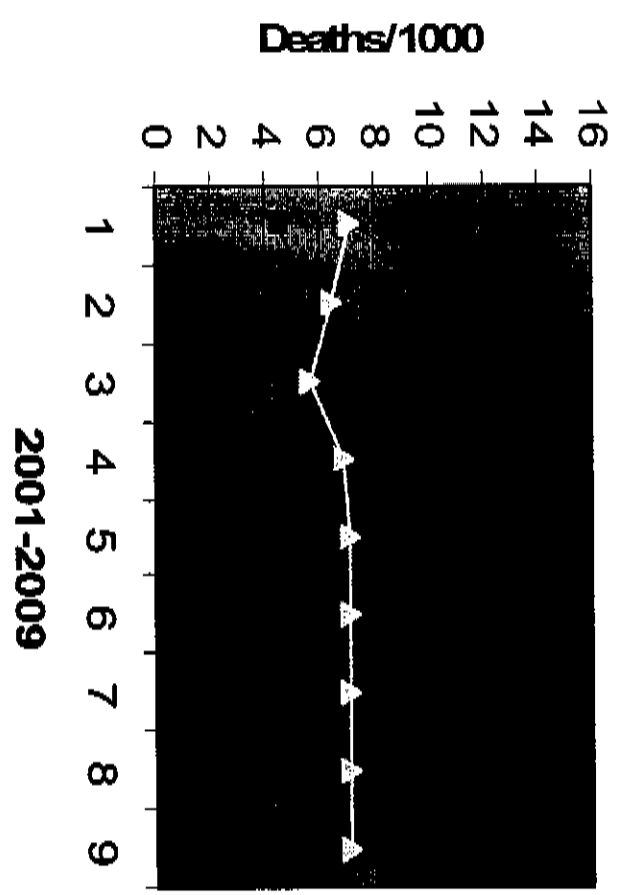
- By using the crude death rate of the age group 15-49 it is possible to identify changes in mortality levels in the population.
- The crude death rate is not regularly used to reflect the mortality implications of HIV/AIDS. However, the relative ease of obtaining information to review and update this indicator has helped to understand its usefulness.
- Data were obtained from the annual death statistics published by Stats SA.
- Efforts made by Stats SA and Dept of Home Affairs to improve the coverage of death registrations ensured that an estimated 90% of deaths are presently registered.

Death Trends



Mortality Trends

Death Rates



- ◆ All Deaths
- AIDS Deaths
- NO Deaths

2001-2009

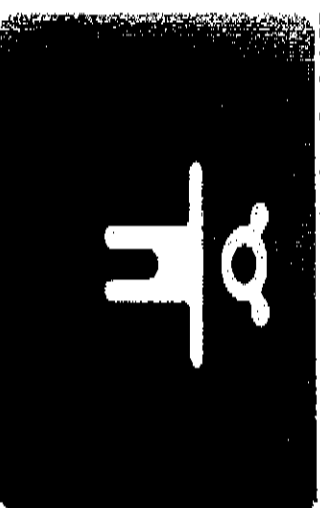
2. Under-5 and Infant Mortality Rates

The probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of five (for U5MR) or within the first year (IMR) subject to current age-specific mortality rates.

No. of children under 5 (or 1) years of age dying in a specific

Year _____ X 1,000 live births

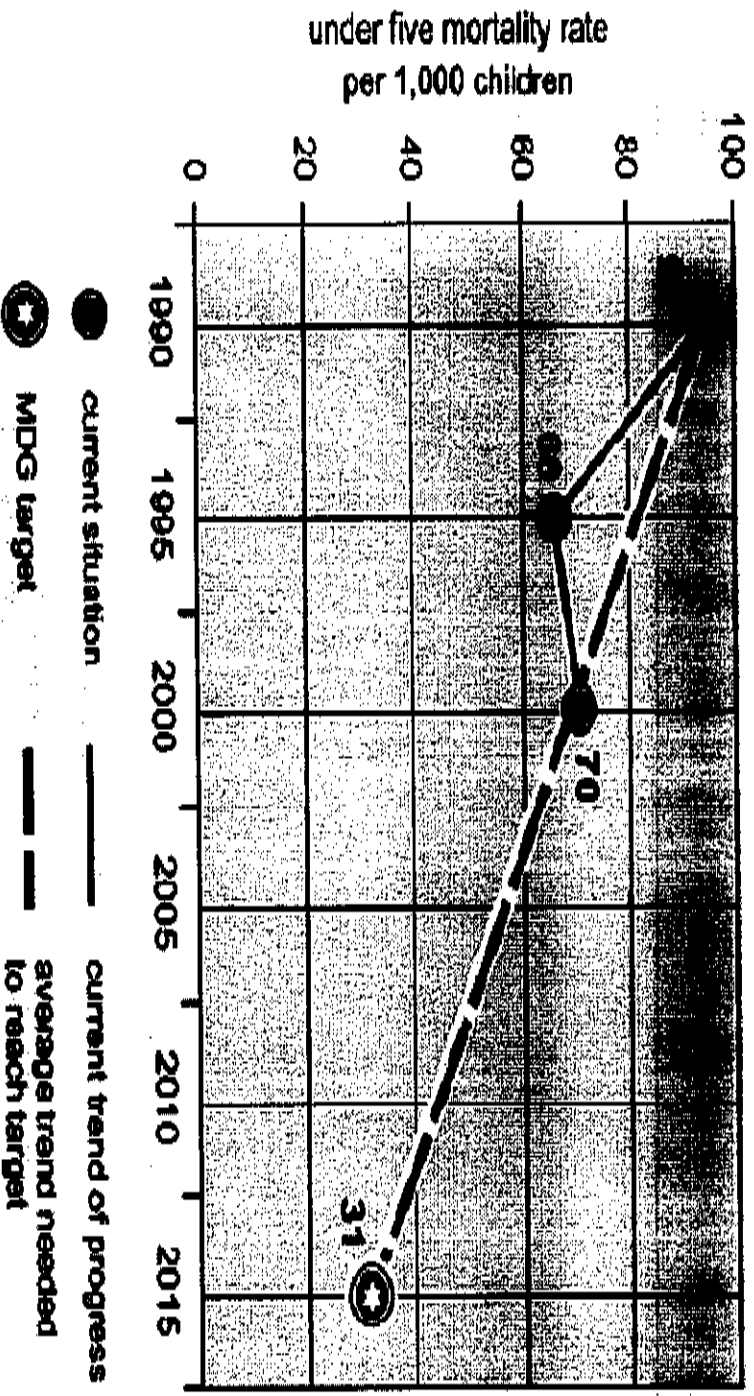
Midyear population of children under 5 years of age in a specific year



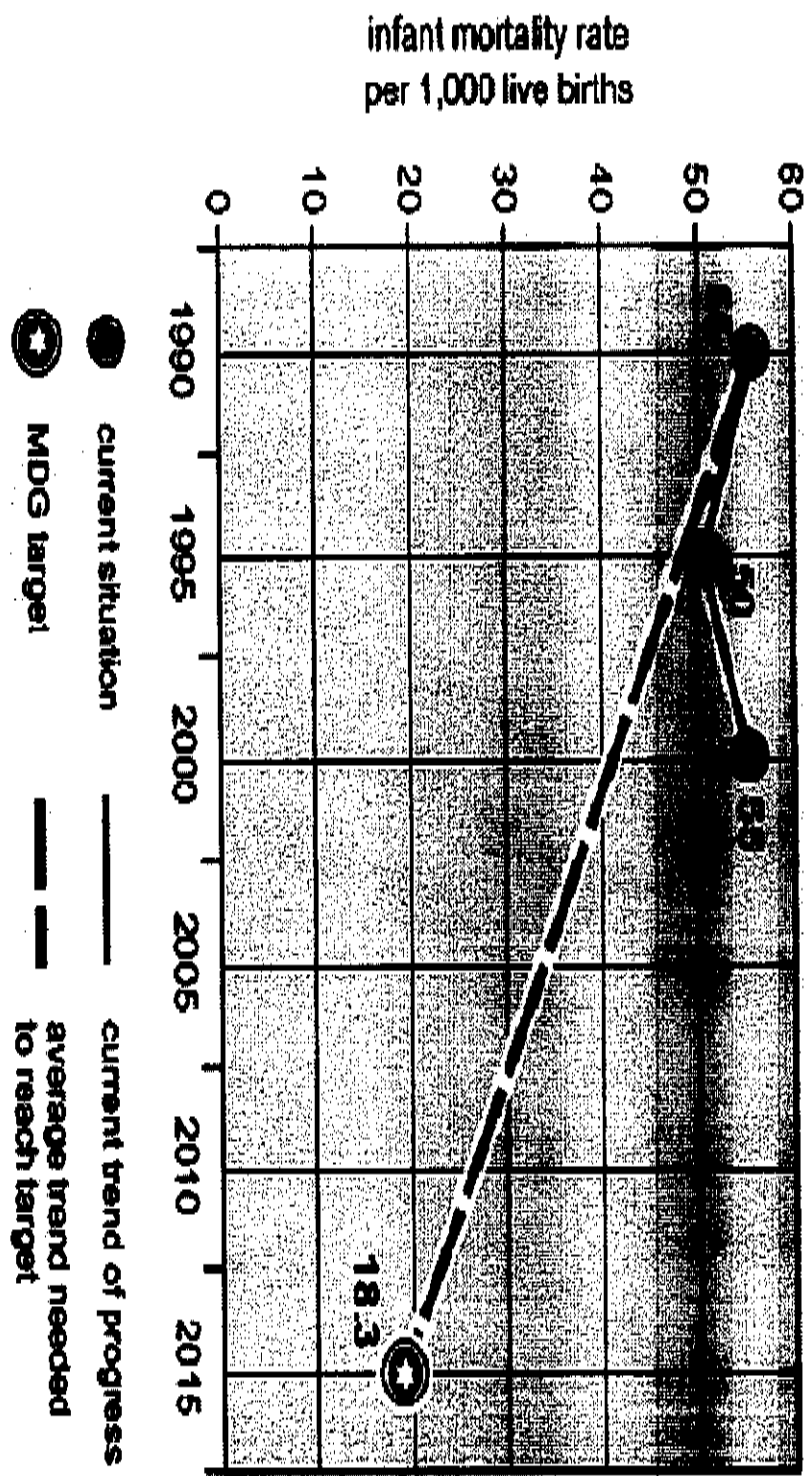
Update on U5MR

- The U5MR provides a robust measure of the health of children and reflects the probability of a newborn baby dying before reaching age five.
- U5MR is an important indicator for monitoring both the demographic and health impacts of HIV/AIDS.
- U5MR declined rapidly from 1990 to 2007. In 1990 it was 62/1 000. By 2000, it was 74/1 000. In 2007, it was 56/1000 and mid-year estimates of 2009 report a 46/1000 .

Trends in U5MR in South Africa and progress towards the MDG4, 1990-2015



Trends in IMR in South Africa, 1990-2000 and progress towards MDG



Infant mortality rate (IMR)

- Infant mortality was 63/1000 in 2001 and has dropped to 46 per 1000 live births in 2009.
- About 17 of every 1000 babies born with HIV will die within their first year of life.
- Introduction of PMTCT in 2001 was expected to reduce IMR due to HIV, and there are studies that show a dramatic decrease in IMR (i.e. World Health Statistics, 2009).

3. Cause-specific mortality rate

- ...the mortality rate in a population attributed to a specific cause, such as pneumonia or TB during a given time period (usually 1 year)
- 5.21 million South Africans are infected with HIV, making up 10.6% proportion of the population.
- HIV/AIDS is the leading cause of death and premature or early death for all provinces.

Ten leading causes of death in South Africa

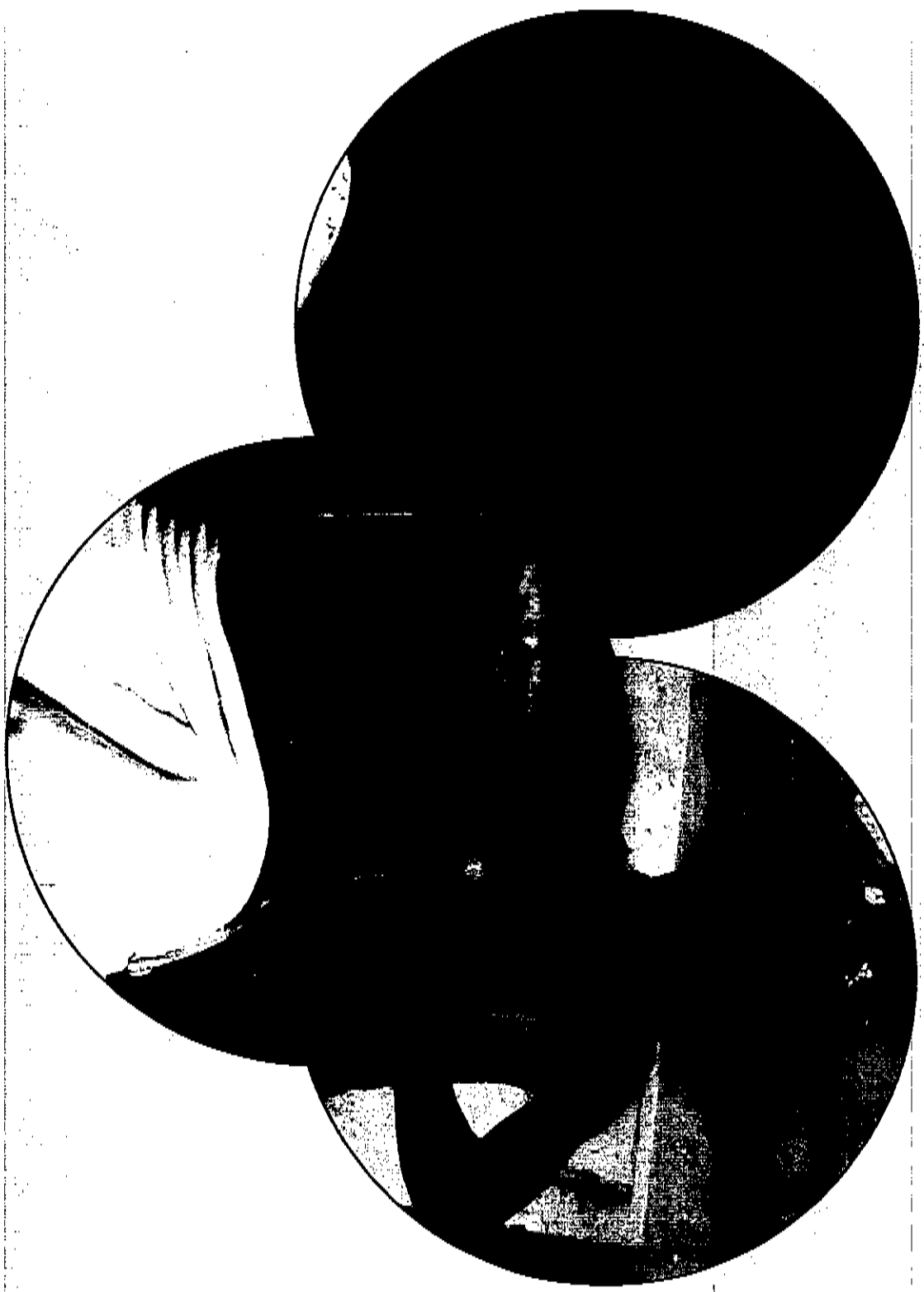
Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Rank	2005		2004*	
		Number	%	Number	%
		Tuberculosis (A15-A19)	1	73 903	12,5
Influenza and pneumonia (J10-J18)	2	45 596	7,7	45 580	8,0
Intestinal infectious diseases (A00-A09)	3	28 548	4,8	26 740	4,7
Cerebrovascular diseases (I60-I69)	4	24 437	4,1	25 226	4,4
Other forms of heart diseases (I30-I52)	5	23 963	4,1	23 925	4,2
Diabetes mellitus (E10-E14)	6	18 423	3,1	17 071	3,0
Certain disorders involving the immune mechanism (D80-D89)	7	16 171	2,7	16 226	2,8
Chronic lower respiratory diseases (J40-J47)	8	15 738	2,7	15 521	2,7
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	9	15 457	2,6	13 478	2,4
Human immunodeficiency virus [HIV] disease (B20-B24)	10	14 532	2,5	13 440	2,3
Other natural causes		261 317	44,2	251 819	44,0
Non-natural causes		53 128	9,0	52 969	9,3
All causes		591 213	100,0	572 350	100,0

*Data for 2004 updated to include late registrations processed in 2006.

Conclusion

- HIV and AIDS have had a serious impact on mortality and other demographic variables in South Africa.
- By using the death rate of the age group 15-49 it was possible to identify changes in mortality levels in the population.
- The crude death rate was used to reflect the mortality implications of HIV/AIDS. However, the relative ease of obtaining information to review and update this indicator has helped to understand its usefulness.
- Falling life expectancy has been one of the most visible impacts of HIV/AIDS on the human development.

Thank You!



Monitoring the social and other impacts of HIV and AIDS in South Africa: Review of indicators reflecting mortality

Geoffrey Setswe, Nomxolisi Malope, Gerda Erasmus and Poppie Nkau

Abstract

The purpose of this study was to monitor the social and other impacts of HIV and AIDS in South Africa by reviewing selected indicators reflecting mortality.

The methods used for reviewing, the selected indicators included a systematic search for the most recent data, reviewing the indicators using the most recent data and updating and defining indicators through validation interviews, where necessary, with key informants from selected government departments and parastatal organisations.

HIV and AIDS have had a serious impact on mortality and other demographic variables in South Africa. By using the crude death rate of the age group 15-49 it is possible to identify changes in mortality levels in the population. The crude death rate can be used to reflect the mortality implications of HIV/AIDS. However, the relative ease of obtaining information to review and update this indicator has helped to understand its usefulness. The death rate in the economically active age group of 15-49 was at 46.1% or 230,300 people per annum in 2002. The actuaries estimated the under-five mortality rate at 100 per 1,000 live births in 2002 while the SADHS 2003 estimated it at 58 per 1,000 live births. USMR is an important indicator for monitoring both the demographic and health impacts of HIV/AIDS.

Falling life expectancy has been one of the most visible impacts of HIV/AIDS on the human development. Less visible has been the feminization of the disease and the consequences for gender equity. Correctly calculated, this indicator provides the most accurate index to indicate the demographic impact of the HIV/AIDS epidemic. However, data issues and the need to produce life tables annually is a disadvantage. The SADHS (2003) and Dornington et al (2004) both estimated the life expectancy at birth to be 50.7 years. There are slight disparities in the IMR – with Stats SA 2006 and Dornington et al 2004 estimating it at 56 per 1,000 live births, Bradshaw and Naman, (2004) had a higher estimate of 59 per 1,000 live births while the SADHS 2003 had a far lower estimate of 43 per 1,000 live births.