Children's Institute

FACTS ABOUT CHILD DEATHS: AN OVERVIEW FOR DECISION MAKERS AND SERVICE PROVIDERS IN SOUTH AFRICA

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1. INTRODUCTION

When we as a country adopted our Constitution and signed and ratified the Convention on the Rights of the Child, we agreed to **put children first.** This means that children must be our number one priority and that we must ensure that children's rights to survival and development are respected, promoted and protected.

Child deaths are one of several important markers of a country's progress in meeting its fundamental obligations to children. The death of a child is a stark reflection that one or several sectors of society have not adequately promoted and protected the child's rights to survival and development.

Child deaths are thus worthy of special attention at the highest level of decision-making. In certain countries such as Victoria state in Australia and Michigan State in the USA, every child death is investigated by a special parliamentary committee. Whilst this particular procedure is not possible in countries where there are thousands of child deaths annually, all countries should have some procedure in place to review child deaths regularly and to institute appropriate responses.

Child deaths are measured and monitored globally through specific measures called child mortality indicators. These indicators reflect the impact of disease, access to health services, poverty, and other socio-economic parameters on child well-being.

It is important therefore for decision-makers and service providers to have a good understanding of what child mortality indicators are, what they mean and what interventions are required to reduce them.

This fact sheet aims to provide decision-makers and service providers with:

- a brief description of what child mortality indicators are
- South African child mortality statistics
- the main causes of child deaths
- how South Africa compares with other similar income countries
- recommendations for reducing child deaths in South Africa

2. CHILD MORTALITY INDICATORS

A child is defined as a person under the age of 18 years (SA Constitution and UN Convention on the Rights of the Child). Child mortality indicators thus reflect deaths from birth to 18 years of age. There are specific indicators for specific age groups. A child mortality indicator reflects the probability that children have of dying within a given age group.

For example, when it is quoted that the infant mortality rate for South Africa is 45 deaths per 1000 live births, it means that in South Africa today out of every 1000 babies born alive, 45 of these babies are likely to die before they reach their first birthday. Their probability of dying is influenced by a number of factors including the socio-economic conditions under which they live, the particular diseases that they are prone to at that time and their access to good quality health services. Thus an improvement or deterioration in any of these factors will either increase or decrease their chances of dying.

The main indicators of child mortality are:

- **The perinatal mortality rate** (Refers to the probability of children dying from 24 weeks gestation up to 7 days after birth. It includes all still births).
- **Neonatal mortality rate.** (Refers to the probability of children dying from birth to 28 days after birth. This only includes babies born alive and not still births).
- **Infant mortality rate** (Refers to the probability of children dying before their first birthday)
- **Under-5 mortality rate** (Refers to the probability of children dying before 5-years of age, including the birth to 1 year interval)
- **Child mortality** (Refers to the probability of children dying aged 1 up to age 4. This differs from the under-5 mortality in that it does not include the birth to one year interval)
- **5-19 mortality** (Refers to the probability of children dying from age 5 up to but not including age 19)

How are child mortality indicators calculated?

All child mortality indicators, except the perinatal mortality rate, are calculated using the number of deaths per thousand live births within one year. The perinatal mortality rate includes the still births as well. For the child mortality(1-4) and the 5-19 mortality rates, all live births that occurred across the 4 year or 14 year period are used in the calculation. Child mortality indicators are thus always expressed as number of deaths per 1000 live births.

EXAMPLE:

If a 1000 babies were born alive in an area in 2010 and 20 of these babies died before they reached their first birthday, then the infant mortality rate for that area in 2010 would be 20. If 20 babies died in an area where there were 2000 live births, then the infant mortality would be 10/1000.

In order to calculate accurate child mortality indicators, births and deaths need to be accurately recorded and reported. Currently births and deaths are notified to the Department of Home Affairs. As births and deaths are often underreported especially in rural areas, special surveys such as the South African Health and Demographic survey are necessary to get more accurate child mortality statistics.

In order to make further sense of child deaths, ***causes of deaths*** must be known to give a clear indication to decision-makers and service providers as to the ***underlying reasons*** why children are dying in each age group.

Perinatal mortality rate (PNMR)

The **perinatal mortality rate** reflects child deaths from 24 weeks gestation to 7 days after birth. Babies that are born and died after 24 weeks gestation are called still births and are included in the perinatal mortality rate. The loss of a foetus before 24-weeks gestation is classified as a miscarriage and is not included in this rate.

The perinatal mortality rate indicates how well a country cares for its pregnant women and new-born babies. It reflects the availability, accessibility and the quality of obstetric services to pregnant women, the period during delivery of the baby and the care of the baby within the first 7 days of life.

Neonatal mortality rate (NMR)

The neonatal mortality rate reflects deaths of babies that are born alive up to 28 days after birth. The neonatal mortality rate, like the perinatal mortality rate, indicates how well a country cares for its pregnant women and new-born babies. It reflects the availability, accessibility and the quality of services to pregnant women, the period during delivery of the baby and the care of the baby within the first 28 days of life.

The period before birth has an important bearing on the well-being of newborns, as complications during pregnancy and the birth process can cause problems resulting in deaths or serious long-term complications in children.

Infant mortality rate (IMR)

The **infant mortality rate** indicates the extent to which children die before their first birthday.

Worldwide the infant mortality rate is regarded as one of the key indicators that reflect the socio-economic status of a community/country. It is also an indicator of how resources are expended ***within*** a particular country. It further reflects children's access to good quality health services.

Communities with good socio-economic conditions where children have good housing, access to safe water and food, generally have a low IMR. Communities with poor socio-economic conditions, poor access to health services and poor prioritisation of child health are likely to have high IMR's. ***The IMR thus reflects a combination of prevailing socio-economic conditions, access to good quality health services, as well as the priority given to child health.*** A low IMR is one of less than 10 deaths under 1 year per 1000 live births(10/1000). IMR's of 20 or more indicate that there are problems with the country's ability to care adequately for children.

Under-5 mortality rate

The under-5 mortality rate refers to the rate of deaths in children under the age of 5. This includes the birth to one-year interval. This mortality rate in children again reflect the social and economic conditions under which children live, as well as their access to health services. In this age group additional factors are the safety of the homes, communities and environment in which they live. As children over 1 are able to walk and run about, their safety becomes an important protective mechanism from untimely trauma-related deaths.

Child mortality rate

Child mortality is similar to the under –5 mortality, except that it does not include the birth to one year interval. This reflects deaths in the 1 to 4 year age group. It is important to have this breakdown, as the causes of death in the 1-4 year olds are different to those for infants under 1 year.

5-19 mortality rate

This mortality indicator is sometimes neglected in favour of mortality indicators for younger children. Whilst younger children suffer more from diseases such as infections and malnutrition, children in this age group mainly die from trauma. This includes accidental and non-accidental trauma and is true for males and females. Males tend to be affected much more by trauma than females across all age categories.

In societies with a culture of violence, male domination and a proliferation of guns, this mortality rate will be high. Societies where children enjoy high priority and where homes and communities are geared towards providing safe spaces for children, the 5-19 mortality rate will be much lower.

3. WHAT DO CHILD MORTALITY INDICATORS TELL US?

Firstly it tells how well a country is doing in terms of respecting, promoting and protecting children's rights; especially their rights to survival and development, equality, food, water, sanitation, health care, shelter and education.

Secondly it helps to identify particular areas in the country that are in greatest need. Hence a single national IMR or under-5 mortality indicator is not enough. It has to be broken down by province, by district and ideally per community. ***For example, whilst the Western Cape as a province has an IMR of 30, certain areas in Cape Town have an IMR of 8, whilst certain informal settlement areas have IMR's of close to 50.***

Thirdly it allows for comparison between countries with similar levels of income. Comparing ourselves to similar income countries assists us in evaluating our own performance with regards to promoting child well-being.

Lastly if the causes of death in each age group are well documented, it helps in identifying the type of interventions that are needed to decrease child deaths.

It is thus very important for decision-makers and service providers to know what the mortality rates and the causes of child deaths in their own constituencies are, as this will enable them to motivate for and implement specific interventions

4. SOUTH AFRICAN FACTS AND FIGURES

This fact sheet will concentrate on neonatal, infant, under-5 and 5-19 deaths as figures for perinatal and child deaths are not available for all provinces.

National and provincial death rates

Some of the national and provincial mortality rates for children are reflected in Table 1 and Graph 1. The perinatal, child and 5-19 mortality indicators were not available per province in the 1998 Demographic and Health survey and are thus not reflected in the table.

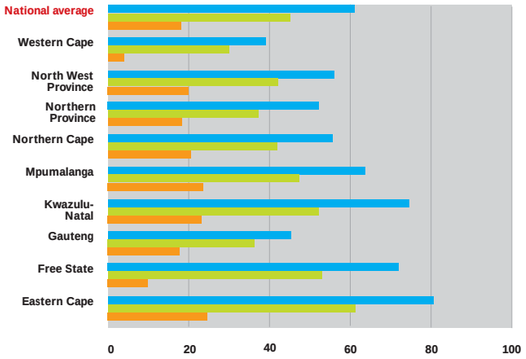
Table 1: National mortality rates for children

	Neonatal mortality rate	Infant mortality rate	Under-5 mortality rate
Eastern Cape	24.7	61.2	80.5
Free State	9.9	53.0	72.0
Gauteng	17.8	36.3	45.3
Kwazulu-Natal	23.2	52.1	74.5
Mpumalanga	23.6	47.3	63.7
Northern Cape	20.5	41.8	55.5
Northern Province	18.3	37.2	52.3
North West Province	20.0	42.0	56.0
Western Cape	*4.0	30.0	39.0
National average	18.0	45.0	61.0

Source: South African Demographic and Health Survey, 1998.

*The neonatal mortality rate for the Western Cape is an underestimate and must be interpreted with caution. No updated figures were available at the time of this survey.

Graph 1:Child death rates by province



Source: South African Demographic and Health Survey, 1998

South Africa has a child mortality rate of 71 in the rural areas and 43 in the urban areas(South African Health Review 2001).

What do these figures show?

These figures show that:

- Younger children, that is children under the age of 1, have a greater likelihood of dying (IMR) than older children (under-5 mortality) and thus require special protection. This is reflected by the fact that nationally 45 children are likely to die before their first birthday out of every 1000 live births. Only an additional 16 children are likely to die before their 5th birthday out of every 1000 live births (that is Under-5 mortality of 61 and IMR of 45). Thus children under 1 are at greater risk of dying compared to children in the 1 to 4 year interval.
- Child deaths in the Eastern Cape, Free State, KwaZulu-Natal and Mpumalanga are consistently higher than the national average.
- Neonatal mortality is two and a half times higher in the Eastern Cape (province with the highest rate)compared to the Free State (province with the lowest rate). Infant and under-5 mortality rates are twice as high for the Eastern Cape compared to the Western Cape.
- Differences between provinces might be explained by the fact that:
  - Some provinces such as the Eastern Cape have a largely rural population that is poorer, has lower levels of education, poorer access to health facilities and overall poor living conditions. For example, the October household survey of 1999 showed that only 23.4% of households in the Eastern Cape had piped water inside the house versus 76.7% of households in the Western Cape.
  - The vast difference in child mortality between rural and urban areas reflect the gaps in socio-economic conditions and access to health services between urban and rural areas.

5. HOW DO WE COMPARE TO OTHER COUNTRIES?

It is common to compare indicators between countries with comparable levels of income and thus get an idea of one's own country's performance. South Africa is classified as an upper middle–income country, together with countries such as Mexico, and Brazil. Tables 2 and 3 contain figures from the World Health Organisation 2000 report and reflect the inter-country differences.

Table 2: Comparison of 1998 infant mortality rates between South Africa and two upper middle- income countries

Country	Mexico	Brazil	South Africa
Infant mortality rate	30	33	51

Table 3: Comparison of 1998 infant mortality rates between South Africa and three lower middle- income countries

Country	Thailand	China	Morocco	South Africa
Infant mortality rate	29	31	49	51

Source:World Health Organisation Report 2000

South Africa has an infant mortality rate considerably higher than many other countries that fall into the same income category and even higher than many countries that fall into a lower income category. Comparison with similar and lower income countries thus helps us to see that the problem of high infant mortality rates, cannot simply be attributed to a lack of resources.

South Africa clearly does have the financial resources necessary to decrease child deaths. The organisation and delivery of the South African health system and other sectors that impact on health, such as social development, water, housing, transport and finance still have a long way to go towards improving child well-being. We need to analyse why the necessary resources are not reaching the children that are in need, particularly children in the rural areas, and find ways of improving the situation as a matter of urgency.

6. CAUSES OF CHILD DEATHS

One of the most important aspects of child deaths is the underlying cause of the deaths. It gives an indication of **why** children die and of what specific interventions are needed to reduce child deaths. It is thus very important that decision-makers and service providers are familiar with what the major killers of children are so that they are able to propose for and implement specific interventions.

The way in which causes of death are currently recorded in South Africa makes it quite difficult to get a true picture of what children are really dying of. The two main problems with the way causes of death are recorded are:

- Many causes of death are recorded as "ill-defined", making it impossible to tell what children died of
- Deaths are classified into large relatively meaningless categories, again making it difficult to know what the exact causes of death are.

For example in Table 4 in the under-1 age category the cause of death classified as "Low birth weight" does not tell us anything as to why the babies actually died. Low birth weight is not a cause of death in itself, but contributes to child deaths by making babies prone to infections and other complications. Similarly causes of death simply classified as nutritional, endocrine and trauma does not give a clear indication as to what the real underlying causes of death are.

- Important underlying causes of death are often not reflected.

EXAMPLE:

A severely malnourished child dies of pneumonia. Whilst pneumonia is the final cause of death, the real underlying killer was the malnutrition which is in turn linked to poverty. Similarly, a child with HIV might ultimately die of TB. Cause of death is recorded as TB and HIV as the main underlying cause is not captured.

Table 4 and Graphs 2 to 5 nevertheless give an overview of what the commonest recorded causes of death are for children in the various age groups and provide some insight into the main reasons why children die.

Table 4:Top three causes of death per age group

	Under 1 year (this includes perinatal, neo-natal and infant mortality)	Ages 1-4 (Child mortality)	Ages 5-19
1.	Perinatal problems (22%)	Trauma (23.5%)	Trauma (up to 77.5%)
2.	Low birth weight (19.7%)	Diarrhoeal disease (20.1%)	Ill-defined (up to 12.9%)
3.	Diarrhoeal disease (15.9%)	Ill-defined (13.2%)	Infections (up to 8%)

Source: South African Health Review 2000

Causes of death in the under-1 age group

It is clear from table 4 that the majority of deaths in the under-1 age group occur in the first week of life. This is followed by deaths due to complications arising from low birth weight and then diarrhoeal disease.

A report called save the babies 2000 indicates that deaths in the ***perinatal period*** are mainly due to babies not getting enough oxygen during the birth process and babies suffering trauma during the birth process. These events occur because :

- pregnant women cannot access health care facilities
- pregnant women are not assisted by trained birth attendants during their labour;
- health facilities are not able to manage deliveries well, and
- emergencies and complication are not dealt with swiftly and adequately.

The next largest cause of death in the perinatal period is as a result of complications due to babies born prematurely. There are many reasons why babies might be born prematurely. Premature births can be decreased if complications during pregnancy are picked up early and the mother is properly managed. Premature babies are prone to infections and lung problems due to their prematurity. These babies need special care in well-equipped health facilities and lack of access to such facilities results in many of these premature babies dying.

Important infectious causes of death in the newborn babies are syphilis and HIV-infection. Syphillis can be completely avoided if mothers with syphillis are diagnosed and correctly treated during pregnancy. HIV-transmission to babies can also be minimised if mothers and babies get the required treatment during and after birth of the baby.

Severe bleeding from the mother's womb is also an important contributor to baby deaths, as well as mothers suffering from severe high blood pressure. Child and maternal deaths due to both these conditions can be decreased with good care during pregnancy and labour.

In countries with a low perinatal mortality rate, the main causes of perinatal deaths are unavoidable birth defects such as abnormal development of the heart or other major organs for example

Deaths due to low birth weight is the second largest cause of death in the under 1 age group. Two important factors that contribute to low birth weight babies are:

(1) if the pregnant woman is suffering from poor nutrition

(2) if the pregnant woman smokes or drinks alcohol during pregnancy.

Low birth weight babies have poor immunity and are prone to infections, which contribute to their dying.

Diarrhoeal disease in the under 1 age group remains an important avoidable cause of death if all households have access to an adequate, clean and safe water supply. Additional underlying causes that contribute to diarrhoeal deaths are children that are malnourished, children with worms and also children with HIV-infection. Thus improving children's access to food, clean safe water, sanitation services and good living conditions will minimise deaths in this age group significantly.

Causes of death in the 1-4 year age group

The main cause of death in this age group is trauma, followed by diarrhoeal disease. Diarrhoeal disease has the same underlying factors as described for the children in the under 1 age group.

The main causes of trauma-related deaths in this age group are burns and motor vehicle accidents. Children are killed by motor-vehicles mainly as pedestrians. Firearm injuries is the 4th major cause of trauma related deaths in this age group.

Deaths in the 5-19 year old age group

Trauma again is the commonest cause of death in this age group. In all age categories and across both sexes, trauma accounts for at least half of all deaths. Boys in all age categories are more

affected than girls. For the older children, that is the 15-19 year old age group, boys experience nearly twice as many trauma deaths compared to girls. For the 5-9 year old age group, motor vehicle accidents, burns and firearm injuries are the most common causes of trauma deaths.

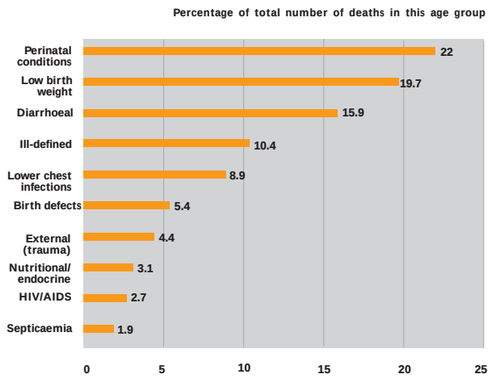
It is important to note that as early as 1995, AIDS–related deaths was the fourth commonest cause of death for girls in the 15-19 year old age group.

Firearm-injuries are the top cause of death for the 15-19 year old boys.

Further breakdown of causes of death for all age groups

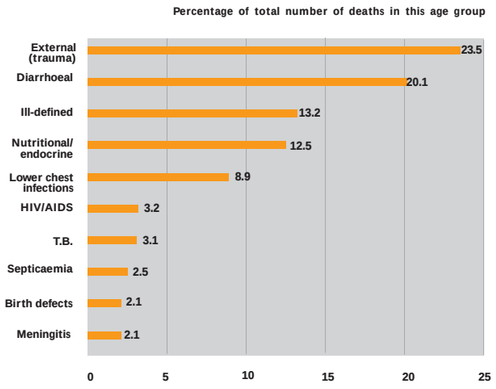
A more detailed breakdown of causes of deaths in the different age groups is displayed in Graphs 2, 3 and 4. These figures date from 1995 and are the latest available figures on causes of death. HIV-related causes of death are not adequately reflected by these figures and updated figures are urgently needed to understand the impact of this growing epidemic on child well-being.

Graph 2: Top ten causes of death for children < 1(this includes perinatal, neonatal and infant mortality)



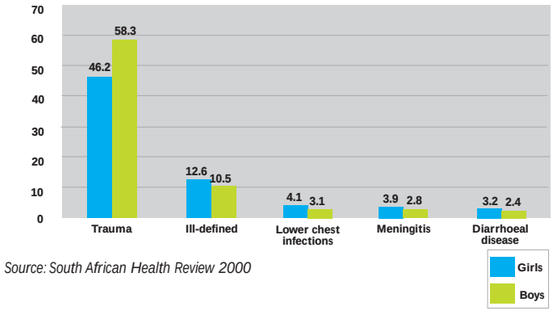
Source: South African Health Review 2000

Graph 3: Top ten causes of death for children aged between 1-4 (child mortality)



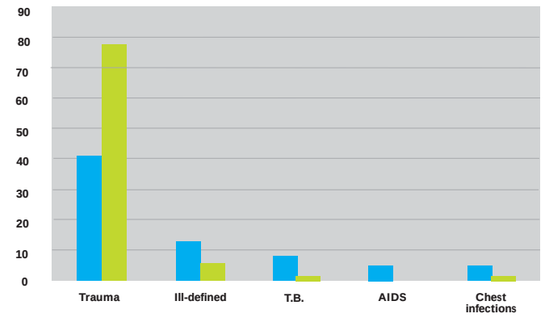
Source: South African Health Review 2000

Graph 4: Top five causes of death for the age group 10-14 years



Source: South African Health Review 2000

Graph 5: Top five causes of death for the age group 15-19 years



Points to remember:

- Deaths in younger children are mainly due to causes relating to lack of access to good quality health services and poor socio-economic living conditions.
- Trauma is a grave concern in all age categories and the safety of children's homes, communities and overall living environment is not optimal.
- HIV is now one of the top ten causes of death in all age categories of children. Accurate data on HIV-related deaths are not available, but estimates indicate that many more deaths are due to HIV in all age groups, especially the under 5 age group.

7. PROBLEMS WITH MORTALITY FIGURES AND UNDERLYING CAUSES OF MORTALITY

- Deaths are under-reported and thus the size of the problem is underestimated.
- Specific deaths such as still births are very difficult to record and verify.
- The causes of death are often recorded poorly resulting in many causes of death being "ill-defined".
- Data are often outdated.
- The underlying cause of death is often lost by recording only the final cause of death and not the underlying cause. This needs to be noted especially in the context of a growing problem of HIV.

8. WHAT CAN WE DO TO DECREASE CHILD DEATHS?

All countries should have some procedure in place to ensure that child deaths receive the attention necessary in order to work towards reducing child deaths. **At parliamentary level**, a special enquiry must be held annually where child deaths and the underlying causes of deaths are examined and priorities are made accordingly. The Department of Health in collaboration with all the other sectors should follow through with these priorities. **At facility level**, all health facilities should have a special audit to review all child deaths and ensure that procedures and protocols are put in place to minimise child deaths.

At local level, annual reviews through community health committees or equivalent structures could provide communities with the necessary tools to lobby for changes within their communities that could impact positively on child well-being.

Decision-makers and service providers are very influential in being able to impact on child deaths. Children are everybody's responsibility and all sectors of society must intervene. Whilst there are many possible interventions, these are some of the key ones that will ensure that our children live to a ripe old age.

Prioritising children's health needs

The Department of Health must prioritise pregnant women and children's health care needs. The provision of dedicated and specialised structures, services and service providers are required in order to ensure that children get the health care attention they need. The National Health Act must provide for mechanisms to ensure this. In addition, child death audits must become a routine part of health service activities, so as to improve on factors that could avoid child deaths. Providing for effective treatment to prevent mother to child transmission of HIV is an important proactive step to ensure that HIV does not become the major killer of children.

Funding child health adequately

The **Departments of Finance at national and provincial levels** must ensure adequate funding for child health. Specific child health activities such as all preventative child health services for example must be ring-fenced to ensure that funding does not fall below the minimum required to implement such activities.

Reduce poverty for children.

Poverty is the major contributor to avoidable child deaths. The **Department of Social Development and Finance** must ensure that all children in need have access to social security. The Child Support Grant system needs to be extended and service delivery improved to ensure that all children living in poverty under the age of 18 years can benefit from the grant. Providing all people in South Africa with a basic income grant would assist greatly in improving the standard of living for all children.

The new Child Care Act should ensure that children's basic needs are provided for through innovative legislative mechanisms which promote a primary prevention approach, equity in service provision and co-ordination between the sectors responsible for providing for children's basic needs.

Improve children's access to food

Children need food in order to keep healthy and to fight infections. The Government as a whole must address the crisis of hunger and malnutrition that is plaguing children, especially children in rural areas and children made vulnerable by HIV/AIDS. While social security in the form of cash grants will greatly improve the situation, the nutritional support programmes run by the Department's of Social Development and Health, such as the primary school feeding scheme, should continue and be improved upon.

Provide basic amenities to ensure a healthy and safe environment.

The Department of Water and Environmental affairs and Local Governments must ensure that every child and their family must have access to clean piped water and proper sanitation. Children must have safe spaces and an environment free from hazardous obstacles and harmful substances in which to play.

The **Department of Transport** must create safe roads and take proper measures to ensure that child pedestrians are not run over.

The **Department of Safety and Security** must prioritise the effective implementation of the Firearms Control Act and train officers on how to respond to cases of violence against children appropriately and effectively.

Parents, caregivers and the community at large must ensure that homes are safe spaces for children, by keeping poisons, open fires, boiling water, guns and other harmful objects and substances out of the way.

Ensure availability of documents and statistics

The **Department of Home Affairs** must ensure that children and their caregivers can easily register child births and obtain identity documents. A good death notification process, updated death statistics and recording the causes of death accurately are also essential steps.

9. IN CONCLUSION

In order to reduce child deaths in South Africa, the first step is for everyone to accept that the promotion of children's rights and their care and protection is everyone's responsibility.

If children are prioritised by ALL SECTORS OF SOCIETY and workable programmes are put into place to fulfil our obligation in terms of the Constitution and Convention on the Rights of the Child, then we as South African's can proudly say that we are putting our children first and we can look forward to a future where child deaths become rare occurrences.

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