

Addressing inequities in child health: Opportunities and challenges

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Over the past decade, there has been a reduction in the number of South Africa's children who live in conditions of poverty, and household surveys show increases in access to housing, electricity, water, and sanitation. Yet many children still live in poor households and massive inequalities remain. These backlogs have a profound impact on child health and are the main obstacles towards meeting Millennium Development Goal (MDG) 4 which aims to reduce under-five mortality by two-thirds by 2015.

This essay explores the relationship between poverty, inequality and child health. It considers how universal coverage of key health care interventions within and beyond the health sector could improve outcomes for children, and focuses on the following questions:

- What are the causes of under-five mortality?
- How do poverty and inequality impact on children's health?
- What interventions are needed to promote health equity?
- How is the government attempting to improve access and quality of care?
- What are the key challenges?

What are the causes of under-five mortality?

Under-five mortality rates (U5MR) in South Africa remain discrepantly high in comparison with similar middle-income countries.

While trends in child mortality are difficult to pin down accurately and published estimates vary widely, a recent review of child mortality data reveals a growing consensus on the general trend. Most projections reflect a rise in under-five mortality, from an estimated 50 – 60 deaths per 1,000 live births in the early to mid-1990s to an estimated peak of 70 – 80 deaths per 1,000 births in 2003 – 2005, thereafter the rates start to fall.¹ The latest official U5MR is an estimated 56 deaths per 1,000 live births in 2009.² Despite these gains, it is extremely unlikely that South Africa will reach its MDG target of 20 deaths per 1,000 live births by 2015.

This trend in under-five mortality echoes the rise in HIV prevalence amongst pregnant women in the 1990s, and under-five mortality began to decline following the national roll-out of the Prevention of Mother-to-Child Transmission (PMTCT) programme in 2003. HIV infection is a key driver of under-five mortality in South Africa³, and is associated with over 50% of child deaths in hospital.⁴ Other leading causes of death for young children include pregnancy

and childbirth complications, newborn conditions and childhood infections (such as diarrhoea and pneumonia – commonly associated with poverty). The introduction of vaccines for pneumonia and diarrhoea⁵ have also contributed to improved health outcomes for young children.

While malnutrition is not classified as a cause of death, it is a key risk factor: 35% of young children who died in hospital between 2005 and 2009 were severely malnourished and a further 30% were underweight for age.⁵ Injuries account for a growing proportion of deaths as children grow older and are accounted for over 50% of deaths amongst boys aged 15 – 17.⁶

A child's growth and development are dependent on the family's living conditions and access to services. These social determinants generate the biological risk factors that impact directly on the child's health through illness and injury. Access to maternal and child health care services (such as immunisation and PMTCT) is also critical as the majority of deaths from these conditions are preventable.

How do poverty and inequality impact on children's health?

Poverty and inequality have a significant influence on children's health, living environments and access to health care services. At the same time, poor child health imposes a heavy financial burden on families, and on health services. Low birth weight, malnutrition and HIV/AIDS permanently harm physical and mental development and contribute to non-communicable diseases in adult life. These long-term impacts perpetuate inequality, with adverse consequences for both the human and economic development of South Africa.

The social determinants of health

Table 4 on p. 59 shows how income inequality influences children's living conditions and access to services. These social determinants can, separately and in combination, adversely affect children's health. For example, food insecurity and undernutrition impair children's immunity while overcrowded, smoky and poorly ventilated housing, and poor hygiene due to inadequate water and sanitation, increase their exposure to infection. Poor maternal education is associated with suboptimal child care.⁷

Child poverty in South Africa remains extremely high. In 2010, six out of every 10 children lived in households with an income of

i Pneumococcal conjugate and rotavirus vaccines were introduced in 2008.

Table 4: Dimensions of deprivation and inequality in South Africa

Dimensions of deprivation	Children in poorest 20% of households	Children in richest 20% of households
Child hunger*	26%	0%
Inadequate water*	54%	3%
Inadequate sanitation*	46%	3%
Overcrowding*	31%	2%
Clinic far from home*	45%	19%

Source: Statistics South Africa (2011) *General Household Survey 2010*. Analysis by Katharine Hall, Children's Institute, UCT.

Note: See Part 3: *Children Count – The numbers* (pp. 80 – 105) for more information on these indicators.

less than R575 per person per month. Stark racial disparities persist, with 67% of African children living in poor households compared to only 4% of White children.⁸

Lack of household food security remains a major problem despite efforts to combat child hunger, such as the expansion of social grants and school feeding schemes. Over three million children live in hungry households.⁹

Nearly nine million children live in rural areas characterised by high levels of poverty and poor access to services.¹⁰ Nearly two million children live in informal housing where poverty, overcrowding, poor service delivery and shack fires put health at risk.¹¹

Access to clean domestic drinking water and sanitation are essential for health. While there have been improvements in delivery of sanitation there has been little improvement in access to safe water since 2002. Nearly seven million children are without access to clean drinking water at home,¹² while six million children

still use unventilated pit latrines, buckets or open land.¹³ Children living in poor households are particularly at risk.

These income and spatial inequalities have a significant impact on health outcomes. Figure 21 illustrates that children living in poor households are four times more likely to die before their first birthday than their richer counterparts. Children living in rural areas and with caregivers who have not completed matric are similarly at greater risk than children in urban and better educated households.

Access to health care services

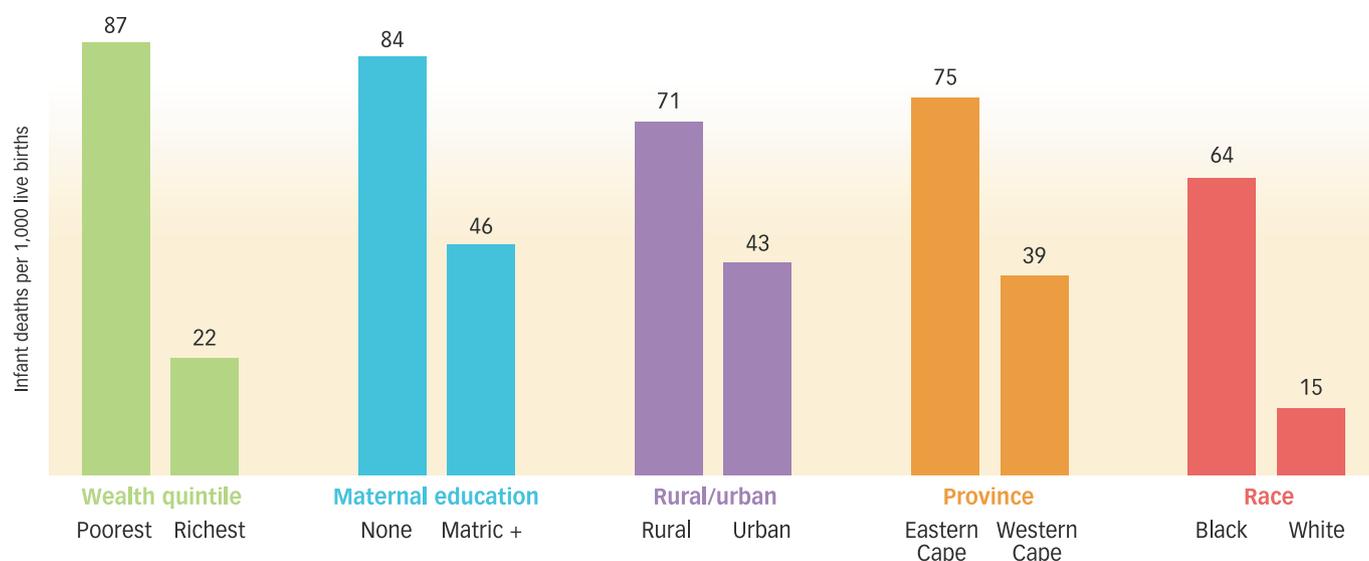
Private health insurance covers only 15% of the population, yet it accounts for 44% of total health care expenditure in South Africa.¹⁴ This system is hospital based, concentrated in urban areas and employs more than half of all health professionals. Only 31% of medical practitioners, 25% of specialists and 46% of professional nurses work in the public sector.¹⁵ While rural areas house 47% of South Africa's children,¹⁶ only 12% of doctors and 19% of nurses work there.¹⁷

A similar pattern applies to paediatricians. There were 1,001 paediatricians on the Health Professions Council of South Africa register in 2011, but this included retired individuals and those working overseas. It is estimated that, of the paediatricians working in the country, fewer than half work in the public sector.¹⁸

Paediatricians remain concentrated in the more urban provinces of Gauteng and Western Cape, resulting in huge provincial disparities. There was one public health paediatrician to 9,600 children in the Western Cape in 2009, and one paediatrician for one million children in Mpumalanga.¹⁹

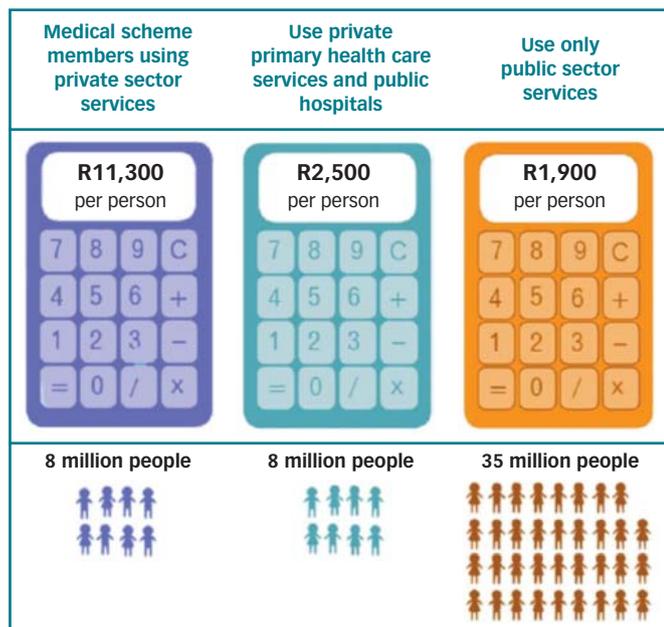
Figure 22 shows that most people in South Africa rely completely on the public health care system for their health care needs. While South Africa has made significant strides in providing free

Figure 21: Factors influencing infant mortality in South Africa – deaths per 1,000 live births



Source: Department of Health (2002) *South African Demographic and Health Survey 1998*. Pretoria: DoH; World Health Organisation (2007) *World Health Statistics 2007*. Geneva: WHO. Both in: Bradshaw D (2008) *Determinants of health and their trends*. In: Barron P & Roma-Reardon J (eds) *South African Health Review 2008*. Durban: Health Systems Trust.

Figure 22: Inequalities between public and private health care – usage and per capita expenditure



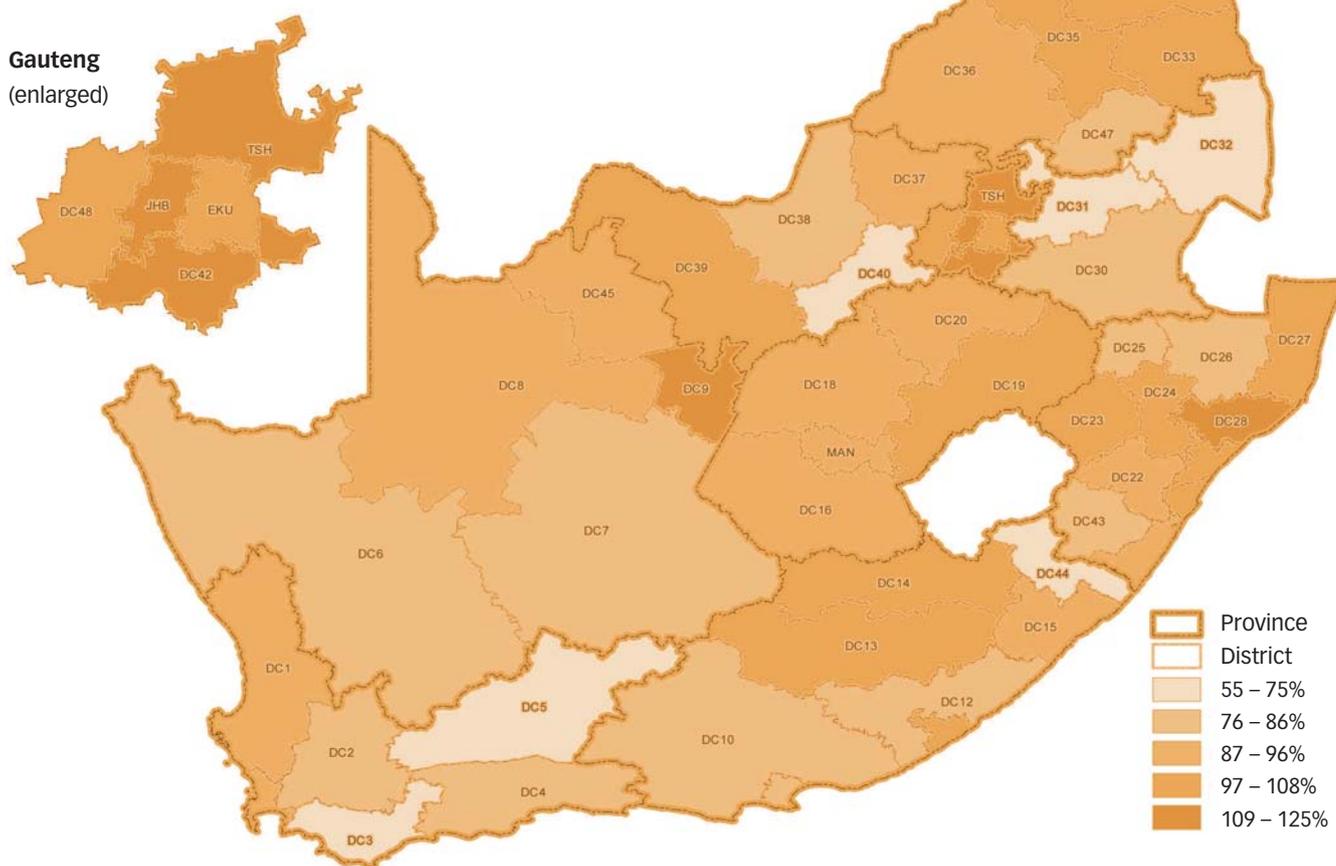
Source: Adapted from McIntyre D (2009) *The Public-Private Health Sector Mix in South Africa. HEU Information Sheet*. Cape Town: Health Economics Unit, UCT.

primary health care and expanding the network of primary health facilities, more than a third of children still live more than 30 minutes away from their health facility.²⁰

These primary health facilities provide basic preventive and treatment interventions that could avert up to two-thirds of under-five deaths in “developing” countries.²¹ For example, immunisation is both a useful measure of children’s access to health care services and an important opportunity for developmental screening, HIV prevention and care. National immunisation coverage (95%) is good but remains uneven, ranging from 125% to 55% (see figure 23).ⁱⁱ

Despite the government’s pro-poor policies, quality of services remains a problem.²² Government has done much to expand the network of clinics and provides free primary health care, and free public health care for pregnant women, children under six and recipients of social grants. Yet patients attending public health facilities complain of long waiting times, staff rudeness and problems with drug availability. Regardless of higher costs, patients – including those from very poor households – are opting to consult private health care providers.²³

Figure 23: Immunisation coverage for children under one year, 2011/2012



Source: District Health Information System (DHIS) data. Quoted in: (in press) *District Health Barometer 2011/12*. Durban: Health Systems Trust. [forthcoming]

ii Figures above 100% are likely to be linked to data problems, whilst low figures speak to problems of access and quality of care.

What interventions are needed to improve health equity?

The most important and lasting interventions to break this vicious cycle lie outside the health sector and involve addressing the social determinants of health such as food security, water and sanitation, housing and education. Intersectoral action needs to be complemented by efforts within the health sector to provide universal and equitable access to quality care. This section focuses on key interventions to improve child health, and a range of policies that aim to achieve this.

Priority interventions to address the leading causes of child morbidity and mortality are outlined in table 5.

Currently, both the coverage and quality of many of these priority interventions are inadequate, especially at community and primary levels and at first-level hospitals in rural and peri-urban settings. Only 35% of young children (12 – 59 months) received vitamin A supplements,²⁴ 38% of pregnant women received antenatal care in the first 20 weeks of pregnancy,²⁵ and only 26% of babies were exclusively breastfed for the first six months.²⁶

Key steps for increasing access and improving the quality of health care services for children include:

- a priority focus on districts and communities with the poorest living conditions and highest rates of malnutrition and HIV infection to reduce inequities and improve health outcomes;

- a well-functioning, standardised community health worker programme to deliver sustainable and universal coverage of the priority child care interventions at community level;
- a rapid improvement in staffing ratios and performance in child care activities in clinics and health centres, with support for mid-level workers and nurses;
- rapid expansion in the training and recruitment of community paediatricians to ensure not only a high level of general paediatric clinical skills, but also a full range of competencies necessary for planning, supporting and monitoring programmes that protect and promote child health in their districts; and
- greatly improved clinical care for sick children in district hospitals through focused training and support for generalist medical and nursing staff by community paediatricians.

How is government attempting to improve access and quality of care?

The government has recently initiated a number of important reforms to address the crisis in the health sector; these have the potential to address the key child health imperatives.

Specific legislative and policy reforms underway include:

- A National Health Insurance (NHI) as the main financing mechanism to promote universal coverage and eliminate inequity.

Table 5: Key interventions to address child morbidity and mortality

Causes	Intervention
HIV	Strengthen primary prevention and ensure universal coverage of prevention of mother-to-child transmission (PMTCT) which should virtually eliminate childhood HIV infection.
Neonatal causes	Improve maternal nutrition; reduce smoking and drinking alcohol during pregnancy; improve early antenatal and maternal care at district hospitals and community health centres; provide “kangaroo” mother care for low birth weight babies; promote exclusive breastfeeding; and improve coverage and quality of PMTCT.
Diarrhoea	Increase coverage of community-based integrated management of childhood illness to promote good hygiene practices, exclusive breastfeeding and oral rehydration therapy. Concerted efforts are needed to improve access to safe drinking water and sanitation.
Lower respiratory tract infection	Improve immunity (through PMTCT, nutrition and immunisation) and reduce exposure (through better housing, less indoor smoke pollution and better personal hygiene) to reduce infection. Early identification and treatment with antibiotics have been shown to reduce mortality.
Malnutrition	Improve pregnant mothers’ nutrition; promote exclusive breastfeeding, regular infant growth monitoring and the introduction of micronutrients and quality complementary foods; improve treatment of diarrhoea; and improve management of children with severe malnutrition. Work together with other government departments to address household food security: Social Development (early childhood development and social grants), Basic Education (female literacy), Agriculture (food security) and Trade and Industry (small-scale enterprise and food prices).
Injury	Integrate injury prevention within primary health care programmes and work with other departments to reduce burns, drowning, road traffic injuries and violence. These are strongly associated with drug or alcohol abuse, which require legislation and more focused community development efforts, and, in the longer term, reductions in unemployment and inequality.

- The re-engineering of primary health care which aims to strengthen the district health system through a greater emphasis on community-based services and a focus on the social determinants of health.
- These two initiatives are underpinned by a revised set of national core standards²⁷ and a number of reforms designed to improve the management and quality of health care services.

The proposed NHI aims to bridge the public–private divide and promote a more equitable sharing of health resources between the private and public sectors, and within the public sector. The NHI aims to achieve universal coverage of health care services by:

- extending access to all (population coverage);
- providing a comprehensive package of services – prevention, promotion, treatment and rehabilitation (service coverage); and
- protecting all households from the potentially devastating costs of ill health (financial risk protection).

The NHI plans to pool public and private health resources. This pool of funds will be used to purchase services from both public and private providers in an attempt to improve access to health care for all.

The re-engineering of primary health care is a central feature of the NHI and aims to achieve universal coverage of health care services by introducing:

- ward-based primary health care to be delivered by primary health care outreach teams consisting of a professional nurse, staff nurse and community health care workers;
- district specialist teams made up of a paediatrician, obstetrician, family medicine specialist, anaesthetist, advanced midwife, paediatric nurse, and advanced primary health care nurse; and
- school health services to be delivered primarily by school health nurses.

The proposed outreach teams will operate out of primary care clinics in the communities they serve. Each team will provide comprehensive primary health care services to a defined number of families, with one community health worker (CHW) for every 250 households. CHWs will undertake mainly promotive and preventive care, with a significant focus on young children and pregnant and breastfeeding women. They will also work with environmental health officers to address local social determinants of health.

The role of the district specialist teams extends beyond clinical care. District specialists will improve the quality of care provided by generalists at health facilities, and play a key role in clinical governance and the planning, supporting and monitoring of district programmes within their areas of specialisation.

School health services intend to address the health problems of school-aged children, to identify and address barriers to learning, and to promote healthy behaviours which support both the current and future health of learners.

What are the key challenges?ⁱⁱⁱ

While these policy initiatives are appropriate and necessary, there are major challenges in ensuring that they lead to equitable quality health care. These include the challenges of:

- partnering with the private sector
- improving governance and accountability, and
- investing in human resource development.

Partnering with the private sector

The private sector has contested the viability of the NHI but is now open to continuing engagement. Similar experiences elsewhere have shown that such engagement requires careful navigation to ensure that inequalities are addressed and not aggravated.²⁸ The NHI could easily worsen urban and rural inequities, given that health care expenditure is currently concentrated on private health care services and urban centres. Special effort is therefore required to ensure that public health facilities meet the criteria for accreditation so that those serving the poor and rural areas can benefit.

Improving governance and accountability

In addition to assessing health facilities' compliance with national core standards, enhanced leadership and improved governance are urgently needed to improve the quality of health care services – particularly in the 18 priority districts that are lagging behind in performance on key maternal and child health care indicators. District health councils and committees for clinics and community health centres need to be better resourced and strengthened. These structures, although presently weak, allow for community representation in health system governance and could strengthen accountability and improve management and service delivery.

Investing in human resources

The success of the NHI scheme will depend fundamentally on the availability, skills and motivation of health workers in the public sector. It is urgent that the health system ensures a more equal distribution of health workers. Efforts to re-engineer the primary health care system depend on having sufficient specialists and doctors as well as nurses who are central to the operation of the outreach teams. These health workers also need to possess the necessary skills to operate in poorly resourced districts, implement a primary health care approach and address the social determinants of health.

Increased investment in health personnel

The re-engineering of primary health care draws explicitly on Brazil's family health programme, which is supported by a heavy investment in human resource development.²⁹ Brazil has more than 2.5 million workers formally employed in the health sector, which represents about 1.3% of the country's population. This is a

ⁱⁱⁱ This section draws heavily on the contribution by David Sanders in chapter 10 of the National Development Plan (published by the National Planning Commission in the Presidency in 2011).

far greater concentration than in South Africa, which had only 150,509 health professionals in a population of 51 million (constituting 0.3% of the population) in 2010.³⁰ Brazil's numbers have been achieved by significant investment in the training of nurses and technicians, the upskilling of public health and auxiliary personnel (to promote problem solving and reflective thinking), and curricula reform in undergraduate programmes.

In stark contrast, South Africa has seen stagnation in the production of doctors and, until recently, a decline in the production of nurses. Training in public health, a core component of the primary health care approach, is minimally supported by government funding. Most health professionals – with the exception of nurses – work in the private sector, and have been trained to manage conditions similar to those in the private health sector.

In order to implement policies that ensure greater equity in access and that are more responsive to the health care needs of South Africa, the government urgently needs to invest in the production of appropriate and appropriately trained personnel in sufficient numbers and within a negotiated, but short, time frame.

Sufficient and appropriately trained community health workers

Research and experience from a growing number of countries show rapid improvements in child health when good household coverage is attained through the use of community-level workers who are supported by clinics and health centres and are equipped with basic skills to identify, prevent and treat common conditions.³¹

The number of tasks a CHW can reasonably perform depends on the ratio of CHWs to households, the duration and quality of their training, and the extent and quality of their supervision.³² In Thailand and Rwanda a high CHW-to-household ratio ensures that all households, including the poorest with the most vulnerable children, are visited regularly and health problems are detected early. Such a high ratio was achieved by employing both full-time and part-time CHWs, with ratios of between 1:10 and 1:20. In Thailand, for example, high coverage is achieved by instituting a two-tier system where there is one full-time CHW for every 300 – 500 households, and who supervises 10 part-time CHWs who have more limited training.³³

If South Africa were to adopt such an approach it would require a total of at least 700,000 community-based workers, the majority of them part-time. In addition to making health care more accessible and equitable, this system will create jobs, and indirectly improve health by reducing the prevalence and depth of poverty.

CHWs in several countries have proven effective in treating childhood pneumonia with antibiotics.³⁴ Yet CHWs in South Africa are prohibited from prescribing or dispensing any medication and the plans to re-engineer primary health care continue to limit their role in treatment. If this community-based model is to succeed, the power of conservative professional councils needs to be moderated to widen the scope of practice for nurses and CHWs and to enable CHWs to administer antibiotics for specific childhood diseases such as pneumonia.

Appropriately-skilled nurses

The outreach teams consist of nurses and CHWs and will require a significant increase in the number of trained nurses to support nearly 7,000 teams nationwide. These nurses will also require additional training in public health to complement their clinical skills, support a primary health care approach, and supervise CHWs to ensure more equitable coverage and access to health care.

This will require the rapid expansion and reorientation of nurse training. The policy decision to reopen and expand nurse training colleges is welcome. This must be accompanied by a curriculum review that includes input from advisers who have expertise in public health and experience in countries that have implemented a comprehensive, district-based approach.

Doctors and specialist support teams prepared for district work

Postgraduate specialist training in South Africa does not prepare paediatricians for district work. There is too little emphasis on prevention, primary health care, and quality of care in district hospitals and clinics.³⁵ Current specialist training encourages a continuing output of system sub-specialists, most of whom will seek and find employment only in teaching institutions or the private sector (or overseas). This is out of step with what South Africa needs and does not address the needs of the majority of the population, who live beyond the reach of the major city teaching centres, often in remote rural areas.

Clearly this challenge will require a major shift in the training, orientation and distribution of specialists – and the accelerated production of community child health specialists. Post-graduate training and qualifications in general and community paediatrics intend to help fill this gap.

Health personnel equipped to lead intersectoral action

Much of the work of the community outreach teams is linked to improving social determinants at the community level but the policy is vague on who will lead such challenging and long-term work. It is suggested that there should be “align[ment] [of] the intersectoral programme at district level through the IDP [Integrated Development Plan] process with that of the provincial and national clusters with specific time bound targets”.³⁶ However, it does not specify how CHWs will be supported to undertake this complex work in districts and wards.

A role has been suggested for environmental health officers; yet their current training and activities suggest that they are ill-equipped to lead such work in disadvantaged communities. This is an area for priority consideration. Key categories of health and health-related personnel and their respective roles need to be identified. Appropriate and practical training programmes need to be developed and combined with a facility for ongoing mentoring and support in the field. These actions are likely to require the active involvement of non-governmental organisations with a track record in addressing social determinants to ensure improved living conditions and access to services for children in poor communities.

What are the conclusions?

All those concerned with child health – practitioners, policy-makers, researchers, teachers, and communities themselves – need to advocate for greater equity in the social and environmental determinants of health, as well as in access to quality health care, especially at community and primary levels.

The NHI and re-engineering of primary health care could potentially mitigate the stark inequalities in child health. However, their successes depend fundamentally on reducing disparities between rich and poor, urban and rural areas, and private and public sectors. This will require large investments in physical infrastructure (housing, water, sanitation, etc), social programmes (welfare, education, etc) and especially in human resources for health. Child health data should also be disaggregated by income, race and district in order to target those districts where children are most in need, monitor progress and ensure a more equitable distribution of health care resources.

Only sustained government efforts to harness South Africa's considerable resources for the benefit of all – with priority to the poor – can achieve this. This will inevitably require significant social mobilisation to ensure that the government is responsive, and delivers services in an accountable manner.

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