The first 1,000 days: Ensuring mothers and young children thrive

Lesley Bamford

As child mortality declines, child health policymakers and practitioners have the opportunity and obligation to focus not only on child survival, but on ensuring that all children also thrive and reach their full developmental potential. The first 1,000 days of life – from conception until a child’s second birthday – is increasingly recognised as a unique period of opportunity when the foundations for optimum health and development across the lifespan are established. The benefits of interventions during this critical period of development are therefore amplified with the highest long-term return on investment (see Box 5).

The chapter focuses on the following issues:

- What are South Africa’s global and national commitments regarding the first 1,000 days?
- What are the key interventions that need to be delivered?
- Is South Africa making progress in delivering key interventions, and in improving outcomes for young children?
- What must the health sector do differently to help young children thrive?

What are South Africa’s global and national commitments?

The Sustainable Development Goals provide the basis for achieving equity, prosperity and sustainable growth, and the SDGs and targets outline the environment and services which young children require to ensure that they reach their full potential, and that “no child is left behind”. Many of the SDG targets will not be achieved without investment and improvements in early childhood development, whilst the Global Strategy for Women’s, Adolescent’s and Children’s Health uses the “Survive, Thrive and Transform” concept as a key strategy for achieving the SDG targets that support children’s health and optimal development.

In South Africa, the National Integrated Early Childhood Development (ECD) Policy, adopted by Cabinet in 2015, lays

Box 5: Why focus on the first 1,000 days?

The increased focus on the first 1,000 days is based on improved understanding in a number of fields including neuroscience, infant mental health, epidemiology, economics and violence prevention.

The relationship and causal links between adversity during early childhood and lifelong health, emotional and social well-being and educational outcomes are better understood. Nutrition during the first 1,000 days affects not only a child’s growth, cognition and subsequent school attainment, but also impacts on lifelong risk of developing chronic disease. Extreme poverty increases children’s likelihood of exposure to multiple adversities, including family stress, child abuse and neglect, food insecurity, and exposure to violence. Early intervention has the potential to decrease inequality and interrupt intergenerational cycles of poverty, although this will only be realised if interventions are specifically targeted at the most vulnerable children.

The importance of relationships and warm interactions between caregivers and young children has also been recognised. These interactions create an emotional bond which helps young children to understand and explore the world around them and to learn about people, relationships and language. Neuroscientific evidence shows how responsive care during early childhood lowers the detrimental effects of low socio-economic status on brain development and helps children cope with the effects of adversity and toxic stress.

These advances in basic and intervention science indicate that early childhood is a period of special sensitivity to experiences that promote development, and that critical time windows exist when the benefits of ECD interventions are amplified. Interventions in early childhood are therefore most cost effective and have the highest long-term return on investment.
out a similar multi-sectoral approach to promoting the health, nutrition, development and well-being of mothers and young children.8 The policy, recognises of the health sector’s role in reaching pregnant mothers and young children, assigns key responsibility for service provision to children 0 – 2 years to the health sector. In addition to the health sector’s traditional role of providing health and nutrition programmes for pregnant women, infants and children, the policy assigns additional roles to the health sector including provision of parenting support programmes and increasing opportunities for learning and play for children from birth to two years through health facilities and home visits by community health workers for children at risk of poor development outcomes.

However, translating these global and national commitments into changes in how frontline health services are designed and delivered remains a challenge, especially as the health sector has historically focused on primarily providing a package of maternal and child survival services, frequently delivered as vertical programmes. Caring for young children (0 – 2 years) and issues related to development and learning have been left to families.9 In addition, whilst the ECD policy provides a comprehensive blueprint for improving the lives of young children in South Africa, ECD is still largely understood in the South African context to be about centre-based early child care and education programmes for children 3 – 5 years of age. Whilst such programmes are likely to improve school readiness, they will not achieve their full potential unless complemented by a focus on the first 1,000 days.

### What are the key interventions that need to be delivered during the first 1,000 days?

Two important documents which can assist countries to re-orientate their health systems towards a more comprehensive understanding of ECD were published in 2018. The Nurturing Care Framework10 provides a framework for a comprehensive package of services and support for early childhood development, whilst the second, the country ECD Countdown Country Profiles,11 provide a basis for measuring progress over time and comparing progress between and within countries.

<table>
<thead>
<tr>
<th>Box 6: Key components of nurturing care</th>
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</table>
| **1. Good health**
Young children’s good health is the result of caregivers:
- monitoring children’s physical and emotional condition;
- giving affectionate and appropriate responses to children’s daily needs;
- protecting young children from household and environmental dangers;
- having hygiene practices which minimise infections;
- using promotive and preventive health services; and
- seeking care and appropriate treatment for children’s illnesses.

**2. Adequate nutrition**
- The mother’s nutrition during pregnancy affects her health and well-being, as well as the developing child’s nutrition and growth.
- All mothers should be supported to breastfeed exclusively from immediately after birth until the child is six months old.
- From the age of six months, young children need complementary foods that are frequent and diverse enough, and which contain the micronutrients they need for the rapid growth of their body and brain.
- When children’s daily diet fails to support healthy growth, they need micronutrient supplements or treatment for malnutrition (including obesity).
- Food safety and family food security are essential for adequate nutrition.

**3. Responsive caregiving**
Responsive caregiving includes observing and responding to children’s movements, sounds and gestures, verbal requests and emotional needs. It is the basis for:
- building trust and social relationships;
- protecting children against injury and the negative effects of adversity;
- recognising and responding to illness; and
- enriched learning.

**4. Opportunities for early learning**
Children need:
- affectionate and secure caregiving from adults; and
- opportunities to play.

**5. Security and safety**
Children need:
- to live in safe environments; and
- to be protected from abuse and harsh punishment.
These two documents provide a useful lens for considering how the South African health sector has, and should, respond to the imperative to use the first 1,000 days as a platform to ensure that children not only survive, but thrive.

The Nurturing Care Framework
The Nurturing Care Framework, which was launched at the 71st World Health Assembly in 2018, is an important step in translating the concepts associated with the first 1,000 days into action, especially within the health arena. The framework identifies five key components that young children require to thrive: good health, adequate nutrition, to be cared for responsively and with love, to be given opportunities to satisfy their innate capacity to learn, and to be safe and secure (see Box 6). Nurturing care is provided by parents and caregivers who, in turn, require a facilitating environment of supportive policies and services.

The Nurturing Care Framework also identifies the role of different sectors in providing nurturing care (see Box 7) and a number of key strategies or requirements for successful implementation. These are leadership and investment; a focus on families and communities; strengthening of services; monitoring progress; and using data to innovate.

The ECD Countdown Country Profiles
The ECD Countdown Country Profiles represent an important first step in reaching consensus on the best indicators for tracking progress and addressing poor outcomes for young children. The profiles also allow for countries to benchmark themselves and to measure progress over time.

Each country profile provides information on two key areas, namely threats to children’s health, nutrition and development outcomes; and support and services for ECD. The latter is further divided into two sections—the first focuses on the extent to which services outlined in the Nurturing Care Framework are provided, and the second on the extent to which a policy environment that facilitates ECD is in place.

It should be noted that population-level indicators related to responsive caregiving and early learning are often lacking.

### Box 7: Role of health, education and social sectors in promoting nurturing care

**Role of the health sector**
- Ensure women and young children have access to good-quality health and nutrition services.
- Make health and nutrition services more supportive of nurturing care.
- Increase outreach to families and children with the greatest risk of suboptimal outcomes.
- Establish specialised services for families and children with developmental difficulties and disabilities.
- Collaborate with other sectors to ensure a continuum of care.

**Role of the education sector**
- Reinforce the fact that education begins at birth.
- Ensure good health practices and hygiene in early childhood programmes.
- Put family engagement at the core of early childhood programmes.
- Integrate children who have additional needs and reach out to the most vulnerable.
- Invest in education for adolescents and adults.

**Role of the social and child protection sectors**
- Guarantee citizenship for every child.
- Shield families and children from poverty.
- Link benefits to services that support nurturing care.
- Ensure there is a continuum of care.
- Protect children from maltreatment, violence and family break-up.
and/or poorly standardised – this reflects the low importance assigned to these areas within and outside of the health sector.

Is South Africa making progress in delivering key interventions and improving outcomes for young children?

Progress in South Africa, based on data from the ECD Countdown Country Profile and other sources, is shown in Table 7. Wherever possible, population-based data using standardised global indicators are presented, but where these are not available or do not sufficiently address the South African context, local data are presented. Indicators used in the 2013 South African Child Gauge to assess progress in ECD service delivery are also included to allow for comparison over time. Likewise, where possible, information on children 0 – 2 years is presented; however, where age disaggregation is not available for key indicators, data on children 0 – 5 years (and in some cases 0 – 18 years) are presented.

Table 7: Status of young children and threats to optimal early childhood development

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>Most-recent estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of young children at risk of poor development¹</td>
<td>52% (2005)</td>
<td>38% (2015)</td>
</tr>
<tr>
<td>Maternal mortality ratio²</td>
<td>200 per 100,000 live births (2011)</td>
<td>134 per 100,000 live births (2016)</td>
</tr>
<tr>
<td>Neonatal mortality rate¹</td>
<td>13 per 1,000 live births (2011)</td>
<td>12 per 1,000 live births (2017)</td>
</tr>
<tr>
<td>Infant mortality rate²</td>
<td>28 per 1,000 live births (2011)</td>
<td>23 per 1,000 live births (2017)</td>
</tr>
<tr>
<td>Proportion of births with birthweight &lt; 2.5 kg³</td>
<td>13.1% (2012)</td>
<td>12.9% (2018)</td>
</tr>
<tr>
<td>Number of children living in extreme poverty (&lt; $1.90 per person per day)⁴</td>
<td>9.3 million (2003)</td>
<td>4.3 million (2017)</td>
</tr>
<tr>
<td>Proportion of children under five years who are stunted³</td>
<td>27% (2003)</td>
<td>27% (2016)</td>
</tr>
<tr>
<td>Number of children 0 – 15 years with HIV infection⁷</td>
<td>429,140 (2012)</td>
<td>312,133 (2018)</td>
</tr>
<tr>
<td>Proportion of young children who experience harsh punishment No data available</td>
<td>No data available</td>
<td>No data available⁵</td>
</tr>
<tr>
<td>Inadequate supervision of children No data available</td>
<td>No data available</td>
<td>0.1% of children 1 – 4 years were left in the care of a person younger than 18⁹</td>
</tr>
</tbody>
</table>

Sources:
7 Thembisa model. Viewed 10 October 2019: https://thembisa.org/content/downloadPage/Provinces2019.

i International line used to track progress towards elimination of extreme poverty.
ii The upper-bound poverty line is linked to the minimum requirement for basic nutrition as well as other basic needs.
iii More rigorous standards were used to define stunting in 2016 than 2003.
iv The Birth to Twenty study in Soweto found half of pre-school children had experienced physical punishment by a parent or caregiver.⁵
### Table 8: Support and services for ECD

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>Most-recent estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of women who receive four antenatal care visits</td>
<td>56%1 (2003)</td>
<td>76%2 (2016)</td>
</tr>
<tr>
<td>Proportion of women who attend antenatal care before 20 weeks³</td>
<td>40% (2011)</td>
<td>67% (2018)</td>
</tr>
<tr>
<td>Proportion of pregnant women living with HIV on treatment³</td>
<td>24% (2012)</td>
<td>&gt; 95% (2018)</td>
</tr>
<tr>
<td>Proportion of HIV-exposed infants who are tested for HIV infection at birth and 10 weeks</td>
<td>63% of infants tested at eight weeks⁴ (2011)</td>
<td>96% tested at birth, 71% retested at 10 weeks³ (2018)</td>
</tr>
<tr>
<td>Rate of mother-to-child transmission (MTCT) of HIV⁵</td>
<td>8% (2012)</td>
<td>4.5% (2019)</td>
</tr>
<tr>
<td>Proportion of newborns receiving postnatal care within six days of birth³</td>
<td>63% (2012)</td>
<td>75% (2018)</td>
</tr>
<tr>
<td>Proportion of children under five years with fever and cough where health care was sought</td>
<td>66%1 (2003)</td>
<td>88%2 (2016)</td>
</tr>
<tr>
<td>Proportion of children fully immunised at one year of age</td>
<td>Im immunisation coverage remains uncertain. It was previously reported that 95% of children under one year of age were fully immunised.³ However the estimate was lowered to 75%, following revised population estimates. The comparable figure for 2018 is 82%.³ Survey data show lower figures: the 2016 South Africa Demographic Health Survey reported that only 61% of children age 12 – 23 months had received all basic vaccinations and only 53% received all age-appropriate vaccinations.⁴</td>
<td></td>
</tr>
<tr>
<td>Exclusive breastfeeding (proportion of infants 0 – 6 months exclusively breastfed)</td>
<td>8%1 (2003)</td>
<td>32%2 (2016)</td>
</tr>
<tr>
<td>Proportion of children 1 – 5 years who received two doses of vitamin A³</td>
<td>36% (2011)</td>
<td>57% (2018)</td>
</tr>
<tr>
<td>Children 6 – 24 months receiving an acceptable diet</td>
<td>No data</td>
<td>23%2 (2016)</td>
</tr>
<tr>
<td>Children 0 – 2 years reported to attend: a preschool, nursery school, crèche, educare centre or playgroup</td>
<td>No data</td>
<td>21%2 (2017)</td>
</tr>
<tr>
<td>Proportion of children registered within one year of birth</td>
<td>90%⁶</td>
<td>81%²</td>
</tr>
<tr>
<td>Children receiving the Child Support Grant⁹</td>
<td>6.6 million (2011)</td>
<td>12.3 million (2018)</td>
</tr>
</tbody>
</table>

**Sources:**

5 Thembisa model. Viewed 10 October 2019: https://thembisa.org/content/downloadPage/Provinces2019

¹ Routine data show that 49% of infants receiving 14-week immunisations were exclusively breastfed; up from 34% in 2013.³
Table 7 shows that young children face many threats. Using a composite indicator based on under-five stunting or poverty, it is estimated that 38% of young children are at risk for poor physical and cognitive development. Whilst maternal and infant mortality rates have fallen, they remain high for a middle-income country such as South Africa. High levels of stunting persist with approximately one quarter of children under five years of age being short or stunted. Stunting and poor cognition correlate well at a population level, and high levels of stunting are therefore a strong predictor of poor educational attainment. In South Africa, these issues are further compounded by the HIV epidemic – not only are children with HIV infection at high risk of poor growth and development, but increasing evidence suggests that this is also the case for the almost one third of South Africa’s children who are HIV exposed but uninfected.

The persistently high levels of stunting in South Africa are therefore very concerning. Reducing these levels will depend on implementation of a package of interventions which focus on improving child nutrition (especially exclusive breastfeeding and complementary feeding practices) but also on reaching mothers and families, and improving their living environment and nutrition.

Coverage of essential ECD services is shown in Table 8. Coverage of basic maternal, newborn and child health services is generally high with significant progress since 2011, although is not yet universal and deficiencies in the quality of care continue to be documented. High coverage is an opportunity to expand the scope of service and provide additional services. For example, high antenatal coverage provides an opportunity to expand the scope of services to include assessment and support for psychosocial issues including maternal mental health and preparation for parenting.

Likewise, within the Prevention of Mother-To-Child Transmission programme, attention needs to be paid to providing adherence support and ensuring that all women are virally suppressed during pregnancy and breastfeeding. This ensures that the mother remains healthy and reduces the risk of vertical transmission (to the child). The postnatal period has been identified as a period of vulnerability during which mothers receive little support; this affects particularly HIV-infected mothers negatively.

An innovative facility-based intervention to address this problem is described in Case 3. Mothers who acquire HIV during pregnancy or while breastfeeding are likely to pass on HIV infection to their children; thus, reducing new maternal infections during pregnancy is also critical for further reductions in vertical transmission. Despite a decline in the number of children who are HIV infected, estimates continue to suggest that antiretroviral therapy (ART) coverage in children remains low with only 53% of eligible children receiving treatment.

Coverage of key nutrition interventions has increased, although exclusive breastfeeding rates remain below the...
PART 2: Child and adolescent health – leave no one behind

The global target of 50% by 2025, whilst complementary feeding practices remain poor with only a quarter of children 6–24 months receiving an appropriate diet. Further increases in exclusive breastfeeding, as well as significant improvements in complementary feeding practices, will be needed to reduce stunting levels.

What must the health sector do differently to ensure young children thrive?

Declines in child mortality rates are encouraging; yet these rates remain unacceptably high and further reductions are required. Likewise, whilst improved coverage of many interventions is welcomed, the health sector needs to ensure that all mothers and children receive high-quality services.

Early learning and issues related to safety and security have not been considered historically as core health sector concerns. Ensuring that births are registered and that eligible children receive the Child Support Grant (CSG) represent interventions that can be undertaken by health-care workers as part of a package of ECD interventions.

Health-care workers can also play a key role in promoting early learning. Since 2016, questions on stimulation provided to young children (0–4 years) have been included in the General Household Survey. In 2018, nearly half (47%) of children had never read a book, drawn (43%), or named different items with a parent or guardian (26%).

Community health workers are particularly well placed to integrate these activities and to provide a comprehensive and integrated package of services to underserved communities.

Despite reductions in vertical transmission of HIV infection, challenges such as relatively high postnatal transmission remain. Adherence to antiretroviral treatment (ART) and retention in care may be low among women during the period after giving birth, resulting in sub-optimal health and an increased risk of mother-to-child transmission through breastfeeding.22 Reasons for poor maternal retention are many and include high patient volumes, long waiting times, non-disclosure of HIV status, travel costs, inadequate knowledge, stigma, regimen fatigue, and lack of partner involvement.23

In response to these challenges, Médecins Sans Frontières (MSF), mothers2mothers and the City of Cape Town Health Department introduced postnatal clubs (PNCs). This holistic patient-centred model of care addresses both the medical needs of HIV-positive mothers and their HIV-exposed infants, whilst providing peer support, psychosocial support and ECD support in line with the Western Cape’s “First 1,000 Days” campaign.

Mothers with babies born in the same month are grouped with PNCs, starting around 10 weeks after giving birth (although education on PNCs happens during pregnancy). The clubs meet monthly until infants turn six months old, then once every three months until children reach 18 months. A PNC starts with a peer educator-led support session which includes information on ART adherence, infant feeding (encouraging exclusive breastfeeding), health promotion messages (e.g. on disclosure of HIV, family planning, etc.) and ECD activities. The peer educators also weigh the mothers and babies, screen for TB and for maternal depression (six monthly) as well as distributing pre-packed ART. Mother–infant pairs are thereafter seen by a professional nurse who provides an integrated package of HIV and non-HIV care.

Between July 2016 and 15 June 2018, 335 mothers were recruited into PNCs (18 were high-risk) and 340 infants (five sets of twins). After 18 months, 79.2% of the mothers were still in care and with viral load testing and suppression remaining above 90% throughout. A high proportion of infants were also fully immunised.

For more information, see bit.ly/PNCtoolkit.

Case 3: Postnatal clubs
Aurelie Nelson, Doctors without Borders (MSF)
Commitment and leadership

Despite the comprehensive nature of the integrated policy, ECD is still largely understood in the South African context to be about early child care and education delivered to children 3 – 5 years of age through centres, whilst health services focus on survival, growth and health, but not on development or learning.28

This perception is likely to skew investment away from the first 1,000 days, and means that additional responsibilities assigned to the health sector, such as parenting support, will remain un/underfunded. The Nurturing Care Framework and ECD Countdown Country Profiles have raised the profile of ECD within the global health community and should be used to advocate at national and sub-national levels that politicians as well as parents pay more attention to nurturing care.

Notwithstanding the above, many opportunities exist at all levels of the health system to ensure that components of the Nurturing Care Framework are introduced into routine health service delivery. Community health workers are especially well-placed to provide a comprehensive package of ECD services at household and community level, and will be key to driving further improvements in ECD outcomes, especially amongst the most vulnerable and disadvantaged children. The new RTHB provides an excellent mechanism for providing comprehensive services, and health care and other practitioners at all levels should be encouraged to take the lead in using the five pillars outlined in the new RTHB (and Side-by-Side campaign) as the basis for empowering caregivers, and providing better and more comprehensive services for mothers, children and their families (see Box 3).

Addressing poverty and the social determinants of health

The first 1,000 days concept highlights the important contribution of poverty and undernutrition to poor health, educational and developmental outcomes, whilst the Nurturing Care Framework calls for intersectoral collaboration to ensure that young children grow up in an environment

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**Case 4: The Side-by-Side campaign**

The Side-by-Side campaign aims to empower mothers and caregivers to ensure that their children grow and develop optimally. The central message of the campaign is “You are central to your child’s nurturing, care and protection – and their lifelong health outcomes. Your health worker is there to support you”.

The name Side-by-Side describes the supportive relationship between a child and the caregiver, as well as the relationship between health care workers and practitioners who support and advise the caregiver. Side-by-Side aims to convey the concept of partnership and togetherness and addresses the shared child-rearing journey that caregivers embark on with their children and all those who help and support them.

The Side-by-Side campaign is shaped by the five pillars of the Road to Health Book as outlined in Figure 27.

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**Figure 27: The five pillars of the Road to Health Book**

| NUTRITION | Good nutrition is important for you and your child to grow healthy. It starts with breastfeeding. |
| LOVE | Your child learns from looking at you when you hold them close to you and love, play and talk to them. |
| PROTECTION | Your child can be protected from disease and injury by getting immunised and by playing in safe places. |
| HEALTHCARE | Your child needs help from you or a health worker when they are sick or injured. |
| EXTRA CARE | Your child may need special care or support and knowing what to do and where to go will help both of you. |

that is safe and secure. Whilst this chapter has focused on the role of the health sector, it is clear that young children will not reach their full potential in the absence of reductions in poverty and inequality. Stunting in young children serves as a proxy measure for poor educational, economic and social outcomes, and can be used to foster public understanding and engagement, as well as to garner political commitment for investment in essential services.

Whilst the ECD policy should be used to drive formal intersectoral collaboration at a policy level, different sectors also need to work together at local level to improve outcomes for young children. As a minimum, efforts to ensure that all children’s births are registered, and that all eligible children receive a CSG, should be part of the routine work of all health-care workers including, and especially, community health workers.

**Empowering caregivers to improve their own health and that of their children**

The Nurturing Care Framework acknowledges the central role of caregivers and households in ensuring that children receive their optimal development potential. This requires a paradigm shift among those who provide health care and other services to understand their roles in supporting and empowering families and communities to provide the care that children need, including early stimulation and responsive care (as captured in the Side-by-Side campaign). This requires a shift in attitudes and practice amongst health care workers and which needs to be reflected in maternal and child health curricula and training.

It also requires a shift towards investing in mental health care services at primary health-care level, including risk and resilience assessments of, and counselling and intersectoral referral and support services for, parents and caregivers, starting during pregnancy and continuing into childhood.

**Providing a comprehensive package of health and nutrition services for all mothers and babies**

The Nurturing Care Framework requires that women and young children have access to good-quality health and nutrition services. Although coverage of many essential services has increased, more attention needs to be paid to ensuring full coverage, addressing deficiencies in the quality of care provided, and removing financial and non-financial barriers to using services. More attention also needs to be paid to services that are not currently provided at scale. These include breastfeeding support, provision of support to mothers suffering from maternal depression and other mental health problems, as well as better services for children with disabilities and developmental problems.

**Tracking progress**

Whilst the ECD Country Countdown Profiles are an important first step in agreeing how progress should be monitored, the profiles are likely to evolve over time, especially with regards to measuring responsive caregiving and early learning at population level. At a national level, attention should be paid to ensuring that global indicators are measured and that, where necessary, appropriate local indicators are identified and measured – which may require that these are incorporated into routine health information systems or collected through surveys. At a local level, child health practitioners should continue to monitor local mother and child mortality and health service delivery indicators, but also consider how maternal and child development and well-being can be measured and monitored.

**Conclusion**

Early intervention during pregnancy and the first two years of a child’s life can result in significant gains on the long-term physical and cognitive development of a child. However, improving these gains will require that underlying social determinants of health are addressed, that health services are strengthened so that mothers and children receive a comprehensive package of services, and that mothers and other family members are supported to implement all five components of the Nurturing Care Framework successfully. These in turn will require leadership and investment in ECD, as well as improved systems for tracking progress and addressing deficiencies.

**References**

6. See no. 4 above;
   See no. 5 above.
12 See no. 10 above; See no. 11 above.
13 See no. 10 above.
14 See no. 11 above.
15 See no. 11 above.
25 See no. 24 above.
28 See no. 9 above.