NEP Tanzania Brief: August 2017

The United Republic of Tanzania has made considerable progress in reducing child mortality. Under-five mortality has steadily declined over the last 15 years, reaching 67 deaths per 1000 live births according to the 2015 Tanzania Demographic Health Survey (TDHS).

Tanzania did not reach Millennium Development Goal (MDG) 4 target of reducing under-five mortality to 55 death per 1000 live births, however, child survival has dramatically increased during the MDG period (2000-2015).

Mainland Tanzania lags behind Zanzibar in under-five survival. Less progress has been made across both Mainland Tanzania and Zanzibar in reducing neonatal mortality—death during the first 28 days of life—which account for one-third of all under-five deaths.

Key to sustaining Tanzania’s progress is unpacking reasons for childhood mortality and identifying what can be prioritized to improve child survival. The Sustainable Development Goal era has dawned with renewed emphasis on improving the health, development, and survival of young children. As the Government of Tanzania looks ahead, developing specific targets and action plans to reduce child mortality, there is much to be learned by critically examining progress in child survival over the last 15 years.

Led by the National Bureau of Statistics (NBS), the National Evaluation Platform (NEP) used the Lives Saved Tool (LiST) to explore causes of under-five mortality and neonatal mortality.
and the impact of scaling up coverage of maternal, newborn, child health, and nutrition (MNCH&N) interventions in Mainland Tanzania. The team used national household surveys from 1999 to 2015 to examine to relative contribution of MNCH&N interventions to reductions in child mortality. The team looked at zonal-level trends over time by applying zonal boundaries from TDHS 2004 across all years. We highlight key findings and their planning implications in this brief.

Why aren’t children reaching their fifth birthday in Mainland Tanzania?

Distribution of under-five deaths in Mainland Tanzania as estimated by the Lives Saved Tool

<table>
<thead>
<tr>
<th>Year</th>
<th>Neonatal</th>
<th>Pneumonia</th>
<th>Malaria</th>
<th>Diarrhea</th>
<th>Meningitis</th>
<th>Measles</th>
<th>Pertussis</th>
<th>AIDS</th>
<th>Injury</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999 TDHS</td>
<td>30.8%</td>
<td>14.0%</td>
<td>17.6%</td>
<td>10.5%</td>
<td>7.0%</td>
<td>9.7%</td>
<td>3.5%</td>
<td>1.0%</td>
<td>6.0%</td>
<td>9.7%</td>
</tr>
<tr>
<td>2015 TDHS</td>
<td>32.9%</td>
<td>18.8%</td>
<td>11.1%</td>
<td>10.4%</td>
<td>6.0%</td>
<td>15.0%</td>
<td>0.9%</td>
<td>1.0%</td>
<td>6.0%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

Causes of death among children under 5 in Mainland Tanzania did not change substantively between 1999 and 2015. During the entire MDG period, about one-third of the under-five deaths are attributable to neonatal causes.

Diarrhea, pneumonia, and malaria are responsible for over 40% of under-five deaths.

Malnutrition is an underlying cause of child deaths - stunted and wasted children are more likely to die of infectious diseases. Of all under-five deaths between 1999-2015, 14% are attributable to stunting and 4% are attributable to wasting.

The proportion of under-five deaths due to HIV-related causes declined from 7% to 1% between 1999-2015.
Prematurity, asphyxia, and sepsis account for 75% of newborn deaths.

Over the past fifteen years, nutritional status improved across Mainland Tanzania. Stunting in Mainland Tanzania dropped from 48.4% in 1999 to 34.4% to 2015. Prevalence of stunting varies by zone. Central and Eastern zones reduced stunting by nearly 50% between 1999 and 2015, compared to only 12% and 13% declines in Lake and Northern zones, respectively. Wasting remained relatively constant across Mainland Tanzania during the MDG period.

Trends in stunting among children under-five in Mainland Tanzania by zone, 1999-2015

How has coverage of life-saving interventions changed over time in Mainland Tanzania?

Tanzania has made variable progress scaling up coverage of various childhood interventions. Tanzania’s rapid population growth means that more resources are necessary to sustain and increase coverage of childhood interventions. Based on the last national census conducted by NBS in 2012, the number of children under-five in Tanzania was projected to grow by over 40% between 2005 and 2015 to 8.4 million.

Population also varies widely by zone; Lake and Western zones are highly populated, which increases the challenge of improving and maintaining coverage of life-saving interventions.
Four new vaccines—Hepatitis B, Hib, pneumococcal, rotavirus—were introduced in the past decade. Coverage of these vaccines is above 80%.

Exclusive breastfeeding among children under six months has risen from 35% in 1999 to 63% in 2015.

Interventions impacting neonatal mortality

Neonatal mortality has stayed constant over the past fifteen years. Antenatal care (ANC) and early initiation of breastfeeding are two high-impact interventions that are scientifically proven to reduce neonatal mortality.

During ANC, a pregnant woman receives a package of essential interventions that help identify and reduce birth complications and promote positive behaviors such as seeking a skilled attendant for birth and breastfeeding. Tanzania aims for pregnant women to receive at least four ANC visits (ANC4+).

In Mainland Tanzania, less than half of women with a live birth make four ANC visits. Tanzania did not reach the ANC4+ target of 90% outlined in the National Road Map Strategic Plan to Accelerate Reduction of Maternal, Newborn, and Child Deaths in Tanzania (“One Plan”) (2008-2015).
Percent of women with a live birth receiving antenatal care 4 or more times (ANC4+) by wealth quintile in Mainland Tanzania (TDHS 2004, 2010, 2015)

Since 2004, there has been an increased gap in ANC4+ coverage among the poorest and richest households.

Early initiation of breastfeeding (breastfeeding an infant within 1 hour of birth) is an important intervention that increases the chance of newborn survival. Why is it so effective? The first breastmilk feeding contains essential nutrients and antibodies. A newborn that is breastfed within 1 hour of birth is also more likely to be exclusively breastfed.

Coverage of this intervention has not changed much over the past 10 years and varies widely by zone. During this period, coverage dropped 47.5% in Lake zone. Early initiation of breastfeeding in Northern zone has steadily improved since 2004.

*Coverage of early initiation of breastfeeding is defined as the percent of women with a live birth in the 3 years prior to the survey who breastfed the newborn within 1 hour of birth.
Mixed progress sustaining and increasing coverage of malaria interventions: a missed opportunity

Coverage of malaria treatment and intermittent preventative treatment in pregnancy (IPTp) have increased since 1999. IPTp coverage has increased rapidly since the intervention’s introduction in 2000. Across Mainland Tanzania, use of insecticide treated nets (ITN) made the single largest contribution towards additional lives saved during the past fifteen years. However, ITN coverage has declined in recent years across some zones.

Mainland Tanzania quickly scaled-up ITN coverage between 1999 and 2011. However, ITN coverage dropped 26% between 2011 and 2015. Western and Lake zones maintained high ITN coverage while ITN coverage in three zones—Central, Northern, Southern Highlands—fell below 50% over the last five years.
How has the scale-up of interventions contributed to declines in childhood mortality?

Additional under-five lives saved per year since 1999 in Mainland Tanzania due to intervention scale-up


*excludes intermittent preventative treatment (IPTp) which is accounted for in “Malaria prevention treatment”

This graph shows the number of additional under-five lives saved per year from 1999 to 2015 due to scale-up of more than 25 MNCH&N interventions in Mainland Tanzania. These interventions are grouped in 11 categories, which are color-coded.

During the past 15 years, Mainland Tanzania saved an additional 840,000 lives by scaling-up high-impact MNCH&N interventions. Combined, these interventions explain 75% of the drop in under-five mortality measured by the TDHS between 1999 and 2015.
Interventions around delivery, childhood vaccinations, and malaria ranked among the largest contributors to additional lives saved across the seven zones.

Additional under-five lives saved per year since 1999 by zone in Mainland Tanzania due to intervention scale-up

**251,000** were due to scale-up of malaria prevention and treatment interventions

**102,000** were due to scale-up of vaccines. Contribution of vaccines to the total lives saved increased with introduction of new vaccines: HepB (2002), Hib (2009), pneumococcal (2012), rotavirus (2012)

**204,000** were due to reductions in malnutrition (stunting and wasting). This reflects the 14% decrease in stunting prevalence between 1999 and 2015

Of the additional 840,000 lives saved...

Improvements in exclusive breastfeeding practices saved many additional lives in **Western** and **Lake** zones while increased coverage in interventions for management of diarrhea and pneumonia were key contributors to saving lives in **Eastern** zone. Differences in total lives saved by zone are in part a function of population size with **Lake** and **Western** zones having more than twice the total population of **Central** and **Southern** zones.

*excludes intermittent preventative treatment (IPTp) which is accounted for in "Malaria prevention treatment"*
Recommendations

- Continue to invest in interventions that address the causes of death among Tanzania’s children including: (1) malaria prevention and treatment; (2) ANC; and (3) nutrition.
- Improve neonatal survival through investing in high-impact interventions—like ANC and early initiation of breastfeeding—that are proven to reduce neonatal mortality.
- Invest in family planning initiatives as rapid population growth is one of the leading barriers to reaching all Tanzanian children with life-saving interventions.

Acknowledgements

NEP is a rigorous new approach to compiling and analyzing health and nutrition data from diverse sources, so that the Government can get strategic, evidence-based answers to their most pressing MNCH&N program and policy questions. The NBS in Tanzania oversees NEP implementation and receives technical support from the Institute for International Programs at Johns Hopkins University. Tanzania is building NEP from 2014 to 2017 with funding support from the Government of Canada. Please direct all inquiries on NEP to the NBS Director General (dg@nbs.go.tz).

This analysis complements existing analyses that have been conducted including the Tanzania Countdown Case Study, Mid-Term Review of the National Road Map Strategic Plan to Accelerate Reduction in Maternal, Newborn and Child Deaths in Tanzania (2008-2015), and Mid Term Review of the Health Sector Strategic Plan III (2009-2015).