

What is newborn resuscitation?

Between 5 to 10% of all newborns require assistance to begin breathing at birth¹, this is called newborn (or neonatal) resuscitation. Basic newborn resuscitation can be provided using a bag and mask apparatus. Bag and mask resuscitation with room air is sufficient for more than 99% of babies that are not breathing at birth (called *birth asphyxia*)². It is a high-impact intervention for saving newborn lives and preventing disability, and can prevent 10% of deaths in premature babies (when combined with immediate stimulation)³.

Why does newborn resuscitation matter in Tanzania?

Tanzania has the eleventh largest number of newborn deaths in the world – every year 38,600 babies die within a month of birth⁴ and almost a third (11,900) of these deaths are due to *intrapartum-related events* (which includes failure to breathe)⁴.

Birth asphyxia does not have to result in death – simple interventions such as newborn resuscitation are available. However, qualified health workers with adequate training and skills for providing newborn care are in short supply^{5,6}.

What can be done in Tanzania?

Tanzania is poised to scale-up essential newborn care, including newborn resuscitation. Standardisation of newborn care across the country is needed, along with many more skilled nurses and midwives, with the essential drugs and commodities to provide essential newborn care within an efficient supply chain. Newborn resuscitation tools and technologies are simple and effective. Health workers need:

- @ Materials for training and job aids
- @ Training manikins
- @ Newborn resuscitation devices (bag-and-appropriately-sized-mask)
- @ Suction devices
- @ Resuscitation stations with overhead heater
- @ Clock with large face and second hand²

Tanzania is already taking important steps to reduce newborn deaths through newborn resuscitation, with the first phase of the **Helping Babies Breathe (HBB) Programme**⁷. It is a simple approach, including immediate drying, stimulation, and if necessary, resuscitation of newborn babies that are not breathing, all within the first minute after birth – ‘the Golden Minute’. With commitment, leadership, and support from experts at the Ministry of Health and Social Welfare and partners, the HBB programme has trained over 1000 health workers at 8 hospitals since 2009, resulting in significant reductions in stillbirths and reduced deaths for both premature and full-term babies. Provision of equipment, and a continued focus on training of midwives, are noted as critical in the success of the HBB programme. To build on this, and achieve an even greater effect, additional strategies are suggested to provide essential newborn care including temperature regulation and treatment of newborn infections, to avoid deaths later than the first 24 hours.

In 2014 Tanzania committed to the Every Newborn Action Plan⁶ and the Sharpened One Plan⁵. These strategies set out the priority solutions, and call for a united effort to dramatically reduce maternal and newborn deaths, and preventable stillbirths. We must prioritise the evidence-based, cost-effective and feasible solutions in all health facilities that provide pregnancy and delivery services, as well as ensure better data collection on pregnancy outcomes to enable responsive action where it is most needed.

If the Sharpened One Plan is delivered, it could save 9,400 newborn lives and avert 2,500 stillbirths, and prevent 1,400 maternal deaths by December 2015⁵





Newborns in Tanzania

Number of newborn deaths in the first month of life (2013) ²	38,600
Number of newborn deaths in the first day of life (2013)³	13,900
Mortality rate in the first month of life (2013) ²	21 per 1000 babies born alive
Country rank for number of newborn deaths (2013)²	11th
Number of babies born preterm (2013) ^{6,7,b}	213,500
Number of newborn deaths due to preterm birth complications (2013)^{4,c}	9,400
Number of deaths due to intrapartum-related events (2013) ⁴	11,900
Number of deaths due to sepsis/meningitis/tetanus (2013)⁴	7,800
Demand for family planning satisfied (2010) ⁸	61%
Antenatal care of four or more visits (2010)⁸	43%
Skilled attendant at delivery (2010) ⁸	51%
Mothers and babies who received postnatal care within two days of birth (2010)⁸	31%
Early initiation (within one hour) of breastfeeding (2010) ⁸	49%
Exclusive breastfeeding for infants in the first six months (2010)⁸	50%

References:

1. Wall, S.N., Lee, A.C., Niermeyer, S., English, M., Keenan, W.J., Carlo, W., Bhutta, Z.A., Bang, A., Narayanan, I., Ariawan, I., & Lawn, J.E. (2009). Neonatal resuscitation in low-resource settings: what, who, and how to overcome challenges to scale up? *International Journal of Gynecology & Obstetrics*, 107 Suppl 1, S47-62, S63-44.
2. March of Dimes, The Partnership for Maternal Newborn & Child Health, Save the Children, & World Health Organization. (2012). *Born Too Soon: The Global Action Report on Preterm Birth*. (Eds) Howson, C.P., Kinney, M.V., & Lawn, J.L. WHO: Geneva.
3. Lee, A.C., Cousens, S., Wall, S.N., Niermeyer, S., Darmstadt, G.L., Carlo, W., Keenan, W., Bhutta, Z.A., Gill, C., & Lawn, J. (2011). Neonatal resuscitation and immediate newborn assessment and stimulation for the prevention of neonatal deaths: a systematic review, meta-analysis and Delphi estimation of mortality effect. *BMC Public Health*, 11(Suppl 3), S12.
4. Liu, L., Oza, S., Hogan, D., Perin, J., Rudan, I., Lawn, J. E., Cousens, S., Mathers, C., & Black, R. E. (2014). Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: an updated systematic analysis. Supplementary appendix. *The Lancet*, (Early online publication).
5. Ministry of Health and Social Welfare [United Republic of Tanzania]. (2014). *The National Road Map Strategic Plan to Accelerate Reduction of Maternal Newborn and Child Deaths in Tanzania 2008-2015. Sharpened One Plan April 2014*. Dar Es Salaam: MoHSW.
6. World Health Organization, & UNICEF. (2014). *Every Newborn: An Action Plan to End Preventable Deaths*. Geneva: WHO.
7. Msemo, G. (2014) Implementation of the HBB program in Tanzania - Comprehensive final report available at www.helpingbabiesbreathe.org/reports.html
8. UNICEF. (2014). *Committing to Child Survival: Progress Report 2014 Committing to Child Survival: A Promise Renewed*. New York: United Nations Children's Fund.
9. Blencowe, H., Cousens, S., Oestergaard, M. Z., Chou, D., Moller, A.-B., Narwal, R., Adler, A., Garcia, C.V., Rhode, S., Say, L., & Lawn, J. E. (2012). National, regional, and worldwide estimates of preterm birth rates in 2010 with time trends since 1990 for selected countries: a systematic analysis and implications. *The Lancet*, 379(9832), 2162–2172.
10. United Nations Population Division. (forthcoming, 2014). *World Population Prospects: The 2013 Revision [estimates for 2013 used]*.
11. National Bureau of Statistics [Tanzania], & ICF Macro. (2010). *Tanzania Demographic and Health Survey 2010*. Dar Es Salaam/Calverton: NBS, ICF Macro.

Notes:

- a. In Tanzania, the estimated number of live births for 2013 is 1,865,300¹⁰ and the preterm birth rate for 2010 is 11.44532%⁹. The 2010 preterm birth rate is applied to the 2013 live birth estimate: (11.44532/100)*1,865,300=213,490 (rounded to 213, 500). Countries are ranked by number of preterm births based on these estimates for 2013.
- b. The estimated number of deaths due to preterm birth complications in the first 28 days of life in Tanzania (rounded from 9,394).⁴ If including those who die from preterm birth complications between 0 and 5 years the figure is 10,800 (the estimate is provided by Save the Children).
- c. In Tanzania, the estimated number of newborn deaths for 2013 is 38,611 and the estimate number of deaths due to preterm birth complications is 9,394.⁴ These estimates were used to calculate the proportion of newborn deaths due to preterm birth complications: (9,394/38,611)*100=24% (1 in 4).