SAVE THE LIFE OF A BABY BORN TOO SOON: IMPROVING COVERAGE OF NEONATAL INTERVENTIONS IN ZAMBIA

Abstract

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Key Message

Benefits of investing in newborn care countrywide justify the cost. The Zambian government calls for amplified investment to accelerate the reduction of deaths of newborn babies dying within 28 days of life.

The Problem

In the year, 2020 live births projection as of 2010 was 760,631 (CSO, 2010). The number of newborn deaths among the livebirths increased from 24/1000 to 27/1000 live births between 2013 and 2018 (ZDHS , 2018). In Zambia, death from severe birth asphyxia tops and currently stands at 30.2%, followed by prematurity at 27.2% and then sepsis or infections at 18.2%. It is estimated that 75% of babies born too soon die within the first week of life (WHO, 2012). The increase in newborn deaths has been attributed to among other factors, inadequate infrastructure, weak referral system, inadequate number of skilled staff, non-availability of Neonatal Intensive Care Units (NICU) and Kangaroo Mother Care (KMC). Currently Zambia has NICUs in the three tertiary hospitals out of the 1502 hospitals and delivery facilities representing 2% NICU coverage. Inadequate coverage of neonatal interventions has made it difficult to manage small and sick newborns at level one and level two continuum of care (Mubita, 2017).

Policy Options

To reduce chances of newborn babies dying within 0-7 days by at least 50% requires multiple approaches. The proposed policy options to achieve this goal include: (1) continue providing level three neonatal care in tertiary hospitals; (2) implement level two neonatal intensive care in general hospitals; and (3) implement level one Neonatal Intensive Care in all facilities that provide deliveries at district and primary health care levels.

Option 1 (Status quo): Continue providing level three Neonatal Intensive Care in tertiary hospitals.

WHAT: Tertiary hospitals in Zambia are the University Teaching Hospital and Levy Mwanawasa Teaching Hospital. These provide specialized care for the smallest, most premature, and most unwell babies who require surgical intervention referred from across the country.

Option 2: Implement level one Neonatal Intensive Care in general hospitals

WHAT: Implementing Neonatal Intensive Care at general hospitals located in provincial towns will provide care for newborn born who need more high dependence and short-term intensive care, have problems, which require to be resolved rapidly or are recovering from serious illness following treatment at tertiary hospitals.

WHY: Decentralizing NICUs from tertiary hospitals to provincial hospitals increases the level of medical care and decreases deaths of babies born too soon by 47.4% (Yuryev, 2019). In Mozambique with similar context to Zambia, introduced NICUs in provincial hospitals and observed a reduction in deaths due to asphyxia by 15%, sepsis by 11% and prematurity by 10% (Maria Elena Cavicchiolo, 2016).

FEASIBILITY:

-Implementing level one neonatal care in nine provincial general hospitals is feasible for Zambia.

-This option will be less expensive as it will utilize existing health care workers and equipping delivery facilities with basic equipment.

-High feasibility possibility to reach small babies than tertiary because of reduced referral distance. This option has potential to reduce newborn deaths by 47% (Yuryev, 2019).

-High feasibility of rolling out level one NICUs to provinces estimated at $9,204,439 compared to implementing in all facilities due to high cost.

-Higher benefits through saving lives of neonates will justify the investment costs in the end.

-In addition, University Teaching Hospital has opened a post graduate diploma training in neonatal care hence health care workers from provinces will acquire the needed skills.

-Roll out to provinces can be implemented in a phased approach prioritizing provinces with highest burden and scaling after an evaluation.

Option 3: Implement level one Neonatal Intensive Care in delivery facilities at district level.

WHAT: Level one neonatal care units (NICUs) provide basic care for the newborns. It comprises four sub levels: acute care provided at district hospitals, basic primary care at Health Centre (urban, rural or zonal), stepdown care (De-hospitalized care) and ambulatory care provided at community level.

WHY: Decentralizing neonatal care from tertiary hospitals to delivery facilities at district level increases the level of medical care and decreases deaths of babies born too soon by 40% (Yuryev, 2019). This care goes beyond primary care facilities to the household though Safe Motherhood Action Groups (SMAGs), Neighborhood Health Committees (NHCs) and other volunteers.

FEASIBILITY:

-High feasibility with larger reach to small babies, reduces referral distance to tertiary hospitals

-Potential to reduce death by about 47% of newborn deaths.

-High political will for primary health care with construction and opening of over 650 Health Posts countrywide.

-Though cost is of rolling out level one NICUs to delivery facilities across the country is high estimated at $117,612,280. However, benefits will justify costs in the long-term.

	Costs	Incremental Costs	Deaths	Incremental Deaths	Incremental Cost Effectiveness Ratio
Status Quo	$ 0		1,350		
District	$ 117,612,280.40	$ 110,612,280.40	743	-608	$ (182,024)
General Hospital	$ 9,204,439.34	$ 2,204,439.34	58	-1292	$ (1,7056.00)

The economic evaluation results indicate that the scaling up of the NICU at General hospital is the most cost-effective strategy in Zambia as it costs $1,706 to avert an additional neonatal death.

Recommendations and next steps

Scaling up interventions to manage small and sick babies is effective in reducing deaths of newborn babies. Bearing the high cost of implementing standard neonatal care to level three hospitals and delivery facilities, implementing option two policy to set up level one neonatal care units at general hospitals in provinces is the most cost effective and feasible. These will also be the provincial training hubs for districts.

Next steps

The Ministry of Health through the Child Health Unit will coordinate implementation of this policy brief by taking the following steps:

-Present the policy brief to the Child Health technical working group coordinated by the MOH Child Health Unit

-Present the policy brief to MOH senior management

-Present the policy brief to cooperating partners at forums organized by MOH or any other forums that present such opportunities

-Ensure all general hospitals include level three Neonatal intensive care units in the 2021 to 2023 MTEF action planning.

Investing in Neonatal Interventions Outweighs the cost Save the Life of a Baby Born Too Soon

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