

Post Millennium Development Goal Strategies to Improve Newborn and Child Health in Uganda

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Abstract: In this communication brief, the author proposes new, country specific, Post-Millennium Development Goal (MDG) strategy to reduce under-five mortality in Uganda by 2030. This reflection is intended to reduce inequities, guide implementation of interventions and measure success with regard to newborn and child health, particularly focussing on country demographics, leading causes of child mortality and the specific evidence-based interventions that exist to address these problems, the challenges to implementing such interventions and how they may be overcome. The author proposes means on how the success of such interventions can be monitored while drawing attention to key indicators and targets based on existing country specific statistics. Findings show there is still high neonatal and postnatal mortality in Uganda attributed to poor peripartum and postpartum care. Adapting the aforementioned multisectoral approach can be fundamental in achieving the proposed post MDG targets for newborn and child health by 2030.

Keywords: Newborn, Child-Health, Post-MDG-Strategy, Uganda

I. Introduction

1. Country Background, Geographical Location and Population Profile:

Uganda is a land locked, majorly plateau East African country bordered by Rwanda, South Sudan, Kenya, Tanzania and Democratic Republic of Congo [1]. The country has a total population of 34,856,813 majority of which are children and youths living in rural areas, whose major economic activity is agriculture [2]. Uganda was colonised by British Empire until 1962 when it gained independence [3]. It is a low income country with a gross national income per capita of \$598.0 [4] and ranks 161 of 187 African countries [5]. 24.5% Ugandans are below the national poverty line [6] with an average life expectancy of 63 years [2].

2. Key aspects relevant to new born and child health in Uganda:

Uganda has been peaceful since the cessation of the economically devastating two decade war in Northern Uganda between government of Uganda and Lord's Resistance Army [7]. Uganda is committed towards realisation of millennium development goals (MDGs). The government, through its mission of improving health of Ugandans established a parliamentary forum in 2007 with main objective of prioritising resource allocation to achieving MDGs, influence policy and legislation to guarantee government's accountability towards achieving these goals [8]. Despite its efforts though, Uganda has been off-track in attaining MDGs with respect to maternal and child health and HIV/AIDS reduction [9]. Uganda has not met its MDG4 and MDG5 targets with (U5MR of 68.9 vs. 59 target), and Maternal Mortality Rate (MMR) of 440 per 1000 [10] as illustrated from Table 1.

3. Summary of Leading Causes of Mortality in Uganda and their Underlying Causes:

Globally, neonatal and peripartum related complications are the leading causes of death followed by infections like pneumonia, diarrheal and malaria, with malnutrition being a risk factor to 50% of these deaths [11] as illustrated from figure 1. It is clear from figure 2 that Ugandan distribution of under-five mortality is consistent with the global trends except that HIV/AIDS also significantly contributes to deaths in post natal period and that Pneumonia, malaria and diarrhoea are the leading causes of post neonatal deaths. As of 2010, prematurity, birth asphyxia and neonatal sepsis were the major causes of neonatal deaths in Uganda, suggesting poor peripartum care as illustrated from figure 3.

4. Inequalities in prevalence of major causes of child mortality in Uganda:

It is clear from figure 4 that there is equal distribution of under-five deaths in Uganda across the age categories of 0 to 28 days, 1 to 11 months and 1 to 4 years [13], although no data exists to explain this pattern. However, there is significant inequity of health service delivery between urban and rural areas in Uganda that directly translates into inequalities in U5MR. For example, Skilled birth attendance is over (90%) in urban compared to rural areas like Karamoja (31%) [14], leading to higher U5MR in Southwest, West Nile and Northern Uganda [12].

Detailed specific evidence based interventions to curb under-five mortality in Uganda:

4.1 Achieving Universal secondary education and gender equality.

Only 73% of Ugandan adults are literate [6]. Uganda has been on track to achieve universal primary and secondary education but dropout rates have been significantly high, due to inadequate infrastructure and poor remuneration [15]. There is evidence that a combination of educational and health infrastructural development results into improved child health outcomes [16]. This will keep Ugandan children in school, improve on child survival skills, reduce poverty, delay marriages and enhance development and contraceptive negotiation for adolescent girls who decide to become sexually active [17]; [18]. This strategy will reduce teenage pregnancy and improve on awareness of women's rights [18]; [19]. Lack of education is not only directly linked to higher infant mortalities [20], but also stunting [21]. Thus education is an independent determinant of paediatric nutritional well-being [22]. This strategy can ensure gender equality in distribution of resources [17], economic development at household level and minimise dependency resulting into maximum utilisation of continuum of care including FP and ANC [23]; [24], with subsequent child wellbeing [25].

Indicator: Proportion of girls completing advanced level secondary education.

Target: To ensure equal proportion of girls to boys completing advanced level of education by 2030.

5.2 Increase immunisation coverage and proportion of people accessing clean water, and integrating management of respiratory tract infections and diarrheal diseases.

There is need for integrated community outreaches to rollout vaccination while working with the ministries of water and environment, planning and economic development to construct boreholes particularly in remote and drought affected areas of Karamoja, West Nile and Northern Uganda. This is intended to achieve herd effect [26] and curb childhood diarrheal and respiratory tract infections [27]; [28]. In this effort, smart phone with "Mpneumonia" app should be distributed at to community focal persons and district hospital paediatric wards. These are recommended to ensure timely diagnosis and treatment of pneumonia [29]. Achieving universal immunisation for rota and pneumococcal vaccine will help curb diarrheal and respiratory tract infections that are major causes of mortality in Uganda [12]. Improving sanitation facilities has been shown to be having significant reduction in child mortality [30] while provision of clean water reduces diarrheal diseases and indirectly reduce malnutrition and pneumonia that are related to diarrheal associated immunosuppression [27].

Indicators: Proportion of under-five receiving DPT3, OPV, Measles, Pneumococcal and Rota virus vaccines and proportion of households with access to clean water.

Target: to increase the proportion of household with access to clean safe water from current 79% to 90% by 2030]

5.3. Increasing contraceptive prevalence rate and proportion of women delivered by skilled birth attendants

There is need to improve on consumption of contraceptives amongst women of reproductive age group from current 30% [2] to 50% by 2030, especially in West Nile and Northern Uganda where the unmet need is highest [2]. Contraceptive utilisation is cost effective for developing countries [31]. This reduces U5MR through minimising unintended pregnancies, unsafe abortions and maternal-child malnutrition related to poor child spacing [32]; [33]; [34]. Availing free contraceptive by the government and stake holders like UNFPA would help eliminate such unmet need.

On average, only 59% and 51% of women in Uganda are delivered by skilled birth attendant and deliver in hospital settings respectively [14] as opposed to the MDG target of 60%. Whereas 95% pregnant women attend first ANC in Uganda [14], only 37% complete [35] the recommended 4 visits [36]. Although increasing number of skilled birth attendants does not necessarily translate into improved service delivery [37]; there is evidence that such efforts improve maternal and neonatal outcome [38] and minimises the rate of stunting [25] as evidenced in Malawi [39].

Skilled birth attendance is associated with reduced child mortality [38]. Also, there is an association between ANC timely enrolment and skilled birth delivery [40]; [41]. During ANC, maternal complications will be detected early to improve child survival [42]. Whereas haemorrhage (25%), sepsis (15%), unsafe abortion (13%), eclampsia (12%), and obstructed labour (8%) have left Ugandan children motherless with subsequent risk of death following their mothers, little has been done to address inaccessible poor quality ANC [43]. Only 16% of women in Uganda get a full ANC package suggesting underutilization [44]. Improving the road networks will help minimise delays in reaching skilled birth attendants, while securing incentives will help to sustain a motivated skilled health worker force through hard to reach and overtime allowance. There is need to provide neonatal survival resuscitation equipment, free insecticidal mosquito nets and prophylaxis for malaria and antiretroviral therapy for prevention of mother to child transmission of HIV. These will curb malaria and HIV related child deaths [45]; [46].

[Indicator (a): Proportion of mothers completing 4 mandatory ANC visits. Target: To increase proportion of mothers enrolled for ANC before sixteen weeks and those completing 4 visits from current 37% to 70% by 2030; Indicator

(b): portion of births attended by skilled health worker.

Target: To increase proportion of births attended by skilled health workers from current 59 to 80% by 2030].

5.4 Which interventions are more appropriate for particular settings? Strengthening Existing Village Health Teams (VHTs) in Ugandan Remote Settings and War Affected Areas of Northern Uganda

Village health teams fill in the gaps where skilled birth attendants are scanty. Although the quality of services by VHTs is questionable [47], the lengthy physical distances and financial hardships limit rural mothers from accessing skilled delivery [48]. Training VHTs is cost effective in presence of high patient numbers [49] and their retention is satisfactory compared to skilled personnel [50]. Training VHTs will prevent dilution of quality of care in the formal health sector, mitigate increasing absenteeism and brain drain resulting from failure to maintain skilled workforce, and maintain formal-informal-health-linkage to ensure timely referrals [51]; [52]; [53]; [54]; [55]; [56]; [57].

[Indicator: proportion of referrals to formal health sector through VHTs; Proportion of VHTs attaining formal training].

5. Challenges of Implementing the Post MDG Interventions in Uganda and Possible Solutions

There is need to address political concerns. Repeated arrests of opposition leaders and use of force on civilians during various political consultative meetings [3] pose a big security threat. Countries with highest U5MR have had political instabilities [58] with concurrent increase in global hunger indices [59], resulting into maternal and child malnutrition [60]. Such child malnutrition significantly contributes to stunting and U5MR global burden of disease [61]. Thus political stability is a prerequisite to food security [62]; [63].

There is need to address political corruption and enhance accountability of public funds that have dragged health infrastructural development in Uganda [15]. This should be addressed through establishing competent legal frame works and capacity building through offering monitoring and evaluation workshops to government ministries and inspector general of government.

Ugandan cultures in general prohibit women from contraceptive utilisation and early ANC enrolment [64]; [65]. Engaging cultural leaders and ANC health education has been shown to address these concerns [66]. Distribution of free insecticidal mosquito nets, soap and safe motherhood kits will act as motivators for ANC attendance, while reducing travel distance though construction of rural health facilities has been shown to increase uptake [67].

6. How is the success of above interventions going to be monitored? What tools and why?

There is need to develop a unified questionnaire to capture population data through national census, demographic health surveys as this has been shown to be effective data collection method for developing countries [2]. Civil Vital Registration System (VRS) with use of WHO standardised verbal autopsy questionnaire [38] are worth investments. Inadequacy of this tool has been identified as major hindrance to development [68]. In Uganda, only 30% of births are registered and no data exists on coverage of vital registration of specific causes of death [12]. Data gathered should ascertain cause of death, guide policy and distribution of resources. In hospital settings, family planning, ANC and post natal care registers need to be used nationwide to monitor service utilisation. A technical committee should be established at district level to meet annually with parliamentary forum to discuss achievements, challenges and strategies to meet the targets.

II. Conclusion

Findings show there is still high neonatal and postnatal mortality in Uganda attributed to poor peripartum and postpartum care. Adapting the aforementioned multisectoral approach can be fundamental in achieving the proposed post MDG targets for newborn and child health by 2030.

Competing Interest: The author declares no conflict of interest. This reflective element was submitted in partial fulfilment for the award of Master of Science in Global Health and Infectious Diseases of the University of Edinburgh. The views expressed are those of the author and do not reflect any official views of the affiliation organisations nor those of government of Uganda.

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Table 1: Ugandan Health Indicators [2]

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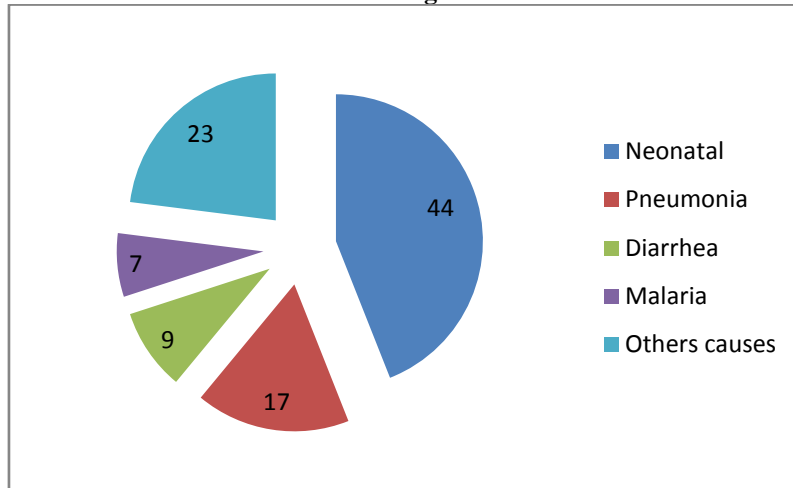


Figure 1: Global distribution of under-five causes of death in percentages [11]

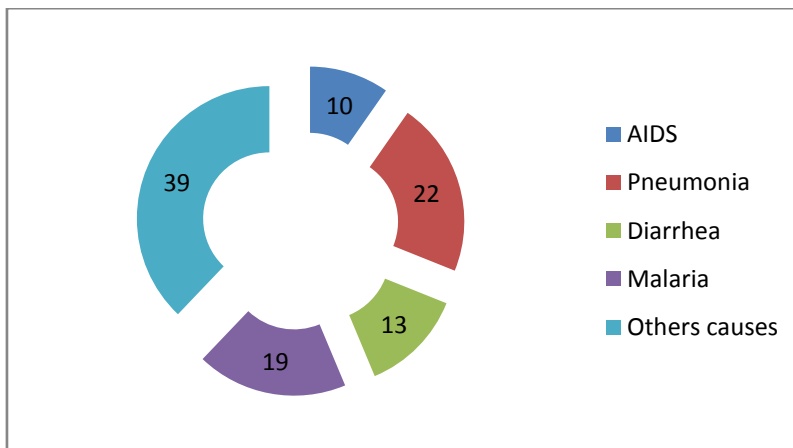


Figure 2: Percentage causes of death between 1 to 59 months of life in Uganda as of 2010 [12]

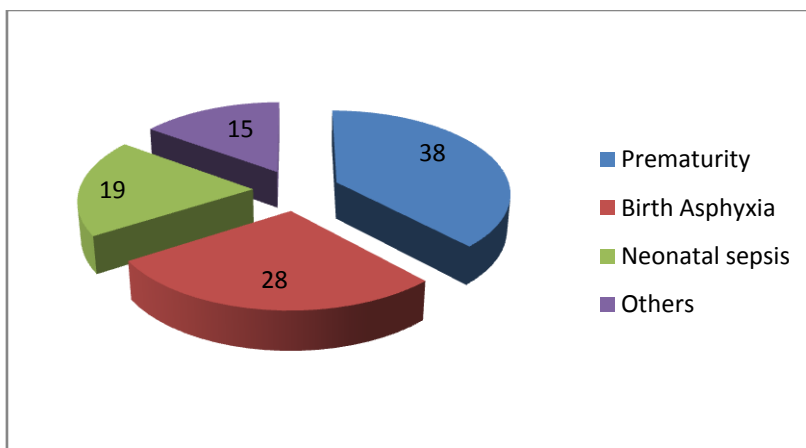


Figure 3: Percentage distribution of causes of neonatal deaths in Uganda [12]

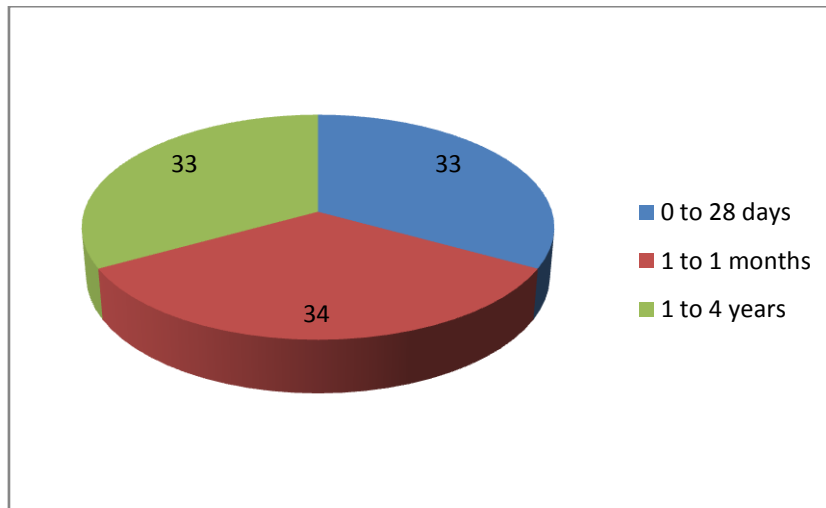


Figure 4: Percentage distribution of under-five deaths in Uganda by age category [13]