

system data from registries, qualitative interviews, focus groups and flow mapping between post-partum (CPP), high-risk child clinic (CCR), and HIV clinic (TARV).

**Findings:** Poor linkage between CPP and CCR (55%), slow turn-around time of PCR results (6–8 weeks), and low rates of ART initiation in HIV+ infants (24%) were crucial shortcomings identified in the system. Obstacles to optimal care, as elucidated by interviews and focus groups, included long wait times, stigma, acceptability, and poor male involvement.

**Going Forward/Interpretation:** After identifying key weaknesses in the cascade, a targeted intervention was designed. First, to strengthen linkage between CPP and CCR, a patient tracking system was introduced. Infant forms are filled at the first CPP visit, and nurses review these forms daily to identify any infants remaining in CPP over 4 weeks of age. Mothers of infants whose charts remain in CPP over a month are contacted and referred to CCR, where PCR testing occurs. Secondly, to reduce the likelihood that infants will become lost in transition between services and to improve retention once ART is initiated, HIV services were integrated within CCR, thus eliminating a separate referral to TARV. This integration allows both mother and baby to receive HIV care in CCR for several months, where they are already linked to care and known by staff. Both components utilize community health workers (*activistas*) to accompany, track, and seek out lost infants using SMS, phone calls, and home visits. This intervention is being piloted at six health centers using a stepped-wedge design, and will conclude in early 2017.

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### Demographic and mortality analysis of hospitalized children at a referral hospital in Addis Ababa, Ethiopia

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**Background:** Global childhood mortality rates remain high. Millennium Development Goal 4 focused efforts on reducing rates by two-thirds between 1990 and 2015. In Ethiopia, child mortality rates dropped 69% from 1990 to 2013, however it is estimated that 196,000 Ethiopian children die each year. There is limited information about pediatric hospital admissions in Ethiopia. Our aims were to examine the temporal relationship of mortality to admission, describe the demographics, and identify cause mortality of children admitted to the Zewditu Memorial Hospital (ZMH).

**Methods:** A four-year retrospective review of pediatric admissions was conducted at the pediatric emergency room and pediatric hospital ward at ZMH in Addis Ababa, Ethiopia. Admission entries from 2011–2014 of children age 29 days–14 years were reviewed. Age, gender, admission date, disease classification, discharge status and date were obtained. Chi-square analysis was used to compare patient gender and a descriptive analysis was

used for age, mortality, early mortality (death occurring within 2 days of admission), and cause mortality.

**Findings:** A total of 6,866 patient entries were reviewed. The proportion of admissions younger than age 5 was 0.75 (95%CI 0.74–0.76). Overall mortality was 0.042 (95%CI, 0.04–0.05). The proportion of recorded deaths occurring within 2 days of admission was 0.44 (95%CI 0.43–0.45). The proportion of male admissions was significantly higher than female admissions in all age groups (Males 57.5%, Females 42.5%,  $p < 0.0001$ , 95%CI 0.56–0.59). The main causes of mortality were pneumonia (25.3%), severe acute malnutrition (22.2%), HIV/AIDS-related complications (5.6%), spina bifida (4.9%), and hydrocephalus (4.5%).

**Interpretation:** Our study revealed a lower mortality rate than previously reported in Ethiopia. Despite this, 44% of pediatric hospital mortality occurred early during hospitalization, higher than reported at other Ethiopian hospitals. This adds further evidence that systematic efforts should be dedicated to improve pediatric emergency care. Admissions included 58% male patients, similar to other reports in Ethiopia implying that this may be a nation-wide phenomenon. The observed disparity may be due to societal factors regarding care-seeking behaviors or male predilection for respiratory illness warranting further investigation. Cause mortality patterns were similar to reports in analogous settings.

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### Advancing a science of sustaining health in Madagascar

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**Program/Project Purpose:** PIVOT is a new global health NGO implementing a health system strengthening initiative in Ifanadiana,