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Master Thesis Title: Essential Intrapartum and Newborn Care practices and its effect on Neonatal Mortality – A secondary analysis of the 2013 Philippines National Demographic and Health Survey

### **Executive Summary**

To reduce neonatal mortality, WHO and UNICEF, along other stakeholders, have launched the Every Newborn Plan envisioning *"every pregnancy to be wanted, every birth celebrated, and women, babies and children survive, thrive and reach their full potential"*. It advocates for proper continuity between maternal and child-healthcare programmes, offering mothers access to family planning, antenatal care, skilled birth attendance and postnatal care.

The plan considers birth as the most vulnerable time for the mother-child dyad, and proposes the Essential Intrapartum and Newborn Care programme to protect them. In the Philippines, adopted since 2009 as Unang Yakap (First Embrace), it includes a number of sequential evidence-based actions aiming to reduce risks for the new dyad. With encouraging initial results, DOH soon mandated its implementation at the national level; however, training, equipment and supervision was not provided at all facilities.

This study evaluates the effects of three EINC actions on Neonatal Mortality using data of the 2013 Philippines National Demographic and Health Survey.

The association was assessed using Logistic Regression for Complex Survey Data in StataIC 14. Immediate skin-to-skin contact, early initiation of breastfeeding and exclusive breastfeeding in the first 3 days of life were the primary exposures considered as proxy of EINC actions, and neonatal deaths within 2-28 days of life as the outcome. Other secondary exposures assessed were place of birth, type of assistance during delivery, complications during labor, type of delivery, postnatal care timing and provider, birthweight, maternal age, maternal educational attainment, wealth index, place of residence and region.

From the 7,009 included observations, 32 cases of neonatal deaths were reported.

The results reflect generally poor compliance with EINC actions: regardless of their outcome, 65% of neonates were put in immediate skin-to-skin contact, 53% were breastfed

within an hour after birth and 38% were exclusively breastfed in the first 72 hours of life; the numbers show little variation since 2003. Delayed breastfeeding initiation was the only action of the primary exposures to be significantly associated with neonatal mortality (OR 11.04 CI: 1.97-61.7). This association was higher when controlling for the confounding effect of education and by the effect modification of birthweight, increasing the risk by 200%.

Regarding the action of immediate skin-to-skin contact, it is suspected its duration was sub-optimal suggested by the difference in the compliance levels between this practice and breastfeeding initiation, knowing from previous studies that these two are associated. Living in a rural area was a risk factor supported only by bivariable analysis due to non-convergence of data when other variables were included in the model.

The results reflect that healthcare services are not ready to deal with high risk cases, preventing the country from reducing the NMR. The underuse of c-sections (9.3%), the higher proportion of neonatal deaths happening at home and public health facilities (97%) compared with private facilities (3%), the estimation of more than 75% neonates having been checked by a healthcare worker during postnatal period and not preventing them from experiencing complications, linked with PSA reporting birth hypoxia as one of the leading causes of neonatal mortality in the country, support this assumption.

Even when the number of births in facilities has increased, a large number of births are still happening at home (38%) without the supervision of a SBA (73%). The recommendation is to promote the EINC at the community level, training TBAs and approaching mothers and family members through different communication strategies. Training and equipping healthcare workers and services and reaching the marginalized aiming to reduce socio-demographic inequities should also be a priority.

Moreover, better quality of data is needed to reduce neonatal deaths. Even when NDHS reaches large samples, missing data due to recall bias poses a challenge for anyone exploring mortality. In this study, this resulted in non-convergence of data of some variables and large confidence intervals. A large number of data was missing because questions were not asked when the observation was not the last birth of the respondent. In addition, national statistics do not include data on cause of death or gestational age, both important for planning purposes.