

**Thesis Title:** An Interrupted Time-Series Study to Determine Whether Health Centre Intrapartum Care Contributes to Stillbirth, Maternal and Neonatal Mortality Reduction in Leyte Gulf and Golden Harvest Inter-Local Health Zones in Leyte Province, the Philippines

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**Key Words:** Health Centre Intrapartum Care (HCIC), Health policy assessment, Maternal Mortality Ratio (MMR), Neonatal Mortality Ratio (NMR), Stillbirth, Quality of care

**Problem Statement and Objectives:** The MDGs are expected to achieve in 2 years and many studies were carried out for the purpose. The recent studies showed the significance of stillbirths to the MDG4&5 indicators owing to its association with the indicators. Intrapartum care is also proven to be the key to address the deaths - maternal and neonatal deaths and stillbirths. HCIC is a proven-to-be-effective strategy to address the deaths by providing quality of intrapartum care which includes basic essential obstetric care and BEmOC (Basic Emergency Obstetric Care). EINC (Essential Intrapartum Newborn Care) and BEmONC (Basic Emergency Obsteric and Newborn Care) are equivalent to HCIC which were implemented between 2010 and early 2011 in the study area. The overall objective is to understand the status of MDG 4 and 5a as well as to investigate the relationship between HCIC and MMR, NMR and stillbirths (indicators) in the study area, over 2000-2012. The four specific objectives are: 1. To investigate the potential change over time of the indicators, 2. To investigate the HCIC coverage over time and association between the coverage with the indicators, 3. To compare HCIC between BEmONC and Non-BEmONC facilities with regard to the indicators and 4. Based on research findings, to discuss and suggest strategies to achieve MDG targets.

**Methods:** This is an interrupted time-series study. The data was collected from patients' records and logbooks at the targeted facilities. Segmented regression analysis was used for the data analysis. In the statistical analysis, two parameters – level and trend – are used to define each segment of a time series. An outcome was a drop or jump in the level and the trends of pre and post-HCIC implementation periods. First-order auto-correlation is detected using the Durbin-Watson test, followed by the Prais-Winsten regression method to address the first-order auto-correlation.

**Findings:** A total of 12,077 deliveries in logbooks and reviewed 5,814 patients' records over 2000-2012. The patterns of change over time for MMR and stillbirths are similar, while the NMR remains at a low level throughout. Examination of HCIC coverage reveals different

trends. The statistical analysis shows that EINC has had a greater impact on the indicators (MMR, NMR and stillbirth rate) than BEmONC. There were larger negative trends in the indicators during the pre-HCIC implementation period than in the post-implementation period. There are no significant differences in the levels and trends between BEmONC and Non-BEmONC RHUs, in the reduction of MMR, NMR and stillbirth rate by HCIC implementation.

**Discussion and Conclusion:** The statistical analysis does not demonstrate that HCIC has an impact of reducing the indicators, although visual inspection of the series shows downward trends. Assessing the solely HCIC effect using a quantitative study has its limitations due to the history of health policy in the Philippines. Comprehensive analysis is required in connection with other research data to assess the association between HCIC and the indicators, as well as the association between health service providers (BEmONC/non-BEmONC) and the indicators. This thesis concludes with ten implications for policy, research and future surveys.