**Access and Utilization of Maternal Health Care and Their Effects on Maternal Health in Kisumu County: A Multinomial Nested Logit Estimation**

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**Abstract**

Safe motherhood is prerequisite for reducing maternal related death emerging from pregnancy complications. Maternal health care during pregnancy is define in three phases: ante-natal, delivery and post-natal. In all these phases maternal mortality needs to be in check. This can be enabled through provision of access and promoting utilization of maternal health care to all expectant mothers. Maternal health is characterized by number of women who had safe expectancy period, delivered without complications naturally and surgically assisted and had no complications during the six weeks of post-natal period. The control group will be characterized by number of women who did experience complication in the three phases; expectancy; delivery and post delivery period Though, there are new initiatives such as Presidential decree of June 2013 on provision free maternal health care services in all public health utilities, there are still a number of expectant mothers who do not access and utilize these services. Furthermore, the literature relating to access and utilization of maternal health care have not determined simultaneously the emerging supply (access) and demand (utilization) side factors. The main objective of this study is to determine access and utilization of maternal health care and their effects on maternal health using discrete choice modelling approach. Specifically, this study will determine extent of access and utilization of maternal health care in Kenya; measure effectiveness of access to maternal health care on maternal health; and determine whether utilization is of maternal health care is effective on maternal health. Cross-sectional survey data will be collected from health centres and mother who are at the expectancy stage, delivery phase and postnatal stage. This study is anchored on health production model. The targeted population is 1000 mothers for cross-sectional data and a census of health service providers for maternal care within Kisumu County will provide a longitudinal data for five years for the three stages of maternal care. A multinomial nested logit estimation will carried out for the cross-sectional data and the longitudinal data will be estimated using linear dynamic panel estimation method. Access and utilization of maternal health is expected to improve maternal health care in all the stages of motherhood process. This study will benefit the health policy makers at the Ministry of Health and County Health Board to improve access and utilization of maternal health care. In so doing, maternal health complications arising from child birth and maternal mortality are likely to be reduced.

Keywords: Access, Utilization, Maternal Health, Multinomial Nested Logit, Linear Dynamic Panel.