

Supplementary file 2

Summary of variables used in analysis

LEVEL Dimension and variable	Response options	Availability	
		Live births	Stillbirths
GEOGRAPHIC ZONE			
Geographic zone (aggregation of regions into 8 zones, same as by DHS)	Western; Lake; Northern; Central; Southwest highlands; Southern Highlands; Southern; and Eastern	Yes	Yes
HOUSEHOLD CHARACTERISTICS			
Household wealth quintile (provided by DHS in the dataset)	Poorest; Poorer; Middle; Richer; Richest	Yes	Yes
Household size (mean number of members)	continuous	Yes	Yes
SOCIO-ECONOMIC CHARACTERISTICS OF THE WOMAN			
Maternal education and literacy	No education; Primary education/illiterate; Primary education/literate; Secondary or higher	Yes	Yes
Marital status at survey	Married or cohabiting; Not married/cohabiting	Yes	Yes
Maternal age group at time of birth (in years)	<20; 20-29; 30-49	Yes	Yes
Maternal decision-making about health - person who decides about woman's health care	Self (alone or in combination with others); Not the respondent at all (others)	Yes	Yes
Maternal relocation (fewer than 5 years lived in current residence at time of survey)	Yes; No	Yes	Yes
Maternal anaemia at survey (adjusted for altitude, smoking and current pregnancy)	Yes; No	Yes	Yes
Maternal mobile phone ownership	Yes; No	Yes	Yes
Ownership of health insurance	Yes; No	Yes	Yes
PREGNANCY AND HEALTH-SEEKING BEHAVIOUR			
Mode of childbirth	Vaginal; Caesarean	Yes	No
Multiple birth (twins or higher order multiples)	Yes; No	Yes	No
Birth order and preceding birth interval (months)	First child; 2nd or 3rd child with <24 months birth interval; 2nd or 3rd child with 24+ months birth interval; 4th or higher birth order child with <24 months birth interval; 4th or higher birth order child with 24+ months birth interval	Yes	No
Sex of child	Male; Female	Yes	No
Pregnancy wanted at the time of conception	Yes; No	Yes	No
Place of birth	Home; Lower level facility; Hospital	Yes	No
Antenatal care during pregnancy	No ANC; 1-3 visits; 4 or more visits	Most recent only	No
Child weighed at birth	Yes; No	Most recent only	No
Child's birthweight category among babies who were weighed (in grams)	Low (<2500g); Normal (2500g-4000g); Macrosomia (>4000g)	Most recent only (if weighed)	No
OUTCOME			
Neonatal death (<30 days of live birth)	Yes; No	Yes	not applicable
Among neonatal deaths: Age of child at death in days	Continuous: 1 (day of birth) – 30	Yes (if neonatal death)	not applicable
Among neonatal deaths: Category of time of death	Day of birth; Day 2-7 (early); Day 8-30 (late)	Yes (if neonatal death)	not applicable
Among neonatal deaths if birth in health facility: Timing of neonatal death in relation to mother's discharge	Before mother discharged; After mother discharged	Yes (if facility delivery, most recent child & neonatal death)	not applicable
Stillbirth (death before birth after 7+ months of pregnancy)	Yes; No	not applicable	Yes
Perinatal death (death after 7+ months of pregnancy up to 7 days after birth)	Yes; No	Yes	Yes
EXPOSURE			
Residence according to DHS	Rural; Urban	Yes	Yes
GHS-SMOD exposure	Core urban; Semi-urban; Rural	Yes	Yes
Mean travel time from cluster to nearest hospital	continuous in minutes, continuous in hours	Yes	Yes
Category of travel time to nearest hospital	<2 hours; 2 hours or more	Yes	Yes