

## Supplementary Appendix S2

### Equations accompanying the Costing approach

Equations deriving the annual health system cost for antenatal care, the cost of scaling up to universal coverage and the expected cost of the eight-visit model	Equation Number	Notes
Capital Costs:		
$C = (E + I)$	EQ1	C: Capital costs; E: Cost of equipment; and I: Cost of infrastructure.
Recurrent Costs for the first and follow-up antenatal clinic visits		
$R_1 = (H + M_1 + O)$	EQ2a	H: Cost of human resources; O: Cost of overheads; M <sub>1</sub> : Cost of medicines and medical Supplies used during the first visit; and R <sub>1</sub> : Recurrent costs for the first antenatal clinic visit
$R_2 = (H + M_2 + O)$	EQ2b	M <sub>2</sub> : Cost of medicines and medical supplies used during a follow-up visit; and R <sub>2</sub> : Recurrent costs for the follow-up antenatal clinic visit
Cost of the first and follow-up antenatal clinic visits		
$ANC_1 = C + R_1$	EQ3a	ANC <sub>1</sub> : Cost of the first antenatal care visit
$ANC_2 = C + R_2$	EQ3b	ANC <sub>2</sub> : Cost of the follow-up antenatal care visit
Cost of four antenatal clinic visits		
$fANC = ANC_1 + 3(ANC_2)$	EQ4	fANC: Cost of four antenatal clinic visits (also called focused antenatal care)

Annual health system cost for antenatal care		
$fANC \times U$	EQ5	U: antenatal care utilization (number of pregnant women visiting antenatal clinic at least four times throughout pregnancy)
Expected cost of universal coverage of four antenatal clinic visits <sup>*,**</sup>		
$UC = (1(R_1) + 3(R_2)) \times P$	EQ6	UC: Expected financial cost of universal coverage of four antenatal clinic visits (or of focused antenatal care); P: population of pregnant women *: only includes financial costs **: costs are not discounted
Expected cost of universal coverage of eight antenatal clinic visits or budget impact analysis <sup>*,**</sup>		
$BIA = (1(R_1) + 7(R_2)) \times P$	EQ7	BIA: budget impact analysis of making eight antenatal clinic visits throughout pregnancy *: only includes financial costs **: costs are not discounted