

SUPPLEMENTARY MATERIAL

This file includes supplementary analyses that complement the main findings and pictures that describe the ‘Three Delays Model’ and the Ethiopian health system structure cited in the full text of the article.

Table A1. Crude and multivariable-adjusted prevalence ratios for neonatal death associated with ‘timing of decision to conduct caesarean section’ versus vaginal delivery, Ethiopian DHS, 2016

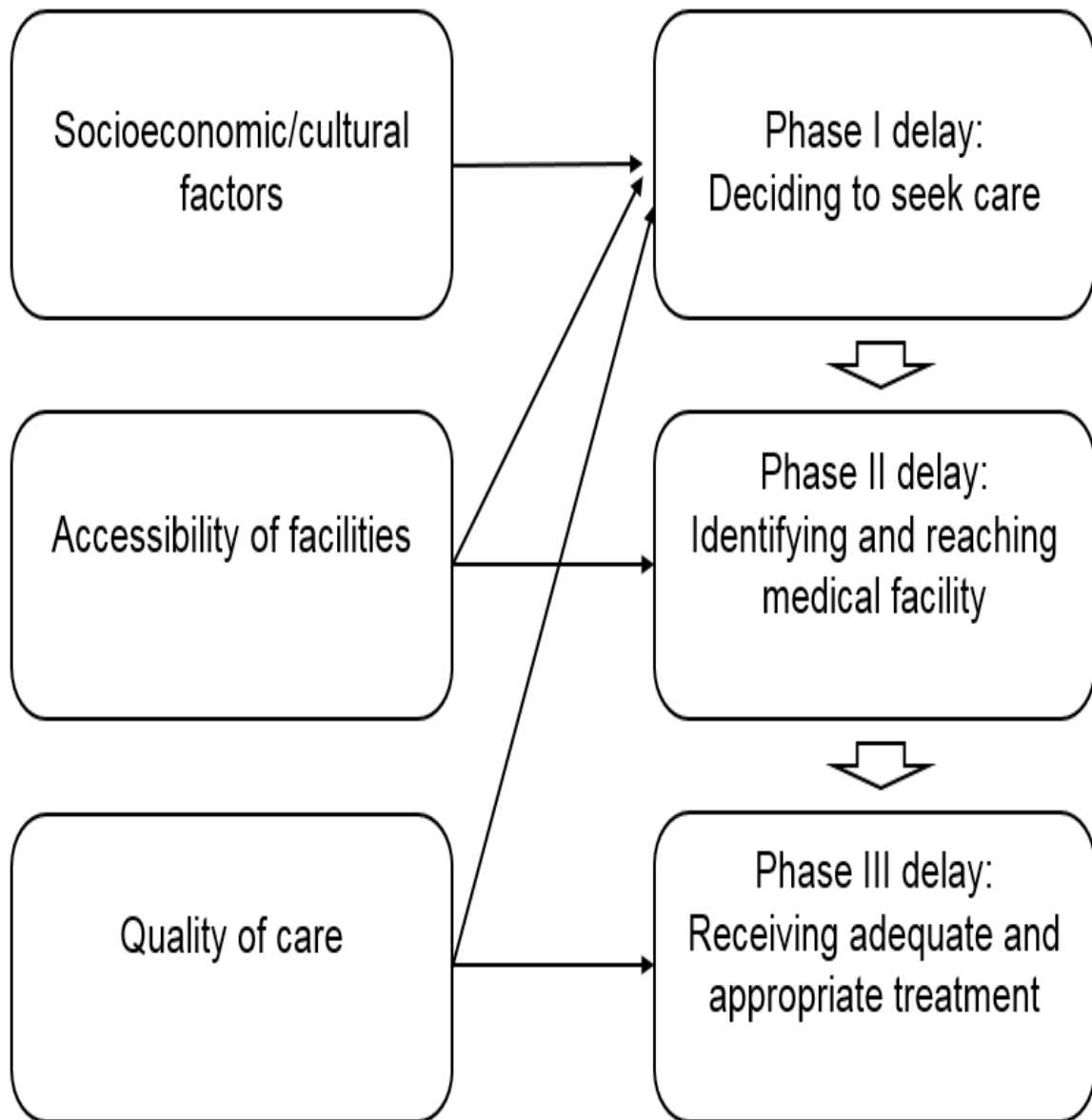
	Prevalence ratio (95% CI) for neonatal death
Unadjusted (n= 10 641)	
Vaginal delivery	1 [<i>Ref.</i>]
Caesarean section decided before onset of labour	4.21 (1.34 to 13.19)
Caesarean section decided after onset of labour	2.31 (0.84 to 6.41)
Adjusted^a (n=10 641)	
Vaginal delivery	1 [<i>Ref.</i>]
Caesarean section decided before onset of labour	3.79 (1.03 to 13.93)
Caesarean section decided after onset of labour	2.26 (0.75 to 6.82)

^aAdjusted for place of delivery, type of residence (urban/rural), sex of child, size of baby at birth, mother’s age at birth, mother’s education, birth order, household wealth.

NB: ‘Timing of decision to conduct caesarean section’—caesarean section that was planned before the onset of labour pains and caesarean section that was decided after the onset of labour pains—was used as a proxy to ‘types of caesarean section’.

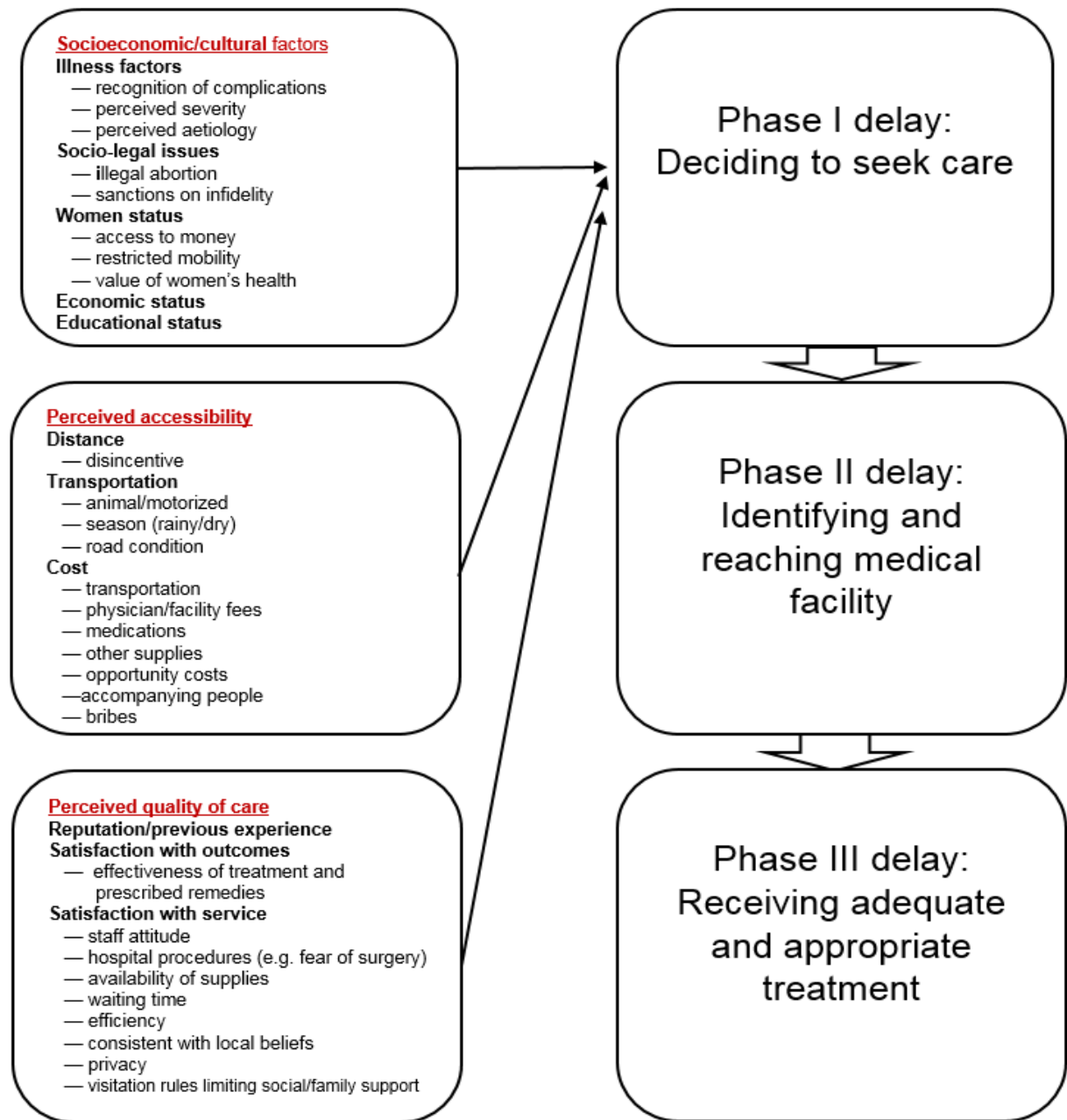
Table A2. Trends in proportion of neonatal deaths in the 5 years before each of the surveys according to residence and region, Ethiopia DHS 2000, 2005, 2011 and 2016

	Survey year								
	2000 %	Number of births	2005 %	Number of births	2011 %	Number of births	2016 %	Number of births	Absolute change %
Residence									
Urban	4.4	1 277	4.4	815	3.9	1528	3.4	1 216	-1.0
Rural	4.8	10 983	3.9	10348	3.7	10344	2.8	9 807	-2.0
Region									
Tigray	5.3	788	2.7	698	4.1	753	2.7	716	-2.6
Affar	2.9	126	2.9	107	1.9	121	2.6	114	-0.3
Amhara	4.8	3 202	5.2	2621	4.5	2656	3.2	2 072	-1.6
Oromia	5.3	4 999	3.8	4411	3.4	5014	2.8	4 851	-2.5
Somali	3.8	142	3.0	477	2.9	364	4.1	508	+0.3
Benishangul-Gumuz	6.3	124	3.8	105	4.8	140	2.9	122	-3.4
SNNPR	4.0	2 602	3.4	2500	3.5	2494	2.5	2 296	-1.5
Gambela	5.3	29	2.4	31	3.6	40	2.8	27	-2.5
Harari	3.7	25	2.2	22	4.1	29	3.1	26	-0.6
Addis Ababa	2.8	182	2.9	153	2.2	222	2.1	244	-0.7
Dire Dawa	3.7	40	2.7	37	1.6	39	3.0	47	-0.7
Total	4.8	12 260	3.9	11 163	3.7	11 872	2.9	11 023	-2.0



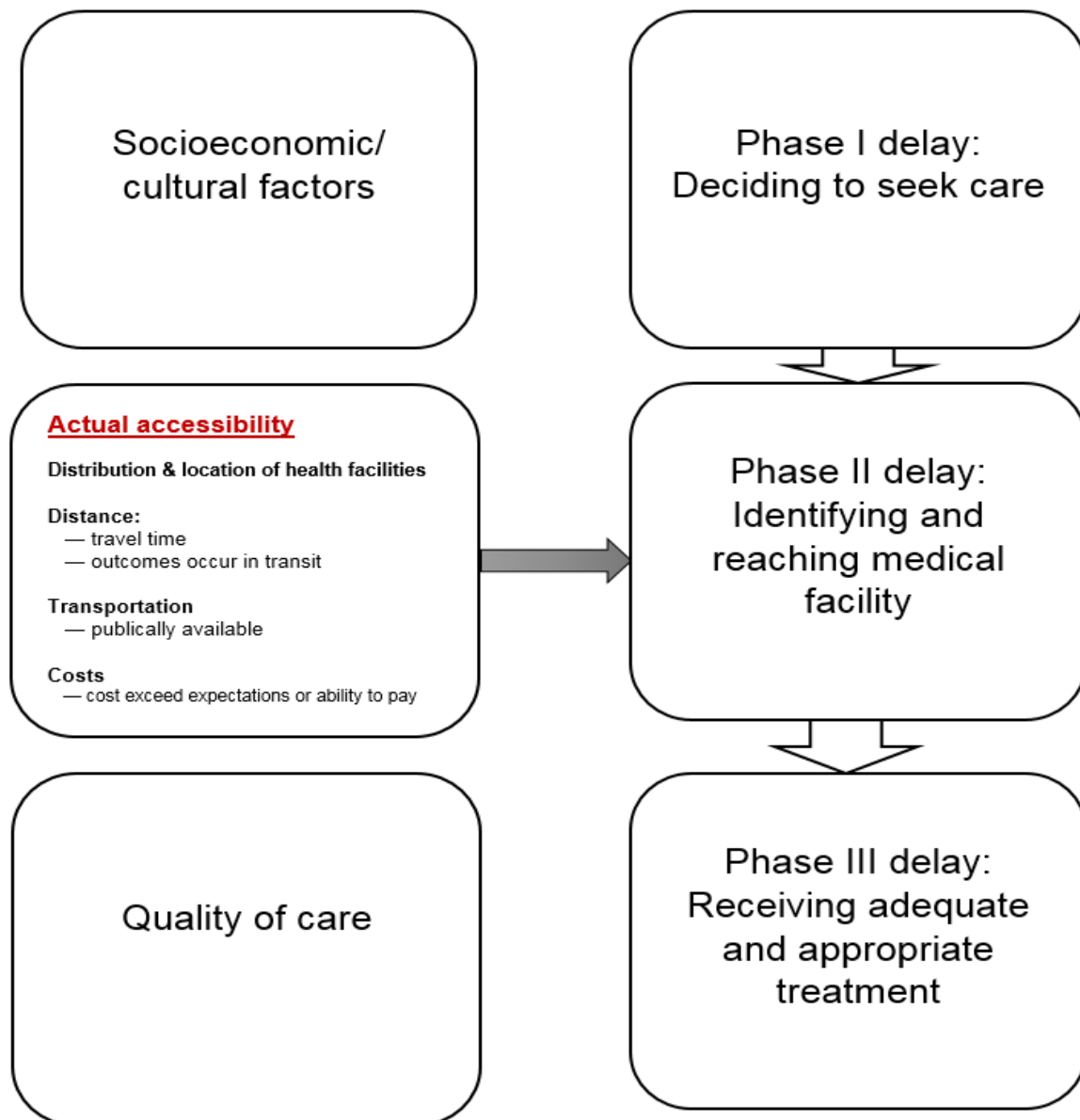
Source: *Soc Sci Med*, 1994; **38**(8): 1091-110.¹

Figure A1. The 'Three Delays Model'



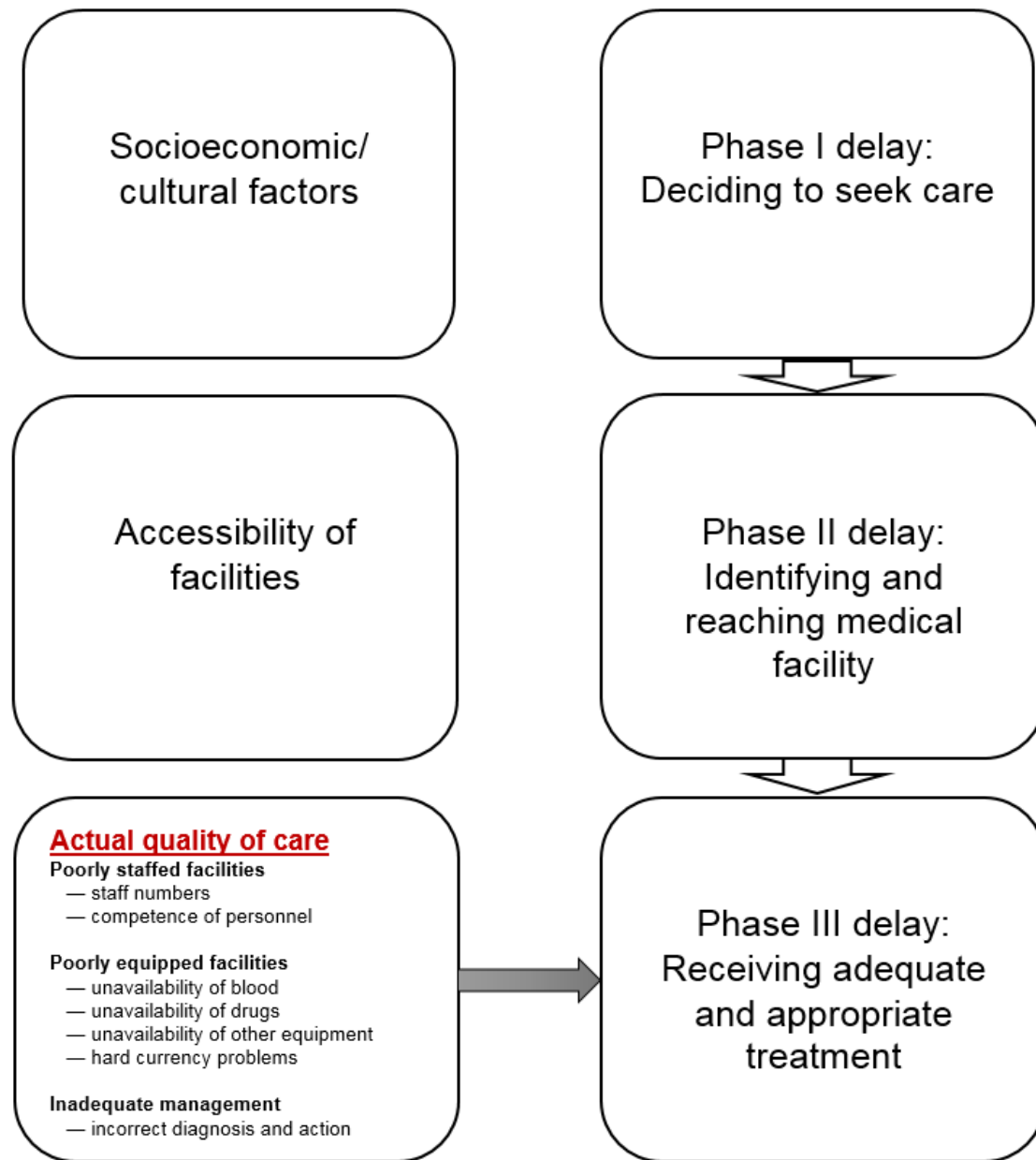
Source: *Soc Sci Med*, 1994; 38(8): 1091-110.¹

Figure A2. Phase I delay, detail



Source: *Soc Sci Med*, 1994; **38**(8): 1091-110.¹

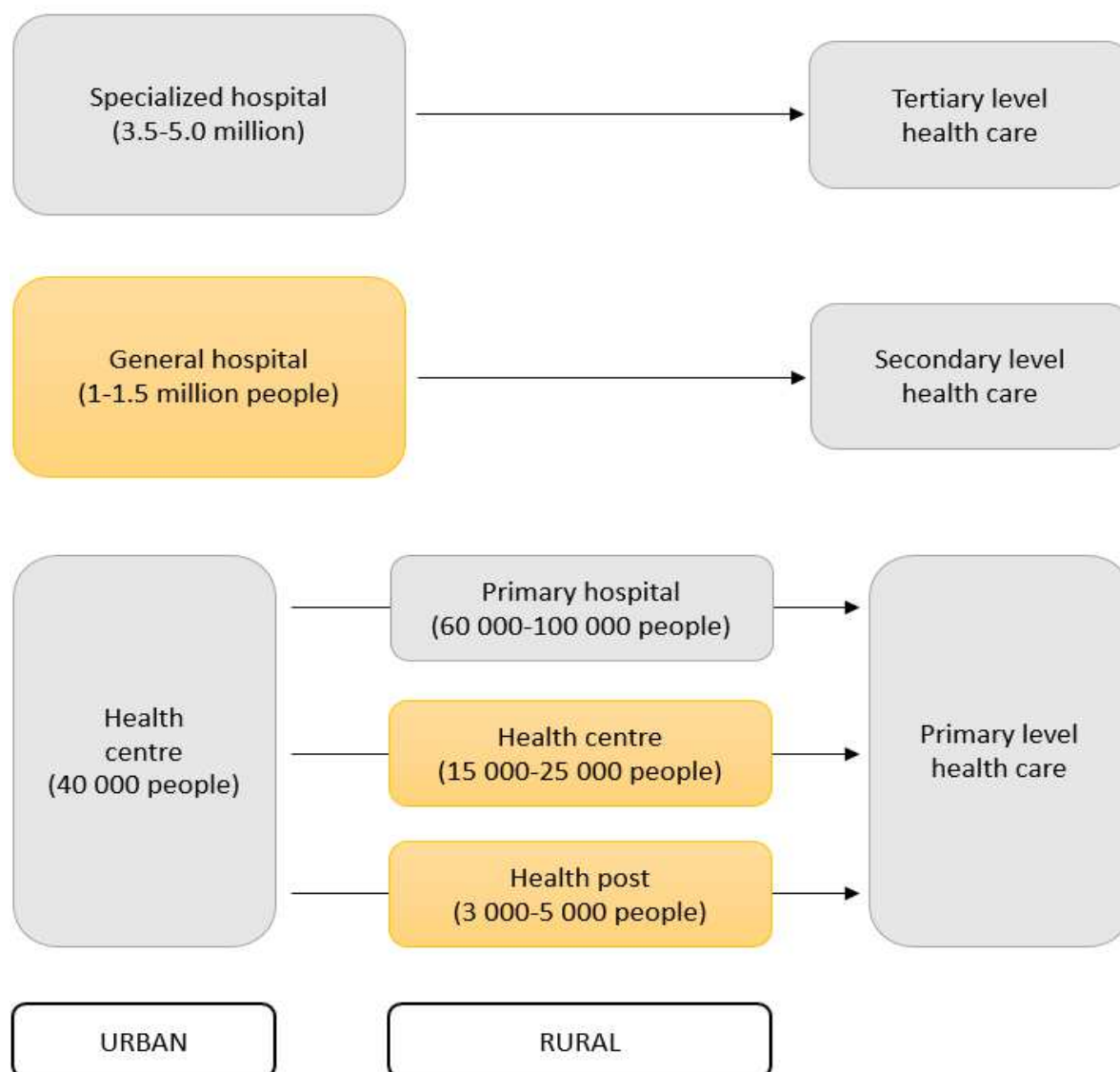
Figure A3. Phase II delay, detail



Source: *Soc Sci Med*, 1994; **38**(8): 1091-110.¹

Figure A4. Phase III delay, detail

Ethiopian health tier system



Source: Ethiopian Health Sector Transformation Plan, 2015,² and World Health Organization, 2017.³

Figure A5. Ethiopian health system structure

References

1. Thaddeus S, Maine D. Too far to walk: maternal mortality in context. *Soc Sci Med* 1994; **38**(8): 1091-110.
2. Ministry of Health. Health Sector Transformation Plan. Addis Ababa: Federal Democratic Republic of Ethiopia; 2015.
3. WHO. Primary health care systems (PRIMASYS): case study from Ethiopia, abridged version. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.