

Appendix 1: Clinical Vignettes

1. Vignette 1: A 3 month old baby, who has always been healthy and playful, has been coughing quite a lot in the last few days and is breathing rapidly. The baby has difficulty sleeping because of this cough.
 - 1a. What would you do? (code 1) [If 11 go to 2]
 - 1b. When would you take the baby to this facility? (code 2)

 2. Vignette 2: A 1 year old girl, generally in good health, has diarrhea for 3 days now. She is still drinking some fluids, but since this morning, she's feeling sleepy and doesn't want to play.
 - 2a. What would you do? (code 1) [If 11 go to 3]
 - 2b. When would you take the girl to this facility? (code 2)

 3. Vignette 3: A 20 year old male has always been healthy. For the last week, he has episodes of sudden coldness followed by rigor and then fever and sweating. These episodes occur about every two days. In between episodes he can still do some light housework.
 - 3a. What would you do? (code 1) [If 11 go to 4]
 - 3b. When would you go to this facility? (code 2)

 4. Vignette 4: A 25 year old male has got a small cut in his leg when working on the field three days ago. The wound has become red and from time to time he feels a throbbing pain in his leg, but he can still walk around and do some work.
 - 4a. What would you do? (code 1) [If 11 go to 5]
 - 4b. When would you go to this facility? (code 2)

 5. Vignette 5: A 35 year old female has been coughing for three weeks now. She feels more tired than usual but can still do some housework. Her relatives think she looks thinner than a few weeks ago.
 - 5a. What would you do? (code 1)
 - 5b. When would you go to this facility? (code 2)
- Code 1**
1=go to Health post
2=go to Health center
3=go to Private clinic
4=go to Mission/NGO clinic
5=go to Public hospital
6=go to Private hospital
7=go to Mission/NGO hospital
8=go to Pharmacy/drug store
9=go to religious healer
10= go to traditional healer
11=do nothing
- Code 2**
1=immediately
2=the next day if symptoms continue
3=after two days if symptoms continue
4=between three days and a week if symptoms continue
5=after a week if symptoms continue
6=after more than a week if symptoms continue

Characteristics	Region				Total sample	N
	Tigray	Amhara	Oromiya	SNNPR		
Male headed households (1/0)	0.72	0.91	0.91	0.90	0.86	1,632
Age of the household heads (years)	48.01	47.64	44.01	45.25	46.23	1,631
Head's education (1/0)						
No education at all	0.59	0.43	0.46	0.38	0.47	1,631
Informal education	0.08	0.26	0.14	0.03	0.13	1,631
Primary	0.31	0.29	0.36	0.49	0.36	1,631
Secondary or postsecondary	0.01	0.02	0.04	0.10	0.04	1,631
Religion of the head (1/0)						
Orthodox Christian	0.99	0.50	0.49	0.10	0.52	1,632
Protestant	0.00	0.00	0.02	0.76	0.19	1,632
Muslim	0.01	0.50	0.49	0.05	0.26	1,632
Other religion or no religion	0.00	0.00	0.00	0.10	0.03	1,632
HH size (number of persons)	5.17	5.69	5.91	6.40	5.79	1,632
Household composition						
Proportion of children aged under 6	0.15	0.13	0.17	0.14	0.15	1,632
Proportion of males aged 6 to 15	0.15	0.15	0.18	0.16	0.16	1,632
Proportion of females aged 6 to 15	0.14	0.15	0.14	0.16	0.15	1,632
Proportion of males aged 16 to 64	0.22	0.26	0.24	0.26	0.25	1,632
Proportion of females aged 16 to 64	0.26	0.26	0.24	0.25	0.25	1,632
Proportion of elderly aged above 64	0.08	0.05	0.03	0.03	0.05	1,632
Self-assessed health status (SAH)						
Proportion of household members with good SAH						1,632
Proportion of household members with fair SAH	0.70	0.74	0.93	0.79	0.79	1,632
Proportion of household members with low SAH	0.24	0.22	0.05	0.15	0.17	1,632
Consumption quintiles (1/0)	0.05	0.04	0.01	0.06	0.04	
Poorest quintile	0.22	0.15	0.06	0.37	0.20	1,593
2 nd quintile	0.26	0.21	0.11	0.22	0.20	1,593
3 rd quintile	0.22	0.22	0.21	0.15	0.20	1,593
4 th quintile	0.14	0.24	0.29	0.12	0.20	1,593
Richest quintile	0.16	0.17	0.33	0.14	0.20	1,593
Modern care can be trusted (1/0)						
Disagree	0.14	0.05	0.06	0.08	0.08	1,627
Neither agree nor disagree	0.07	0.03	0.09	0.06	0.06	1,627
Agree	0.80	0.92	0.85	0.86	0.85	1,627
Access to public infrastructure						
Water using from public sources (1/0)	0.77	0.57	0.34	0.67	0.59	1,631
Use electricity (1/0)	0.06	0.15	0.02	0.06	0.07	1,626
No TV signal (1/0)	0.80	0.53	0.81	0.68	0.70	1,631
No mobile signal (1/0)	0.92	0.73	0.74	0.78	0.79	1,632
Travel time to the nearest health post (in minutes)	34.54	31.2	24.65	21.36	27.81	1,599
Travel time to the nearest health center (in minutes)	74.38	65.65	63.92	54.68	64.66	1,632
Travel time to the nearest public hospital (in minutes)	140.87	116.83	96.31	88.68	110.65	1,631

Appendix 2: Means of covariates

Region	Hospitals		Health center (HC)		Health post (HP)		Primary health care coverage
	N	Hospital-Pop. Ratio	N	HC-Pop. Ratio	N	HP-Pop. Ratio	
Tigray	14	1:340,168	183	1:26,024	552	1:8627	58.0
Amhara	19	1:969,200	724	1:25,435	3,093	1:5954	84.0
Oromia	41	1:742,648	991	1:30,725	6,053	1:5030	99.4
SNNPR	20	1:843,242	513	1:32,875	3,603	1:4681	106.8
National	122	1:671,402	2,660	1:30,794	15,095	1:5426	92.1

Appendix 3: Regional distribution of health facilities in 2011

Source: Ethiopian health and health related indicator statistics obtained from the Ethiopian Federal Ministry of Health (FMoH).

Health care use indicator	%
Obtained health care conditional on illness/injury (percent of those reporting illness/injury)	69.58
Source of care (percent who report conditional on illness/injury)	
Health post	7.42
Health center	50.65
Private clinic	18.49
Mission/NGO clinic	0.78
Public hospital	8.98
Private hospital	1.56
Mission/NGO hospital	0.91
Pharmacy/drug store	4.04
Religious healer	0.52
Traditional healer	2.99
At home	2.47
Neighbor's home	0.26
Other	0.91

Notes: Table shows outpatient health care utilization for the sample of household members reporting illness/injury in the two months preceding the survey (N=1161)

Appendix 4: Outpatient care utilization

VARIABLES	Health center		Public/Private/ NGO hospital/clinic		Other care options	
	RRR (95%CI)	p value	RRR (95%CI)	p value	RRR (95%CI)	p value
Head sex	1.02 (0.69 to 1.52)	0.92	2.23 (0.83 to 6.02)	0.11	0.76 (0.22 to 2.64)	0.67
Head age	0.99 (0.98 to 1)	0.19	1 (0.97 to 1.03)	0.98	1.01 (0.97 to 1.05)	0.75
Head's education (ref: no education at all)						
Informal education	1.62 (1.07 to 2.46)	0.02	0.76 (0.33 to 1.77)	0.52	0.81 (0.16 to 4.1)	0.80
Primary & higher	1.25 (0.92 to 1.68)	0.15	0.61 (0.34 to 1.1)	0.10	0.53 (0.19 to 1.43)	0.21
Household size	1.07 (0.98 to 1.15)	0.12	1.02 (0.87 to 1.19)	0.85	0.96 (0.73 to 1.26)	0.76
HH composition (ref: Prop. of male adults aged 16 to 64)						
Prop. of children aged under 6	0.25 (0.08 to 0.73)	0.01	0.48 (0.05 to 5.01)	0.54	23.11 (0.42 to 1279.6)	0.13
Prop. of males aged 6 to 15	0.7 (0.25 to 1.98)	0.51	3.84 (0.47 to 31.08)	0.21	8.08 (0.2 to 333.62)	0.27
Prop. of females aged 6 to 15	0.93 (0.32 to 2.73)	0.89	2.16 (0.23 to 20.73)	0.50	40.93 (0.91 to 1833.71)	0.06
Prop. of females aged 16 to 64	0.49 (0.16 to 1.53)	0.22	0.77 (0.06 to 9.95)	0.84	3.77 (0.05 to 258.91)	0.54
Prop. of elderly aged above 64	0.91 (0.26 to 3.19)	0.89	0.05 (0 to 2.43)	0.13	20.16 (0.38 to 1073.38)	0.14
HH health status (ref: Prop. of households with good SAH)						
Prop. of household with fair & low SAH	0.69 (0.46 to 1.02)	0.06	0.34 (0.12 to 0.94)	0.04	0.35 (0.07 to 1.63)	0.18
Consumption quintiles (ref: poorest quintile)						
2 nd quintile	1.44 (0.98 to 2.12)	0.06	2.43 (1.05 to 5.62)	0.04	0.42 (0.11 to 1.68)	0.22
3 rd quintile	1.38 (0.93 to 2.05)	0.11	2.63 (1.1 to 6.31)	0.03	0.88 (0.24 to 3.19)	0.84
4 th quintile	1.42 (0.94 to 2.14)	0.10	2.96 (1.21 to 7.22)	0.02	1.62 (0.49 to 5.34)	0.42
Richest quintile	1.4 (0.89 to 2.2)	0.15	4.38 (1.75 to 10.97)	0.00	1.22 (0.32 to 4.68)	0.78
Trust in modern health care (ref: disagree)						
Agree	0.66 (0.43 to 1.02)	0.06	0.71 (0.27 to 1.84)	0.48	0.41 (0.13 to 1.29)	0.13
Neither agree nor disagree	0.38 (0.2 to 0.7)	0.00	0.53 (0.13 to 2.09)	0.37	0.93 (0.21 to 4.16)	0.92
Access to public infrastructure						
Water using from public sources	1.38 (1.06 to 1.8)	0.02	0.64 (0.38 to 1.09)	0.10	1.02 (0.44 to 2.37)	0.97
Use electricity	4.51 (2.41 to 8.47)	0.00	5.2 (1.9 to 14.21)	0.00	0 (0 to .)	0.98
No TV signal	0.88 (0.65 to 1.2)	0.43	0.77 (0.42 to 1.42)	0.41	0.41 (0.16 to 1.05)	0.06
No mobile signal	1.81 (1.28 to 2.56)	0.00	0.85 (0.45 to 1.61)	0.63	0.82 (0.28 to 2.36)	0.71
Travel time to the nearest health post (in minutes)	1.01 (1.01 to 1.02)	0.00	1 (0.99 to 1.02)	0.72	1.01 (0.99 to 1.03)	0.26
Travel time to the nearest health center (in minutes)	0.99 (0.99 to 0.99)	0.00	1 (1 to 1.01)	0.53	0.99 (0.98 to 1)	0.27
Travel time to the nearest public hospital (in minutes)	1 (1 to 1)	0.24	0.99 (0.99 to 1)	0.03	1.01 (1 to 1.02)	0.00
Religion of the head (ref: Muslim & other religions)						
Orthodox Christian	2.92 (2.05 to 4.16)	0.00	4.22 (2.25 to 7.9)	0.00	1.9 (0.5 to 7.3)	0.35
Protestant	1.73 (0.99 to 3.02)	0.06	0.6 (0.26 to 1.41)	0.24	1.26 (0.28 to 5.62)	0.76
Regions(ref: SNNPR)						
Tigray	0.39 (0.21 to 0.72)	0.00	0.03 (0.01 to 0.11)	0.00	0.06 (0.01 to 0.43)	0.01
Amhara	5.64 (3.15 to 10.11)	0.00	0.54 (0.23 to 1.29)	0.17	0.58 (0.11 to 2.93)	0.51
Oromiya	2.23 (1.26 to 3.97)	0.01	0.28 (0.12 to 0.66)	0.00	0.1 (0.01 to 0.76)	0.03

Pseudo R²

0.1758

N

1,527

Notes: *** p<0.01, ** p<0.05, * p<0.1. The reference outcome is health posts. Other care options include do nothing, traditional healers, religious healers, and pharmacies/drug stores.

Appendix 5A: Probability of seeking care for ARI/pneumonia– Relative risk ratios, based on multinomial logit specifications

VARIABLES	Health center		Public/Private/ NGO hospital/clinic		Other care options	
	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value
Head sex	0.95 (0.64 to 1.41)	0.79	1.36 (0.56 to 3.29)	0.50	1.11 (0.22 to 5.7)	0.90
Head age	0.99 (0.98 to 1)	0.07	0.99 (0.96 to 1.02)	0.42	1.01 (0.97 to 1.06)	0.62
Head's education (ref: no education at all)						
Informal education	1.31 (0.85 to 2.01)	0.23	0.44 (0.18 to 1.07)	0.07	3.04 (0.65 to 14.25)	0.16
Primary & higher	0.89 (0.66 to 1.2)	0.45	0.6 (0.35 to 1.02)	0.06	0.94 (0.3 to 2.98)	0.92
Household size			1.14 (0.99 to 1.32)	0.07	0.97 (0.7 to 1.33)	0.83
HH composition (ref: Prop. of male adults aged 16 to 64)	1.07 (0.98 to 1.16)	0.11				
Prop. of children aged under 6	0.28 (0.1 to 0.85)	0.02	0.14 (0.02 to 1.15)	0.07	8.48 (0.11 to 650.03)	0.33
Prop. of males aged 6 to 15	0.77 (0.27 to 2.19)	0.62	0.84 (0.12 to 5.94)	0.87	5.47 (0.11 to 271.94)	0.39
Prop. of females aged 6 to 15	0.52 (0.18 to 1.54)	0.24	0.38 (0.05 to 2.91)	0.35	0.14 (0 to 18.09)	0.43
Prop. of females aged 16 to 64	0.66 (0.21 to 2.05)	0.47	0.55 (0.05 to 5.96)	0.63	2.65 (0.03 to 226.79)	0.67
Prop. of elderly aged above 64	0.82 (0.23 to 2.88)	0.76	0.11 (0 to 2.67)	0.17	34.99 (0.61 to 1992.14)	0.09
HH health status (ref: Prop. of households with good SAH)						
Prop. of household with fair & low SAH	0.75 (0.51 to 1.11)	0.15	0.44 (0.18 to 1.11)	0.08	0.42 (0.07 to 2.42)	0.33
Consumption quintiles (ref: poorest quintile)						
2 nd quintile	1.48 (1.01 to 2.17)	0.04	2.48 (1.17 to 5.24)	0.02	0.49 (0.1 to 2.33)	0.37
3 rd quintile	1.66 (1.11 to 2.48)	0.01	2.21 (0.99 to 4.95)	0.05	1.03 (0.25 to 4.31)	0.97
4 th quintile	1.39 (0.92 to 2.1)	0.12	2.73 (1.25 to 5.99)	0.01	1.69 (0.41 to 6.95)	0.47
Richest quintile	1.46 (0.93 to 2.29)	0.10	2.63 (1.12 to 6.16)	0.03	0.58 (0.11 to 3.07)	0.52
Trust in modern health care (ref: disagree)						
Agree	0.7 (0.45 to 1.1)	0.12	0.72 (0.3 to 1.75)	0.47	0.24 (0.06 to 0.91)	0.04
Neither agree nor disagree	0.35 (0.19 to 0.65)	0.00	0.56 (0.17 to 1.82)	0.34	0.97 (0.18 to 5.1)	0.97
Access to public infrastructure						
Water using from public sources	1.11 (0.85 to 1.45)	0.44	0.65 (0.4 to 1.06)	0.08	1.85 (0.66 to 5.15)	0.24
Use electricity	3.96 (2.06 to 7.62)	0.00	5.58 (2.13 to 14.62)	0.00	0 (0 to .)	0.99
No TV signal	0.76 (0.55 to 1.04)	0.08	0.93 (0.54 to 1.62)	0.80	0.37 (0.12 to 1.16)	0.09
No mobile signal	0.93 (0.65 to 1.33)	0.67	0.3 (0.17 to 0.52)	0.00	0.83 (0.24 to 2.85)	0.76
Travel time to the nearest health post (in minutes)	1.02 (1.01 to 1.02)	0.00	1 (0.99 to 1.02)	0.78	1.03 (1 to 1.05)	0.03
Travel time to the nearest health center (in minutes)	0.99 (0.99 to 1)	0.00	1 (1 to 1.01)	0.25	0.98 (0.97 to 0.99)	0.01
Travel time to the nearest public hospital (in minutes)	1 (1 to 1)	0.56	0.99 (0.99 to 1)	0.00	1.01 (1.01 to 1.02)	0.00
Religion of the head (ref: Muslim & other religions)						
Orthodox Christian	3.06 (2.1 to 4.47)	0.00	3.67 (2.05 to 6.57)	0.00	1.2 (0.21 to 6.91)	0.84
Protestant	1.98 (1.14 to 3.44)	0.02	0.71 (0.3 to 1.65)	0.42	0.42 (0.1 to 1.72)	0.23
Regions(ref: SNNPR)						
Tigray	0.41 (0.23 to 0.76)	0.00	0.04 (0.01 to 0.13)	0.00	0.01 (0 to 0.15)	0.00
Amhara	4.28 (2.4 to 7.63)	0.00	1.08 (0.46 to 2.55)	0.86	0.11 (0.02 to 0.67)	0.02
Oromiya	3.2 (1.8 to 5.69)	0.00	1.06 (0.46 to 2.44)	0.90	0 (0 to .)	0.97
Pseudo R ²				0.1761		
N				1,537		

Notes: *** p<0.01, ** p<0.05, * p<0.1. The reference outcome is health posts. Other care options include do nothing, traditional healers, religious healers, and pharmacies/drug stores.

Appendix 5B: Probability of seeking care for diarrhea– Relative risk ratios based on multinomial logit specifications

VARIABLES	Health center		Private/ NGO clinic		Public/Private/ NGO hospital		Other care options	
	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value
Head sex	1.1 (0.71 to 1.71)	0.67	1.29 (0.5 to 3.32)	0.60	1.87 (0.62 to 5.7)	0.27	1.03 (0.34 to 3.11)	0.96
Head age	0.99 (0.97 to 1)	0.14	1 (0.97 to 1.03)	0.89	0.99 (0.96 to 1.02)	0.41	0.95 (0.92 to 0.99)	0.01
Head's education (ref: no education at all)								
Informal education	1.55 (0.88 to 2.73)	0.13	1.06 (0.45 to 2.5)	0.89	1.55 (0.62 to 3.92)	0.35	6.45 (2.37 to 17.54)	0.00
Primary & higher	0.71 (0.5 to 1)	0.05	0.53 (0.29 to 0.95)	0.03	0.99 (0.49 to 2.01)	0.97	0.28 (0.11 to 0.72)	0.01
Household size	1.06 (0.97 to 1.16)	0.19	1.16 (1 to 1.35)	0.06	1.08 (0.9 to 1.29)	0.43	1.29 (1.06 to 1.57)	0.01
HH composition (ref: Prop. of male adults aged 16 to 64)								
Prop. of children aged under 6	0.64 (0.19 to 2.18)	0.47	0.45 (0.05 to 4.4)	0.49	0.43 (0.03 to 5.29)	0.51	0.58 (0.02 to 13.91)	0.74
Prop. of males aged 6 to 15	1.26 (0.38 to 4.15)	0.71	2.73 (0.34 to 22.16)	0.35	1.91 (0.17 to 21.88)	0.60	4.23 (0.24 to 74.55)	0.32
Prop. of females aged 6 to 15	1.05 (0.31 to 3.6)	0.93	1.53 (0.17 to 13.58)	0.70	1.23 (0.1 to 15.49)	0.88	1.83 (0.09 to 39.14)	0.70
Prop. of females aged 16 to 64		0.60		0.27		0.74	13.12 (0.55 to 312.47)	0.11
Prop. of elderly aged above 64	0.72 (0.21 to 2.47)	0.51	0.23 (0.02 to 3.1)	0.53	0.62 (0.04 to 10.35)	0.38	331.77 (14.61 to 7533.88)	0.00
HH health status (ref: Prop. of households with good SAH)								
Prop. of household with fair & low SAH	0.94 (0.62 to 1.42)	0.75	0.96 (0.39 to 2.35)	0.93	0.47 (0.17 to 1.31)	0.15	0.13 (0.03 to 0.65)	0.01
Consumption quintiles (ref: poorest quintile)								
2 nd quintile	1.99 (1.32 to 3.01)	0.00	3.98 (1.74 to 9.11)	0.00	3.36 (1.05 to 10.78)	0.04	0.86 (0.32 to 2.28)	0.76
3 rd quintile	2.23 (1.43 to 3.48)	0.00	3.7 (1.55 to 8.81)	0.00	4.8 (1.52 to 15.2)	0.01	0.8 (0.26 to 2.5)	0.70
4 th quintile	2.57 (1.59 to 4.17)	0.00	4.2 (1.72 to 10.23)	0.00	8.62 (2.78 to 26.76)	0.00	4.82 (0.19 to 26.64)	0.74
Richest quintile	1.99 (1.19 to 3.33)	0.01	5.44 (2.14 to 13.81)	0.00	5.16 (1.53 to 17.37)	0.01	1.06 (0.35 to 3.19)	0.92
Trust in modern health care (ref: disagree)								
Agree	0.39 (0.22 to 0.69)	0.00	0.99 (0.3 to 3.28)	0.99	0.54 (0.16 to 1.79)	0.32	0.08 (0.03 to 0.19)	0.00
Neither agree nor disagree	0.2 (0.1 to 0.43)	0.00	0.42 (0.09 to 1.99)	0.27	0.27 (0.05 to 1.49)	0.13	0.17 (0.05 to 0.63)	0.01
Access to public infrastructure								
Water using from public sources	1.08 (0.79 to 1.47)	0.65	0.74 (0.44 to 1.25)	0.26	0.47 (0.25 to 0.89)	0.02	0.63 (0.31 to 1.3)	0.21
Use electricity	3.83 (1.73 to 8.5)	0.00	1.81 (0.54 to 6.08)	0.34	6.23 (1.9 to 20.39)	0.00	3.75 (0.87 to 16.2)	0.08
No TV signal	0.47 (0.32 to 0.69)	0.00	0.48 (0.26 to 0.89)	0.02	2.14 (0.99 to 4.61)	0.05	0.4 (0.18 to 0.89)	0.02
No mobile signal	1.35 (0.87 to 2.09)	0.17	0.51 (0.27 to 0.96)	0.04	0.44 (0.21 to 0.92)	0.03	1.28 (0.52 to 3.16)	0.60
Travel time to the nearest health post (in minutes)	1.01 (1 to 1.02)	0.00	1 (0.98 to 1.01)	0.53	1 (0.99 to 1.02)	0.82	0.99 (0.97 to 1.01)	0.47
Travel time to the nearest health center (in minutes)	0.99 (0.99 to 0.99)	0.00	1 (1 to 1.01)	0.39	1 (0.99 to 1.01)	0.83	1 (0.99 to 1.01)	0.67
Travel time to the nearest public hospital (in minutes)	1 (1 to 1.01)	0.03	0.99 (0.99 to 1)	0.01	1 (1 to 1.01)	0.32	1.01 (1 to 1.01)	0.01
Religion of the head (ref: Muslim & other religions)								
Orthodox Christian	2.45 (1.53 to 3.94)	0.00	1.82 (0.95 to 3.47)	0.07	0.72 (0.34 to 1.55)	0.41	0.36 (0.1 to 1.31)	0.12
Protestant	2.35 (1.29 to 4.26)	0.01	0.49 (0.2 to 1.21)	0.12	0.35 (0.09 to 1.37)	0.13	1.59 (0.46 to 5.57)	0.47
Regions (ref: SNNPR)								
Tigray	0.87 (0.45 to 1.67)	0.68	0.07 (0.02 to 0.28)	0.00	0.57 (0.14 to 2.4)	0.44	0.18 (0.03 to 1.17)	0.07

Amhara	4.98 (2.65 to 9.37)	0.00	1.38 (0.57 to 3.36)	0.48	3.01 (0.9 to 10.1)	0.07	1.28 (0.34 to 4.84)	0.72
Oromiya	10.47 (5.26 to 20.83)	0.00	3.73 (1.49 to 9.36)	0.01	3.72 (1.07 to 12.97)	0.04	0.31 (0.05 to 2.04)	0.22
Pseudo R ²							0.192	
N							1,523	

Notes: *** p<0.01, ** p<0.05, * p<0.1. The reference outcome is health posts. Other care options include do nothing, traditional healers, religious healers, and pharmacies/drug stores.

Appendix 5C: Probability of seeking care for malaria – Relative risk ratios based on multinomial logit specifications

VARIABLES	Health center		Private/ NGO clinic		Public/Private/ NGO hospital		Other care options	
	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value	RRR (95%CI)	<i>p</i> value
Head sex	0.84 (0.54 to 1.3)	0.43	1.63 (0.57 to 4.7)	0.37	2.1 (0.68 to 6.43)	0.19	1.28 (0.34 to 4.8)	0.72
Head age	0.99 (0.98 to 1)	0.18	1 (0.97 to 1.03)	0.80	1 (0.97 to 1.03)	0.89	0.99 (0.95 to 1.03)	0.49
Head's education (ref: no education at all)								
Informal education	1.14 (0.71 to 1.84)	0.59	0.4 (0.17 to 0.97)	0.04	0.58 (0.23 to 1.5)	0.27	0.4 (0.08 to 2.11)	0.28
Primary & higher	0.81 (0.58 to 1.14)	0.23	0.42 (0.23 to 0.75)	0.00	0.7 (0.35 to 1.42)	0.32	0.36 (0.13 to 1)	0.05
Household size	1.08 (0.99 to 1.18)	0.08	1.07 (0.92 to 1.25)	0.38	1.07 (0.89 to 1.28)	0.50	1.05 (0.81 to 1.37)	0.71
HH composition (ref: Prop. of male adults aged 16 to 64)								
Prop. of children aged under 6	1.1 (0.33 to 3.65)	0.88	1.43 (0.15 to 13.92)	0.76	2.21 (0.19 to 25.73)	0.53	102.09 (2.15 to 4839.41)	0.02
Prop. of males aged 6 to 15	1.82 (0.58 to 5.72)	0.31	2.33 (0.28 to 19.63)	0.44	2.15 (0.18 to 26.09)	0.55	92.38 (2.57 to 3319.86)	0.01
Prop. of females aged 6 to 15	0.86 (0.26 to 2.8)	0.80	1.17 (0.13 to 10.57)	0.89	0.45 (0.03 to 6.32)	0.56	4.52 (0.08 to 241.39)	0.46
Prop. of females aged 16 to 64	0.94 (0.28 to 3.13)	0.92	0.14 (0.01 to 2.2)	0.16	1.21 (0.08 to 18.12)	0.89	8.44 (0.14 to 494.04)	0.30
Prop. of elderly aged above 64	1.17 (0.31 to 4.48)	0.81	0.18 (0.01 to 4.22)	0.29	2.02 (0.14 to 28.7)	0.60	93.49 (2.11 to 4138.52)	0.02
HH health status (ref: Prop. of households with good SAH)								
Prop. of household with fair & low SAH	0.8 (0.53 to 1.19)	0.27	0.98 (0.4 to 2.4)	0.97	0.84 (0.32 to 2.19)	0.73	0.2 (0.04 to 1.14)	0.07
Consumption quintiles (ref: poorest quintile)								
2 nd quintile	1.79 (1.2 to 2.67)	0.01	2.99 (1.36 to 6.58)	0.01	7.39 (1.47 to 37.25)	0.02	1.46 (0.44 to 4.85)	0.54
3 rd quintile	1.62 (1.06 to 2.49)	0.03	2.51 (1.11 to 5.72)	0.03	11.48 (2.36 to 55.8)	0.00	1.6 (0.41 to 6.28)	0.50
4 th quintile	2.7 (1.68 to 4.33)	0.00	2.91 (1.22 to 6.96)	0.02	28.87 (5.99 to 139.06)	0.00	3.41 (0.98 to 11.84)	0.05
Richest quintile	1.82 (1.11 to 2.98)	0.02	3.11 (1.25 to 7.72)	0.02	9.32 (1.78 to 48.69)	0.01	4.49 (1.3 to 15.53)	0.02
Trust in modern health care (ref: disagree)								
Agree	0.4 (0.24 to 0.68)	0.00	2.73 (0.58 to 12.81)	0.20	0.98 (0.26 to 3.65)	0.97	0.09 (0.04 to 0.25)	0.00
Neither agree nor disagree	0.3 (0.15 to 0.64)	0.00	0.88 (0.13 to 5.92)	0.90	0.44 (0.07 to 2.77)	0.38	0.48 (0.13 to 1.87)	0.29
Access to public infrastructure								
Water using from public sources	1.02 (0.76 to 1.38)	0.88	0.71 (0.42 to 1.2)	0.20	0.34 (0.18 to 0.66)	0.00	0.99 (0.42 to 2.35)	0.99
Use electricity	2.34 (1.22 to 4.47)	0.01	2.38 (0.86 to 6.59)	0.09	3.68 (1.09 to 12.42)	0.04	0.94 (0.17 to 5.1)	0.95
No TV signal	0.59 (0.41 to 0.84)	0.00	0.54 (0.3 to 0.97)	0.04	2.14 (0.99 to 4.61)	0.05	0.67 (0.27 to 1.65)	0.39
No mobile signal	1.17 (0.78 to 1.77)	0.44	0.41 (0.22 to 0.76)	0.00	0.39 (0.19 to 0.83)	0.01	0.56 (0.2 to 1.55)	0.26
Travel time to the nearest health post (in minutes)	1.02 (1.01 to 1.02)	0.00	1.01 (0.99 to 1.02)	0.39	1 (0.99 to 1.02)	0.63	1 (0.98 to 1.02)	0.90
Travel time to the nearest health center (in minutes)	0.99 (0.99 to 0.99)	0.00	1 (1 to 1.01)	0.48	1 (0.99 to 1.01)	0.68	1 (0.99 to 1.01)	0.64
Travel time to the nearest public hospital (in minutes)	1 (1 to 1)	0.03	0.99 (0.98 to 0.99)	0.00	1 (0.99 to 1)	0.47	1 (0.99 to 1.01)	0.62
Religion of the head (ref: Muslim & other religions)								
Orthodox Christian	2.75 (1.77 to 4.27)	0.00	1.79 (0.96 to 3.37)	0.07	0.68 (0.32 to 1.44)	0.31	0.17 (0.02 to 1.51)	0.11
Protestant	1.97 (1.09 to 3.54)	0.02	0.54 (0.21 to 1.36)	0.19	0.26 (0.06 to 1.09)	0.07	0.91 (0.23 to 3.61)	0.89
Regions (ref: SNNPR)								
Tigray	0.8 (0.43 to 1.52)	0.50	0.06 (0.01 to 0.3)	0.00	0.73 (0.18 to 2.96)	0.66	0.57 (0.05 to 6.98)	0.66

Amhara	3.95 (2.17 to 7.21)	0.00	1.37 (0.56 to 3.35)	0.50	1.55 (0.46 to 5.28)	0.48	1.06 (0.24 to 4.62)	0.94
Oromiya	10.56 (5.37 to 20.77)	0.00	5.59 (2.2 to 14.23)	0.00	4.22 (1.23 to 14.4)	0.02	0 (0 to .)	0.98
Pseudo R ²							0.199	
N							1,507	

Notes: *** p<0.01, ** p<0.05, * p<0.1. The reference outcome is health posts. Other care options include do nothing, traditional healers, religious healers, and pharmacies/drug stores.

Appendix 5D: Probability of seeking care for tetanus – Relative risk ratios based on multinomial logit specifications

VARIABLES	Private/ NGO clinic		Public/Private/ NGO hospital		Other care options	
	RRR (95%CI)	p value	RRR (95%CI)	p value	RRR (95%CI)	p value
Head sex	2.3 (0.77 to 6.93)	0.14	1.51 (0.76 to 2.98)	0.24	0.82 (0.53 to 1.27)	0.38
Head age	1.01 (0.98 to 1.03)	0.60	1 (0.98 to 1.02)	0.92	1.02 (1 to 1.03)	0.02
Head's education (ref: no education at all)						
Informal education	0.57 (0.26 to 1.26)	0.16	1.26 (0.75 to 2.13)	0.38	0.98 (0.58 to 1.65)	0.93
Primary & higher	0.73 (0.42 to 1.26)	0.26	0.9 (0.56 to 1.46)	0.67	1.56 (1.11 to 2.2)	0.01
Household size	0.97 (0.83 to 1.12)	0.64	1 (0.89 to 1.13)	0.97	0.97 (0.89 to 1.06)	0.46
HH composition (ref: Prop. of male adults aged 16 to 64)						
Prop. of children aged under 6	0.29 (0.03 to 2.47)	0.26	3.51 (0.68 to 18.04)	0.13	1.7 (0.5 to 5.77)	0.40
Prop. of males aged 6 to 15	1.38 (0.2 to 9.69)	0.75	2.16 (0.44 to 10.67)	0.35	0.79 (0.24 to 2.57)	0.70
Prop. of females aged 6 to 15	0.77 (0.1 to 6.04)	0.81	1.96 (0.37 to 10.33)	0.43	0.94 (0.28 to 3.17)	0.92
Prop. of females aged 16 to 64	0.21 (0.02 to 2.7)	0.23	3.05 (0.5 to 18.53)	0.23	2.43 (0.71 to 8.27)	0.16
Prop. of elderly aged above 64	0.15 (0.01 to 2.98)	0.21	3.9 (0.63 to 24.12)	0.14	1.63 (0.41 to 6.45)	0.48
HH health status (ref: Prop. of households with good SAH)						
Prop. of household with fair & low SAH	1.07 (0.45 to 2.54)	0.89	0.99 (0.51 to 1.92)	0.98	0.96 (0.63 to 1.47)	0.86
Consumption quintiles (ref: poorest quintile)						
2 nd quintile	1.35 (0.64 to 2.86)	0.43	1.81 (0.79 to 4.15)	0.16	0.45 (0.3 to 0.68)	0.00
3 rd quintile	1.19 (0.54 to 2.62)	0.66	2.22 (0.97 to 5.06)	0.06	0.48 (0.31 to 0.73)	0.00
4 th quintile	0.87 (0.38 to 1.98)	0.74	3.47 (1.55 to 7.75)	0.00	0.31 (0.19 to 0.5)	0.00
Richest quintile	1.34 (0.57 to 3.17)	0.50	2.95 (1.26 to 6.91)	0.01	0.45 (0.27 to 0.74)	0.00
Trust in modern health care (ref: disagree)						
Agree	3.53 (1.03 to 12.15)	0.05	1.23 (0.64 to 2.33)	0.54	2.38 (1.41 to 4.01)	0.00
Neither agree nor disagree	2.43 (0.52 to 11.31)	0.26	0.59 (0.19 to 1.84)	0.36	4.9 (2.46 to 9.76)	0.00
Access to public infrastructure						
Water using from public sources	0.69 (0.43 to 1.12)	0.14	0.56 (0.37 to 0.84)	0.01	0.94 (0.69 to 1.28)	0.69
Use electricity	0.86 (0.33 to 2.21)	0.75	1.43 (0.76 to 2.69)	0.26	0.4 (0.2 to 0.81)	0.01
No TV signal	1.02 (0.58 to 1.77)	0.96	1.24 (0.8 to 1.94)	0.34	1.5 (1.04 to 2.16)	0.03
No mobile signal	0.39 (0.23 to 0.68)	0.00	0.76 (0.48 to 1.2)	0.24	0.85 (0.56 to 1.28)	0.43
Travel time to the nearest health post (in minutes)	0.99 (0.97 to 1)	0.07	1 (0.99 to 1.01)	0.53	0.99 (0.99 to 1)	0.07
Travel time to the nearest health center (in minutes)	1.01 (1 to 1.02)	0.01	1 (1 to 1.01)	0.38	1.01 (1 to 1.01)	0.00
Travel time to the nearest public hospital (in minutes)	0.99 (0.98 to 0.99)	0.00	1 (0.99 to 1)	0.17	1 (0.99 to 1)	0.01
Religion of the head (ref: Muslim & other religions)						
Orthodox Christian	0.55 (0.32 to 0.96)	0.04	0.16 (0.1 to 0.27)	0.00	0.29 (0.18 to 0.46)	0.00
Protestant	0.25 (0.1 to 0.62)	0.00	0.14 (0.05 to 0.39)	0.00	0.37 (0.2 to 0.66)	0.00
Regions(ref: SNNPR)						
Tigray	0.12 (0.03 to 0.47)	0.00	1.26 (0.44 to 3.61)	0.67	1.24 (0.65 to 2.35)	0.52
Amhara	0.32 (0.13 to 0.75)	0.01	0.93 (0.38 to 2.25)	0.86	0.17 (0.09 to 0.32)	0.00
Oromiya	0.47 (0.2 to 1.1)	0.08	0.59 (0.24 to 1.47)	0.26	0.1 (0.05 to 0.19)	0.00
Pseudo R ²				0.176		
N				1,545		

Notes: *** p<0.01, ** p<0.05, * p<0.1. The reference outcome is health centers. Other care options include do nothing, traditional healers, religious healers, pharmacies/drug stores and health posts.

Appendix 5E: Probability of seeking care for tuberculosis – Relative risk ratios based on multinomial logit specifications

VARIABLES	ARI/ Pneumonia		Diarrhea		Malaria		Tetanus		Tuberculosis	
	OR (95%CI)	<i>p</i> value	OR (95%CI)	<i>p</i> value	OR (95%CI)	<i>p</i> value	OR (95%CI)	<i>p</i> value	OR (95%CI)	<i>p</i> value
Head sex	1.32 (0.93 to 1.89)	0.12	0.9 (0.65 to 1.26)	0.55	1.35 (0.99 to 1.86)	0.06	1.28 (0.94 to 1.76)	0.12	0.98 (0.68 to 1.41)	0.92
Head age	1.01 (1 to 1.02)	0.24	1.01 (1 to 1.02)	0.16	0.99 (0.98 to 1)	0.24	1 (0.99 to 1.01)	0.63	1 (0.99 to 1.02)	0.48
Head's education (ref: no education at all)										
Informal education	0.99 (0.7 to 1.41)	0.97	0.89 (0.64 to 1.24)	0.49	0.94 (0.68 to 1.28)	0.68	0.81 (0.59 to 1.11)	0.19	1.57 (1.12 to 2.18)	0.01
Primary & higher	0.78 (0.6 to 1.01)	0.06	0.66 (0.51 to 0.84)	0.00	0.66 (0.52 to 0.84)	0.00	0.81 (0.64 to 1.02)	0.08	1 (0.77 to 1.31)	0.97
Household size	0.97 (0.91 to 1.04)	0.41	0.99 (0.93 to 1.05)	0.72	0.92 (0.86 to 0.97)	0.01	0.9 (0.85 to 0.96)	0.00	0.95 (0.89 to 1.02)	0.15
HH composition (ref: Prop. of male adults aged 16 to 64)										
Prop. of children aged under 6	1.01 (0.39 to 2.62)	0.98	0.79 (0.32 to 1.93)	0.60	0.68 (0.29 to 1.62)	0.39	1.04 (0.45 to 2.43)	0.93	2.97 (1.15 to 7.63)	0.02
Prop. of males aged 6 to 15	1.19 (0.49 to 2.92)	0.70	0.8 (0.34 to 1.86)	0.60	0.77 (0.34 to 1.74)	0.53	1.24 (0.55 to 2.77)	0.61	1.33 (0.54 to 3.26)	0.53
Prop. of females aged 6 to 15	0.91 (0.36 to 2.32)	0.84	0.92 (0.38 to 2.21)	0.85	1.77 (0.78 to 4.05)	0.17	1.59 (0.69 to 3.65)	0.28	6.62 (2.63 to 16.69)	0.00
Prop. of females aged 16 to 64	1.23 (0.45 to 3.39)	0.69	1.04 (0.41 to 2.68)	0.93	1.01 (0.41 to 2.46)	0.99	1.24 (0.51 to 3.02)	0.64	1.23 (0.45 to 3.35)	0.68
Prop. of elderly aged above 64	1.09 (0.35 to 3.38)	0.88	0.85 (0.29 to 2.43)	0.76	1.06 (0.39 to 2.86)	0.91	1.13 (0.43 to 2.96)	0.80	1.84 (0.59 to 5.8)	0.30
HH health status (ref: Prop. of household with good SAH)										
Prop. of household with fair & low SAH	0.96 (0.68 to 1.36)	0.84	0.86 (0.61 to 1.2)	0.36	1.72 (1.25 to 2.36)	0.00	1.17 (0.86 to 1.61)	0.32	1.18 (0.83 to 1.69)	0.36
Consumption quintiles (ref: poorest quintile)										
2 nd quintile	0.94 (0.68 to 1.29)	0.69	0.84 (0.61 to 1.15)	0.27	1.09 (0.8 to 1.47)	0.59	0.99 (0.73 to 1.32)	0.93	0.94 (0.66 to 1.35)	0.75
3 rd quintile	0.81 (0.57 to 1.14)	0.22	0.93 (0.67 to 1.3)	0.67	0.84 (0.61 to 1.15)	0.27	0.65 (0.47 to 0.88)	0.01	0.91 (0.63 to 1.32)	0.62
4 th quintile	0.65 (0.45 to 0.93)	0.02	0.84 (0.59 to 1.18)	0.32	0.55 (0.39 to 0.77)	0.00	0.52 (0.37 to 0.71)	0.00	0.83 (0.57 to 1.2)	0.32
Richest quintile	0.61 (0.41 to 0.91)	0.02	1 (0.69 to 1.45)	0.99	0.63 (0.44 to 0.9)	0.01	0.48 (0.34 to 0.68)	0.00	1.02 (0.67 to 1.54)	0.93
Trust in modern health care (ref: disagree)										
Agree	1.47 (0.98 to 2.22)	0.07	1.46 (1 to 2.13)	0.05	0.83 (0.58 to 1.18)	0.30	0.82 (0.58 to 1.17)	0.28	1.7 (1.16 to 2.49)	0.01
Neither agree nor disagree	1.7 (0.98 to 2.96)	0.06	1.18 (0.7 to 1.99)	0.54	0.44 (0.27 to 0.72)	0.00	0.59 (0.36 to 0.98)	0.04	0.8 (0.45 to 1.42)	0.45
Access to public infrastructure										
Water using from public sources	0.76 (0.6 to 0.96)	0.02	1.01 (0.81 to 1.25)	0.94	0.76 (0.62 to 0.94)	0.01	0.79 (0.64 to 0.98)	0.03	0.92 (0.73 to 1.16)	0.46
Use electricity	0.63 (0.38 to 1.03)	0.07	0.65 (0.41 to 1.01)	0.06	1.1 (0.73 to 1.66)	0.64	0.67 (0.44 to 1.04)	0.08	0.95 (0.62 to 1.46)	0.82
No TV signal	0.72 (0.54 to 0.96)	0.03	0.48 (0.37 to 0.63)	0.00	0.5 (0.38 to 0.64)	0.00	0.55 (0.43 to 0.71)	0.00	0.46 (0.34 to 0.61)	0.00
No mobile signal	1.17 (0.86 to 1.6)	0.31	0.92 (0.69 to 1.22)	0.56	1.22 (0.93 to 1.6)	0.15	1.21 (0.93 to 1.59)	0.16	2.13 (1.58 to 2.88)	0.00
Travel time to the nearest health post (in minutes)	0.99 (0.99 to 1)	0.06	0.99 (0.99 to 1)	0.01	0.99 (0.99 to 1)	0.02	1.01 (1 to 1.01)	0.03	1 (1 to 1.01)	0.73
Travel time to the nearest health center (in minutes)	1 (0.99 to 1)	0.02	1 (1 to 1)	0.26	1 (1 to 1)	0.16	1 (1 to 1)	0.89	1 (1 to 1)	0.91
Travel time to the nearest public hospital (in minutes)	1 (1 to 1.01)	0.00	1 (1 to 1)	0.35	1 (1 to 1)	0.00	1 (1 to 1)	0.01	1 (1 to 1.01)	0.00
Religion of the head (ref: Muslim & other religions)										
Orthodox Christian	1.95 (1.43 to 2.65)	0.00	1.23 (0.93 to 1.63)	0.15	0.69 (0.53 to 0.91)	0.01	0.64 (0.49 to 0.84)	0.00	0.42 (0.32 to 0.56)	0.00
Protestant	0.94 (0.6 to 1.49)	0.81	1.05 (0.68 to 1.64)	0.81	0.76 (0.49 to 1.19)	0.23	0.69 (0.45 to 1.07)	0.09	0.64 (0.36 to 1.14)	0.13
Regions (ref: SNNPR)										
Tigray	0.29 (0.17 to 0.47)	0.00	0.66 (0.41 to 1.06)	0.09	0.49 (0.31 to 0.78)	0.00	0.45 (0.29 to 0.72)	0.00	0.41 (0.22 to 0.76)	0.01

Amhara	0.1 (0.06 to 0.17)	0.00	0.18 (0.11 to 0.28)	0.00	0.16 (0.1 to 0.25)	0.00	0.2 (0.13 to 0.31)	0.00	0.12 (0.06 to 0.21)	0.00
Oromiya	0.37 (0.23 to 0.6)	0.00	0.93 (0.59 to 1.45)	0.74	1.2 (0.77 to 1.87)	0.42	1.02 (0.66 to 1.58)	0.92	0.88 (0.49 to 1.57)	0.66
Pseudo R ²	0.081		0.063		0.064		0.052		0.088	
N	1,502		1,518		1,475		1,477		1,192	

Notes: *** p<0.01, ** p<0.05, * p<0.1. Except for the estimates in the last column, the modern health care option includes health posts, health centers, private clinics, mission/NGO clinics, public hospitals, private hospital, and mission/NGO hospitals. In the case of tuberculosis, health posts are not included as part of the modern care option.

Appendix 6: When to seek modern care – Odds ratios based on ordered logit specifications