Appendix A: Number of observations with missing data for each explanatory variable, by country and type of outlet

VARIABLE	CAMEROON (N=405)				NIGERIA (N=641)		
	Public	**Mission**	**Pharmacy**	**Drug Store**	**Public**	**Pharmacy**	**Drug Store**
Number of patients	N=202	N=80	N=52	N=71	N=323	N=60	N=258
Number of patients that were linked to provider	N=165	N=39	N=32	N=68	N=258	N=43	N=211
Level 1: Patient-Provider Interaction							
Provider knew ACT was first-line antimalarial for uncomplicated malaria	37	41	20	3	83	22	63
Provider reported having access to malaria treatment guidelines	37	41	20	3	66	18	47
Provider had attended malaria training in past 3 years	37	41	20	3	65	18	47
Provider's pre-service training	37	41	20	3	65	17	47
Provider stated ACT was best type of antimalarial for uncomplicated malaria	37	41	20	3	65	17	47
Provider reported the antimalarial that patients' usually ask for is ACT	37	41	20	3	100	17	47
Patient's gender	2	2	-	1	3	1	3
Patient's age group (<5years; 5+years)	5	-	-	-	2	-	3
Education of person that sought treatment	3	-	1	1	13	1	5
Wealth quintile of patient (relative to other patients)	-	-	-	-	-	-	-
Treatment was sought within 2 days following onset of fever	-	-	-	-	-	-	-
First time treatment was sought (for this illness episode)	-	-	-	-	-	-	-
Patient had previously taken antimalarial (for this illness episode)	-	-	-	-	-	-	-
Provider was told patient has diarrhoea or been vomiting	-	-	-	-	-	-	-
Patient was examined by provider	-	-	-	-	-	-	-
Patient reported malaria was confirmed using microscopy	-	-	-	-	-	-	-
Level 2: Outlet							
Outlet had ACT in stock	-	-	-	-	-	-	-
Outlet receives antimalarials from drug company representative	-	-	5	9	-	13	-
Urban / rural community	-	-	-	-	-	-	-

Appendix B: Factors associated with providers' decision to supply ACT in Cameroon (model does not include providers' stated preference for ACT)

	COMPLETE CASES		MULTIPLE IMPUTATION	
Number of patients	281		405	
Number of outlets	84		105	
FIXED EFFECTS	OR (95 CI)	P-value	OR (95 CI)	P-value
Level 1: Patient-Provider Interaction				
Provider knew ACT is first-line antimalarial for uncomplicated malaria	0.47 (0.13-1.70)	0.252	0.46 (0.17-1.27)	0.135
Provider had access to malaria guidelines	0.56 (0.17-1.79)	0.327	0.98 (0.35-2.70)	0.961
Provider had attended malaria training in past 3yrs	1.40 (0.47-4.23)	0.546	1.75 (0.63-4.90)	0.279
Provider's pre-service				
Doctor	1.22 (0.21-7.15)	0.763	3.07 (0.58-16.22)	0.097
Nurse / Midwife	0.61 (0.14-2.66)		1.39 (0.34-5.79)	
Pharmacist	0.72 (0.03-15.06)		0.20 (0.03-1.60)	
Nurse Assistant	1.39 (0.32-6.01)		2.85 (0.68-11.97)	
None (Attendant/drug seller)	1.0		1.0	
Provider stated patients usually ask for ACT	3.02 (1.00-9.12)	0.051	2.56 (0.98-6.69)	0.054
Patient was male	0.96 (0.44-2.07)	0.912	1.06 (0.57-2.00)	0.845
Patient was under 5 years of age	2.07 (0.79-5.44)	0.141	1.50 (0.70-3.24)	0.301
Education of person seeking treatment				
Tertiary	0.45 (0.10-2.04)	0.522	0.74 (0.23-2.38)	0.818
Secondary	0.66 (0.26-1.68)		0.81 (0.38-1.72)	
None or Primary	1.0		1.0	
Patient's wealth quintile				
Least Poor	4.02 (0.71-22.58)	0.238	2.72 (0.67-11.17)	0.061
Fourth	7.03 (1.34-36.88)		6.34 (1.68-23.89)	
Third	2.33 (0.69-7.90)		1.77 (0.63-5.00)	
Second	1.83 (0.66-5.02)		1.15 (0.47-2.83)	
Poorest	1.0		1.0	
Treatment was sought within 2 days	1.39 (0.59-3.25)	0.448	1.10 (0.55-2.21)	0.781
First time treatment was sought	0.28 (0.08-0.93)	0.037	0.46 (0.19-1.13)	0.089
Patient had previously taken an antimalarial	0.09 (0.02-0.42)	0.002	0.23 (0.08-0.66)	0.007
Provider was told patient has diarrhoea or been vomiting	1.07 (0.32-3.62)	0.907	0.78 (0.29-2.13)	0.630
Patient was examined by provider	0.88 (0.32-2.43)	0.809	1.11 (0.44-2.79)	0.826
Patient had a confirmed malaria diagnosis	0.28 (0.10-0.79)	0.017	0.30 (0.12-0.70)	0.006
Level 2: Outlet				
Type of outlet				
Public	17.08 (2.68-108.73)	0.006	148.44 (9.59-2297.3)	0.001
Mission	4.21 (0.62-28.82)		1.48 (0.30-7.35)	
Pharmacy	42.41 (2.22-808.51)		6.09 (1.24-29.69)	
Drug Store	1.0		1.0	
Outlet had ACT in stock	2.24 (0.74-6.79)	0.155	2.45 (0.82-7.35)	0.109
Outlet usually receives antimalarial from drug company representative	1.79 (0.12-25.91)	0.668	1.51 (0.10-23.38)	0.767
Outlet was in an urban community	0.74 (0.25-2.18)	0.586	0.73 (0.26-1.98)	0.536
Constant	1.12 (0.14-8.69)	0.914	0.55 (0.09-3.31)	0.514
RANDOM EFFECTS				
Residual SD	1.02 (0.45-2.29)		1.20 (0.74-1.96)	
VPC	0.24		0.30	

Appendix C: Factors associated with providers' decision to supply ACT in Nigeria (model does not include providers' stated preference for ACT)

	COMPLETE CASES		MULTIPLE IMPUTATION	
Number of patients	423		641	
Number of outlets	71		93	
FIXED EFFECTS	OR (95 CI)	P-value	OR (95 CI)	P-value
Level 1: Patient-Provider Interaction				
Provider knew ACT is first-line antimalarial for uncomplicated malaria	0.98 (0.40-2.43)	0.970	0.94 (0.46-2.20)	0.985
Provider had access to malaria guidelines	0.91 (0.27-3.09)	0.882	1.73 (0.62-4.76)	0.288
Provider had attended malaria training in past 3yrs	0.63 (0.27-1.42)	0.264	0.65 (0.31-1.38)	0.264
Provider's pre-service training				
Doctor or Nurse/Midwife or Pharmacist‡	2.47 (0.45-13.66)	0.417	1.97 (0.45-8.58)	0.646
CHO or CHEW	2.79 (0.60-12.87)		1.63 (0.41-6.57)	
None (Attendant/drug seller)	1.0		1.0	
Provider stated patients usually ask for ACT	1.30 (0.52-3.26)	0.576	1.34 (0.60-3.00)	0.476
Patient was male	1.64 (0.94-2.86)	0.084	1.87 (1.20-2.93)	0.006
Patient was under 5 years of age	3.98 (1.97-8.04)	<0.001	2.77 (1.59-4.82)	<0.001
Education of person seeking treatment				
Tertiary	0.97 (0.39-2.39)	0.842	1.43 (0.71-2.90)	0.539
Secondary	0.82 (0.38-1.76)		1.07 (0.59-1.94)	
None or Primary	1.0		1.0	
Patient's wealth quintile				
Least Poor	1.37 (0.40-4.68)	0.960	1.41 (0.55-3.65)	0.963
Fourth	1.43 (0.44-4.64)		1.33 (0.54-3.27)	
Third	1.56 (0.51-4.77)		1.30 (0.55-3.09)	
Second	1.29 (0.51-3.29)		1.27 (0.61-2.68)	
Poorest	1.0		1.0	
Treatment was sought within 2 days	1.76 (0.91-3.40)	0.091	1.43 (0.87-2.37)	0.162
First time treatment was sought	0.54 (0.24-1.21)	0.136	0.48 (0.26-0.89)	0.020
Patient had previously taken an antimalarial	1.86 (0.61-5.65)	0.273	1.04 (0.44-2.46)	0.936
Provider was told patient has diarrhoea or been vomiting	2.36 (1.17-4.75)	0.016	2.36 (1.38-4.05)	0.002
Patient was examined by provider	1.13 (0.53-2.40)	0.754	1.35 (0.74-2.45)	0.323
Patient had a confirmed malaria diagnosis	0.06 (0.00-0.87)	0.039	0.24 (0.05-1.10)	0.066
Level 2: Outlet				
Type of outlet				
Public	2.50 (0.44-14.29)	0.414	1.22 (0.35-4.28)	0.655
Pharmacy	0.68 (0.12-3.85)		2.00 (0.43-9.22)	
Drug Store	1.0		1.0	
Outlet had ACT in stock	3.54 (1.14-10.95)	0.029	3.67 (1.45-9.25)	0.006
Outlet usually receives antimalarial from drug company representative	2.44 (0.56-10.62)	0.234	1.21 (0.40-3.65)	0.733
Outlet was in an urban community	2.50 (0.78-8.00)	0.122	2.18 (0.84-5.64)	0.110
Constant	0.01 (0.00-0.08)	<0.001	0.02 (0.00-0.08)	<0.001
RANDOM EFFECTS				
Residual SD	1.09 (0.66-1.79)		1.03 (0.68-1.54)	
VPC	0.26		0.24	