

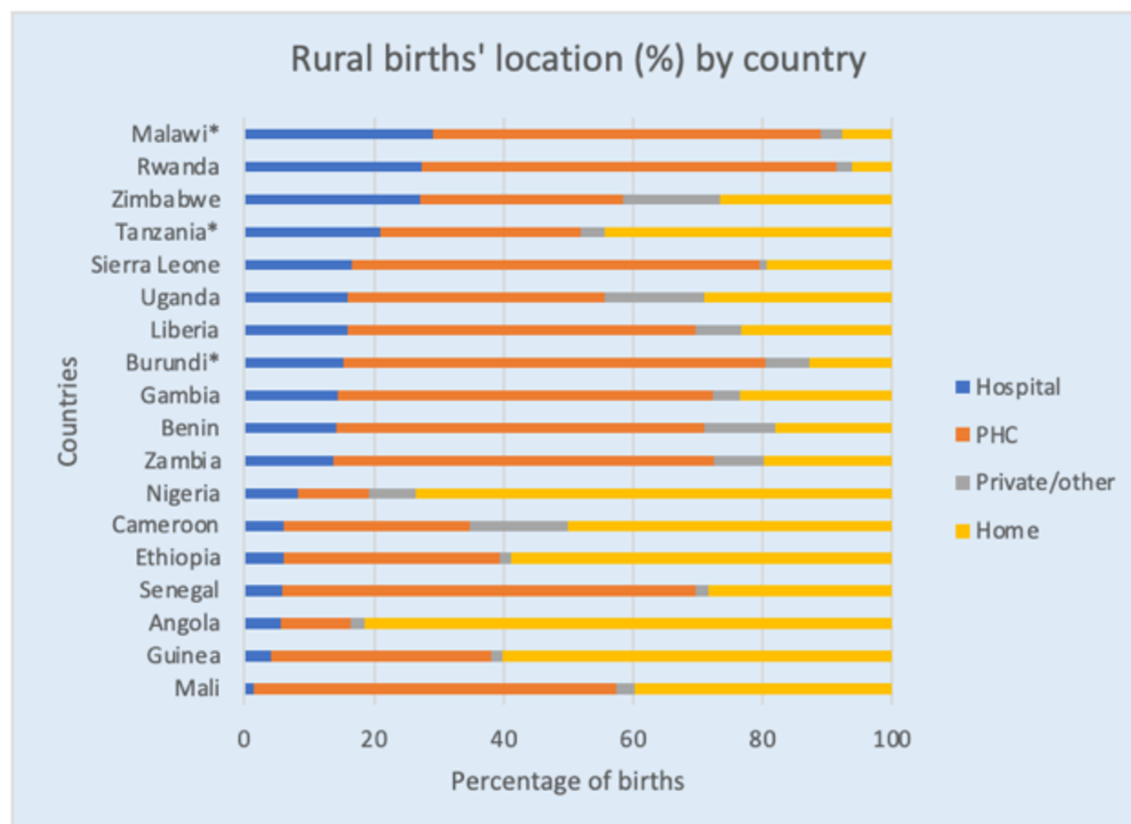
Supplementary Table 1 – Classification of facilities by country

Country	Facility																		
Angola	central hospital	provincial hospital	municipal hospital	health centre/post	maternity	other public sector	private hospital/clinic	medical centre	medical post										
Benin	government hospital	ci gov health professional	ci gov health professional	unité villageoise	other public sector	private hospital/clinic	center/hôpital confessionnelle	other private sector	other										
Burundi	government hospital	regional hospital	district hospital	public health center	other public sector	registered hospital	registered health centre	other registered health sector	private hospital/clinic	private health centre	other private sector	other							
Cameroun	government hospital	integrated health center/dispensary	sub-divisional medical center	other public sector	confessional hospital/clinic	private lay hospital/clinic	medical cabinet	other private sector	other										
Ethiopia	government hospital	government health center	government health post	private hospital	ngo: health facility	ngo: other health facility	other												
Gambia	government hospital	government health center	government health post	private hospital/clinic	ngo hospital/clinic	other													
Ghana	government hospital	government regional hospital	government prefectorial hospital	government health center	government health post	private hospital/clinic	clinic agbeif	private care clinic	other										
Ghana	government hospital	govt health center	government health clinic	other public sector	private hospital/clinic	other private sector	other												
Malawi	government hospital	government health center	government health post/outreach	other public sector	private hospital/clinic	CHAM/mission hospital	CHAM/mission health center	blm	other										
Mali	national hospital	regional hospital	reference health center	community health center	dispensary/maternity	other public sector	private hospital/clinic	private doctor	private medical care office	health cabinet/CHW	other private medical sector	other							
Nigeria	government hospital	government health center	government health post	other public sector	private hospital/clinic	other public sector	other												
Rwanda	referral hospital	provincial/district hospital	health center	health post	other public sector	polyclinic	clinic	dispensary	other private medical sector	other									
Senegal	government hospital	government health center/maternity	government health post	government case de santé	government field worker	other public sector	private hospital/clinic	other private sector	other										
Sierra Leone	government hospital	government health center	government health post	other public sector	private hospital/clinic	other													
Tanzania	national/zonal referral/spec hospital	regional referral hospital (government/parastatal)	regional hospital (govt/parastatal)	district hospital (govt/parastatal)	health center (government/parastatal)	dispensary (government/parastatal)	clinic (government/parastatal)	referral/spec hospital (religious/voluntary)	district hospital (religious/voluntary)	hospital (religious/voluntary)	health center (religious/voluntary)	dispensary (religious/voluntary)	specialized hospital (private)	hospital (private)	health center (private)	dispensary (private)	clinic (private)	other	
Uganda	government hospital	government health center	other public sector	private hospital/clinic	other private sector	other													
Zambia	government hospital	government health center	government health post	other public sector	private hospital/clinic	mission hospital/clinic	other private sector	other											
Zimbabwe	central hospital	provincial hospital	district hospital	rural hospital	urban municipal clinic	other public	rural health centre	private hospital/clinic	other private sector	mission hospital/clinic	other								
CHAM	Christian Health Association of Malawi																		
Hospital																			
PHC facility																			
Private/other																			

Supplementary Table 3 – Characteristics of rural women with a live birth, by country, across 18 sub-Saharan African countries with a recent DHS survey

Country	DHS Year	Number of births analysed	Birth location										PIC to hospital births ratio	Parity at index birth n, % (95% CI)					Maternal age in years at index birth	Women married/cohabiting	Education					Percentage Cleaners sections out of all births (95% CI)	% rural births in private sector out of total births	Rural women parity 25 with private sector birth out of rural women 25 (n, % and 95% CI)								
			Facility births		Home		PIC		Private/other		Hospital			0	1-4		≥5	No education			Primary		Secondary or higher		Years of education (SD)											
			%	Number (95% CI)	%	Number (95% CI)	%	Number (95% CI)	%	Number (95% CI)	%	Number (95% CI)		%	Number (95% CI)	%	Number (95% CI)	%			Number (95% CI)	%	Number (95% CI)	%	Number (95% CI)				Mean	SD	%	Number (95% CI)	%	Number (95% CI)	%	Number (95% CI)
Angola	2015-16	6302	18.6	1290(6302)	81.4	5012(6302)	10.7	659(6302)	10.7	659(6302)	1.46	18.4	17.3-19.6	57.4	55.6-59.2	24.2	22.5-26.0	26.4	7.3	77.5	75.5-79.4	49.1	44.8-55.4	43.1	39.5-46.8	7.8	6.2-9.8	2.1	2.7	0.3	0.2-0.7	0.2	0.0-7			
Benin	2016-17	7979	6463	7979	1516	7979	4509	7979	851	7979	1103	7979	1483	7979	4627	7979	1706	7979	7546	7979	5845	7979	1290	7979	844	7979	674	7979	113	1654	113	1654				
Burundi	2016-17	10900	9447	10900	1453	10900	7005	10900	777	10900	1665	10900	1977	10900	6166	10900	2557	10900	9926	10900	5458	10900	4677	10900	765	10900	253	10900	46	2413	46	2413				
Cameroon	2018	5326	2891	5326	2435	5326	1622	5326	843	5326	426	5326	1071	5326	1246	5326	1076	4497	4475	5326	1705	5326	2042	5326	1578	5326	329	5326	170	2141	329	5326				
Ethiopia	2019	4357	1731	4357	2626	4357	1297	4357	1174	4357	317	4357	849	4357	2431	4357	1077	4357	4128	4357	2710	4357	1330	4357	317	4357	173	4357	51	3757	173	4357				
Gambia	2019-20	4538	3352	4538	1186	4538	2529	4538	640	4538	174	4538	851	4538	2455	4538	1237	4538	4390	4538	2908	4538	839	4538	391	4538	453	4538	37	3712	453	4538				
Guinea	2018	5575	2080	5575	3495	5575	1742	5575	955	5575	241	5575	962	5575	3462	5575	1151	5575	5361	5575	4925	5575	252	5575	252	5575	252	5575	252	5575	252	5575				
Liberia	2019-20	3730	398	3730	3332	3730	340	3730	340	3730	1.1	3730	11.2	3730	622	3730	200	3730	2813	3730	1293	3730	609	3730	609	3730	609	3730	609	3730	609	3730				
Malawi	2015-16	14232	13228	14232	1004	14232	8203	14232	450	14232	13228	14232	3499	14232	8472	14232	2261	14232	11906	14232	9957	14232	2281	14232	2281	14232	2281	14232	2281	14232	2281	14232				
Mali	2018	7299	60.4	559	7299	668.8	593	57.6	62.0	3.3	2.8	29.2	27.3	21.4	1.79	25.1	21.1	59.3	63.8	83.4	82.8	14.9	13.9	16.0	70.2	68.9	71.4	14.9	13.9	16.0	52	3.4	13.2	11.5	11.1	
Nigeria	2018	21804	26.6	249	21804	15361	21804	2807	21804	1779	21804	1837	21804	4049	21804	12018	21804	5773	21804	20877	21804	12571	21804	3373	21804	5860	21804	200	5686	200	5686					
Rwanda	2019-20	6300	93.9	92	6300	394	6300	4048	6300	1609	6300	1534	6300	3877	6300	889	6300	5258	6300	824	6300	4430	6300	1046	6300	1046	6300	1046	6300	1046	6300					
Senegal	2019	4274	71.8	3063	4274	1294	4274	2683	4274	694	4274	229	4274	398	4274	559	4274	915	4274	4109	4274	3129	4274	661	4274	484	4274	484	4274	484	4274					
Sierra Leone	2019	6720	80.7	5407	6720	1313	6720	4413	6720	726	6720	1367	6720	4150	6720	1809	6720	5957	6720	4395	6720	1053	6720	1270	6720	1270	6720	1270	6720	1270	6720					
Tanzania	2015-16	7699	55.7	428	7699	41.2	318	28.7	31.5	3.7	2.9	21.0	18.9	23.3	1.33	22.6	21.4	54.1	52.6	55.6	23.3	22.9	27.7	66.3	64.0	68.5	8.5	7.5	9.7	5.1	3.5	11.1	9.5	11.0		
Uganda	2016	12506	71.1	889	12506	236.9	1810	38.9	38.0	41.8	15.4	14.0	16.9	15.9	14.3	17.5	2.77	20.9	19.6	21.4	54.1	52.5	25.8	24.5	26.8	67.2	65.5	66.9	20.5	18.9	22.2	5.2	3.5	14	12.6	15.4
Zambia	2018	6865	80.2	5507	6865	1358	6865	342	6865	513	6865	1421	6865	917	6865	366	6865	1530	6865	5428	6865	914	6865	1809	6865	1809	6865	1809	6865	1809	6865					
Zimbabwe	2015	3755	73.3	276	3755	23.6	889	23.3	34.5	14.8	12.3	18.0	17.2	28.2	34.5	1.09	24.3	23.0	66	64	85.4	88.5	1.6	1.0	2.5	41.9	38.9	45.0	36.5	33.2	60.0	8.2	2.6	11.7	9.1	15.0
MEDIAN			61.1	72.8		27.5	54.9	3.8		14.3		3.63	29.3	57.1	22.2		88.0		49.9		34.7		16.9		2.7			4.3		2.4						

Supplementary Fig 1- *Percentage of rural live births by location of childbirth in countries with a recent DHS survey, by country (ordered by percentage of births in hospital)*



*Countries where hospitals and PHC categories include faith-based/denominational facilities

Supplementary Table 4 – Hospital births in rural women, by wealth and parity and pp differences, by country

Country	Year DHS	All levels of parity						Nulliparous women						Women at parity ≥5						Percentage point difference between rich and poor women*	p-value of percentage point difference	Percentage point difference between rich nullipara and poor women at parity ≥5	p-value																	
		Poor women			Rich women			All women			Poor women			Rich women			All women							Poor women			Rich women													
		Number/total	%	95% CI	Number/total	%	95% CI	Number/total	%	95% CI	Number/total	%	95% CI	Number/total	%	95% CI	Number/total	%	95% CI					Number/total	%	95% CI	Number/total	%	95% CI	Number/total	%	95% CI	Percentage point difference between richer and poorer women	p-value						
Angola	2015	130/3198	3.9	2.8-5.2	325/3198	7.7	5.9-9.9	1075/1194	8.1	6.3-10.5	43/598	6.8	4.5-10.2	76/596	9.5	6.9-13.0	2.7	0.21	92/1434	5.4	3.9-7.3	27/803	3.4	2.0-5.5	65/631	8.2	5.8-11.6	4.9	0.00	6.1	<0.001									
Benin	2017	480/3988	12.3	0.0-15.0	623/3991	16.1	14.0-18.5	254/1646	15.8	13.3-18.7	103/720	14.5	11.2-18.6	151/926	16.8	13.9-20.1	2.2	0.30	221/1706	13.3	10.9-16.3	105/1037	9.9	7.5-12.8	116/669	18.3	14.2-23.3	8.5	<0.001	6.9	<0.001									
Burundi	2016	596/5453	10.8	9.2-12.7	1069/5447	20.0	17.3-22.8	414/1977	20.8	18.3-23.4	170/1061	15.6	12.9-18.7	244/916	26.9	23.6-30.4	11.3	<0.001	313/2557	12.0	10.0-14.4	105/1184	8.9	6.9-11.6	208/1373	14.7	11.9-18.0	5.7	<0.001	17.9	<0.001									
Cameroon	2018	68/2673	2.0	1.4-2.9	358/2653	11.5	9.6-13.7	103/1071	8.1	6.3-10.3	17/470	2.6	1.5-4.5	86/601	13.6	10.6-17.4	11.1	<0.001	70/1246	3.7	2.7-5.1	13/711	1.3	0.7-2.4	57/535	7.8	5.5-10.9	6.5	<0.001	12.3	<0.001									
Ethiopia	2019	79/2175	2.1	1.3-3.4	238/2182	8.4	6.6-10.8	123/849	14.1	10.6-18.5	15/358	2.5	1.2-5.1	108/511	18.4	13.9-24.1	15.9	<0.001	46/1077	3.1	2.0-4.9	24/613	2.2	1.0-5.0	22/464	3.9	2.3-6.6	1.7	0.20	16.2	<0.001									
Gambia	2019	299/2263	12.9	9.9-16.7	350/2275	15.4	11.4-20.5	171/851	20.8	16.0-26.6	81/407	20.8	16.0-26.5	90/444	20.8	14.5-28.9	0.0	1.00	170/1237	12.9	9.7-17.0	79/643	11.4	7.9-16.1	91/594	14.5	10.1-20.4	3.1	0.30	9.5	<0.001									
Guinea	2018	82/2782	2.8	2.1-3.8	161/2793	5.5	4.4-6.8	68/962	6.9	5.3-8.9	22/427	4.9	3.1-7.6	46/535	8.5	6.3-11.3	3.7	0.04	36/1151	3.0	2.0-4.6	12/604	2.0	1.1-3.5	24/547	4.1	2.4-6.9	2.1	0.06	6.6	<0.001									
Liberia	2019	255/1873	14.6	2.1-17.6	319/1857	17.1	14.4-20.2	149/763	21.1	17.7-25.1	64/319	23.7	18.3-30.1	85/444	19.4	15.6-23.9	4.3	0.20	123/957	13.9	11.0-17.5	53/538	12.1	8.7-16.6	70/419	16.0	12.0-20.9	3.9	0.15	7.3	0.009									
Malawi	2015	1711/6134	25.9	3.7-28.1	2864/8098	32.0	29.6-34.5	1460/3499	38.1	35.3-40.8	546/1530	33.3	30.1-36.6	914/1969	42.1	38.7-45.6	8.9	<0.001	568/2261	23.2	20.6-25.9	225/1008	21.3	17.9-25.2	343/1253	24.7	21.6-28.1	3.3	0.15	20.8	<0.001									
Mali	2018	41/3653	1.2	0.8-1.7	71/3646	1.8	1.2-2.8	28/1265	2.1	1.3-3.3	9/524	1.9	0.9-3.7	19/741	2.2	1.2-3.9	0.3	0.69	20/1898	0.9	0.5-1.7	6/1115	0.5	0.2-1.3	14/783	1.7	0.8-3.5	1.3	0.04	1.8	0.007									
Nigeria	2018	432/10915	4.1	3.4-4.9	1425/10889	12.6	11.3-13.9	501/4049	12.2	10.9-13.6	120/1804	6.8	5.4-8.5	381/2245	16.6	14.7-18.6	9.7	<0.001	352/5737	6.1	5.2-7.1	117/3436	3.5	2.7-4.5	235/2301	9.9	8.2-11.9	6.4	<0.001	13.1	<0.001									
Rwanda	2019	679/3145	21.6	9.9-23.5	1019/3155	32.6	29.9-35.3	600/1534	39.3	36.5-42.2	259/747	34.9	31.4-38.7	341/787	43.1	39.1-47.1	8.1	0.00	162/889	19.2	16.4-22.4	57/478	12.8	10.0-16.3	105/411	26.0	21.2-31.5	13.2	<0.001	30.3	<0.001									
Senegal	2019	61/2136	2.9	2.1-3.8	167/2138	8.3	6.7-10.4	84/918	8.9	6.6-12.0	27/425	5.8	3.7-9.0	57/493	11.1	7.7-15.9	5.3	0.02	34/951	4.1	2.0-8.6	11/589	1.8	0.9-3.6	23/362	7.1	2.8-17.1	5.3	0.02	9.3	<0.001									
Sierra Leone	2019	440/3359	12.5	0.1-15.5	759/3361	20.3	17.1-23.9	290/1367	19.8	16.5-23.5	92/620	15.0	11.1-19.9	198/747	23.4	19.0-28.5	8.5	0.01	200/1203	15.9	12.4-20.1	91/646	13.4	9.3-18.8	109/557	18.9	14.2-24.6	5.5	0.09	10.1	0.002									
Tanzania	2015	537/3859	14.6	2.3-17.2	1208/3840	28.9	25.9-32.1	663/1674	37.3	33.5-41.2	201/747	28.9	24.1-34.3	462/927	45.7	40.8-50.7	16.8	<0.001	306/1901	15.0	12.6-17.8	129/1065	13.0	10.2-16.4	177/836	18.4	14.8-22.6	5.4	0.02	32.7	<0.001									
Uganda	2016	673/6248	11.0	9.7-12.5	1200/6258	20.0	17.8-22.4	552/2499	23.2	20.8-25.8	200/1173	17.1	14.5-20.2	352/1326	27.8	24.5-31.4	10.7	<0.001	348/3209	11.1	9.5-13.0	136/1711	7.7	6.1-9.5	212/1498	14.6	12.0-17.7	7.0	<0.001	20.2	<0.001									
Zambia	2018	303/3432	8.8	7.4-10.5	668/3433	18.3	15.8-21.0	337/1620	20.5	17.7-23.6	97/774	12.8	10.1-16.1	240/846	27.6	23.4-32.3	14.8	<0.001	182/1580	11.1	9.1-13.4	61/789	7.4	5.6-9.7	121/791	16.6	11.6-18.3	9.2	<0.001	20.2	<0.001									
Zimbabwe	2015	468/1879	23.4	10.4-26.7	628/1876	31.3	27.6-35.2	415/950	40.7	37.1-44.5	171/421	38.0	32.8-43.5	244/529	43.3	38.0-48.2	5.3	0.19	74/346	18.8	14.1-24.6	43/206	17.9	12.1-25.6	31/140	20.1	13.4-28.9	2.2	0.66	25.4	<0.001									
MEDIAN																																								

* significant at 0.05 level

Supplementary Table 5 – sensitivity analysis on Tanzania dataset (including faith-based and public facilities in analysis/excluding faith-based facilities)

Country	Year DHS	Rural women at parity 0							p-value of percentage point difference	Rural women at parity ≥5									
		Poorer women			Richer women					Poorer women			Richer women						
		Number/total	%	95% CI	Number/total	%	95% CI	Percentage point difference between richer and poorer women*		Poorer women n/total	%	95% CI	Richer women n/total	%	95% CI	Percentage point difference between richer and poorer women	p-value	Percentage point difference between richer and poorer women	p-value
Tanzania ¹	2015	197/734	28.9	24.1-34.3	314/704	44.6	39.5-49.8	15.7	<0.001	119/1009	13.0	10.2-16.5	102/565	17.4	13.7-21.9	4.5	0.06	31.7	<0.001
Tanzania ²	2015	136/734	20.27	16.3-25.0	217/704	30.71	26.4-35.4	10.4	0.001	76/1009	7.9	5.8-10.7	71/565	12.06	8.9-16.1	4.2	0.037	22.8	<0.001
							% difference	33.76						% difference	6.7			% difference	28.1

To study the significance of faith-based hospitals, a sensitivity analysis was carried out on the Tanzania dataset. All the equity gaps in hospital uptake studied (rich-poor, parity 0-parity ≥5, rich-poor at parity 0, rich-poor at parity 5, RNPM) were greater when the faith-based facilities were included in the numerators. The pp difference between utilization in rich and poor women was 26% greater when public and faith-based facilities were included in the numerator. Among women at high parity (≥5), the pp difference was 7% greater.