Performance Monitoring and Accountability 2020 (PMA2020) Surveys:
Toward SDG Monitoring

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A CENTURY OF SAVING LIVES
MILLIONS AT A TIME

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OF PUBLIC HEALTH

Points covered

- Overview

- PMA2020 design features

  - Survey organization

  - Mobile technology

  - Data quality

- Potential for SDG indicator monitoring

  - Civil and vital registration

  - Record linkage to other data systems

  - Sample considerations

  - An SDG monitoring module?

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Overview

- ❑ **17 SDGs and 169 targets**
    - ▪ 62 of 173 indicators have population denominators
    - ▪ 42 of the 62 cite national household surveys as the primary data source
- ❑ **PMA2020 is a thematic survey program**
    - ▪ Monitors national (and urban/rural) level progress in core indicators for FP2020
    - ▪ Also monitors selected WASH indicators
    - ▪ Relevance for SDG Targets 3.7 and 6.1-6.3

PMA2020 (www.pma2020.org)

Resident enumerators practicing smartphone-based interviews

- National probability sample survey of households

- Sample of public and private health facilities linked to enumeration areas

- Uses multi-stage cluster sample drawn by national statistics office

- Annual rounds (semi-annual in first two years)

- Subnational for urban/rural and occasionally for lower administrative units (counties, provinces)

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PMA2020 survey design (cont'd)

Ghana resident enumerators

- ❑ Part-time resident enumerators (one per sample cluster)
  - Compensated per round (annual listing, 35-40 household interviews, 35-45 female interviews, ≤ 3 private facilities
- ❑ Smartphone using Android OS
- ❑ Open Data Kit freeware
- ❑ Mobile telecommunications network
- ❑ Each round ≈ 6 weeks
- ❑ Sample sizes range 4 to 10 thousand
- ❑ 21 survey rounds completed since June 2013

Rapid data transmission and analytics

Open Data Kit on
Android OS-smartphone

Data flow

Niger resident enumerator in training
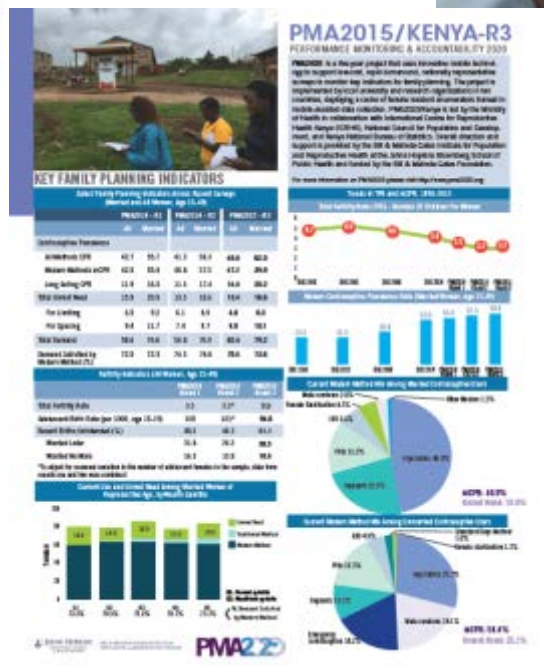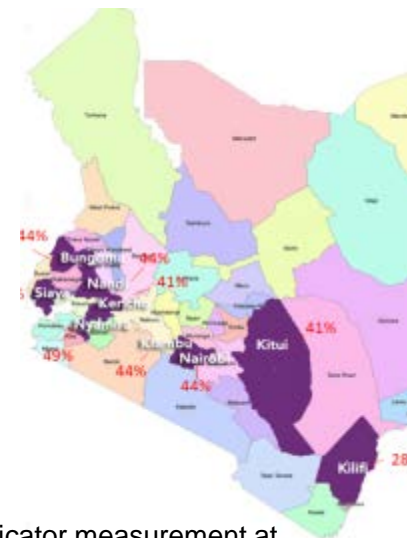
Indicator
report

Indicator measurement at
country level, Kenya

Table 2. Estimates of total and modern contraceptive prevalence among all women and 95% confidence intervals for PMA2020 surveys in 5 countries, 2013-2014

Source	Round/ Phase	Female sample 15-49	Year	All women 15-49 years							
				CPR				mCPR			
				CPR	SE	95% CI		mCPR	SE	95% CI	
Ghana											
PMA2020	Round 1	4208	2013	15.39	1.05	13.29	17.49	14.30	1.05	12.20	16.40
PMA2020	Round 2	3893	2014	15.98	1.16	13.66	18.30	14.51	1.07	12.37	16.65
PMA2020	Round 1&2	8101	2013-2014	15.66	0.78	14.10	17.22	14.38	0.75	12.88	15.88
DHS		9656	2008	19.35	0.74	17.87	20.83	13.49	0.58	12.33	14.65
Ethiopia											
PMA2020	Round 1	6528	2014	23.68	1.62	20.44	26.92	23.36	1.62	20.12	26.60
PMA2020	Round 2	6648	2014	24.18	1.47	21.24	27.12	23.59	1.51	20.57	26.61
PMA2020	Round 1&2	13176	2014	23.54	1.10	21.34	25.74	23.05	1.11	20.83	25.27
DHS		16515	2011	19.58	0.75	18.08	21.08	18.70	0.75	17.20	20.20
Mini-DHS*		8070	2014	28.84	1.39	26.06	31.62	27.78	1.39	25.00	30.56
Kenya											
PMA2020	Round 1	3815	2014	42.69	1.85	38.99	46.39	42.50	1.85	38.80	46.20
PMA2020	Round 2*	4323	2014	41.17	1.33	38.51	43.83	41.50	1.32	38.86	44.14
PMA2020	Round 1&2	8138	2014	42.16	1.13	39.90	44.42	41.98	1.13	39.72	44.24
DHS		8444	2008-09	32.02	0.81	30.40	33.64	27.96	0.74	26.48	29.44
Uganda											
PMA2020	Round 1	3974	2014	22.46	1.31	19.84	25.08	21.25	1.27	18.71	23.79
DHS		8674	2011	23.60	0.75	22.10	25.10	20.68	0.63	19.42	21.94
DR Congo/Kinshasa											
DHS			2007	34.35	1.25	31.85	36.85	12.75	1.02	10.71	14.79
PMA2020	Round 1	2197	2013	33.90	1.22	31.50	36.30	16.60	1.01	14.62	18.59
PMA2020	Round 2	2902	2014	30.30	0.86	28.58	32.02	16.90	0.70	15.50	18.30
DHS		1804	2013-14	34.87	1.42	32.03	37.71	15.24	0.99	13.26	17.22

*Not affiliated with DHS program

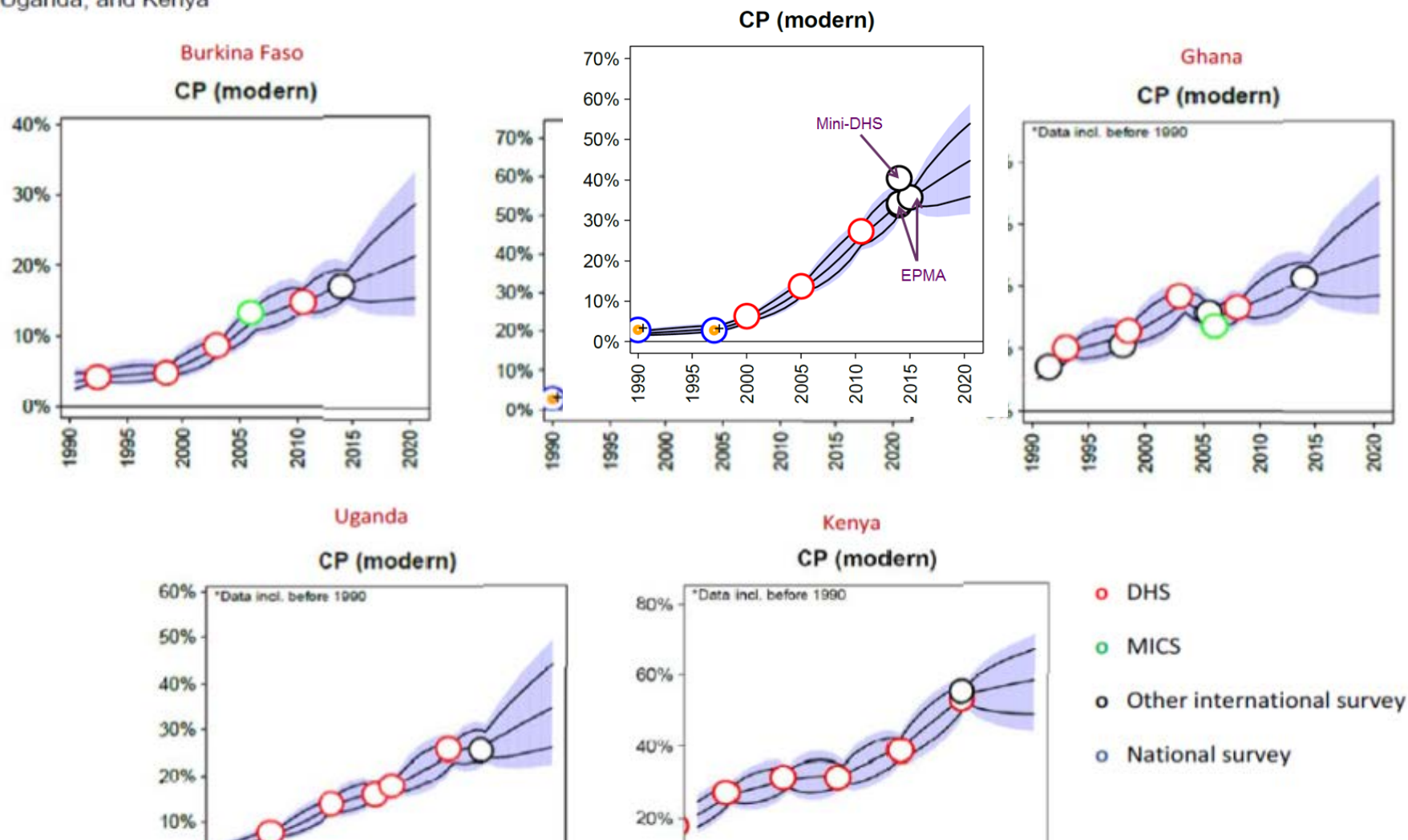A CENTURY OF SAVING LIVES—MILLIONS AT A TIME 1916/2016

Figure 1. National estimates of modern contraceptive prevalence rates among married women age 15 to 49, and 95% confidence intervals, for five countries: PMA 2013-2015 and latest DHS
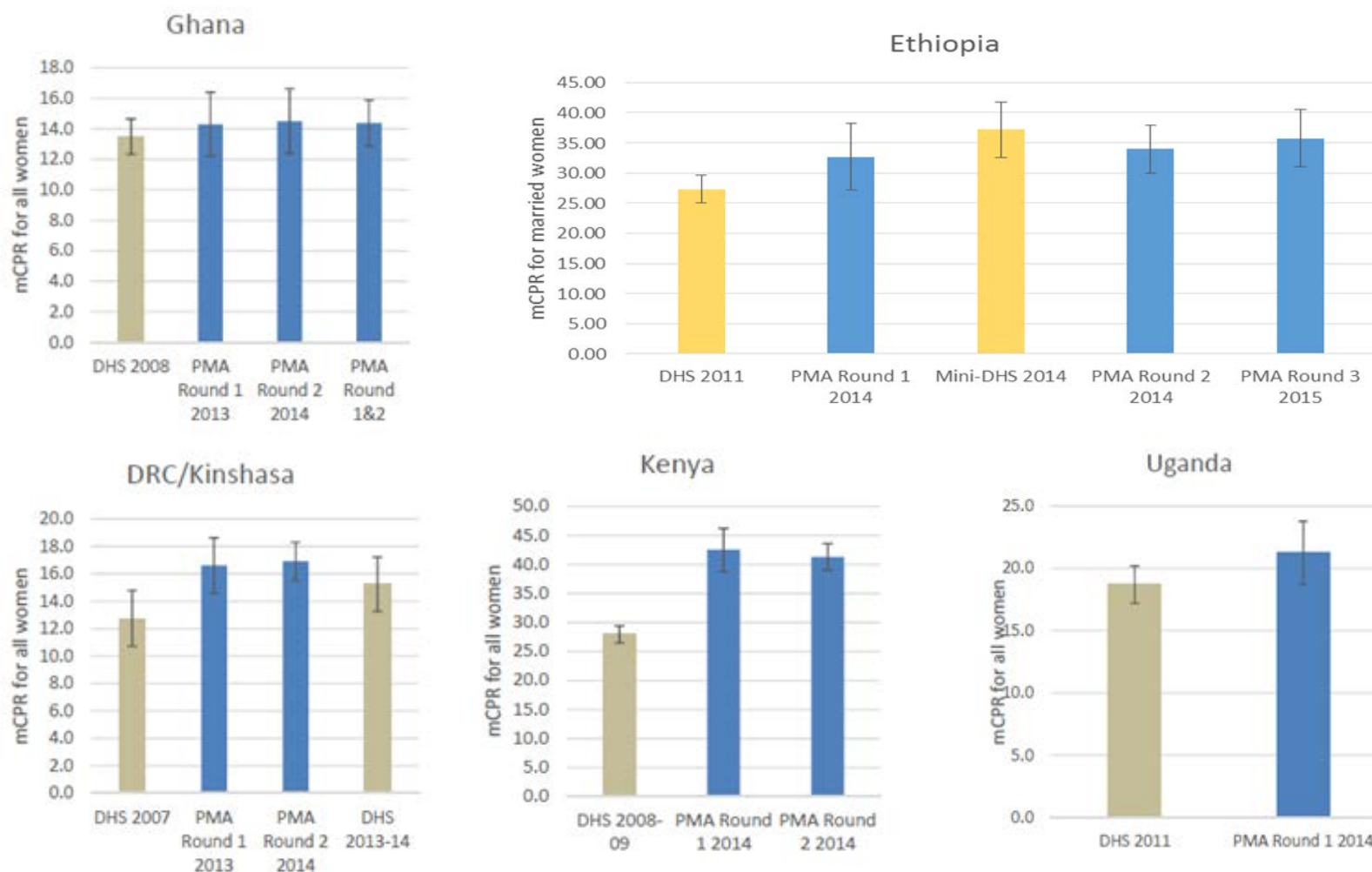
Figure 2. United Nations Model-based Estimates of Modern Contraceptive Prevalence Rates for Burkina Faso, Ethiopia, Ghana, Uganda, and Kenya

Water, Sanitation and Hygiene

Percent of household members reporting open defecation as main practice, by wealth quintile: Ethiopia 2014

Percent of household members using main types of water source: EDHS 2011 and PMA2020 2014: Ethiopia
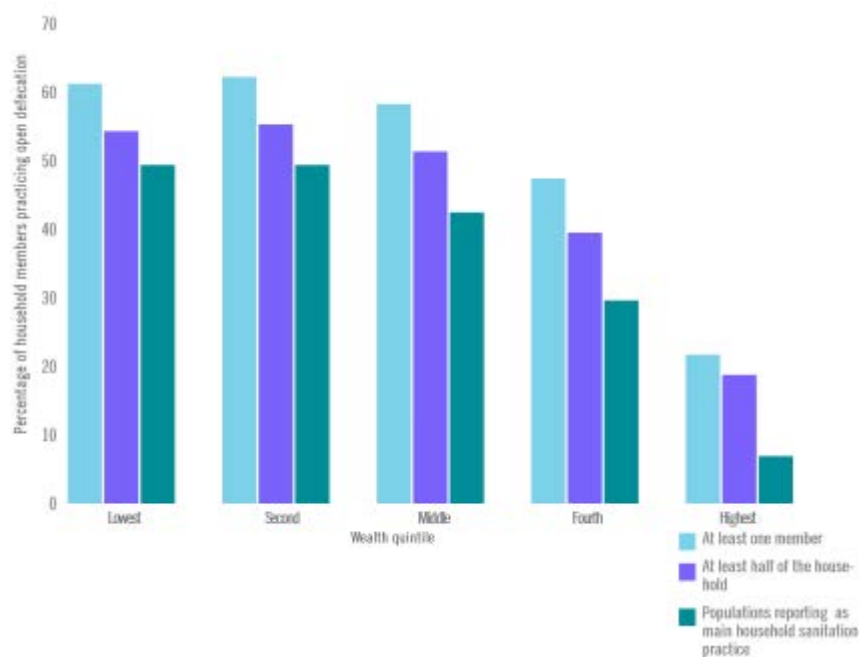
Water sources	Main water source EDHS 2011			Main water source PMA2014		
	Urban	Rural	Total	Urban	Rural	Total
Improved sources	**92.7**	**41.6**	**50.9**	**96.6**	**51.6**	**58.4**
Piped into dwelling/ yard	46.8	0.1	8.5	1.0	0.8	9.6
Public tap/standpipe	38.6	18.9	22.5	20.3	20.4	21.9
Tube well/bore hole	1.0	4.0	3.5	11.8	32.7	10.0
Protected well	3.7	7.6	6.9	3.2	7.2	3.1
Protected spring	2.4	10.8	9.3	14.3	0.1	12.9
Rainwater	0.2	0.2	0.2	1.0	2.0	0.9
Bottled/sachet, improved source	**0.1**	**0.0**	**0.0**	**0.3**	**0.0**	**0.0**
Unimproved sources	**7.0**	**58.1**	**48.9**	**2.6**	**48.3**	**41.4**
Unprotected well	0.8	4.7	4.0	0.2	3.4	2.9
Unprotected spring	3.0	32.1	26.9	0.6	36.1	30.8
Tanker truck/cart with small tank	2.0	0.4	0.7	0.2	0.4	0.4
Surface water*	1.2	20.9	17.3	1.6	8.4	7.4
Bottled/sachet, unimproved source	**0.2**	**0.3**	**0.3**	**0.0**	**0.0**	**0.0**
Number	18,917	56,738	75,655	12,292	15,538	27,830

*River, lake, pond, stream, dam

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Potential for SDG indicator monitoring

❑ PMA2020 design adopted from Indian Sample Registration System, with mobile technology added for rapid data transmission

    ❑ Sample determination based on mCPR with 2% margin of error; SRS based on IMR with 10% RSE

❑ Other monitoring applications under development

    ❑ Newborn health indicators

    ❑ Primary health care indicators

    ❑ Early and later adolescent indicators

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SDG priority indicators now monitored annually by PMA2020

- ❑ Households with access to basic services (1.4)

- ❑ Satisfied demand for family planning (3.7)

- ❑ School attendance among females 15-24 (4.3)

- ❑ Married before age 18 (5.3)

- ❑ Household ownership of cell phone (5.b)

- ❑ Population with safely managed drinking water services (6.1)

- ❑ Population with safely managed sanitation services (6.2)

- ❑ Population with electricity access (7.1)
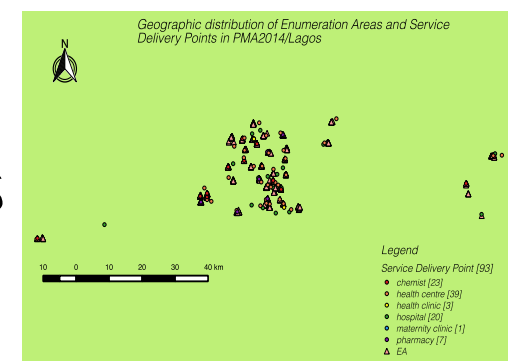
Plus others at secondary level

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Toward SDG indicator monitoring

- Annual listing of households and health facilities in sample enumeration area
  - Index cluster size of about 200 HHs + Contiguous 5 clusters

    ≈ 5000 population * 200 total sample clusters = 1,000,000 population monitored
  - Post-enumeration verification of 10% households and facilities

- Can be used for sample vital registration

  with verbal autopsy

- Linkage to other record data and measures

  (e.g., spatial or satellite image-based)

Geographic distribution of Enumeration Areas and Service Delivery Points in PMA2014/Lagos

Legend
Service Delivery Point [93]
- chemist [23]
- health centre [39]
- health clinic [3]
- hospital [20]
- maternity clinic [1]
- pharmacy [7]
△ EA

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PMA2020 thanks the resident enumerators (nearly 1200 to date) and supervisors for their dedicated efforts

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