

Summary of GAVI Alliance Investments in Immunization Coverage Data Quality

The GAVI Alliance strategy and business plan for 2013-2014 includes a range of activities related to the assessment and improvement of immunization coverage data quality. These activities include assessment of numerators from country administrative data systems, assessment of denominator data, conduct of household surveys, refinement of WHO/UNICEF estimates of national immunization coverage and support to countries in development and implementation of data quality improvement plans. Additionally, the GAVI Alliance invests in vaccine preventable disease surveillance systems, targeted studies and evaluations—these activities provide a basis to triangulate data across multiple approaches. In addition to the business plan items listed below, the guidelines for GAVI's health systems strengthening (HSS) grants to countries recommend that countries invest approximately 5-10% of the grant amount in M&E strengthening activities. At present, no investment framework is provided to give guidance on how these investments may be structured. In practice, the majority of countries spend substantially less than this amount on M&E strengthening activities.

Routine data quality assessments and report cards. WHO has recommended that all countries include routine assessment of data quality—including immunization coverage data quality—as part of annual health sector reviews. To support this work, WHO has developed a data quality assessment tool and a Data Quality Report Card. The report card examines several dimensions of data quality for four tracer indicators, including DTP3, through a desk review of available data and a data verification survey. The analysis of these indicators seeks to identify problems of data completeness, accuracy, and external consistency with other sources of data, including household surveys. The tool involves both a desk review component as well as a data verification component. The latter is conducted through an annual health facility survey—the Service Availability and Readiness Assessment (SARA)—of approximately 100 randomly sampled health facilities that examines data recording and reporting practices at the service delivery point as well as stock outs of vaccines and essential drugs. Data quality report cards will be published online to increase transparency and facilitate sharing of information across countries and agencies.^[1] The GAVI business plan includes funding for WHO to support the conduct of desk reviews and facility assessments and generation of data quality report cards in 5 countries in 2013 and another 5 in 2014.

Numerator assessments through Immunization Data Quality Assessment (IDQA) tool. The IDQA is a revised tool adapted from the original Data Quality Audit tool; the IDQA is designed to assess the likelihood that reported data on the number of children immunised with pentavalent (DTP-HepB-Hib), polio, measles, pneumococcal, and rotavirus vaccines accurately reflects the actual number immunized. The tool provides both a quantitative assessment of the accuracy of data reported as well as an opportunity for capacity strengthening, since the IDQA team consists of independent assessors teamed with country immunization program and HMIS counterparts. The

^[1] For example, the latest report card from Cambodia is available here:
http://www.who.int/healthinfo/country_monitoring_evaluation/KH_DataQualityReportCard_2011.pdf

results of the assessment provide information on system performance in data availability and completeness, recording, reporting, and checks of consistency in data collection. The business plan includes funding for IDQA implementation in four countries in 2013 and eight in 2014.

Data quality self-assessments (DQS). Like the IDQA, the DQS is adapted from the original Data Quality Audit tool, but with a shift in orientation from an independent to a self-assessment approach. The purpose of the DQS is to strengthen routine monitoring of immunization data quality by countries and inform improvements in data quality. The business plan includes funding for DQS assessments in ten countries in 2013 and twelve in 2014.

Denominator assessments. The business plan includes funding for WHO and UNICEF to support improvements in the quality of denominator data in multiple countries through two multi-country technical workshops.

Country data quality improvement plans. The business plan includes funding for WHO and UNICEF to support eight countries in 2013 and ten countries in 2014 to develop and implement data quality improvement plans. The various assessments listed above will help inform the development of these improvement plans.

Availability and use of child vaccination cards. The business plan includes funding for UNICEF to support two countries in 2013 to develop plans to improve issuance, maintenance and utilization of child health cards that record routine vaccinations.

Development of web interface for Joint Reporting Form. The business plan includes funding for UNICEF to develop a web-interface to improve data collection for the immunisation programme performance indicators collected through the WHO/UNICEF Joint Reporting Form.

WHO/UNICEF estimates of national immunization coverage (WUENIC). The business plan includes funding to strengthen the WUENIC, by refining the grade of confidence ratings rolled out in 2012 and adding an assessment of the quality of the underlying empirical data used. WHO and UNICEF will also add estimates for measles second dose, with the methodology developed and tested in 2013 and rolled out for publication started in 2014. In addition, WHO and UNICEF are collecting data to enable the production of estimates for the proportion of girls at risk protected from human papilloma virus.

Household surveys. The GAVI Alliance Independent Review Committees have recommended that GAVI support to countries be made conditional on countries ensuring that high quality coverage surveys are conducted at least every three years. Wherever possible, existing multi-program surveys will be used for this purpose, especially DHS and MICS. Where countries have a gap of more than three years between existing DHS and MICS rounds (or comparable surveys), and funding cannot be leveraged from other sources to finance surveys, GAVI HSS funds may be used for

this purpose. Where possible, the HSS funds should represent a contribution toward a multi-program survey that includes funding from other sources as well. Additionally, WHO is being funded to conduct national immunization coverage surveys in two countries and UNICEF will work with two other countries to prepare for the conduct of immunization coverage surveys.

Nominal immunisation registry development. Nominal registries represent a promising direction for tracking child immunization status, both by individual and at population level. Child specific records minimize several types of error in data recording and reporting, and enable service providers to follow children who receive services through different service delivery points and to identify children who have not returned for their next scheduled dose. The business plan includes funding for PAHO to develop a nominal immunisation registry in Honduras to build upon initial work conducted in 2012.

Triangulation: biomarkers, disease surveillance, targeted studies and evaluations. The business plan includes support for collection of other relevant data that can be triangulated to improve the understanding of population protection against vaccine preventable diseases. This includes funding to conduct prevalence studies using biomarkers to assess levels of population immunity; surveillance for rotavirus, meningococcal, pneumococcal, Hib, Japanese encephalitis, and yellow fever; and pneumococcal and rotavirus vaccine effectiveness studies in Asia and Africa. In addition, the business plan includes funding for forward-looking comprehensive effectiveness evaluations ('full country evaluations') in five countries. Among other objectives, these evaluations seek to advance innovation in assessment of data quality and the immunological evidence of effective vaccination.

Table: Summary of data quality activities in GAVI business plan by country

Country	DTP3 coverage					Data quality activities in GAVI business plan 2013
	Administrative 2011	WHO/UNICEF 2011	Most recent survey estimate			
			Coverage	Survey ^s	Year	
Afghanistan	89	66	35	MICS4	2009-10	IDQA (tbc); Routine data quality assessments and report cards (tbc)
Angola	86	86	34	MICS2	2000	Technical assistance for preparation for conduct of household survey
Armenia	95	95	95	DHS	2009	
Azerbaijan	95	74	71	DHS	2005	
Bangladesh	96	96	93*	DHS	2010	Full country evaluations
Benin	94	85	74*	DHS	2010-11	
Bhutan	93	95	#N/A	#N/A	#N/A	
Bolivia	82	82	86	DHS	2007	
Burkina Faso	103	91	90	DHS	2009-10	
Burundi	107	96	95	DHS	2009-10	
Cambodia	94	94	85	DHS	2009-10	
Cameroon	82	66	68	DHS	2010	Routine data quality assessments and report cards
Central African Republic	64	54	39	MICS3	2005	
Chad	70	22	16	MICS4	2009	IDQA (tbc); Routine data quality assessments and report cards
Comoros	87	83	70	MICS2	1999	
Congo (Brazzaville)	88	90	72*	DHS	2010-11	
Côte d'Ivoire	62	62	64*	DHS	2010-11	
Cuba	103	96	97	MICS4	2009-10	
DPR Korea	94	94	87	MICS2	1999	
DR Congo	90	70	61	MICS4	2009	Routine data quality assessments and report cards
Djibouti	87	87	57	MICS3	2005	
Eritrea	81	99	98	EPI	2006	
Ethiopia	87	51	37	DHS	2009-10	Routine data quality assessments and report cards(tbc)
Gambia	96	96	95	EPI	2010	
Georgia	95	94	81	MICS2	1999	
Ghana	91	91	89	DHS	2007	
Guinea	95	59	68	EPI	2010	
Guinea-Bissau	97	76	76*	MICS4	2009	
Guyana	93	93	85	DHS	2008	
Haiti	85	59	63*	DHS	2010-11	
Honduras	105	98	93	DHS	2004-05	Nominal immunization registry development

Country	DTP3 coverage					Data quality activities in GAVI business plan 2013
	Administrative 2011	WHO/UNICEF 2011	Most recent survey estimate			
			Coverage	Survey ^s	Year	
India	112	72	72	UNICEF Coverage Survey	2008	Full country evaluations; Working with selected states on data quality improvement (tbc)
Indonesia	94	63	67	DHS	2006-07	
Kenya	88	88	86	DHS	2007-08	
Kiribati	99	99	#N/A	#N/A	#N/A	
Kyrgyzstan Republic	96	96	82	DHS	1996	
Lao PDR	78	78	41	MICS3	2005	
Lesotho	69	83	84	DHS	2008-09	
Liberia	77	49	50	DHS	2006	Routine data quality assessments and report cards(tbc); Availability and use of child vaccination cards
Madagascar	89	89	82	EPI	2010	
Malawi	98	97	93	DHS	2009	
Mali	88	72	86	EPI	2007	Routine data quality assessments and report cards
Mauritania	75	75	56	MICS3	2006	
Mongolia	93	99	92	MICS4	2009	
Mozambique	85	76	76	DHS	2010	Full country evaluations; Routine data quality assessments and report cards(tbc)
Myanmar	86	99	98	MICS3	2008-09	
Nepal	96	92	92	DHS	2010	Routine data quality assessments and report cards(tbc)
Nicaragua	102	98	95	RHS	2005-06	
Niger	97	75	69	Coverage Survey	2009	IDQA (tbc)
Nigeria	63	47	68	NIS	2009	
Pakistan	93	80	85	PSLM	2009-10	IDQA (tbc); Support for conduct of household survey
Papua New Guinea	57	61	71	Coverage Survey	2004	
Republic of Moldova	92	93	59	DHS	2004	
Rwanda	82	97	97	DHS	2009-10	
Sao Tome and Principe	96	96	90	DHS	2007-08	
Senegal	0	83	83	DHS	2009	
Sierra Leone	91	84	72	MICS4	2009	Routine data quality assessments and report cards
Solomon Islands	88	88	#N/A	#N/A	#N/A	
Somalia	60	41	14	MICS3	2005	
South Sudan	0	46		#N/A		
Sri Lanka	94	99	99*	DHS	2005-06	

Country	DTP3 coverage					Data quality activities in GAVI business plan 2013
	Administrative 2011	WHO/UNICEF 2011	Most recent survey estimate			
			Coverage	Survey ^{\$}	Year	
Sudan	93	93	59	MICS4	2009	Support for conduct of household survey
Tajikistan	96	96	86	MICS3	2004	
Timor-Leste (East Timor)	67	67	66	DHS	2008-09	
Togo	92	81	72	MICS4	2009	Full country evaluations; Routine data quality assessments and report cards
Uganda	82	82	72	DHS	2010	
Ukraine	50	50	#N/A	#N/A	#N/A	
United Republic of Tanzania	92	90	88	DHS	2009	
Uzbekistan	99	99	93	MICS3	2005	Routine data quality assessments and report cards
Viet Nam	95	95	74	MICS4	2009-10	
Yemen	81	81	61	MICS3	2005	
Zambia	81	81	93	EPI	2009	Technical assistance for preparation for conduct of household survey
Zimbabwe	95	99	73	DHS	2009-10	Full country evaluations
						Routine data quality assessments and report cards(tbc)

*Preliminary estimates, subject to change

§ MICS: Multiple Indicator Cluster Surveys, DHS: Demographic and Health Surveys, EPI: Expanded Programme on Immunization, NIS: National Immunization Coverage Survey, PSLM: Pakistan Social and Living Standards Measurement, RHS: Reproductive Health Survey

Notes:

1. The list of activities by country is indicative and subject to change.
2. Information on specific countries for data quality self-assessments not determined yet
3. Not all activities are solely funded by the GAVI Alliance