

Data Quality
Review (DQR)
Desk Review
Tools and
Methods
Workshop

DQR Desk Review

Global Fund LFA Training
October 2019



World Health
Organization

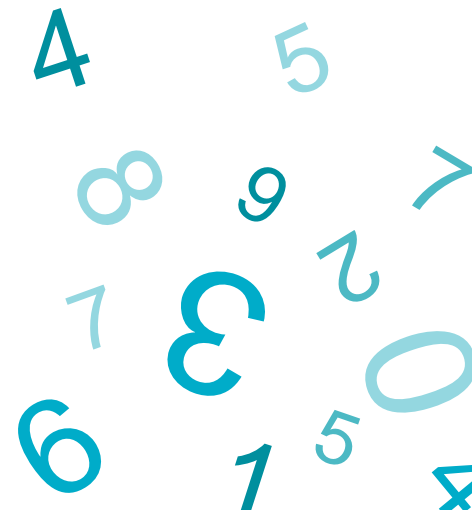


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Developing a
harmonized
approach to
data quality
assessment

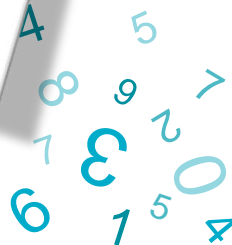
Data Quality Review (DQR) Framework and Metrics

-Review of quality of
health facility data



SESSION I

Overview of DQR



Developing a harmonized approach to data quality assessment

Multi-pronged approach to assessing data quality from health facilities

Routine & regular reviews (e.g. monthly) of data quality that are built into a system of checks & part of a feedback cycle

Annual independent assessment examining quality of health facility data for annual health sector planning & program monitoring

In-depth reviews of data quality that focus on single disease/program area that are conducted periodically (3-5 years)

SESSION I

Overview of DQR



Standard list of program indicators – adapted to country needs

SESSION I

Overview of DQR

Program Area	Indicator Name	Full Indicator
Maternal Health	Antenatal care 1 st visit (ANCI)	Number (%) of pregnant women who attended at least once during their pregnancy
Immunization	DTP3/Penta3	Number (%) of children < 1 year receiving three doses of DTP/Penta vaccine
HIV/AIDS	ART coverage	Number and % of people living with HIV who are currently receiving ART
TB	Notified cases of all forms of TB	Number (%) of all forms of TB cases (i.e. bacteriologically confirmed plus clinically diagnosed) reported to the national health authority in the past year (new and relapse)
Malaria	Confirmed malaria cases	Number (%) of all suspected malaria cases that were confirmed by microscopy or RDT



Two types of DQR

Cross-cutting DQR vs. In-depth DQR

Determine type of DQR and which indicators are appropriate, worthwhile, and manageable to reflect programs and priorities, and which align to the health sector review process in country.

Cross-cutting DQR

- 1 core indicator per program area
- *Annual* assessment to identify gaps and errors in reporting and the plausibility of trends

In-depth DQR

- Multiple indicators to emphasize a specific program area
- 3–5 year in depth assessment

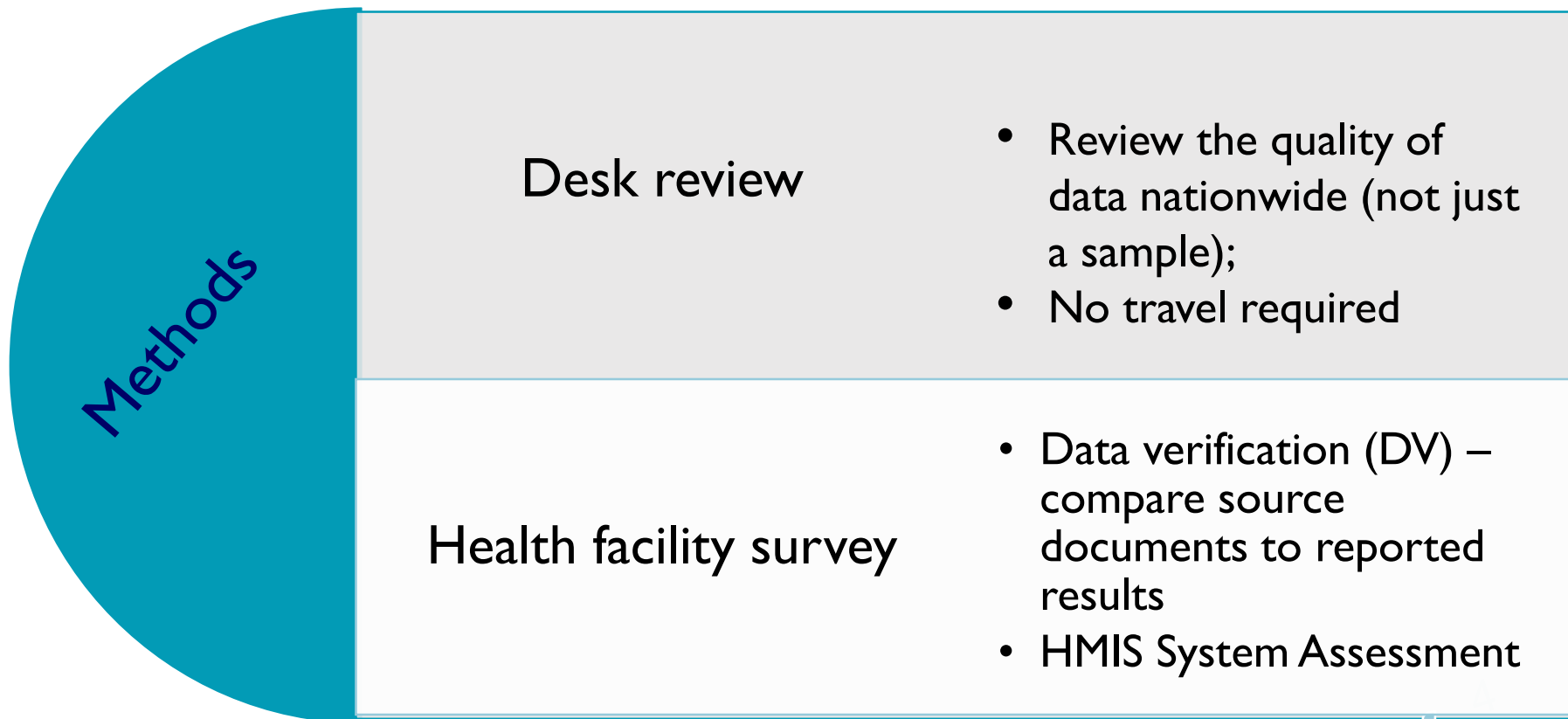


SESSION I

Overview of DQR

The DQR
comprises two
components

DQR methodology



SESSION I

Overview of DQR



DQR Desk Review

SESSION I

DQR Desk Review



Desk Review of Health Facility Data

Objective: Examine data quality of aggregate reported data

- For recommended program indicators
- Using standardized data quality metrics

Assessment Levels

National

- Assessment of each selected indicator aggregated to the national level

Subnational

- Performance of subnational units (e.g., districts or provinces/regions) for the selected indicators



Developing a harmonized approach to data quality assessment

Domains of Data Quality

1) Completeness & timeliness of data

2) Internal consistency of reported data

3) External consistency, i.e. agreement with other sources of data, e.g. surveys

4) External comparisons of population data – review denominator data used to measure performance indicators

SESSION I

Overview of DQR



Completeness and Timeliness of Reporting

Focus

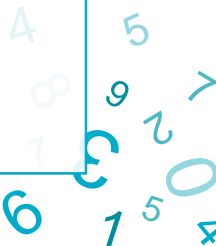
- Measure extent to which data reported through the M&E system are available and adequate for planning, monitoring, and evaluation

Completeness

- Assessed by measuring whether all entities that are supposed to report actually do
- Includes health facility level, subnational level, and data elements within submitted reports

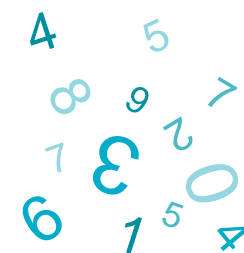
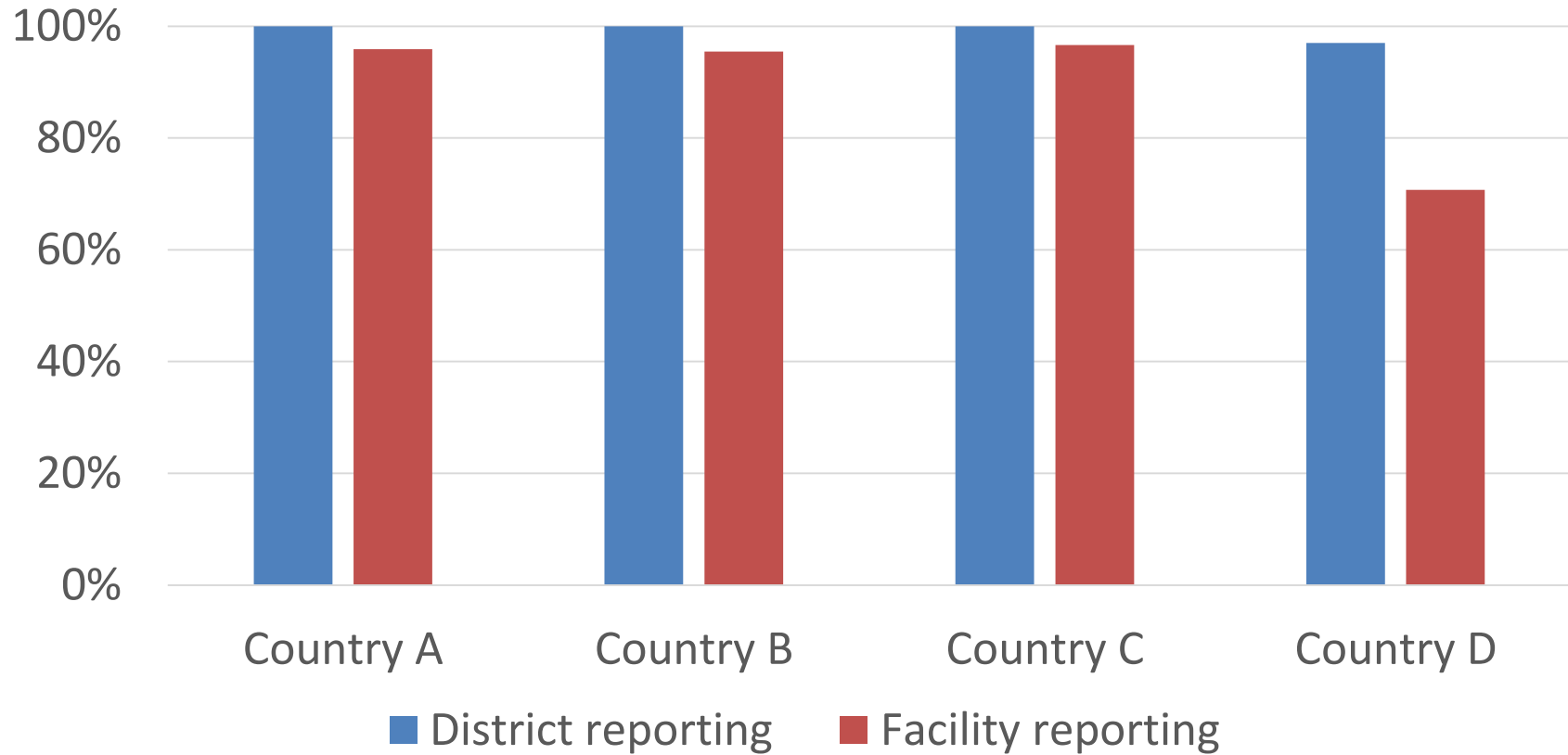
Timeliness

- Assessed by measuring whether the entities that submitted reports did so before a pre-defined deadline



Example-
Completeness
of facility and
district
reporting

Reporting of immunization data in 4 countries, August, 2016



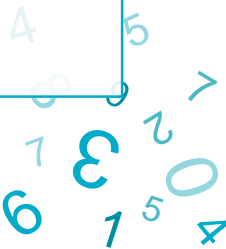
Internal Consistency of Reported Data

Focus

- Examine the plausibility of reported results for selected program indicators based on the history of reporting for those indicators

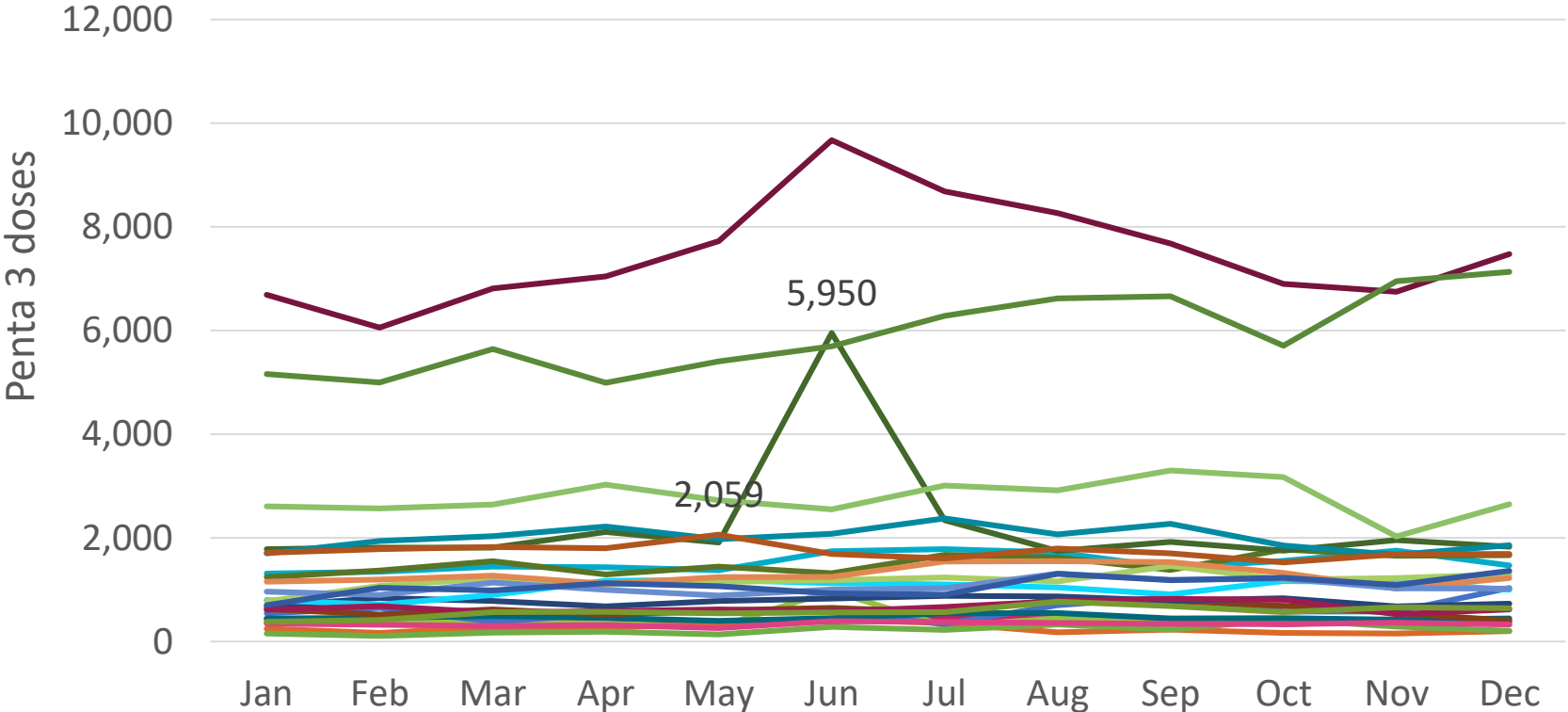
Process

- Presence of extreme values (outliers)
- Trends are evaluated to determine whether reported values are extreme relative to other values reported during the year or across several years
- Assess program indicators which have a predictable relationship to determine whether the expected relationship exists between those two indicators
- Assess the reporting accuracy for selected indicators through the review of source documents in health facilities (data verification)



Example – extreme outliers

Penta 3 doses,
by month of 2015 and by district #12 of region 1 of country A



Identification of outliers in routine data – DHIS 2 data quality tool

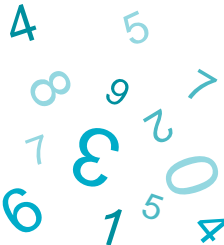
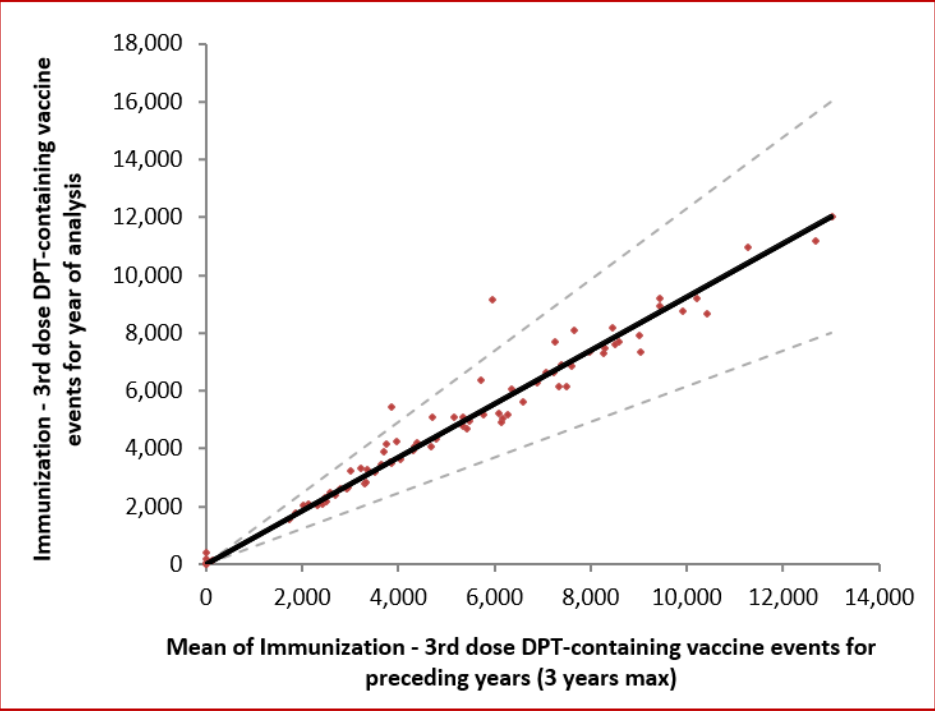
Unit	Data	Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14
Kawe dispensary	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	26.0	20.0	30.0	60.0	19.0	4647.0	24.0		7.0	18.0	20.0	26.0
Katesh Health Center	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	30.0	4345.0	53.0		54.0	63.0		32.0	37.0	36.0	34.0	38.0
ST. Aloyce Health Center	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	25.0	23.0	23.0		33.0	34.0	22.0	26.0	3432.0	35.0	21.0	49.0
RC/KNdege Dispensary	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	19.0	3021.0	18.0	15.0	28.0	35.0	22.0	42.0	36.0	32.0		39.0
Mlali Health Center	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	13.0	16.0	1710.0	17.0	13.0	17.0	9.0	12.0	6.0	12.0		
Kandashi Dispensary	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	17.0	13.0	24.0	15.0	14.0	20.0	16.0	1328.0	15.0	14.0	26.0	18.0
Balang'a Dispensary	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	1.0	6.0	13.0	5.0	3.0	11.0	9.0		1212.0	11.0	13.0	27.0
Ruanda Health Center	Penta vaccines given (KE, Under 1, Dose 3, Inside Service Area)	178.0	151.0	171.0	143.0	136.0	168.0	155.0	188.0	1110.0	121.0		169.0



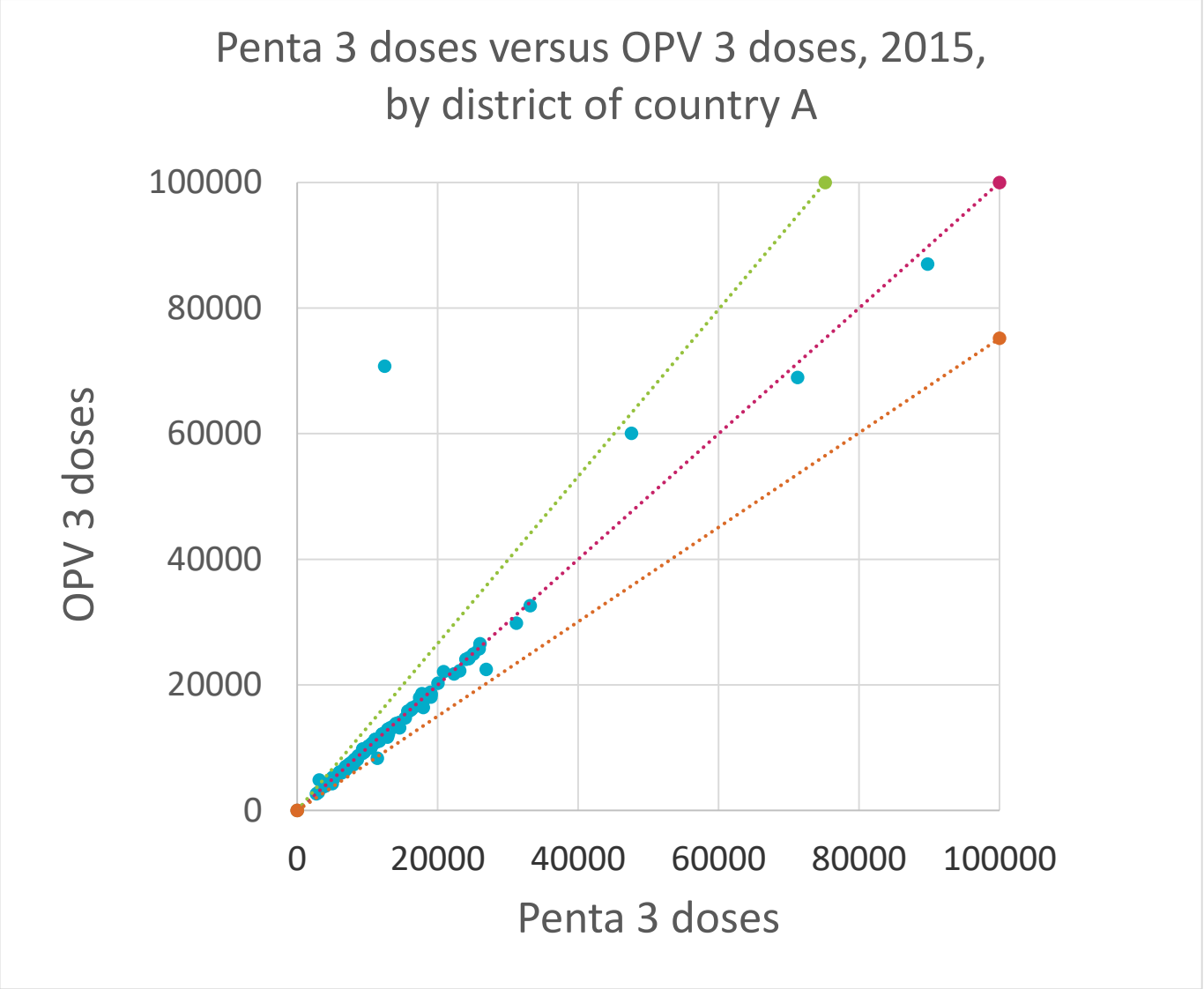
Consistency of indicator data over time – Excel desk review tool

2b2: Consistency of 'Immunization - 3rd dose DPT-containing vaccine' over time

Year	2015
Expected trend	Constant
Compare districts to:	national result
Quality threshold	33%
National score (%)	93%
Number of districts with divergent scores	2
Percent of districts with divergent scores	3%
Names of districts with divergent scores:	District 12, District 17



Consistency
of data
between
related
indicators



External Consistency: Consistency across data sources

Focus

- Assess the level of agreement between two sources of data measuring the same health indicator

Sources of Data

- HMIS or program specific information system
- Periodic population-based survey
- Other data sources, e.g., pharmacy records



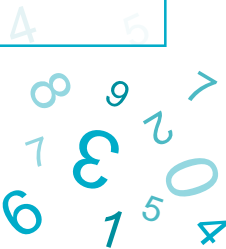
External Comparisons of Population Data

Focus

- Determine the adequacy of the population data used in the calculation of health indicators

Process

- Compare two different sources of population estimates (for which the values are calculated differently) to ascertain the level of congruence between the two sources
- The higher the level of consistency between denominators from different sources, the more confidence can be placed in the accuracy of the population projections



Instructions for Group Work

Using the DQR Desk Review Excel Tool

- Using the data from the file:
“GF_LFA Training_DQR_Desk Review_Exercise_Data_Oct 2019.xlsx”
cut and paste the data by indicator into the Desk Review Tool:
“WHO_DQR Tool_GF LFA Training_Exercise_Oct 2019.xlsm”.
- Paste monthly values by district into the indicator specific tabs
(Input_PAI_IndI, etc.)
- Paste annual district values into the “Input_trend_data” tab
- Review the output and postulate reasons for any apparent anomalies.
- Discuss with colleagues.

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