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NiPN
National Information Platforms for Nutrition

Webinar « Ensuring Quality of NIPN Data Analysis and Interpretation»

- 23rd of Sept 2020

A few rules of order

- Turn OFF your microphone and camera
- Please ask questions using the chat box
- Before intervening, please wait a couple of seconds to allow the translator to finish the translation
- Identify yourself when speaking or sending a chat message
- The webinar is being recorded

Time (CEST)	Topic	Actor
09:30 - 09:40	Introduction of participants	Perrine Geniez
09:40 - 09:45	Objectives of the Webinar	Ingo Neu
09:45 - 10:00	Uganda Experience	NIPN Uganda
10:00 - 10:15	Ethiopia Experience	NIPN Ethiopia
10.15 - 10.50	Discussion	Julien Chalimbaud (facilitator)
10:50 - 11:00	Conclusions & potential next steps	Jef Leroy, Bridget Fenn, Ingo Neu

Objectives of the Webinar

To share experience and discuss matters related to ensure that:

1- the quality of the data is appropriate

2- the specific data analysis method is adapted and well conducted

3- the interpretation of the results is well supported by the findings

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Data quality process applied by NIPN-Uganda

- Damalie Atusasiire

- 23 - Sept - 2020

Current nutrition status in Uganda;

The Uganda National Panel Survey (UNPS) Wave 7 and 8

- The UNPS is carried out annually, over 3,123 households are monitored and interviewed. UNPS is currently in its 8th wave of data collection
- The UNPS aims at producing annual estimates in key policy areas, which provide a platform for evaluating and assessing national policies and programs
- UNPS started including a section on child nutrition and health during in 2009/10. More nutrition metrics have been added since then.

Key aspects of data quality considered

- **Relevance**: national coverage, addresses nutrition aspects (section on child nutrition and health)

- **Accuracy**: free of typos, transpositions, and other inaccuracies of data entry and classification e.g. year of birth recorded as 2818 instead of 2018, DCODE as a single digit instead of 3 digits code

- **Completeness**: Data has all the relevant modules to address the problem at hand. In anthropometry, age is required in completed months not years

Aspects of data quality…continued

- **Timeliness**: data is available to the NIPN Analysis Unit before official dissemination to widen the use of the findings.

- **Consistency**: clean data with no duplicates, organized, standardized, structured and labelled or documented. Achieved during harmonization and developing a recode manual

- **Accessibility and availability**: The UNPS is easily accessible to the NIPN Analysis Unit and each wave is made available in a timely manner.

- **Comparability**: The UNPS data can be compared once data harmonization has been completed making it easier to conduct trends analysis.

Method

- Software: STATA 14 & MS Excel
- Approach:
  - Identify indicators of interest by the NIPN Policy Unit/ UBOS; conduct research for indicator definitions
  - Set data as survey dataset; generate proportions at national, residence(rural-urban) and regional levels
  - Develop tables including CIs and CVs to check for reliability of the estimates
  - Share preliminary results internally to stimulate discussion

Interpretation

- Check whether the findings are consistent with those from previous surveys/studies; comparing with the DHS findings.
- Findings may also offer novel insights or information; pointers on what to expect in the next DHS

Challenges with UNPS Data

- Indicators can only be disaggregated (or is representative) up to the 4 geographical regions
- Delayed release of Vitamin A results for UNPS. Tests are being undertaken outside Uganda and it has taken a while to have them complete
- Some vital nutrition related questions being left out of the survey; e.g. ‘whether the child is currently breastfeeding’, etc.

Challenges with Food Security and Nutrition Assessment (FSNA) Data

- Unknown sampling procedure for FSNA datasets. No sampling weights, affecting representativeness of the data
- Missing questionnaires for some FSNA datasets. Challenging when generating a recode manual.
- Limited coverage. FSNA surveys are carried out in specific regions/areas; in Karamoja and refugee settlements
- Challenges with completeness and cleanliness of data; variables were not labelled in a uniform manner

Challenges with Data from MDAs

- Data collection was not routine in most MDAs; one time surveys due to funding, posing challenge of comparability
- Some MDAs like MAAIF, MGLSD, MoES, MTIC lack properly managed information systems leading to inconsistency in data collection of nutrition indicators.
- Health Information systems like DHIS2 had lots of data but still fell short on quality control. Community data (which would have been representative) from DHIS2 is largely incomplete.

Challenges with Data from MDAs continued

- DHIS2 only captures information from health facilities having HMIS accounts with MoH hence missing out on information of health facilities without DHIS2 accounts.

- Most of the MDAs rely on UBOS datasets. Those that had other datasets had no quality control processes

Partner involvement

- Technical support from UNICEF
- Previous technical support from GSF

Thank you

Methods followed to ensure quality of data analysis and outputs

NiPN-Ethiopia Experience

Alemayehu Hussen

September 23, 2020

Approach followed to produce high quality outputs

In order to produce high quality outputs, we take steps to maintain quality at each of the 3 steps shown in the figure above.

Identification of data sources

Step 1: Identify the best available secondary data sources that contain indicators that can be used to answer the questions identified.

Steps followed to select data sources

a) Consult with experts from various sectors to identify datasets which are best suited to answer our question

a) List out all possible datasets which are identified and assessed for
   - Level of representativeness,
   - Method used to assure quality,
   - Methods used to measure or define indicators of interest,
   - Accessibility of the dataset.

b) Select the dataset.

Identification of data sources

To answer the current questions we are working on we are looking at national and regional trends and drivers of WASH, overweight/obesity and NCDs.

A major data source consideration factor is the level of representativeness.

Data sources

Ethiopian Demographic and Health Survey (EDHS): 2000-2016

WHO NCDSTEPS survey: 2016

Data management and analysis

- **Capacity building**:
  - To NIPN team and NIPN stakeholders offered by trainers who have experience using the identified dataset e.g., **"Answering policy questions using the Demographic Health Survey data" November 2016**
  - Provision of TA by IFPRI to NIPN team and stakeholders on use of Directed Acyclic Graphs (DAG) and to support the team during data selection and analysis

- **Understand how each variable and its contents are defined and measured.**
  - E.g. For DHS read the recode manual and guide to DHS statistics and produce a
  - definition of each of the indicators.

- **Involve the data owner in the analysis process:** to increase credibility of the analysis and clear up some questions about the dataset
  - E.g., Household Consumption and Expenditure Surveys (HCES) and NCDSTEPS

Data management and analysis

- **Data cleaning**:
  - Consistency checks, plausibility checks, exclusion of outliers (Eg HAZ scores > 5 or -5)
- **After defining indicators replicate results reported in the final report:** to confirm we are doing the right analysis.
  - When using DHS data
  - Compare prevalence estimates we calculate with estimates in the report
  - For indicators that are not reported in reports use Statcompiler
- **Held consultative meeting with experts in nutrition, NCDs, epidemiology and public health:** to draw upon the expert knowledge, validate identified outcome variables and association among variables
- **Use a combination of descriptive and rigorous analytical methods**
  - Description of national and regional trends
  - Regression analysis (linear, logistic…), Regression decomposition
    - To minimize the bias in selection of variables (stepwise, directed acyclic graph (DAG)…)
    - To select a simpler model use different model selection methods (AIC, BIC)

Data management and analysis

- **Consider the design of the data source in the analysis:** Consider the clustering design of the DHS when calculating prevalence estimates.
- **Review results of final analysis from a non-technical point of view:** to check if it will be easily understood by policymakers
- **Open data analysis process**: both data analysis and policy teams work from a shared folder which facilitates review of work done and increases accountability of the process and the final results
- *Technical support provided by IFPRI to NIPN team during this process*

Approach followed to produce high quality output: Reports and briefs

Extensive review process: outputs are reviewed by EPHI and by IFPRI.

Documentation of the review process: To ensure that all comments are considered adequately.

Thank You!

Quality of NIPN Data- Bangladesh Perspective

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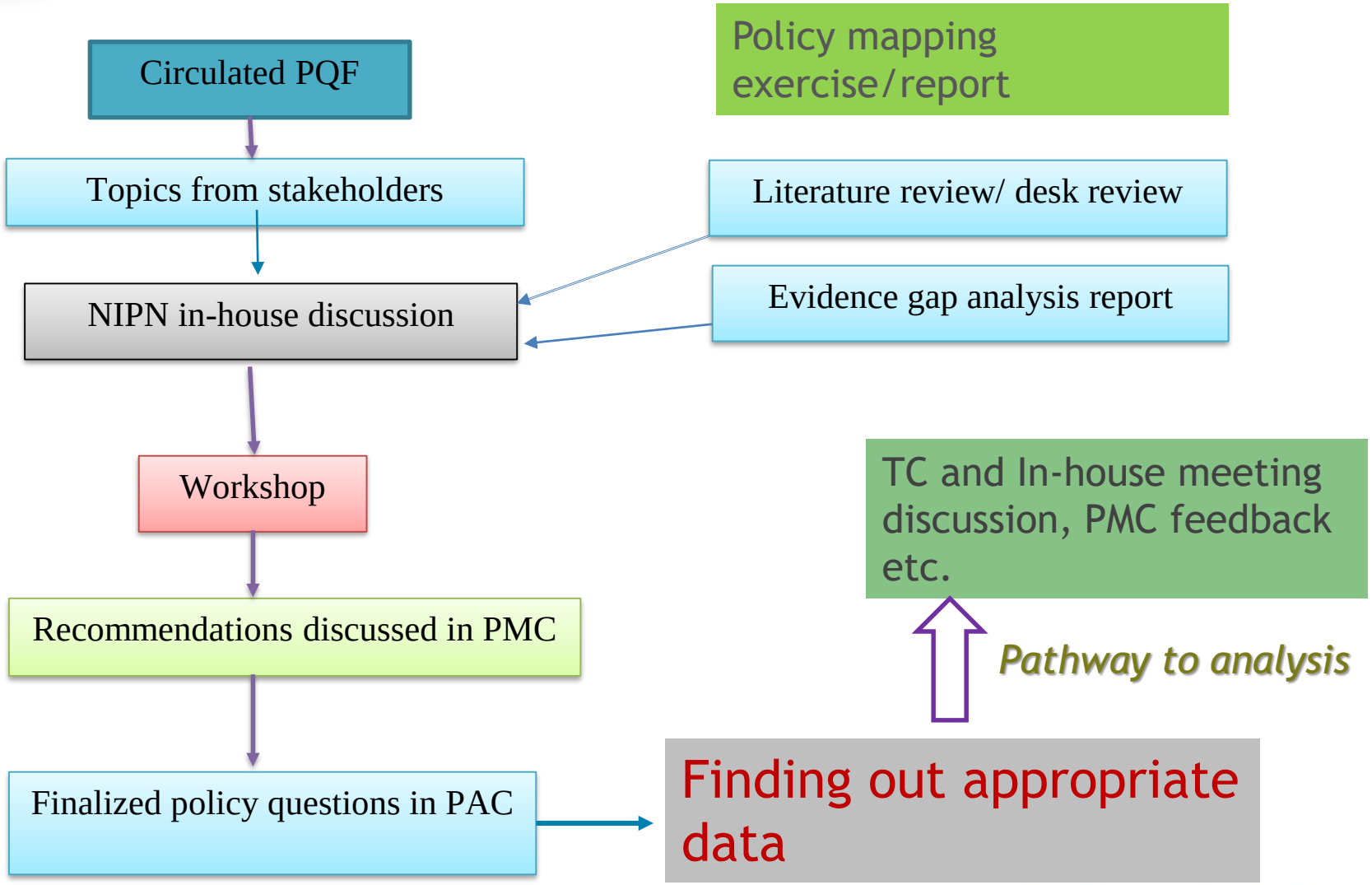
HKI-NIPN, Bangladesh

23 September 2020

Process of Policy Questions and Finding Out Appropriate Data and Analysis



NiPN Data and its Quality – An Overview

Data Type: Secondary data

- **Population-based survey data (cross-sectional)**
  Examples: HIES, BDHS
- **Routine/ surveillance/ panel data**
  Examples: FSNSP

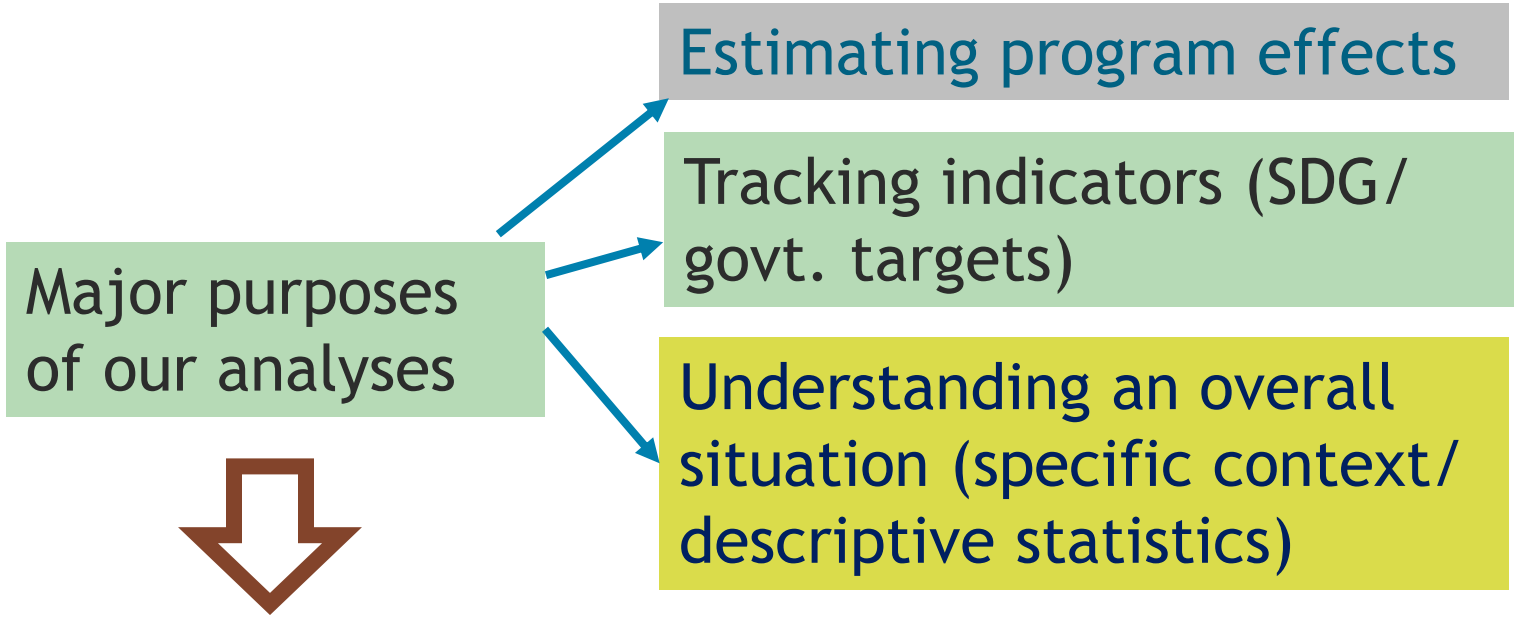
- Footprints of data collection methods not documented
- Validity is a concern

Data Diagnostics

- Data shape & size
- Outliers
- Reliability
- Representativeness
- Comparability

Purposes of NiPN Data Analysis

"Data quality" is neither "good" or "bad": it should be "adequate" for the intended analysis



Choosing analytic techniques

Elements of Design

Assignment of intervention and its allocation

- Measurements (time points)
- Comparison groups

Depends largely on research design (Experimental - RCT, Quasi-experimental – same/separate sample pre-post, Non-experimental – cross-sectional, case-control)

We only have data, no control over the study design

Understand the design by following a retrospective way

Selection of appropriate analysis techniques (univariate, bi-variate, multi-variate)

Choosing analytic techniques (cont.)

Depends on (though not limited to)

What we want to see or show

Variables' position in the measurement scale (nominal, ordinal, interval, ratio- discrete/continuous)

Variables' relation with each other (dependent/outcome, independent, confounding, multicollinearity, endogeneity)

Meet up required assumptions for model fitting

etc. (depending on the type of analysis we prefer)

Guidance on Data Quality from
http://www.nipn-nutrition-platforms.org/Data-quality-checks

Comments & questions?

Thank you all

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QUESTIONS & DISCUSSION