



Draft Recommendations on Quality Assessment and Quality Management (Report from the UNECE Task Force on Quality Assessment and Quality Management)

UNECE Group of Experts on Population and Housing Censuses - Twenty-sixth Meeting

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Deborah Stempowski, United States

Donatella Zindato, Italy

CES TASK FORCE ON QUALITY ASSESSMENT AND QUALITY MANAGEMENT MANDATE

- Chaired by Donatella Zindato of Italy with membership from Abu Dhabi, Eurostat, Germany, Italy, Mexico, Netherlands, Serbia, United Kingdom, United States, and the United Nations Statistics Division
- Mandate: Update Chapter IV (Quality Management) and Annex III (Quality Management Programme Implementation) - Relevant and necessary updates and additions in the following areas
 - ✓ Six dimensions of quality
 - ✓ Five main components of the quality management framework
 - ✓ Ensuring quality in an outsourcing environment

CES TASK FORCE ON QUALITY ASSESSMENT AND QUALITY MANAGEMENT METHOD

Discussions and updates based on:

- responses to the [Quality and coverage section](#) of the 2020 census round UNECE survey
- relevant scientific literature and international guidance on quality
 - ✓ specifically addressed to the management and measurement of quality of administrative sources in censuses ([CES Guidelines on the use of registers and administrative data for population and housing censuses](#) and [CES Guidelines for Assessing the Quality of Administrative Sources for Use in Censuses](#))
 - ✓ more general quality guidance ([Handbook on the Management of Population and Housing Censuses, Revision 2](#); [UNSD Principles and Recommendations currently under revision](#))

AN INCREASING DEMAND FOR DATA QUALITY METHODS AND METRICS

Task Force discussions were driven by several trends:

- the **demand** for data quality-related methods, processes and metrics will continue to increase
- **quality metrics will continue to evolve** as many countries move from the traditional field enumeration to a census that is increasingly based on administrative data
- need for the National Statistical Offices (NSOs) to allow stakeholders **increased understanding and additional access to information** about the methods, approaches and metrics used to assess data quality

FOCUS OF TASK FORCE DISCUSSIONS

UNECE Recommendations should be more tailored towards the different census methods and on how quality metrics might differ for traditional censuses, register-based censuses and combined ones.

- Measuring quality and how metrics might differ for traditional censuses, register-based censuses, and combined censuses.
- Determining which methods are effective for measuring quality in different scenarios.
- Highlighting the increased use of record linkage
- Assessing the impact of editing and imputation on census results

A CRITICAL NEED:
ESTABLISHING A
QUALITY
MANAGEMENT
PROGRAMME

Chapter IV : Key Updates

- Emphasis on the importance of establishing a quality management programme.
- Setting quality standards at the census planning stage, regardless of whether it is a traditional, register-based or combined census.
- Reference to the well-known **Quality assurance circle** included: the focus of any quality management programme is to prevent errors from occurring or reoccurring, to detect errors easily and early enough to allow taking corrective actions.

DEFINING INFORMATION QUALITY

Chapter IV : Key Updates

- Reference to additional sources of non-sampling errors
 - **representation errors**: error in the representation of the intended population units or objects (e.g., individuals or households in a census), including coverage errors, identification errors (errors in classifying a unit based on inconsistencies across multiple sources) and unit errors (errors in the statistical creation of statistical units of interest where they do not exist in any available data source)
 - **measurement errors**: error in the measurement of variables or characteristics (age, gender, etc.), including relevance (definition misalignment), mapping and comparability errors (errors between the reclassified and adjusted measures)
- Reference to additional quality dimensions usually considered when assessing the quality of administrative sources for use in censuses (*such as the institutional environment, linkability, accuracy of record linkage, accuracy of conflict resolution*)

ENSURING QUALITY IN REGISTER-BASED AND COMBINED CENSUSES (1)

CHAPTER IV : Key Updates

- Dedicated section devoted to quality assessment of administrative sources ([Ensuring quality in register-based and combined censuses](#)) including reference to the four quality assessment stages (source, data, process and output) identified as relevant for administrative sources.
- Specific mention of operational assessment documentations for administrative sources used in censuses ([Quality evaluation and reporting](#) section).
- Specific reference to evaluation for register-based and combined censuses ([Quality evaluation and reporting](#) section).

ENSURING QUALITY IN REGISTER-BASED AND COMBINED CENSUSES (2)

ANNEX III : Key Updates

- Added reference to error rates (linkage error and editing rates) relevant for register-based and combined censuses (in paragraph on [Managing accuracy](#)).
- Mention of issues related to managing interpretability in register-based/combined censuses (in paragraph on [Managing interpretability](#)).
- Mention of issues related to managing coherence in register-based/combined censuses (in paragraph on [Managing coherence](#)).
- Increasing diversification of population census sources ---> increasing need for [Measurement of record-linkage quality](#) (NEW section on the importance and methods for measuring record-linkage quality, including a case-study on the use of quality measures for record-linkage by DESTATIS).
- Brief discussion of [management of coverage errors in register-based censuses](#) (in paragraph on [Management of coverage errors](#)).

ENSURING QUALITY IN REGISTER-BASED AND COMBINED CENSUSES (3)

ANNEX III : Key Updates

Increasing need to assess the quality of data editing and imputation procedures when administrative sources are used

- ✓ need for data editing and imputation still exists with multiple data sources/multiple data sources can be a source of inconsistencies
- ✓ under-coverage of data sources, data linkage problems and the use of sample data can lead to missing values that might require specific solutions.

Short section on [Measuring imputation quality in register-based censuses](#), including a case-study on the use of imputation for missing values in a register by Statistics Netherlands. (The imputation of educational attainment in the Dutch register-based census).

CHAPTER IV & ANNEX III: Key Updates

Operational Quality Control Methods and Questionnaire design and Systems development sections

- Updated guidance in relation to the use of CAWI and other electronic modes (CAPI, CATI)

Content evaluation section

- Case-study on assessment of content error (detailed insight of UK Census Quality Survey)

Suggested cross-references (e.g. to the Chapter on Emergency preparedness with reference to the development of a risk management plan as an integral part of the operational quality control system).

Footnotes added in order to provide the reader with useful references to actual cases and/or relevant literature for the following topics

- ✓ setting quality targets (footnote 3 in relation to early setting and declaration of accuracy targets and footnote 4 in relation to users' consultation programmes for process-related relevance targets)
- ✓ coverage adjustment as an integral part of the census process (footnote 6)
- ✓ designing a comprehensive evaluation programme (footnote 7)
- ✓ changes to coverage estimation processes based on quality assurance processes (footnote 8)

OTHER CHANGES



THANK YOU!

Contacts

- Deborah Stempowski (deborah.m.stempowski@census.gov)
- Donatella Zindato (zindato@istat.it)