

Quality Assurance Framework - Ecuador

DINCE

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- 01 ▶ **Ecuador's Quality Assurance Framework**
- 02 ▶ **Quality assessment of administrative records**

01

Quality Assurance Framework

Statistical Quality Assurance Framework

The MAC establishes the good practices and quality dimensions under which official statistics are produced in the country, as well as the evaluation methods that will be applied to ensure their quality, in order to maintain the credibility and transparency of the statistical information generated by the NSS:

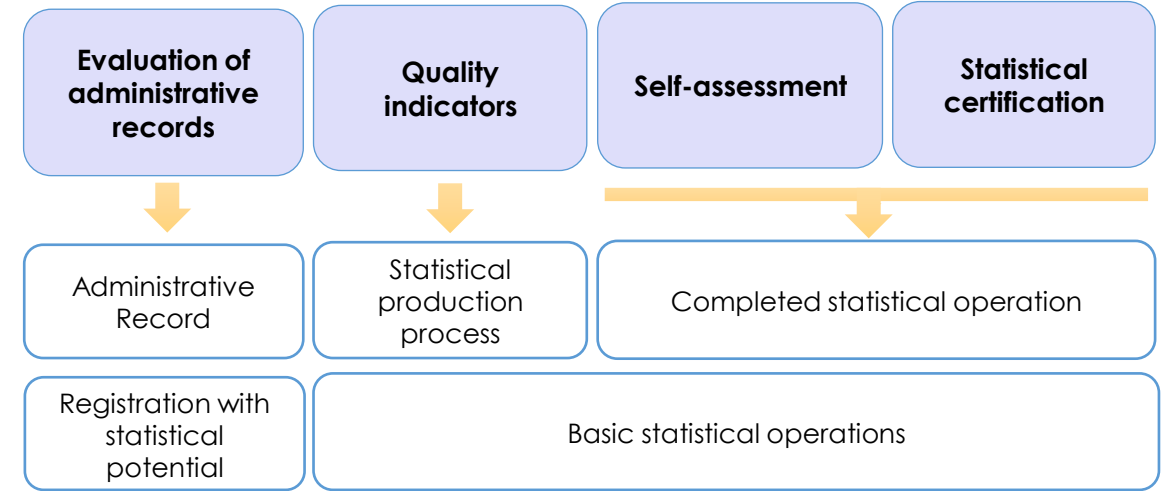


Statistical Quality Assurance Framework

- MPE Statistical Production Model
- Code of Good Statistical Practices CBPE
- Technical regulations and quality standards



- ❖ Solid methodology
- ❖ Adequate statistical procedures
- ❖ Relevance
- ❖ Accuracy and reliability
- ❖ Timeliness and punctuality
- ❖ Consistency and comparability
- ❖ Accessibility and clarity
- ❖ Commitment to statistical quality



What incentives does the Statistical Quality Assurance Framework provide?



Buenas cifras,
mejores vidas



Capacity building

Strengthening of the technical and statistical capacities of the personnel in charge of information production.



Standardized processes

Creation of standardized processes that promote and encourage dialogue on quality challenges and opportunities at the national, regional and international levels.



Optimization

Optimization and replication of institutional processes for business continuity.



Credibility

Credibility of statistics producers and increased governance of the statistical office within the data ecosystem.



Recognition

Award to the entities for the degree of quality obtained from the application of the quality assurance processes.

02

Quality Evaluation of Administrative Records

Towards a system of statistics based on administrative records

Administrative records are data produced by entities that generate information as part of their line of business, which is not collected for statistical purposes.



Data created for administrative purposes

Characteristics

- Administrative variables and definitions.
- Timeliness and continuity.
- Cost reduction.
- Compulsory data collection.

Methodology



Tech tools

Data protection

Data that meet statistical needs

Uses

- Improve data accuracy.
- Improve quality of existing statistics.
- Improve completeness and coverage (Null and underreporting/undercoverage).
- Generate new studies (cross-sectional/longitudinal).

Evaluated components and indicators

Evaluation of Administrative Records

Component	Description	Indicators	Acceptable measurement
Descriptive metadata (source)	Environment in which an AR operates, such as: its origin, observation unit, thematic coverage, among others.	<ul style="list-style-type: none"> • Relevance - Utility • Reliability • Availability - Accessibility • Coverage • Regulatory Framework • Efficiency 	<p>Esca la de Likert</p>
Structural metadata (variables)	It allows to understand the data and its main elements: concept, data type, format or classifications.	<ul style="list-style-type: none"> • Comparability (definition) • Consistency (type/length) • Consistency (catalog) 	<p>Esca la de Likert</p>
Microdata	Characteristics of the observation units of a study population such as individuals, companies or others.	<ul style="list-style-type: none"> • Validity • Completeness • Comparability • Accuracy • Consistency 	<p>>90%</p> $\% = \left[\frac{\# \text{ comply cases}}{\# \text{ analyzed cases}} \right] * 100$

C1. Descriptive metadata (source)

Indicators and metrics

Indicators	Metrics
Utility	Relationship between the objective of the AR and the need for which it was required. <ol style="list-style-type: none">Objective not defined for the administrative record.Objective defined, but not related to the need.Objective defined and is related to the need for statistical information. (National Development Plan or other).
Coverage	Subregistry Level <ol style="list-style-type: none">Subregistry greater than or equal to 20%.Subregistry between 15% and less than 20%.Subregistry between 10% and less than 15%.Subregistry between 5% and less than 10%.Subregistry of less than 5%.
Credibility	Generation of statistics with the administrative record <ol style="list-style-type: none">No statistics or reports are generated within the provider institution.Certain reports are generated for internal use.Statistics are generated but not published, they are for internal use only.Statistics are generated and published. Statistics based on administrative records.

C1. Descriptive metadata (source)

Indicators and metrics

Indicators	Metrics
Regulatory Framework	Legal regulation that covers the operation of the administrative registry <ol style="list-style-type: none">1. Created without any legal protection.2. Created under a legal framework.
Availability	Data centralization mode (when data are collected at several points) <ol style="list-style-type: none">1. Centralized data with no defined periodicity.2. Data centralized monthly.3. Data centralized weekly.4. Daily centralized data.5. Centralized data online (immediate availability).
Efficiency	Format/means of data collection <ol style="list-style-type: none">1. It is collected on a physical form (paper).2. It is collected by means of an Excel file (office automation).3. Collected through a system created by another institution (or old version).4. Collected by means of a proprietary and updated system.5. Compiled by means of a proprietary and updated system that interoperates with other sources.

C2. Structural metadata (variable)

Indicators and metrics

Indicators	Metrics
Comparability in the definition of the variable	<ol style="list-style-type: none">1. Concept not defined.3. Concept proper of the administrative registry.5. Concept of a national or international standard.
Coherence in the data type and field length	<ol style="list-style-type: none">1. Data type and field length not determined.2. Determined only the length of the field.4. Determined only the data type.5. Data type and field length determined.
Consistency in the catalog	<ol style="list-style-type: none">1. Undefined catalog.3. Catalog specific to the administrative registry.5. standard catalog.

C3. Microdata evaluation

Variable types



Identifier

- They **facilitate** the direct identification of a particular observation unit within a data table.



Communication

- Allows to **contact** or locate a particular observation unit.



Chronological

- **Indicates** the time of occurrence or recording of an event or phenomenon.



Statistical

- **Qualitative:** They express qualities or characteristics.
- **Quantitative:** They express numerical quantities, allow measuring, weighing or counting.

Consistency: Measures the percentage of cases that meet the relationship of one variable versus the data of another variable.

Accuracy: Reflects the authenticity of data from one source when compared to data from another source.

Comparability: Checks that the catalog data conform to the classifications or nomenclatures defined in the structural metadata of the variable.

Validity: They correctly describe the quantities or characteristics to be recorded, establishing validation rules.

Completeness: Reflects the percentage of existing values (not null or empty) in a variable, compared to the total number of cases that should have responded in that variable.

Evaluation results of administrative records

The National Institute of Statistics through the Technical Assistance process has evaluated several administrative records such as:

Administrative Source	Record evaluated	Evaluation date	Results			
			Descriptive Metadata		Structural Metadata	
Ministry of the Interior	Web police reports	Sep-21	High maturity level	83%	High maturity level	48,48%
			Medium maturity level	17%	Medium maturity level	48,48%
			Low maturity level	0%	Low maturity level	3,03%
Ministry of Education	Registry of Cases of Sexual Violence Detected in the National Education System-REDEVI	Dec-22	High maturity level	83%	High maturity level	48,48%
			Medium maturity level	17%	Medium maturity level	48,48%
			Low maturity level	0%	Low maturity level	3,03%

Type of variable	Variable	Identified errors
Identification	identity cards	ID with more than 10 digits
		ID with less than 9 digits
		Incorrect verification digit
	RUC of the companies	RUC with null or empty value
		RUC less than 12 digits
		Last three digits incorrect
names and surnames	Incorrect verification digit	
	If null and empty string	
Chronological	dates	If you have special characters
		Year out of range
		Date less than 7 digits
E. Qualitative	geographic (province, canton)	Month out of range
		If null and empty string

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