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Quality Review of Energy Data: Country Practice - Canada

**Presentation to OG9
Abu Dhabi, United Arab Emirates
May 8, 2014**



Quality Assurance Reviews – Overview

- Common strategy used for all programs at Statistics Canada – coordinated by the Department's Quality Secretariat
- Quality assessment
 - Peer review
 - Compliment to formal program audits
- Internal
 - Not self assessment
- Low cost
- Flexible, adaptable
- Wide-spread benefits



Quality Assurance Reviews - Overview

(continued)

- Independent review of 5 or 6 statistical programs every year, since 2006
- Conducted through meetings and gathering of documentation
- Look at risks to the program delivering its usual outputs
 - Example of a risk: obsolete software system
- Highlight good practices and make recommendations
 - Example of a good practice: system renewal plan



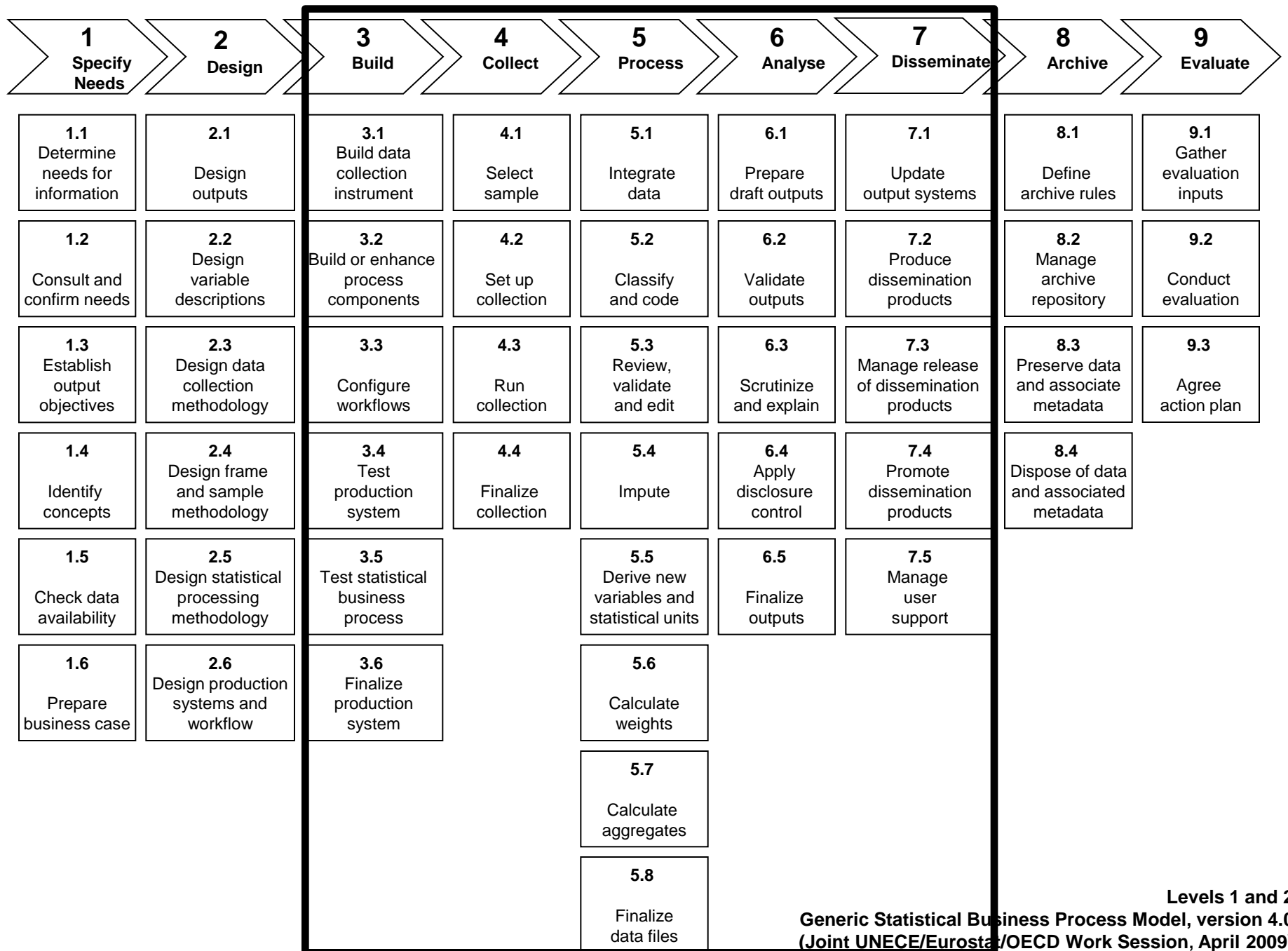
Mandate and objectives

- Demonstrate how quality is being managed
- Demonstrate how risks are being controlled
- Spread knowledge of effective quality assurance practices and the risks they can mitigate
- Identify where resources should be used to reduce risks to quality – part of the on-going financial planning cycle

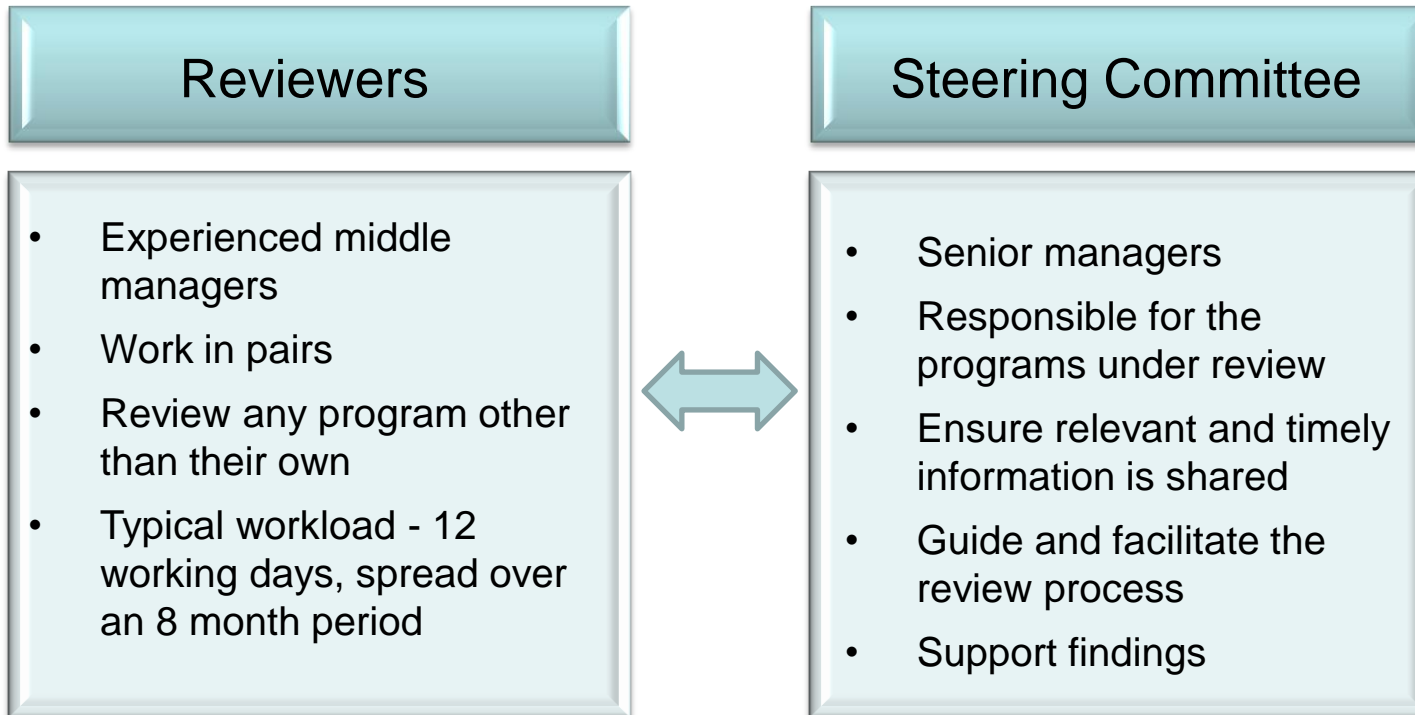


Scope

- When initially implemented, only looked at processing steps
- Later, expanded to include implementation and analysis steps
- Programs
 - Sample surveys, administrative data based programs
- Functions
 - Knowledge transfer, classification/coding methods, seasonal adjustment practices, institutional review practices



Structure – Participant Roles





Information Gathering

- Minimal burden on program being reviewed
- 3-5 meetings
 - Program manager
 - Team members
 - Service providers (collection specialists, methodologists, IT specialists)
 - Internal clients
- Tools:
 - Generic Statistical Business Process Model
 - Existing documentation



Key Deliverables

- Summary presented to Department's Executive Management Board
- Formal report (strengths, weakness, recommendations) submitted to Program Director
- Catalogue of risks, quality assurance practices and recommendations
 - Maintained by Department's Quality Secretariat



Benefits

- Reviewers
 - On-the-job training, networking
- Programs being reviewed
 - Constructive advice from resident experts
 - Exposure
 - Improve program robustness
- The whole organization
 - Management training
 - Commitment to quality
 - Shared best practices
 - Reduce/manage risks



Review of Energy Program – Overview

- Energy Statistics Program manages 20+ surveys
 - Small population surveys or census over a threshold (<50 units)
 - Use of administrative sources
- Users of data
 - Internal – Macroeconomic Accounts Branch (e.g., GDP, input/output tables, various environmental indicators)
 - External – Environment Canada, Natural Resources Canada, National Energy Board, International Energy Agency
- Current challenges identified
 - e.g. Transition to new corporate processing system in 2015



Review of Energy Program - Strategy

- Mandate to review the entire energy program
- Generalized, overall review, but focused efforts
 - Identified cross-cutting issues through a more extensive review of two “representative” surveys
 1. Monthly Crude Oil and Natural Gas Survey
 - Data obtained from other surveys and administrative data
 2. Industrial Consumption of Energy Survey
 - Annual, largest sample survey



Review of Energy Program - Results

- Evaluation was effective at identifying risks and providing various mitigation strategies
- Areas of evaluation covered a broad range of aspects. For example:
 - Maintaining Program Relevance
 - Human Resource Management – Maintaining Expertise
 - Managing Data Sources (e.g. use of external administrative information)
 - Use of Processing Best Practices (Quality Assurance Techniques)



Review of Energy Program – Results

(continued)

- Evaluation resulted in a number of improvements to the program. For example:
 - Transition to a common processing system (Integrated Business Statistics Program)
 - Improved subject matter training (e.g. series of workshops)
 - Improved data validation activities
 - Data Analysis Hub (i.e. centralised repository of supporting material/data)
 - Checklists
 - Better documentation (i.e. up-to-date, complete and accessible)



Quality Review Process – Overall Benefits

- The Quality Review Process has led to the reinforcement of best practices for all programs. For example:

Human Resource Management	<ul style="list-style-type: none">• Corporate Staffing Plans• Development of Training Strategies
Project Management	<ul style="list-style-type: none">• Departmental Project Management Office
Systems and Processing	<ul style="list-style-type: none">• Corporate Business Architecture (e.g. use of common systems and centralised processing capacities)
Standardization	<ul style="list-style-type: none">• Harmonised Questionnaire Content• Systems Review Board
Documentation	<ul style="list-style-type: none">• Management of Microdata Files• Information Management Strategy



Questions/Comments?