



SEER Program Quality Initiatives

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SEER*DMS Face-to-Face Meeting
July 13, 2017

SEER Program: Quality Improvement Mission

SEER*DMS needs to support the SEER Program's Quality Improvement Mission in order to:

“Improve the quality and completeness of cancer information through assessment, accountability, project evaluation methodology, and needs-based education”

SEER Quality Improvement Activities:

- Quality Assurance
- Quality Control

- Program-wide collaborations:
 - SEER registries
 - NCI SRP
 - NCI contractors
- Activities coordinated by Data Quality, Analysis and Interpretation Branch (DQAIB)

SEER Quality Assurance Activities

Develop, implement, maintain, and update Standards, References, and Tools

- SEER Coding Manual
- MP/H Manual (Solid Tumor Manual)
- Hematopoietic and Lymphoid Database
- SEER*Rx Antineoplastic Drug Database
- SEER*Abs
- ICD conversion tools
- SEER*RSA

Support training in cancer registration and provide relevant expert advise

- SEER*Educate
- SEER Training Website
- SEER Workshop (NCRA Meeting)
- Ask a SEER Registrar
- SEER Inquiry System (SINQ)

Quality Assurance Projects in Development

- Updating cancer staging systems for public health surveillance:
 - Extent of Disease 2018 (includes SEER*RSA version for EOD);
 - Summary Stage 2018;
 - EOD 2017 Testing Project;
 - Summary Stage 2018 Manual ;
 - EOD and Summary Stage Training;
- Updating cancer multiple primary rules for solid tumors:
 - Solid Tumor Manual and training materials;
- Supporting the development and implementation of new discrete data items for collection of prognostic factors (NAACCR SSDI TF);
- Support the review of ICD-O-3 histology codes and terms;

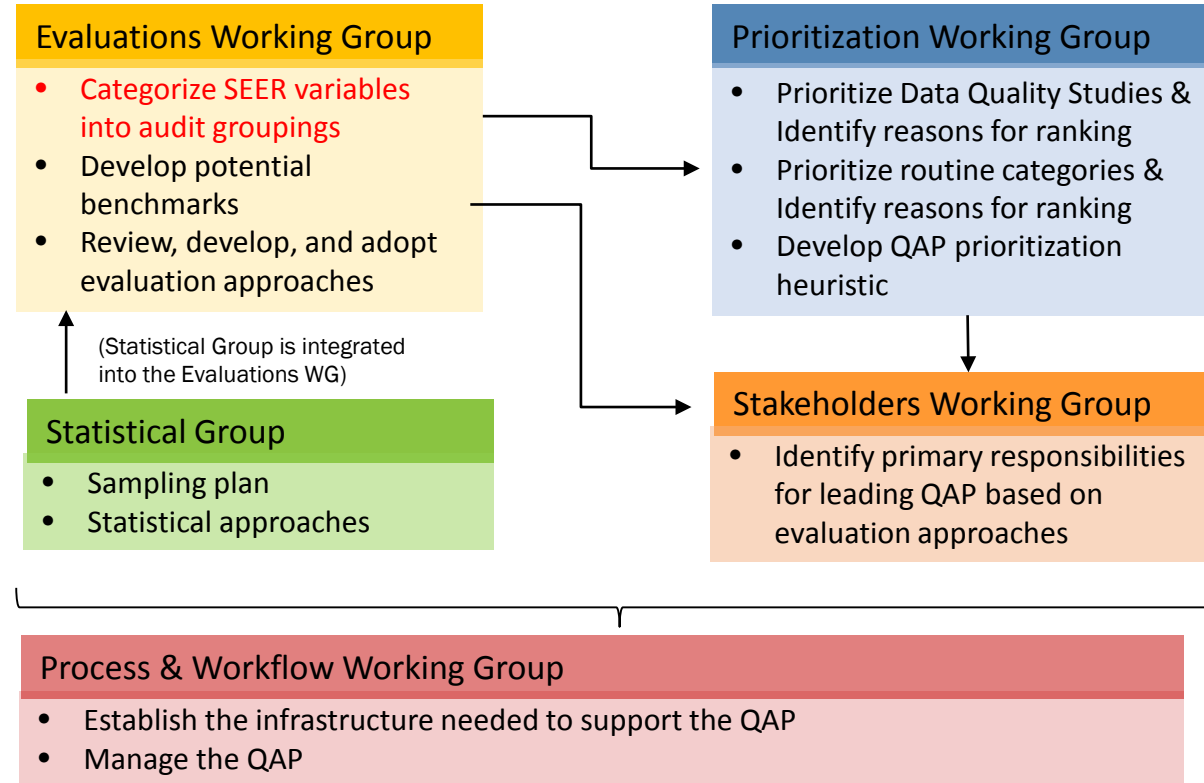
Quality Assurance Projects and SEER*DMS

- EOD 2018, SS 2018, and new prognostic factors data items:
 - Screens and lookup tables;
 - Large number of new data items;
 - SEER Edits for EOD and SS data items;
 - Consolidation rules and the automation of consolidation;
 - EOD Stage Group and Summary Stage derivation algorithms;
- Implementation of Solid Tumor Rules:
 - Review matching algorithms;
 - URL links to the Solid Tumor Manual?
 - SEER Edits?

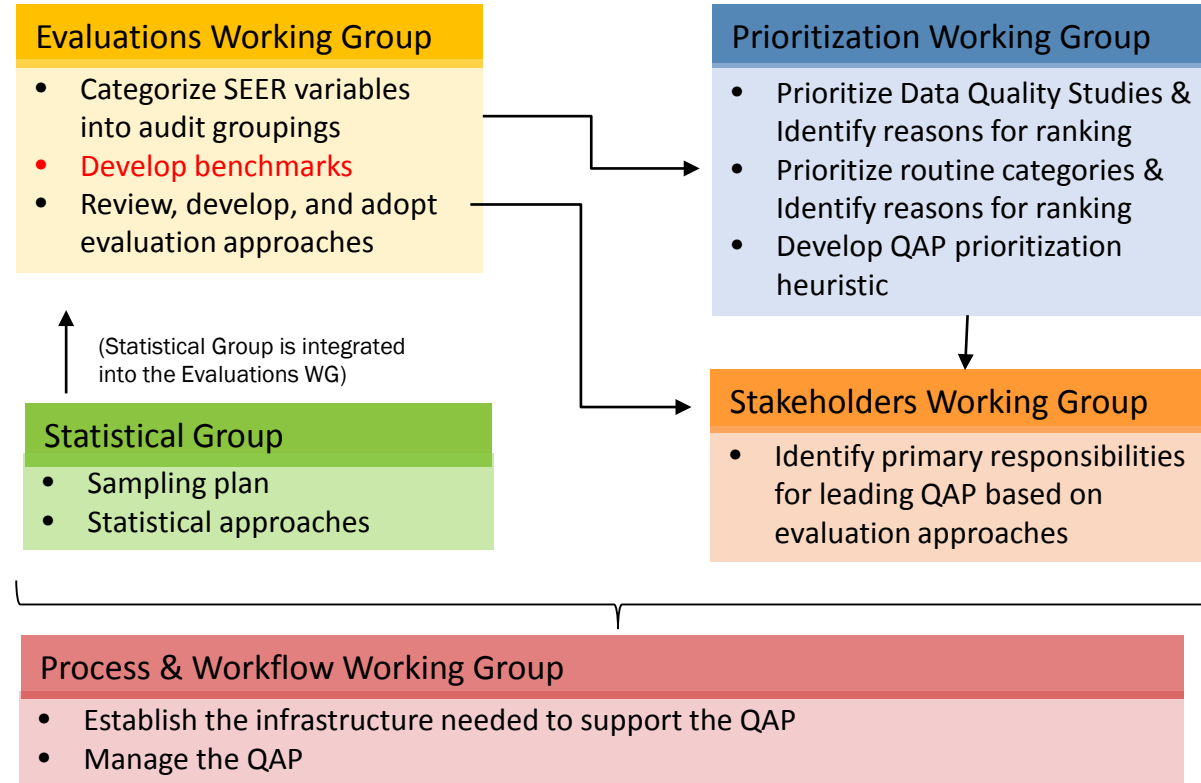
SEER Quality Control Activities

- Data Quality Profiles
 - “assesses the extent to which each registry provides data meeting certain contractual standards”;
 - Standards to be revised and updated;
 - SEER*DMS to allow real-time comparison of registry data versus standards (when real-time comparison is appropriate);
- Quality Audit Plan (QAP) implementation;
- NLP-based Quality Assessment and Tool Development Projects:
 - Melanoma Tumor Thickness Measurement;
 - HPV Status of Head and Neck Cancer Patients ;
 - Tumor Size;

QAP Implementation Working Groups



QAP Implementation Working Groups



Develop Benchmarks/Standards for Data Quality Evaluation

- Cancer Data Quality traditionally defined in terms of:
 - **Timeliness;**
 - (Availability &) **Completeness;**
 - **Accuracy** (Validity/Trueness; Precision/'Reciprocal of Variance'; Consistency);

Source Information Availability and Data Completeness

- Completeness should be measured and interpreted in the context of data availability;
- “Availability” of data depends on cancer type, type of reporting source, cancer care process (e.g. quality of diagnosis and stage work-up, compliance with treatment recommendations, access to treatment, etc.);

Develop Benchmarks for Data Completeness

Evaluations Working Group

Overall Objective

Use availability estimates and completeness results to construct meaningful and specific completeness metrics and standards

Availability

Depends on:

- Cancer type
- Reporting source
- Cancer care process

Completeness

Includes measures of:

- Case counts
- % unknown; % NOS
- Measured & interpreted in context of data availability

Estimate Availability via:

- Surveys and census data
- Administrative data sets
- Large observational studies
- Linked clinical data

Explore Completeness via:

- Categories by cancer type, reporting source, etc.
- Review patterns and trends of completeness using SEER 18 data
- Compare completeness statistics among registries

Review and Adopt Benchmarks of Completeness

Involve Registry Managers and QC Specialists in the process of reviewing availability estimates and past completeness results to adopt Completeness Benchmarks for the QAP Implementation

Evaluation and Monitoring of Cancer Data Completeness

Process & Workflow Working Group

Goal: Develop, adopt, disseminate methodology for the routine monitoring of data completeness

1. Integrate completeness benchmarks into SEER*DMS

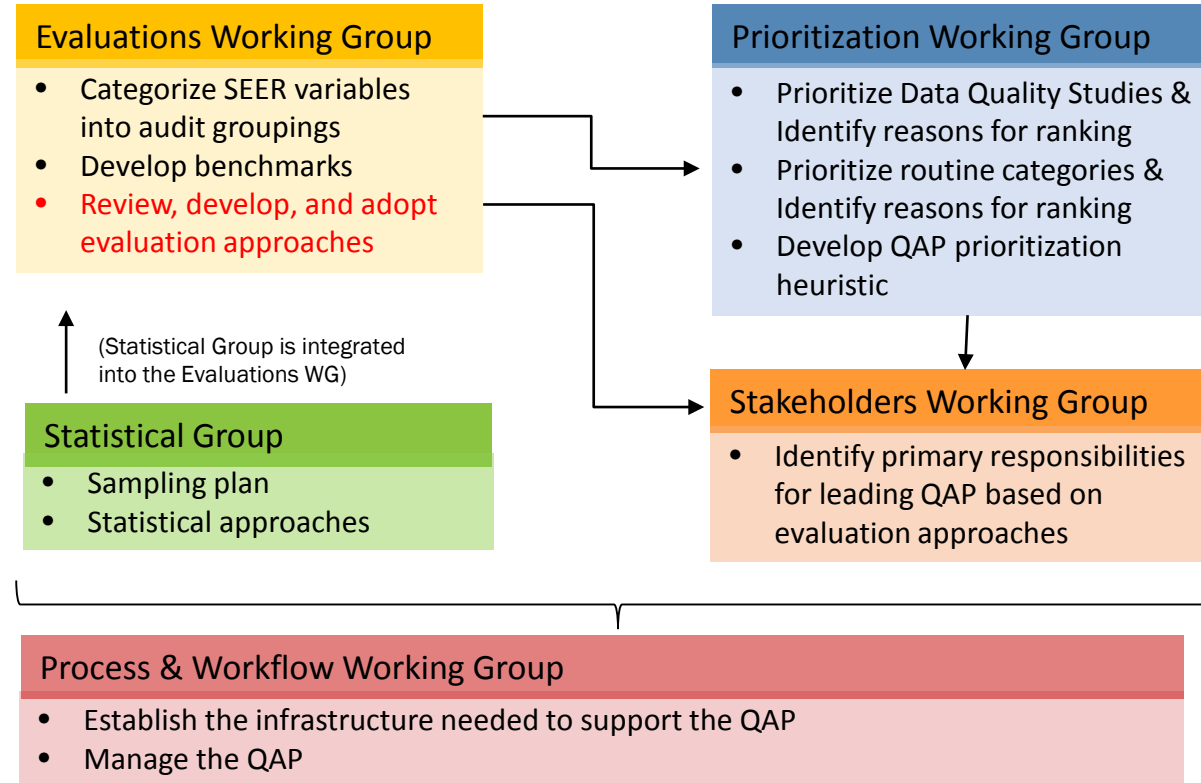
2. Develop and implement SOP for completeness results review

- Report generation; periodic review by QC manager
- Trigger levels for escalation to Registry Manager, etc.
- Recommendations for effective completeness improvement interventions

3. Disseminate completeness metrics (results) data to users

4. Implement mechanism to review and update completeness standards

QAP Implementation Working Groups



Evaluation of Data Accuracy

- Combination of various evaluation methods including:
 - Comparison of the observed distribution of values versus expected;
 - Comparison of patterns and trends across SEER registries;
 - NLP-based re-abstraction projects;
 - Linkage/matching decisions verification;
 - Re-consolidation projects;
 - Visual editing & re-coding projects;
 - Re-abstraction studies at reporting sources;
- Specific methods to be selected for each group and subgroup of data items with participation of Stakeholders Workgroup;



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SEER Program – Quality Improvement Mission

- SEER*DMS needs to support the Quality Improvement Mission of the SEER Program:
 - “improve the quality and completeness of cancer information through assessment, accountability, project evaluation methodology and needs-based education”
- SEER Quality Improvement Activities
 - Program-wide collaborative activities: SEER Registries, NCI SRP (all branches), NCI contractors
 - Activities coordinated by the Data Quality, Analysis and Interpretation Branch (DQAIB)
 - Consist of both Quality Assurance and Quality Control activities and projects

Ongoing SEER Quality Assurance Activities

- Develop, implement, maintain and update Standards, References, and Tools:
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