SEER*DMS Change Control Advisory Board (CCAB) Users Group
Webinar Summary
November 7, 2022
11:00 a.m. to 1:00 p.m. EST

Representatives from the NCI, IMS, the Scientific Consulting Group, Inc. (SCG), and 21 cancer registries participated in the SEER*DMS Webinar on November 7, 2022. Participants included:

REGISTRIES:

Alaska
Arkansas
Connecticut
Detroit
Georgia
Greater Bay Area
Greater California
Hawaii
Idaho
Illinois
Iowa
Kentucky
Los Angeles
Louisiana
Massachusetts
Minnesota
New Jersey
New York
Seattle
Texas
Utah

NCI: Peggy Adamo, Sylkk Anash, Kathy Cronin, Eric "Rocky" Feuer, Johanna Goderre, Betsy Hsu, Marina Matatova, Serban Negoita, Valentina Petkov, Radu Robotin

IMS: Suzanne Adams, David Angelaszek, David Annett, Linda Coyle, Chuck May, Nicki Schussler, Jennifer Stevens

SCG: Kathy Brown-Huamani, Carolyn Fisher, rapporteurs

Action Items

- Linda agreed to investigate the Minnesota registry matching issue with dual, incorrect Social Security numbers (SSNs) repeatedly reported for the same person.
- IMS will explore system changes that allow coders to select strike-through as option or as an off/on toggle feature.
- Linda agreed to create a Squish issue on the user interface discussion.
- Linda agreed to investigate the recurrence date conflicts in the New York registry's system.
- IMS will follow-up with registries regarding issues in processing records for consolidation.
- Registries should send in feedback to the NCI on whether the SEER*DMS record consolidation workshop was helpful along with suggestions for future workshops.

Introduction **Linda Coyle, Marina Matatova**

Linda reminded participants that the SEER*DMS Workshops are the CCAB User Group's mechanism for discussing topics in greater detail. Each 2-hour webinar covers a single topic and replaces the in-person conferences hosted at the NCI prior to the COVID-19 pandemic. The first webinar was held on March 21, 2022, to discuss the submission of Cancer/Tumor/Case (CTC) information. The second webinar focused on SEER*DMS Follow-back and was held on August 30, 2022. This webinar focused on a review of a consolidation processes, procedures used by different registries, and process improvements. The agenda included a 30-minute presentation with a brief demonstration of the SEER*DMS Consolidation Module; a 30-minute open discussion of the topic; a 10-minute presentation; and a final open discussion.

In early 2023, either in a CCAB meeting or in another SEER*DMS workshop/webinar, there will be a discussion of the outcomes of the 2022 workshops and next steps.

The webinar was recorded and will be made available in the CCAB SEER*DMS portal.

Overview of Consolidation Tasks and Algorithms **Linda Coyle**

The consolidation module in SEER*DMS applies to the fields on the CTC, staging, and demographics pages. Fields that do not require auto-consolidation include:

- Registry ID, patient ID, and tumor record number, which are set by the system;
- Calculated fields including geocoded data items and derived staging fields;
- Historical fields that are retained in the database but for which data are not actively being collected;
- Fields set by the central registry staff (e.g., override flags).

Treatment fields technically are autoconsolidated, but in a treatment summarization module, and are considered as polishers. All other fields require regular auto-consolidation and are the focus of this SEER*DMS Auto-consolidation Workgroup.

Consolidation begins after a source record is matched against the patient data and linked to a patient set, which automatically triggers the consolidation process. Next:

- Patient-level consolidation is executed.
- The record is matched and linked to a CTC
- CTC-level consolidation is executed and consolidation rules for CTC fields are applied.

Linda reviewed the linkage and consolidation workflow diagram contained in Chapter 4 (SEER*DMS Workflow) of the *SEER*DMS User Manual*. As a record moves through the workflow, automatic processes are attempted first. If a manual review is required at any point, then the record would exit the workflow and would appear in a user's worklist. After consolidation is complete, the patient set advances the workflow unless failed edits are remaining. The Certified Tumor Registrars (CTRs) review the data and clear the edits as they are completing the consolidation task.

How Users Complete Manual Consolidation Tasks in SEER*DMS **Linda Coyle**

Manual consolidations tasks are required to—

- Complete patient-level consolidation and resolve discrepancies identified by a patient-level auto-consolidation rule
- Complete CTC-level matching and linking of pending records (i.e., SEER*DMS could not determine in automated processes if a record is a definite match for a CTC)
- Complete CTC-level consolidation when a CTC-level auto-consolidation rule fails.

- Review records that were linked and fully auto-consolidated records in automatic processes but registry rules require a manual review (i.e., forced reviews)

The five basic steps in manual consolidation are to

(1) confirm all data are for same patient (Use Demo Info)
(2) link any pending records to the appropriate part of the Patient Set (Use Record Linkages)
(3) update consolidated data items to the best value (Use View Source Data)
(4) resolve any edits and perform a visual edit of core data items (
(5) save and confirm changes.

These steps are applied and implemented via the SEER*DMS interface, which Linda described and demonstrated for the participants using a Demo version that included new features soon to be installed.

Linda summarized the improvements to the SEER*DMS auto-consolidation process. The system will retain unknown or nonspecific values and show values that have been rejected. IMS will install two new dashboards: one will provide a summary of manual consolidation tasks and the other a summary of updates made in manual or automated consolidation. Additionally, IMS will change algorithms to reduce manual tasks. The Auto-consolidation Workgroup will lead most of these efforts. Linda briefly demonstrated the new dashboards.

Discussion

A Seattle registry representative asked whether the correct value could be reassigned to a rejected value. Linda explained that the process to correct rejected values has not changed. The only difference is that the rejected value will now appear with a strike through.

When reassigning rejected values, the correct value can simply be clicked, or entered directly into the data field, and the value previously selected will automatically become a strike-through entry. Additionally, edited, rejected, strike-through values can be reviewed.

In response to questions from the Utah and Louisiana registries, Linda clarified that consolidation starts after record duplicate comparisons. To reject a value that the auto-consolidation rule selected, simply enter a new value or select a different value in View Source Data. The auto-consolidation process would not start again and re-select the incorrect value.

The Minnesota registry noted the issue of matching records with two different SSNs, resulting in searching for the same people repeatedly because of incorrect information received on the records. Linda indicated that the reject strike-through would not show on a match task, only in the Patient Set Editor. . Linda responded that matching halts when records have different SSNs and Minnesota may want to consider changing that. IMS will explore showing rejected SSN values during a match task.

A Georgia registry representative asked about the best method to validate the address at diagnosis (DX), noting that Automated Geospatial Geocoding Interface Environment (AGGIE) data with the highest percentage can be selected, but does not always clear the review flag. Linda clarified that the percentages are actually scores and that further clarification is needed from Aggie on what that means. Linda suggested a CCAB geocoding workshop to cover this topic in greater detail.

The New Jersey registry asked about edits required by the National Program of Cancer Registries (NPCR) and the North American Association of Central Cancer Registries (NAACCR) that are not included in SEER*DMS Edits. Linda responded that the current dashboard should cover that and proposed a meeting

with the New Jersey registry and a Squish issue on this topic. NAACCR and NPCR edits also could be the topic of a CCAB workshop.

The Seattle registry representative suggested a usability study on strike-through values, especially for coders with heavy visually editing workloads. Such a study has not been done. Linda said that the strike-through feature could be made optional or toggled.

An Iowa registry representative asked about potential matching problems when the second record comes in with two different histologies and one record has a previous strike-through value from the consolidation process. Linda explained that once a value is rejected, it is also rejected on future abstracts received, until it is selected again by a user in the Patient Set Editor. Iowa is concerned that editors will simply ignore crossed off values instead of considering them. For example, multiple records sending the same value that was previously rejected might mean that value should be selected. Linda again indicated that the strike-through could be optional or that it could be done by facility.

Iowa's preference is to review rejected values if they came in again on an abstract from a different facility. The larger registries, Texas, Illinois, and New York, noted that the Iowa registry use case would not be appropriate for their workflows and favored automation of analytic cases (e.g., histologies). Reviewing a non-analytic value from a facility would not be necessary, especially if Class of Case is considered. The level of review may differ by registry according to the volume of cases and ongoing studies. Linda agreed to create a Squish to continue this discussion. She noted that the Auto-consolidation Workgroup has discussed a dashboard for monitoring changes to the patient set during consolidation. The new dashboard will be released with a manual consolidation task summary and registries will have an opportunity to provide feedback.

A participant asked whether strike-through, rejected values would still show up as highlighted text, denoting a change or difference. Linda clarified that this highlighting would not remain but encouraged feedback on new user interface features.

A participant asked about a way to create a reject for incorrect known values, when the correct value for a field is left blank. Linda explained that these values can be considered the same as 9-filled but will need to be tested.

The Connecticut registry observed that HL7 (Health Level Seven International) pathology reports auto coded by SEER*DMS that do not have laterality coded require manual consolidation.

Triggers for Manual Reviews **Linda Coyle**

Across 24 registries over the past few months, there have been thousands of manual reviews. IMS will be collecting and documenting registry-specific information so all are aware of the rules and options. Linda noted some manual review options for registries to consider.

1. **Logic for Individual Rules.** Different rules for manual consolidation exist across registries. Rule options for SEER-required fields are discussed in the Auto-consolidation Workgroup meetings. In 2023, IMS will work to provide cross-registry documentation so that registries are aware of the practices used by other registries.

2. **CTC Matching and Linkage Rules**. There is limited variation across registries. Solid tumor rules are used to match abstracts to CTCs. Date comparison rules are used to match un-coded pathology reports to CTCs. IMS plans to provide information to each registry about its specific options as well as practices used by other registries.

3. **CTC-Level Processing of New Records for Old Cases.** This new option involves new records for cases diagnosed more than 5 years prior to the reporting year. The approach currently used is full processing such that duplicate abstracts are autoprocessed and deleted using refined algorithms. Abstracts from new facilities are processed in the usual way. A second approach is minimal processing, ignoring the CTC-level data on new abstracts for old cases. Other approach include processing for recurrence only by updating and consolidating recurrence type date fields and processing for recurrence and treatment by updating the recurrence fields and adding new treatment data.

4. **Require Manual Review When All Rules Run Successfully.** This forced review of new data presents as requirements for manual review when all of the auto- consolidation rules are completed successfully. This review applies to abstracts, pathology reports, death certificates, and other records. Abstracts can be reviewed if they are new, originating from new facilities, or failing edits. Regarding pathology reports, rules are in place for patient-level and core CTC fields, but data items described in the text cannot be auto-consolidated, warranting further discussion.

Discussion

Reducing Manual Tasks for the Older Year Cases of DX.

The New York registry often receives pathology reports for cases diagnosed 2017 to 2018, but is unsure if they want tasks for these records. She called attention to a task IMS created to allow minimal processing of older cases to update the recurrence date, which now is triggering edits. Linda agreed to review this issue.

The Minnesota registry reported two problems with old cases. One problem involves abstracts received with built-in notifications to alert for older cases. The Minnesota registry has requested that facilities stop sending abstracts with these built-in notifications, but U.S. Department of Veterans Affairs (VA) facilities continue to send these types of abstracts, which creates consolidation issues for several years. The second problem relates to old cases that resurface when the same patient is diagnosed again, and the case is reported to and autoconsolidated at a different registry. Linda explained that when the year of DX changes and crosses staging years, IMS has procedures for clearing the edits and flags that are not needed.

With VA submissions, the Seattle registry performs pre-processing to determine which cases have not been loaded into their system. Registry staff found that with the intermittent VA reporting, correct date of DX might have not been properly selected. The VA's system differs from the other vendors, such that cases are marked to be sent to the state based on date restrictions. Assistance from SEER*DMS might be needed resolve this issue.

For the Georgia registry, it would be helpful if the newer staging fields could be prevented from populating when a pathology report is received for a pre-2018 case linked to a CTC. Linda pointed out that, unless the date of DX changes, these fields should not populate, so IMS will investigate.

The Iowa registry proposed having different consolidation tasks grouped by type or reason (e.g., new tumor info, or patient-level, new facility), which IMS will consider developing.

Marina asked whether consolidation tasks were standard across the registries. Linda explained that the worklist could be improved and filtered using different parameters to identify when a rule fails or a case is new, for example.

After discussion and a poll of the registries, Connecticut, Georgia, Illinois, Kentucky, Louisiana, Massachusetts, Minnesota, New Jersey, New York, and Utah, were in favor of reducing tasks for older years of DX.

Forced Reviews: Pathology Reports Linked to a CTC.

The Seattle registry proactively reviews all pathology reports linked to CTCs. To reduce these reviews, it would be ideal to find the correct cohort that does not add to their records. Because this registry builds CTCs from pathology reports, several of these reports are consolidated until a first hospital or NAACCR abstract is received. Auto-linking to pathology occurs with Seattle-specific fields, such as history only or ICD-10 only.

The Connecticut registry reviews all pathology reports using a process similar to the Seattle registry, except the work occurs in SEER*DMS. Having a way to define a cohort that does not require added review would be helpful.

The Georgia registry manually reviews all pathology reports unless they have been autolinked by the DOE API. These reports also are used for quality assurance when an abstract is received to ensure that histology, grade, and other data elements are correct.

The New York registry staff hope to increase the amount of pathology reports that are autolinked, but still would want to review those associated with breast and melanoma cases to confirm that subsites and lateralities are coded correctly and are not separate primaries. The New Jersey registry representative shares the concern about miscoding primaries and also has criteria for prostate cases.

The Texas and Illinois registries have not processed pathology reports via SEER*DMS yet and could not specifically comment today on this topic. The Illinois registry traditionally has very few pathology report sources and typically does not receive them from the state hospitals. Any pathology cases are linked to the registry's main database and only cases that do not match are abstracted. Similarly, the Texas registry only links to pathology cases that are not in their database.

The Seattle registry expressed interest in having an analysis of its audit log and pathology reports to determine what can be changed to ensure accurate processing of primaries. Registry staff also want to update surgery, histology, and site-specific data items.

Linda proposed reviewing the 2018 data, which is complete, to determine how many times a CTR updated a case initially with pathology reports and then revisited the case because of new information, suggesting a loss of productivity. Participants suggested reviewing 2019 data as well to assess the move towards real-time reporting among the registries.

Final Discussion/Next Steps

The Iowa registry representative indicated a preference for a quality check as new auto-consolidation rules are implemented.

Registries wishing to have their consolidation rules reviewed were invited to submit a Squish issue and IMS will work with registries separately to respond to any issues.

Participants were encouraged to send in comments to the NCI on SEER*DMS changes, features that would be beneficial, meetings and workshops and topics they would like to discuss. Ideas for potential

CCAB workshop topics should be sent to Linda and Marina. Information on the schedule for the 2023 workshops will be circulated.