

Chapter 12: Consolidating Data

A primary function of a central cancer registry is to consolidate cancer data from multiple sources for the same patient. This involves combining data received on multiple records into one data set. In SEER*DMS, the consolidated data for a registrant are stored in the "Patient Set." The consolidation process may involve consolidating data from multiple records and creating a new Patient Set, or consolidating data from one or more records into an existing Patient Set.

The SEER*DMS Patient Set Editor includes features specifically designed for consolidating data. You will use the Source Data Viewer to compare standard data fields on the new records to the same fields in the Patient Set. To save time and avoid potential keying errors, you can use this tool to update the Patient Set while reviewing data from all sources. You will use the Course Page to compare the values on individual treatment reports to the summarized treatment values. Finally, you will be able to review a log of the changes already made to the Patient Set and document the changes that you make to the data. The features of the Patient Set Editor used specifically for consolidation are described in this chapter. If you haven't already, you should review the general description of the editor provided in *Chapter 11: The Patient Set Editor*.

The Patient Set Editor is a flexible tool. It does not impose a specific sequence of steps or restrict the methods that you use to consolidate data; however, it is recommended that you follow the practices and guidelines described in this chapter.

First, confirm that all data pertain to the same patient. Second, link pending records to the appropriate part of the Patient Set. Once you have linked the pending records and updated the summarized Patient Set data, you may either resolve data errors or you may save the consolidated Patient Set and allow the errors to be resolved in a Resolve Patient Set Errors task (these procedures vary by registry policy).

In this chapter, you'll learn about

- Data Consolidation in SEER*DMS
- Workflow Processes that Create Consolidate Tasks
- Using the Patient Set Editor in a Consolidate Task
- Verifying the Patient Match
- Linking the Pending Records
- Selecting a Record to Build a Patient Set
- Consolidating Demographics Data
- Consolidating CTC Data
- Saving Changes
- Undoing Changes
- Consolidation Flags

Data Consolidation in SEER*DMS

When consolidating data in SEER*DMS, you will perform these steps:

1. **Open Demo Info and confirm that all data are for the same person.** The results of the matching task should be confirmed in the consolidate task.
2. **Use DX Info to link pending records to data in the Patient Set.** Review each record to determine whether the data are related to an existing CTC or represent a new CTC. Records may be linked to a CTC or may remain linked at the patient level. If the record represents a new CTC, then a new CTC will be built.
3. **Update the demographic page of the Patient Set with data from new records.** Use the Source Data Viewer to review and resolve discrepancies between pending records and the Patient Set. The value of fields on all records are shown so that you can identify the source of a data item. You may view values from all records or only view differences.
4. **Update the CTC data with the best record data.** Review all text before proceeding (text is displayed in the right panel or can be opened in the Text Viewer).
 - a. **Consolidate data on the main CTC page.** Review supporting text and use the Source Data Viewer to review data on the pending records. You may manually modify fields or copy values from the record. Do not set the Review flag on the CTC page until all treatment and facility pages are reviewed (the CTC review flag may clear warnings on the Facility, TX, and Summary TX pages).
 - b. **Consolidate data on the Staging page.** Review supporting text and use the Source Data Viewer to review data on the pending records.
 - c. **Review newly created Facility pages and new admissions on existing pages.** Review data and resolve edits as needed for new admissions in the Patient Set. Links to new pages are shown in bold. If new admissions were added to an existing Facility page, the Facility link would not be bold. Review data for the facilities of all pending records.
 - d. **Review newly created Treatment data pages (TX and TXr links).** Compare coded data to supporting text, compare values to the facility's admission data, and resolve edit errors. Links to newly created TX and TXr pages are shown in bold. You may use the Course Page to compare one TX or TXr to another.
 - e. **Review the Summary TX data page.** Review the summary treatment data on the Course page. The Summary TX values are set by a polisher. If the polisher identified missing or conflicting data, the review flag associated with that treatment modality will be set to 0 (Needs Review) and an edit will fail. You can compare all TX and TXr data in the Course Page. If changes are made in the underlying treatment data, the polishers will update the summary fields.
5. **Save the Patient Set and Exit the Consolidate Task.**
 - a. Check the "Confirm Linkage & Consolidation" box for each record that you consolidated. Do not check the box if you did not complete that record's consolidation.
 - b. When you exit the task: If there are pending records then the Patient Set will stay in a Consolidate task. If there are no pending records but edits are failing, then a Resolve Patient Set Errors task will be created. If there are no pending records and no failing edits, then the Patient Set will exit the workflow.

Workflow Processes that Create Consolidate Tasks

Data are not consolidated unless it is determined that the data are for the same person during automatic or manual matching. Consolidation begins with automated tasks; manual tasks are triggered if certain criteria are met. The person performing the Consolidate task selects records and/or a Patient Set to consolidate.

- If a Patient Set exists for the patient, the purpose of the Consolidate task is to consolidate the pending record data into that Patient Set.
- If the pending record matched other records but not a Patient Set, then SEER*DMS will determine if a Patient Set can be built from the record data (the user completing the task may also be prompted to make this decision). The purpose of the Consolidate task is to consolidate data from multiple records into the new Patient Set.

After matching, SEER*DMS will attempt to auto-link the record and auto-consolidate the record's demographic information into the Patient Set. At the present time, CTC-level auto-consolidation is not common, but does take place for certain record types such as Death Certificates (depending on registry policy).

Manual consolidate tasks will be created if there are failures during the automated consolidate tasks. For example, if there is a conflict in a data item during the auto-consolidation, a manual Consolidate task is created. (The specific matching and auto-consolidation rules vary by registry and are documented in the SEER*DMS online help system.)

Using the Patient Set Editor in a Consolidate Task

A Consolidate task enables you to combine data received on multiple records into one comprehensive data set, i.e., the Patient Set. You may be creating a new Patient Set by consolidating data from multiple pending records, or you may be consolidating data from one or more pending records into an existing Patient Set.

In a Consolidate task, the navigation on the left-hand side of the displays the pending records (marked with a pink box to denote linked to P-level or C-level) and any previously consolidated records. If a new Patient Set is being built in the Consolidate task, the Patient Set will have been auto-built from one of the pending abstract records. This provides a starting point for creating the Patient Set. If you would prefer to build the Patient Set from a different record, refer to the instructions in the *Selecting a Record to Build a Patient Set* section of this chapter.

The navigation section of a Consolidate task has three sections as displayed in the diagrams on the following pages. Codes are used to convey record type, month and year of diagnosis, cancer site, laterality, and linkage.



Sample Navigation Boxes in Consolidate Tasks

These examples illustrate the type of information displayed in the navigation boxes of a Consolidate task.

Overview: One record from FAC-0007 were loaded into SEER*DMS. The record matches an existing Patient Set.

PAT-10047747: The Patient Set ID is shown as the header of the navigation box. You may click the ID or the right arrow to open the Patient Set menu. The page currently being displayed is the Patient Set's Demographics page (as indicated by the highlighting of the word Demographics). This Patient Set includes one CTC. The sequence number is 60. The site coded on this CTC is C700 and laterality is 1 (cancer of the right cerebral meninges).

Pending (1): In this task, one HL7 E-Path is being consolidated into an existing Patient Set. The reporting facility (FAC-0007) is displayed above the list of pending records. The HL7 has an event date of April 2015. Site is coded as C700 and laterality is right (1).

Consolidated (4): At some point prior to this Consolidate task, four records were consolidated into this Patient Set from FAC-0007 and FAC-0023. To see the record type or view record data from a facility, click the down arrow  next to the facility ID. To expand the list for all facilities, click the down arrow  next to "Consolidated (4)"

Overview: One record received from FAC-0012 was loaded into SEER*DMS. The record matched a migrated Patient Set in the database.

PAT-10047745: The Patient Set ID is shown in the header of the navigation panel. Click the ID or the right arrow to open the Patient Set menu.

Pending (1): This consolidation involves combining a single pending record with an existing Patient Set. The record is a NAACCR Abstract (NA), date of diagnosis is March 2015, and the cancer site is C508-2 (overlapping lesion of left breast).

No Consolidated Records: There are no records linked to this Patient Set. This patient's data were entered and consolidated in the registry's prior data management system. The consolidated data were loaded into SEER*DMS when the registry switched to the new system, but the source records were not linked. Sufficient linkage information may not have been available in the migrated data; or the source records may be older and may not be available in electronic format. This situation cannot occur in Patient Sets created in SEER*DMS and only affects migrated Patient Sets.

Verifying the Patient Match

The first step of the Consolidate task is to confirm that the data to be combined are for the same person.

To verify the patient match for pending records in a Consolidate task:

1. Open the Demographic Info window by clicking **Demo Info** in the title bar. The values of data fields from each record are displayed. New records being consolidated into the Patient Set are listed in the Pending Records section at the top. A record field is highlighted if the value differs from the value in the Patient Set. The exception is Medical Record Number; it is highlighted only if there is a discrepancy between records from the same facility.

Demographic Information															
Type	Facility	First	Mid	Last	Suf	Maiden	Alias	SSN	DOB	Sex	Med Rec #	Race	Birth Place	Hisp	Marit
Pending Records															
NAACCR Abstract ⓘ	FAC-0009	JANE	M	DOE				123-45-6789	01-02-1969	2	Q000644188	01 88 88 88 88	999	0	2
Patient Set		JANE		DOE				123-45-6789	01-02-1969	2		01 88 88 88 88		0	2
NAACCR Abstract ⓘ	FAC-0009	JANE	M	DOE				123-45-6789	01-02-1969	2	Q000644188	01 88 88 88 88	999	0	2
HL7 E-Path ⓘ	FAC-0009	JANE	MARIE	DOE				123-45-6788	01-01-1969	2	Q000644176	99 99 99 99 99			2
HL7 E-Path ⓘ	FAC-0009	JANE	MARIE	DOE				123-45-6789	01-02-1969	2	Q000644188	99 99 99 99 99			2
HL7 E-Path ⓘ	FAC-0009	JANE	MARIE	DOE				123-45-6789	01-02-1969	2	Q000644188	99 99 99 99 99			2

2. Review all data fields and confirm that records contain data for the same patient and click **Close**.
3. If you determine that the pending record is not a match for the existing records or Patient Set, you can unlink the pending record and send it back into the matching workflow. Follow the instructions in Chapter 11 for linking/unlinking records. Care must be taken to ensure that data fields were not modified inappropriately due to the erroneously linked record.

Linking the Pending Records

Requires system permission: *consolidate* and *pat_edit*;

In the SEER*DMS database, a Cancer/Tumor/Case (CTC) is a packet of data related to a single incident cancer. The CTC includes summarized treatment information, as well as data regarding each admission and treatment procedure. A Patient Set may include multiple CTCs, one for each primary cancer diagnosed for the patient.

In a manual Consolidate task, you must review each pending record to determine whether it is related to an existing CTC or represents a new CTC. If the record data are related to an existing CTC, you will link the record to that CTC. If the data are for a new CTC, you may create a new CTC based on the record. The data entities in the new CTC will be auto-built based on values in the record. If the pending record indicates a new cancer but is not an abstract, you will have the option of building a CTC now or linking the record at the patient level and building the CTC when an abstract is received.

To link a record to the appropriate data structure in the Patient Set:

1. Click **DX Info** in the title bar of the page to open the Diagnostic Information window.

Diagnostic Information (PAT-10047653 DOE, JANE)

ID	Type	Link To	Facility	Date	Site	Lat	Morph	Gra	Seq	Site Title	Hist Title
Pending Records											
REC-100566210	NA	Patient	FAC-0009	07-14-2015	C519	0	8077/2	9		VULVA, NOS C519	VIN III 8077/2
CTC 01				06-08-2015	C199	0	8246/3	3	01	RECTOSIGMOID, C199	PD NEUORENDOCRINE CA,
REC-100566209	NA	CTC 01 (C199)	FAC-0009	06-08-2015	C199	0	8246/3	3		RECTOSIGMOID, C199	PD NEUORENDOCRINE CA,
Patient											
REC-100483149	HL7	Patient	FAC-0009	06-08-2015	C209	0	8246/3	3			
REC-100492107	HL7	Patient	FAC-0009	07-14-2015	C519	0	8077/2	3			
REC-100499696	HL7	Patient	FAC-0009	07-14-2015	C209	0	8246/3	3			

- The Diagnostic Information displays diagnostic data fields from the pending records, records already linked to a CTC, and records already linked at the patient level. The consolidated values for each CTC are shown in bold, just above the record(s) that are linked to that CTC.
- Compare the data of each pending record to the CTC data fields (you may also click the Record ID to view additional data). When you complete your review, select a value from the drop-down menu in the **Link To** column. In the example below, the choices are to link to a CTC that has sequence number = 01 and site = C199; or to create a new CTC from the pending NAACCR Abstract record.

Diagnostic Information (PAT-10047653 DOE, JANE)

ID	Type	Link To	Facility	Date	Site	Lat	Morph	Gra	Seq	Site Title
Pending Records										
REC-100566210	NA	Patient	FAC-0009	07-14-2015	C519	0	8077/2	9		VULVA, NOS C519
CTC 01				06-08-2015	C199	0	8246/3	3	01	RECTOSIGMOID, C199
REC-100566209	NA	Unlink	FAC-0009	06-08-2015	C199	0	8246/3	3		RECTOSIGMOID, C199

- If you determine that the pending record should be linked to an existing CTC, select that CTC.

If a pending record represents a new CTC, select New CTC. An additional option will be added to the drop-down list for the new CTC. The record's site and laterality are shown in the menu. You may assign other records to the new CTC, if appropriate. The example below is for a different Patient Set. In this example, a New CTC is created from one of the Pending Records.

Diagnostic Information									
ID	Type	Link To	Facility	Date	Site	Lat	Morph	Gra	Seq
Incoming Records									
REC-3005179480 ⓘ	NA		FAC-0086	06-16-2010	C508-1	1	8201/2	2	
REC-3005280550 ⓘ	NM	CTC 00 (C341-1)	FAC-0086	06-16-2010	C508-1	1	8201/2	2	
REC-3004954374 ⓘ	HL7	New CTC New (C508-1)	FAC-0086	07-19-2010	C509-1	1	8500/2	2	
CTC 00				09-04-2007	C341-1	1	8070/3	2	00
REC-3004079934 ⓘ	NA	CTC 00 (C341-1)	FAC-0086	09-04-2007	C341-1	1	8070/3	2	
REC-3004120256 ⓘ	NM	CTC 00 (C341-1)	FAC-0086	09-04-2007	C341-1	1	8070/3	2	
REC-3004117967 ⓘ	CF	CTC 00 (C341-1)	FAC-0086	09-04-2007	C349-1	1	8070/3	1	
REC-3004104791 ⓘ	HR	CTC 00 (C341-1)	FAC-6040	09-04-2007	C341-1	1	8070/3	2	00
Patient									
REC-3005292458 ⓘ	DC	N Patient	FAC-9999	09-20-2010					
								Apply	Cancel

The drop-down list now includes an entry for the new CTC for C508. All of the pending records will be linked to that CTC. If you have multiple records for a new CTC, you do not need to worry about the order in which you select the records. SEER*DMS will automatically select the best record to build the CTC when you apply your changes.

Diagnostic Information									
ID	Type	Link To	Facility	Date	Site	Lat	Morph	Gra	Seq
Incoming Records									
REC-3005179480 ⓘ	NA	New (C508-1)	FAC-0086	06-16-2010	C508-1	1	8201/2	2	
REC-3005280550 ⓘ	NM		FAC-0086	06-16-2010	C508-1	1	8201/2	2	
REC-3004954374 ⓘ	HL7	Patient CTC 00 (C341-1) New CTC New (C508-1)	FAC-0086	07-19-2010	C509-1	1	8500/2	2	
CTC 00				09-04-2007	C341-1	1	8070/3	2	00
REC-3004079934 ⓘ	NA	CTC 00 (C341-1)	FAC-0086	09-04-2007	C341-1	1	8070/3	2	
REC-3004120256 ⓘ	NM	CTC 00 (C341-1)	FAC-0086	09-04-2007	C341-1	1	8070/3	2	
REC-3004117967 ⓘ	CF	CTC 00 (C341-1)	FAC-0086	09-04-2007	C349-1	1	8070/3	1	
REC-3004104791 ⓘ	HR	CTC 00 (C341-1)	FAC-6040	09-04-2007	C341-1	1	8070/3	2	00
Patient									
REC-3005292458 ⓘ	DC	N Patient	FAC-9999	09-20-2010					
								Apply	Cancel

- b. If you would like to link a record to the Patient Set but not to a particular CTC, select Patient. The use of this option varies among registries. In some registries, death certificates and case finding records are linked at the patient level. A CTC is not created until an abstract is received. Later, when the abstract record is received and used to build the new CTC, you can reassign this link to the CTC.
- c. Click **Apply**. If the record is linked to a CTC, "C *NN*" will be displayed next to the record type in the record navigation box. This indicates that the record is linked to the CTC

that has a central sequence number equal to *NN*. If the record is linked at the patient level, P is displayed. SEER*DMS attempts to set the sequence number appropriately, based on the central sequence number coded in the record and the number of CTCs in the Patient Set. If you have multiple CTCs with the same sequence number, you should review the CTCs and manually adjust the sequence numbers.


Selecting a Record to Build a Patient Set

If records are being consolidated to create a new Patient Set, a Patient Set will be built from one of the records. The Patient Set will be built from an abstract record, if available. Otherwise, the record will be built from a pathology report, casefinding, death certificate, or short health record. The records are considered in order of priority, based on registry configuration settings.

If there are two records with the highest priority, SEER*DMS chooses one based on dates. You may determine that a different record has more detailed information, for example, it may have more staging information. You may be able to reduce data entry and save time by building the Patient Set from the other record.

If you would prefer to build the Patient Set from a different record, you may re-build the Patient Set. Any changes that you entered manually will be lost. The consolidate task will essentially start over and the Patient Set will be built from the record that you choose.


To re-build a Patient Set using a different record:

1. In the left navigation panel, select the record that you wish to use to build the Patient Set. Open that record in the editor.
2. Click the arrow  to open the record's menu.
3. Select **Re-build Patient Set**

Consolidating Demographics Data

Requires system permission: *consolidate* and *pat_edit*

After verifying the patient match and linking the pending records, begin the consolidation process by reviewing the data on the Demographics page and resolving discrepancies between the fields on the Demographics page of the Patient Set with the same data fields in the pending records. If you are consolidating multiple records to create a new Patient Set, the Patient Set fields will contain data from the record used to auto-build the Patient Set.

If you determine that a record contains more complete or accurate information, update the Patient Set with the best data. The Source Data Viewer enables you to compare data fields on records with the fields in the Patient Set, and it provides a convenient method to copy values into the appropriate Patient Set fields. The Source Data Viewer is described in detail in *Chapter 11: The Patient Set Editor*. This screen shot shows the Demographics page of a Patient Set in the View Source Data mode. Work through each section of the page. Click the arrow  to collapse a section when you complete your review of that section. You can modify the Patient Set fields directly or click one of the record's values to copy it into the Patient Set field.

Demo Info | DX Info | Text Demographics (PAT-10047653) View Consolidated

Name: DOE, JANE SSN: 123-45-6789 DOB: 01-02-1969 R: 01 S: 2 DOLC: 11-20-2015 VS: 1
 Site: C199 Morph: 8246/3 Grade: 3 Seq: 01 DX Date: 06-08-2015 Rpt Src: 1 SEER: Yes LOCAL: Yes

All Records Differences Only

Demographics Part 1

	Last	First	M	Sex	SSN	Birth Dt			Action
Patient Set	DOE	JANE		2	123456789	01	02	1969	
Pending	NA (0009)	DOE	JANE	M	2	123456789	01	02	1969
Linked	NA (0009)	DOE	JANE	M	2	123456789	01	02	1969
HL7 (0009)	DOE	JANE	MARIE	2	123456788	01	01	1969	add alias
HL7 (0009)	DOE	JANE	MARIE	2	123456789	01	02	1969	
HL7 (0009)	DOE	JANE	MARIE	2	123456789	01	02	1969	

Aliases add

Demographics Part 2

Follow-up

	DOLC			Vital Status	FU Src Cntl	Lst FU Phys	Lst FU Hosp
Patient Set	11	20	2015	1	32	PER-100704	FAC-0009
Pending	NA (0009)	11	20	2015	1	32	PER-100704 FAC-0009
Linked	NA (0009)	11	20	2015	1	32	PER-100704 FAC-0009
HL7 (0009)	06	08	2015	1	99	PER-100413	FAC-0009
HL7 (0009)	07	14	2015	1	99	PER-007803	FAC-0009
HL7 (0009)	07	14	2015	1	99	PER-007803	FAC-0009

Death Certificate

Causes Of Death

If your registry actively maintains and updates the patient's current address, you must use the controls in the Consolidated View to verify and update the address. Click **View Consolidated** to close the source data viewer. The Patient Addresses section is shown below.

Patient Addresses add Reviewed 1

Current Address view geocoder results

Num 124 Dir Street CONCH Type ST Dir

Suppl

City BIKINI BOTTOM State NY Zip 10456 Cnty Code 005 Country USA

Addr Date 09-11-2015 Comment

- Multiple addresses can be stored as the patient's current address. This allows your registry to store seasonal and secondary addresses. To add an address, click **add** next to Patient Addresses. You will be able to specify one address as current and the others as alternate.
- Click the multi-page icon next to one of the Current Addresses to open the Summary Address Information window. This popup window shows the current address provided in each record, and the address at diagnosis in each CTC and record. If appropriate, you may copy one of the addresses into the Current Address field.

Summary Address Info

[Show Records as Linked](#)

	Addr Dt	Type	Src	Address	Cnty	Cntry	User	Facility	Captured Dt	Action
Patient										
Current		Curr		3684 ADAMS AVE; OGDEN, UT 84403	057	USA	adamss ⓘ			
Alternate		Curr		2324 NODDAREEL ST; AURORA, UT 84620	041	USA	adamss ⓘ			
CTC										
01	06-08-2015	DX		3684 ADAMS AVE; OGDEN, UT 84403	057	USA				copy
Pending Records										
REC-100566210	07-14-2015 ⓘ	Curr	NA	3684 ADAMS AVE; OGDEN, UT 84403	057	USA		FAC-0009 ⓘ	12-02-2015 ⓘ	copy
REC-100566210	07-14-2015 ⓘ	DX	NA	3684 ADAMS AVE; OGDEN, UT 84403	057			FAC-0009 ⓘ	12-02-2015 ⓘ	copy
Consolidated Records										
REC-100483149	06-08-2015 ⓘ	Curr	HL7	684 ADAMS AVE; OGDEN, UT 84403	057			FAC-0009 ⓘ	06-12-2015 ⓘ	copy
REC-100566209	07-14-2015 ⓘ	Curr	NA	3684 ADAMS AVE; OGDEN, UT 84403	057	USA		FAC-0009 ⓘ	12-02-2015 ⓘ	copy
REC-100566209	07-14-2015 ⓘ	DX	NA	3684 ADAMS AVE; OGDEN, UT 84403	057			FAC-0009 ⓘ	12-02-2015 ⓘ	copy
REC-100492107	07-14-2015 ⓘ	Curr	HL7	3684 ADAMS AVE; OGDEN, UT 84403	057			FAC-0009 ⓘ	07-27-2015 ⓘ	copy
REC-100499696	07-14-2015 ⓘ	Curr	HL7	3684 ADAMS AVE; OGDEN, UT 84403	057			FAC-0009 ⓘ	08-25-2015 ⓘ	copy

[Close](#)

- In the Patient Addresses section of the Demographics page, click View Geocoder Results. Compare the possible matches to the current value. If you find a match with more complete information, copy that address. For example, you may find a match that has values for street direction or a more accurate zip code.

Alternate Address 1 [view geocoder results](#) [remove](#) [make current](#)

Action	Num	Dir	Street	Type	Dir	Sup	City	State	Zip	Source
keep	114			PKWY			BRONX	NY	10461	Current Value
copy	114			PKWY	S		BRONX	NY	10461	SOURCE_NAVTEQ_ADDRESSPOINTS_2013

You must follow registry protocols regarding address verification. You may be required to verify the address using data from the Department of Motor Vehicles or other sources.

Consolidating CTC Data

After a record is linked to a CTC, SEER*DMS executes the auto-consolidation rules for that type of record. These rules will automatically update a small number of fields on the Demographics, CTC, and Staging pages. The rules and the fields updated vary by registry.

SEER*DMS also uses the record data to create new treatment, facility, and admission data within the CTC. New TX, TXr, and Facility pages may be created; and new admissions may be added to existing Facility pages. The registry configuration may include algorithms to prevent the creation of duplicate treatment, facility, or admission data entities.

A TX page is created for treatment reported and given by the same facility. A TXr page is created for treatment reported by one facility, but provided at a different facility. The addition of the new treatment data triggers the SEER*DMS polishers to update the Summary TX data fields. The Summary TX data values will be recalculated based on all available TX and TXr data, including the treatments created from the newly linked record.

The Source Data Viewer is available on pages that contain data consolidated from multiple records. Therefore, it can be used on the Demographics, CTC, and Staging pages. The Summary TX page contains data summarized from other pages within the CTC; it is not consolidated directly from the records. The Course Page allows you to compare TX, TXr, and Summary TX values.

To consolidate data into an existing CTC:

1. Consolidate data on the Main CTC page.
 - a. Review supporting text and visually edit the coded data fields.
 - b. Use the Source Data Viewer to compare values on the pending records to the consolidated Patient Set fields. In the Source Data Viewer, you may manually modify fields or copy values from the record.
 - c. Do not set the Review flag on the CTC page until all treatment and facility pages are reviewed (the CTC review flag also clears warnings on the Facility, Staging, TX, and Summary TX pages).
2. Consolidate data on the Staging page.
 - a. Compare the coded data fields to the text shown in the right panel.
 - b. Use the Source Data Viewer. Compare values on the records to Patient Set fields. Make any necessary modifications.
3. Review newly created Facility pages and new admissions on existing pages.
 - a. Review data and resolve edits for new admissions in the Patient Set data. Links to new pages are shown in bold. If new admissions were added to an existing Facility page, the Facility link would not be shown in bold.
 - b. Check the data for each facility that provided a pending record.
4. Review newly created Treatment data pages (TX and TXr links). SEER*DMS polishers use the data on these pages to update the Summary TX data. Therefore, it is important to review and visually edit these data prior to reviewing the Summary TX data. Links to new TX and TXr pages are shown in bold. Follow the steps below for each page:
 - a. Compare coded data on the TX and TXr pages to supporting text.
 - b. Review associated admission data (if an admission is related to the treatment, a link to the admission will be displayed on the treatment page in the Adm FAC-ID field).
 - c. Resolve all edit errors on each TX and TXr data page. This must be done before proceeding to the review of the Summary TX data. If you do not know how to resolve an edit or do not have the appropriate permissions to do so, you may save the Patient Set with edit errors. The edits will be resolved later in a Resolve Patient Set Errors task.
 - d. If you would like to view the source record during this review, the record type of the source record is displayed as a link on the right side of TX and TXr pages.
 - e. Use the Course Page to compare one TX or TXr to another. Click "Course 1" in the navigation panel and select "Compare TXs" in the title bar.
5. Review and complete the consolidation of the summary treatment data:
 - a. Click the Course 1 link in the left navigation box. Review the summarized values set by the polishers for each treatment modality. If the polisher identified missing or conflicting data, the review flag associated with the treatment modality will be set to 0 (Needs Reviewed) and an edit error will fail.
 - i. Review the summarized Surgery Treatment data. Compare the summarized data to the contributing data and modify the Summary Treatment fields, as necessary. When you complete the process for Surgery Treatment data, set the Surg Rev flag to 1 (Reviewed).

- ii. Repeat this process for the Radiation and Systemic sections. There is a separate review flag for each.
6. After reviewing all data pages, resolve any edits that are failing.
7. Set CTC Review flag on the main CTC page.
8. Repeat steps 2 through 7 for each CTC that requires consolidation.

Saving Changes

Changes cannot be saved unless all records are linked. If you have made significant changes and would like to save them, verify that all pending records are linked to a CTC or to the Patient Set.


To save changes during a Consolidate task:

1. Click **Save**.
2. Enter comments to document your changes.
3. If you would like to continue working on the task, click the **Save** button at the bottom of the Review Changes page. This is not an option if you are creating a new Patient Set.
4. If you would like to exit the task, click **Save & Exit**. If edits are failing, the Patient Set will move forward a Resolve Patient Set Errors task. If there are no errors, the Patient Set will exit the workflow.

Undoing Changes

Requires system permission: *pat_edit*

If you made changes that you do not want to save, use the undo feature. This will reverse all unsaved changes made during the consolidation process. If consolidating data into an existing Patient Set, the values of the Patient Set data fields will be reloaded from the database. In addition to reverting changes made to data fields, the linking of records and all other modifications will be reverted. *To reload the Patient Set from the database and revert changes in a Consolidate task:*

1. Click the  in the patient navigation box. The Patient Set menu will be displayed.
2. Select **Undo Changes**.
3. Click **OK** to confirm.

Consolidation Flags

Information about each record's linkage and consolidation status is contained in the consolidation flags. These flags are set by the system and change as the record moves through the workflow and becomes linked and consolidated to a Patient Set and/or CTC. The values of the consolidation flags were expanded in version 17.18 to support greater flexibility and control in the workflow routing scripts. The consolidation flags are not displayed on the data entry screens, but their values can be accessed in the record table, and can be viewed in the record's audit log.

The consolidation flag values for records processed prior to version 17.18 were converted to the new values.

Patient-level consolidation flag

Flag	Description	Details
0	Linked, but consolidation not attempted	No use case for P-level; Demographic info always consolidated
1	Linked, auto-consolidation completed	Common
2	Linked, manual consolidation completed	User manually checked the "consolidation" box
3	Linked, but manual review required for consolidation	[PENDING RECORD] Manual consolidation task was created
5	Not linked and linkage needed	Unlinked records in database
6	Not linked and linkage not needed	No use case for P-level; all records should be linked at least to patient
7	Not linked and manual review required for linkage	No use case for P-level; all records should be linked at least to patient

CTC-level consolidation flag

Flag	Description	Details
0	Linked, but consolidation not attempted	Transition state before auto-cons is done. No use case as a retained value.
1	Linked, auto-consolidation completed	Not common presently. Done for DCs. More CTC-level auto-cons expected in the future.
2	Linked, manual consolidation completed	User manually checked the "consolidation" box
3	Linked, but manual review required for consolidation	[PENDING RECORD] Manual consolidation task was created
5	Not linked and linkage needed	[PENDING RECORD] Common for reportable abstracts
6	Not linked and linkage not needed	Supplemental records
7	Not linked and manual review required for linkage	User must decide if record should be linked to CTC. May opt to leave at P-level.