North American Association of Central Cancer Registries, Inc. (NAACCR)

2018 Implementation Guidelines and Recommendations

(For NAACCR Standards Volume II, Data Standards and Data Dictionary, Version 18, effective with cases diagnosed on or after January 1, 2018)

Version 1.2

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1 Introduction

The North American Association of Central Cancer Registries, Inc. (NAACCR), has been working with the American College of Surgeons (ACoS) Commission on Cancer (CoC), National Cancer Institute (NCI) Surveillance Epidemiology and End Results (SEER) Program, Centers for Disease Control and Prevention (CDC) National Program of Cancer Registries (NPCR), Canadian Council of Cancer Registries (CCCR), National Cancer Registrars Association (NCRA), central cancer registries, and cancer registry software vendors to develop an implementation plan for NAACCR Standards for Cancer Registries Volume II, Data Standards and Data Dictionary, Version 18 (referred to as Data Standards and Data Dictionary, Version 18). The 2018 data standards have been developed in response to requested revisions from a broad set of constituents.

This Implementation Guidelines document (IG) provides an overview regarding changes in cancer surveillance reporting standards that the various stakeholders will need to take into account for 2018 diagnoses. There are links to source documents that are referenced throughout this IG, each being maintained by either the relevant standard setter or NAACCR. The NAACCR website will continue to be an essential destination for the latest version of this Implementation Guide and for standards documents including the Data Standards and Data Dictionary, Version 18 and its log of changes. Given the complexity and dynamics involved in the changes for 2018, the sources referred to in the IG must be used to obtain the most up-to-date and the most granular information.

Effective with 2018, there are numerous changes to cancer surveillance standards, involving multiple aspects of reporting in North America. The 8th edition AJCC staging standards, which triggered the implementation of many of the additional and modified data items, are far from the only differences. The SEER program has updated both the Summary Stage and the Extent of Disease (EOD) manuals. 2018 also sees the adoption by the NAACCR community of revisions in and additions to selected histology and behavior codes and terms that have been implemented in the WHO blue books but had not been formally implemented for case abstraction by certified tumor registrars (CTRs) until now. There are revised rules for determining multiple primaries and histologies for solid tumors; and there are revisions to the tables of valid site/histology combinations that take the new histology codes into account. Tumor grade has been redefined, to take advantage of diagnosis-specific grading systems where they exist, and to redefine the classifications for the collection of grade. The CoC has made a paradigm shift in the way radiation is coded and reported by accredited hospital programs, allowing for granularity in volumes, types, and dosages administered for up to three separate phases of radiation treatment. These and other changes are fully described in the CoC's updated reporting manual, STandards for Oncology Registry Entry, referred to as STORE. Data transmission standards should be used consistently by all registries and standard setting agencies and should be implemented in a planned and timely manner. Changes to the set of standards have potential consequences, and implementation must be evaluated by each program, central cancer registry, software vendor, and reporting facility during the planning process. Delays in implementation may result in inconsistent data collection.

In the interest of easing the transition to the XML record format, the new Data Standards and Data Dictionary, Version 18 provides both the XML NAACCR ID and the PARENT XML Element in the entry for each data item. These tags will inform the creation of the XML record, the advantage of which is that by associating a tag (rather than a column location) with each data item, the fixed-length file becomes

unnecessary. Refer to https://www.naaccr.org/xml-data-exchange-standard/ for more information regarding the NAACCR XML Data Exchange Standard.

This document has been a collaborative effort, in the true NAACCR spirit, to inform the many stakeholders of the changes that are expected to be incorporated in training materials, software and databases so that cancer data will continue to be defined, collected, and transmitted in a standardized manner that facilitates the amazing sharing of data that has characterized cancer surveillance in North America since the inception of the American Association of Central Cancer Registries in 1987.

2 New Data Items

There are 223 data items that are new for the Data Standards and Data Dictionary, Version 18. Among them are 137 Site-Specific Data Items (SSDIs) plus a Schema ID [3800], all of which are described in detail in the *2018 SSDI Manual* **(https://www.naaccr.org/SSDI/SSDI-Manual.pdf)** prepared by the NAACCR SSDI Taskforce. Included among the SSDIs are three new Grade items: Grade Clinical [3843]; Grade Pathological [3844]; and Grade Post-Therapy [3845]. They are site-specific and will take the place of Grade [440]. There are 18 new AJCC TNM data items, an AJCC ID [995], and four new Derived EOD stage items. The CoC has developed 24 new data items associated with radiation treatment, 6 new data items for collection of more specific information on regional nodes and 2 new data items to better document tumor recurrence. There are also five new items associated with vital status and/or cause of death. One new data item, CoC Accredited Flag [2152], will be used to identify analytic cases reported by CoC-accredited facilities. Another new data item, Medicare Beneficiary Identifier [2315], will be replacing social security number as the personal identifier used by the Medicare program, and, as such, will be an essential item for linkages involving Medicare data. There is also a new field set aside for data from electronic health record (EHR) reporting [2508], and there are sixteen new Geocoding fields which will be set at the central registry level. See the Standard Setter Reporting Requirements (Section 7) for new data item reporting requirements. A table of new data items is in Appendix A.

Among the most important new data items are the two software-derived items, Schema ID [3800] and AJCC_ID [995]. These items, described in sections 5.2 and 9.5, are used by v18 APIs and DLLs to determine which SSDIs and coding elements are appropriate, given the site, histology, and sometimes other key factors, for each tumor.

Although too late for incorporation as new standard data items in the v18 layout, the IG workgroup suggests that vendors store versioning information in vendor-specific data items for the APIs and DLLs used for coding each record. See section 9.2 below.

3 Changed Data Items

The Version 18 transmission file includes a record number of changes. Many of the existing data items have been changed, either by being mapped to new locations; having been renamed; having the length changed (mostly the Reserved sections); or a combination of name changes, length changes, and code changes. The tables below are the attempt of the Implementation Guidelines Task Force to capture the most significant changes, but for the comprehensive, up-to-date enumeration of the data items and their allowable values, refer to the Data Standards and Data Dictionary, Version 18 and the v18 Change Log at https://www.naaccr.org/data-standards-data-dictionary/.

- Field Length changes. These affected mostly the reserved sections but some other items changed length.
- Name and XML NAACCR ID changes.
- Combination of name, length, and code changes.

Data Standards and Data Dictionary, Version 18 Data Item Name and XML NAACCR ID Changes			
Item #	**Former Data Item Name**	**V18 Data Item Name**	**V18 XML NAACCR ID**
90	County at Diagnosis	County at DX Reported	countyAtDxReported
94	County at DX Geocode 1990	County at DX Geocode 1970/80/90	countyAtDxGeocode19708090
368	Census Block Grp 1970-90	Census Block Grp 1970/80/90	censusBlockGrp19708090
762	Derived SS2017	Derived Summary Stage 2018	derivedSummaryStage2018
764	Directly Assigned 2017	Summary Stage 2018	summaryStage2018
772	SEER Primary Tumor	EOD Primary Tumor	eodPrimaryTumor
774	SEER Regional Nodes	EOD Regional Nodes	eodRegionalNodes
776	SEER Mets	EOD Mets	eodMets

3.1 Code Changes

The table below is not the complete listing. Refer to the Data Standards and Data Dictionary, Version 18, Appendix F Tables and Data Dictionary Revisions for a comprehensive list of all changes.

Data Standards and Data Dictionary, Version 18 Examples of Code Changes			
Item #	**Item Name**	**Code Change**	**Meaning or Purpose**
50	NAACCR Record Version	New code '180'	Version V18
470 480	Morph Coding Sys-Current Morph Coding Sys-Originl	New code 'A' and clarified definitions	Update for terms and codes effective 1/1/2018
772 774 776	EOD Primary Tumor, EOD Regional Nodes, and EOD Mets	Completely new approach	Schema-specific codes were introduced. These will be available via SEER's API and SEER*RSA.
920 980	TNM Path Descriptor and TNM Clin Descriptor	New value of 'blank' added	Indicates explicitly that the data item is not coded.
1060	TNM Edition Number	New code '08'	8th ed. of AJCC Cancer Staging Manual
1117	Mets at DX—Other	New code '2' and changed definitions for codes '1' and '9'	Generalized metastases such as carcinomatosis. See data dictionary for details.
1182	Lymphovascular Invasion	New codes '2','3','4'	More specific: lymphatic and small vessel; large vessel only; or lymphatics plus both small and large vessels
1460	RX Coding System—Current	New code '08'	Treatment data coded according to STORE Manual
1760	Vital Status	Code '4' removed	Code '4' is being converted to code '0'.
2120	SEER Coding Sys—Current	New code 'H'	2018 SEER Coding Manual
2130	SEER Coding Sys—Original	New code 'H'	2018 SEER Coding Manual
2140 2150	CoC Coding Sys—Current CoC Coding Sys—Original	New code '09'	STORE Manual

Although the data items for EOD [772, 774, and 776] were added to the Version 16 layout they were not implemented and are changed in Version 18. Effective with 2018, SEER's API will provide schema-specific pick lists, which include the generic codes to be used when the information for accurate schema-specific coding is not available or not applicable.

Again, for comprehensive, up-to-date enumerations of the data items and their allowable values, see the Data Dictionary and Data Standards, Version 18 and the v18 Change Log at https://www.naaccr.org/data-standards-data-dictionary/, and refer to the various source references (e.g., STORE, 2018 SEER Coding Manual, SEER*RSA) listed in Appendix B.

3.2 Retired Data Items

AJCC retired eleven data items, see table below.

Data Standards and Data Dictionary, Version 18 Retired Data Items	
Data Item Name	**Item #**
CS PreRX Tumor Size	2730
CS PreRX Extension	2735
CS PreRX Tum Sz/Ext Eval	2740
CS PreRX Lymph Nodes	2750
CS PreRX Reg Nodes Eval	2755
CS PreRX Mets at DX	2760
CS PreRX Mets Eval	2765
CS PostRX Tumor Size	2770
CS PostRX Extension	2775
CS PostRX Lymph Nodes	2780
CS PostRX Mets at DX	2785

4 Record Layout Changes

The NAACCR data exchange record layout has been revised to accommodate the many new data items and changes to existing variable lengths; hence, many existing data items have changed column position. The record layout expanded from a character length of 22,824 to 24,194. For information on the record layout refer to the Data Standards and Data Dictionary, Version 18, Chapter VII Record Layout Table.

5 Other Changes

5.1 AJCC 8th Edition

The *AJCC Cancer Staging Manual, 8th Edition*, was released in October 2016 and is to be used for cases diagnosed on or after January 1, 2018.

Perhaps the most important change introduced in the *AJCC Cancer Staging Manual, Eighth Edition* from the perspective of registry staff is a completely rewritten Principles of Cancer Staging (Chapter 1). The revised chapter responds to a range of questions raised over the years by registrars. Chapter 1 should be more useful to registrars than in the past.

The histology code ranges introduced in the 7th Edition have been replaced by a distinct list of the applicable WHO and ICD-O-3 histology codes in each chapter. This change was made in order to align with the clinical terminology from most recent editions of the WHO Classification of Tumors – the primary reference used by oncologists and pathologists for histologic and genetic typing of human neoplasia. A full list of histology and topography codes, sortable by chapter and staging system, is also available on cancerstaging.org.

Histologies appropriate for clinical use in patient care, using current preferred terminology from the WHO and ICD-O-3, are listed in each chapter. Also included are histologies (not included in the first and second print versions) requested by the surveillance community to reduce the number of unstaged cases in population-based data. In the reprinting, these are denoted with an asterisk and italicized in the histology code table in each chapter. Many of these additional histologies represent vague or non-specific information such as "carcinoma, NOS"; more specific terms using features no longer part of current terminology; and other non-standard or outdated histologic terms.

Staging forms are available online in the AJCC Cancer Staging Form Supplement. The 104 staging forms in this supplement are numbered according to their corresponding chapters in the *AJCC Cancer Staging Manual, Eighth Edition*. Some chapters have multiple staging forms as they describe distinct TNM, Prognostic Factors, and AJCC Prognostic Stage Groups for unique topographical sites, histologic types or a combination of the two. These forms may provide more data elements than required for collection by standard setters such as NCI SEER, CDC NPCR, and CoC NCDB.

The 8th Edition has specific chapters for more cancers than in the past, and some chapters have been divided for more targeted discussion on staging classification.

New chapters/staging systems

- Risk Assessment Models
- Cervical Nodes and Unknown Primary Tumors of the Head and Neck
- Oropharynx, HPV-Mediated (p16+)
- Cutaneous Carcinoma of the Head and Neck (includes cutaneous carcinoma of external lip)
- Thymus
- Bone: Appendicular Skeleton/Trunk/Skull/Face, Pelvis, and Spine
- Soft Tissue Sarcoma of the Head and Neck
- Soft Tissue Sarcoma of the Trunk and Extremities
- Soft Tissue Sarcoma of the Abdomen and Thoracic Visceral Organs
- Soft Tissue Sarcoma of the Retroperitoneum
- Soft Tissue Sarcoma—Unusual Histologies and Sites
- Parathyroid
- Leukemia

Divided chapters

- Oral Cavity (previously Lip and Oral Cavity)
- Cutaneous carcinoma of the external lip (previously Lip and Oral Cavity) is now staged with Cutaneous Carcinoma of the Head And Neck
- Oropharynx (p16−) and Hypopharynx (previously Pharynx)
- Nasopharynx (previously Pharynx)

- Pancreas—Exocrine (previously Endocrine/Exocrine Pancreas)
- Neuroendocrine Tumors of the Pancreas (previously Endocrine/Exocrine Pancreas)
- Neuroendocrine Tumors of the Stomach
- Neuroendocrine Tumors of the Duodenum and Ampulla of Vater
- Neuroendocrine Tumors of the Jejunum and Ileum
- Neuroendocrine Tumors of the Appendix
- Neuroendocrine Tumors of the Colon and Rectum
- Thyroid—Differentiated and Anaplastic
- Thyroid—Medullary
- Adrenal Cortical Carcinoma
- Adrenal—Neuroendocrine

Merged chapters

- Ovary, Fallopian Tube, and Primary Peritoneal Carcinoma

Deleted chapters

- Cutaneous Squamous Cell Carcinoma and Other Cutaneous Carcinomas for all topographies

In addition to new and reorganized chapters, there are a number of important new staging paradigms introduced in the 8th Edition. Human papillomavirus (HPV) is a key discriminator in staging oropharyngeal carcinoma. Esophagus and stomach have separate staging systems for patients who have received neoadjuvant therapy. Bone and soft tissue sarcoma now have different staging systems based on anatomic sites. Finally, heritable cancer trait (H Category) has been introduced to retinoblastoma staging.

AJCC worked with NAACCR to replace the AJCC stage data items with new expanded T, N, M, and Stage Group data items. This enables registries to collect staging in the same manner as physicians, replacing codes with actual labels, and allows for seamless communication with the medical community. The descriptor data item was replaced with the T suffix and N suffix, and by incorporating post therapy "y" staging into its own data items previously shared with pathological staging.

Additional updates to the *AJCC Cancer Staging Manual* are always available at cancerstaging.org and available for software developers via the AJCC API.

AJCC Cancer Staging questions should be directed to the CAnswer Forum at:
http://cancerbulletin.facs.org/forums/CAnswerForumHome

5.2 Site-Specific Data Items (SSDIs)

As of 2018, Collaborative Stage Site-Specific Factors (CS SSFs) have been discontinued and Site-Specific Data Items (SSDIs) are used for collection of site-specific information. SSDIs have unique names and NAACCR data item numbers and each one can be applied to multiple designated sites if required. Unlike SSFs, field length is not limited to 3 digits, and for measurements and lab values, explicit decimal points (rather than implied) are accommodated, and different coding conventions are used to record actual values, percentages and ranges. NAACCR is the custodian of the SSDIs, and the Site-Specific Data Item Task Force (SSDI TF) is responsible for their development and updates. Documentation for the SSDIs and grade, including an online coding tool, are available at https://apps.naaccr.org/ssdi/list/.

The SSDIs include:

Schema ID and AJCC ID: In CSv2, 153 schemas were defined based on site/histology and were used to assign applicable site-specific factors (SSFs) and staging algorithms. For 2018, Schema ID [3800] is used to link all combinations of sites and histologies with the appropriate stage data collection systems and site-specific data items. AJCC ID [995] is used to link AJCC staging eligible sites/histologies with the appropriate AJCC chapter and staging algorithm.

Schema ID and AJCC ID will be derived by registry software based on site and histology codes entered by the registrar. All completed cases must have the Schema ID calculated. Similarly if AJCC ID is required, it must be calculated for all completed cases. If a case is directly entered into the central registry software or is received from a non-standard source, the central registry must ensure that all necessary components to calculate these data items have been completed. Refer to SSDI Manual Appendix A (https://www.naaccr.org/SSDI/SSDI-Manual-Appendix-A.pdf) for crosswalks for sites/histology, AJCC ID and Schema ID.

Schema Discriminators: Introduced in CSv2, schema discriminators are used when primary site and/or histology are not sufficient to identify the correct AJCC staging algorithm. Due to the complexity of some of the 8th edition chapters, more than one schema discriminator may be needed to define the correct schema. Three SSDIs [3926, 3927 and 3928] are available to collect the information needed to define schema, although most chapters that require a schema discriminator need only one. Two schema discriminators are used to define both AJCC ID and Schema ID. Refer to the SSDI Manual (https://www.naaccr.org/SSDI/SSDI-Manual.pdf) for the schema discriminators and for codes and coding instructions.

SSDIs Replacing CS SSFs: Of the approximately 260 unique SSFs defined in CS, 101 were discontinued, 12 were obsolete, and 147 were required by at least one standard setter in 2017. Of the required data items for 2017, 27 are not needed in 2018, so approximately 120 CS SSF data items have been replaced with analogous SSDIs. However, none of the CS SSF data will be mapped to the new data items. To minimize the number of new data items, a single SSDI applies to multiple schemas whenever possible. For each data item, the SSDI TF reviewed and incorporated any new information from the AJCC 8th edition and updated CAP guidelines. The SSDI TF also attempted to reconcile inconsistencies between AJCC and CAP so that the codes developed for each data item would align with the associated CAP protocol. In contrast to the fixed length of the CS SSF fields, the SSDI fields vary in length. The length of each data item was determined based on the highest value recommended by AJCC 8th edition or by other pertinent documentation. Refer to Appendix B in the SSDI Manual (https://www.naaccr.org/SSDI/SSDI-Manual-Appendix-B.pdf) to identify SSDIs replacing CS SSFs, with cross reference to SSF number, and to the SSDI Manual for codes and coding instructions.

Required for Stage: The SSDIs include 25 new data items required for staging (AJCC or EOD), 15 of which are not previous SSFs, as well as grade, which is required in AJCC 8th edition for some stage groups. Refer to the SSDI Manual (https://www.naaccr.org/SSDI/SSDI-Manual.pdf) to identify SSDIs required for stage in the AJCC 8th edition and for codes and coding instructions.

Grade: The AJCC 8th edition has specific grade tables listed for many chapters, some but not all of which follow the definitions of the historical standard Grade [440] as used in cancer registries, which has been discontinued for 2018. Three new data items have been defined for collection of Clinical, Pathological

and Post Therapy grade [3843, 3844 and 3845 respectively]. New grade values were developed following the format of T, N, and M, where definitions differ based on the schema and use schema-specific grade tables. Each schema-specific grade table includes the standard grade definition for those cases where the schema-specific grading system is not available in the pathology report or other medical documentation. The SSDI TF has developed a Grade Manual to provide information and coding instructions on the new grade data items and site/schema-specific grade tables (https://www.naaccr.org/SSDI/Grade-Manual.pdf).

New Data Items in Addition to "Required for Stage" and Grade:

- Breast biomarkers: Nine new SSDIs were developed for collection of ER, PR and HER2 laboratory test results [3826, 3828, 3850-3854, 3914 and 3916]. These replace Breast SSFs 4-6 and 8-14 which were not brought over from CS due to changes in laboratory methods and interpretation.
- Brain biomarkers: One new SSDI, Brain Molecular Markers [3816], was developed at the request of CBTRUS to collect data on specific markers needed to define clinically important histological subtypes that are not differentiated in updated ICD-O-3 codes.

SSDI Coding Conventions: Each SSDI applies only to selected schemas. SSDI fields should be blank for schemas where they do not apply.

The "Not applicable" code is only used when a data item is appropriate for a schema but the standard setter does not require collection of the data item.

For laboratory tests, values for "not applicable" and "unknown" differ based on length of data item; the codes for not applicable ALWAYS end in '8' and the codes for unknown ALWAYS end in '9'.

Limitations: Due to the limited time available and need to set priorities, many new data items recommended for registry data collection in the AJCC 8th edition were not considered for 2018 data collection. The process for collecting and prioritizing future recommendations for new and revised SSDIs from registry standard setters and partners will take place once work on the SSDIs for 2018 is complete.

Questions regarding SSDIs should be directed to the CAnswer Forum at:
http://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018

5.3 ICD-O-3 Histologies

In developing the 2018 ICD-O update, a particular effort was made to use the nomenclature appearing in the World Health Organization's *International Histological Classification of Tumors* series (WHO "Blue Books"). This series covers all of the principal sites of cancer and includes ICD-O morphology codes for each neoplasm. Since 2011, WHO has published four editions covering eight organs/body systems. Each new edition underwent thorough review to identify new histologies and ICD-O codes, changes to behavior to existing ICD-O codes, and new terminology. The ICD-O-3 Implementation Work Group recommended changes were approved by the standard setting agencies.

At this time, WHO has no plans to release either an updated ICD-O-3 or ICD-O-4. The Work Group strongly recommends using the 2018 ICD-O-3 Histology and Behavior Code Update tables jointly with ICD-O-3, Hematopoietic and Lymphoid Neoplasm Database, and Solid Tumor (MP/H) rules. While we are aware of the release of ICD-O-3.1, this document has not been approved by the standard setting agencies for use in North America.

The 2018 ICD-O-3 histology code and behavior update includes comprehensive tables listing all changes to ICD-O-3 effective for solid tumor cases diagnosed 1/1/2018 and forward. Information from the NAACCR document, "What You Need to Know for 2017" Appendix A: Continued Use of ICD-O-3 Histology Code Crosswalk has been incorporated into the updated 2018 ICD-O-3 New Histology and Behavior Code Implementation Guidelines. The 2018 tables include coding instructions for cases diagnosed prior to 1/1/2018. Edits will enforce the new codes/behaviors allowed only for cases diagnosed 1/1/2018 forward. Date driven edits will also be implemented for those histology codes no longer valid, such as mucinous NOS 8480 for lung after 1/1/2018.

The ICD-O-3 Implementation Work Group created a guide for users which provides important information on the background and issues for this update along with how to use the tables.

Note: Use of these guidelines is required for determining reportability and accurate coding.

The 2018 ICD-O-3 update includes four documents and an errata which can be found at: https://www.naaccr.org/icdo3/

Questions regarding ICD-O-3 Histology changes should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

5.4 SEER Site/Histology Validation List

The SEER Site/Histology Validation List, used in software and edit development, has been updated to include the new ICD-O-3 code and behavior changes per the 2018 ICD-O-3 updates. This site/histology list is provided in both PDF and Excel formats and is available on the following link: https://seer.cancer.gov/icd-o-3/

Note: The Site/Histology Validation List is not intended to be used for casefinding or to determine reportability.

Questions regarding the SEER Site/Histology Validation List should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

5.5 2018 Solid Tumor Coding Rules (formerly known as Multiple Primary and Histology Rules)

The 2018 Solid Tumor Coding Rules are a comprehensive revision to the 2007 site-specific Multiple Primary and Histology Rules, which were developed to promote consistent and standardized coding for cancer surveillance.

The 2018 rules provide new site-specific instructions for:

- Brain (benign)
- Brain (malignant)
- Breast
- Colon
- Head and neck
- Kidney
- Lung
- Renal pelvis/ureter/bladder

No changes were made to the site-specific instructions for Melanoma of the Skin or for Other Sites. The 2018 rules guide and standardize the process of determining the number of primaries. The histology rules include detailed histology coding instructions. For example, grouping histologic terms, differentiating between general (NOS) terms and specific histologic types and subtypes, and identifying mixed and combination codes are covered.

What to expect in the 2018 Solid Tumor Rules:

- Solid Tumor Rules available in text format only.
- Terms and Definitions are now included with the M-rules and H-rules.
- New table for determining primary site in Head & Neck primaries.
- WHO grade tables for benign and malignant brain tumors.
- Reportable and non-reportable histology tables.
- Histology tables revised to include 2018 ICD-O-3 updates.
- Additional notes and examples for all site groups except Cutaneous Melanoma and Other Sites.
- Rules for Cutaneous Melanoma and for Other Sites have not been revised in the 2018 update. They will be revised for release in 2019.

The 2018 Solid Tumor Rules apply to all cases diagnosed in 2018 and later. For cases diagnosed 2007 to 2017, continue to apply the 2007 Multiple Primary and Histology Coding Rules.

Visit the coding manual download page to obtain a copy of the 2018 Solid Tumor Rules Manual.

Questions regarding the Solid Tumor Rules should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

5.6 SEER Hematopoietic and Lymphoid Neoplasm Database

The Hematopoietic and Lymphoid Neoplasm Database has been updated based on the latest edition of the WHO Classification of Tumors for Hematopoietic and Lymphoid Neoplasms. Changes include updating primary sites based on clarifications from AJCC 8th edition authors, additional information on specific histologies and adding sources. The update, which can be found at https://seer.cancer.gov/tools/heme/ , will continue to be applicable for cases diagnosed 2010 and forward.

Questions regarding the SEER Hematopoietic and Lymphoid Neoplasm Database should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

5.7 Summary Stage 2018 and EOD 2018

EOD 2018 and Summary Stage 2018 are effective for cases diagnosed 1/1/2018 and later. The link for the relevant coding manuals: https://seer.cancer.gov/tools/staging/rsa.html.

EOD 2018 was developed based on AJCC 8th edition. Three data items comprise EOD 2018: EOD Primary Tumor [772], EOD Regional Nodes [774], and EOD Mets [776].

The Summary Stage 2018 schemas were developed based mainly on SS2000 with the goal of maintaining long term trends (incidence, staging, and survival). Summary Stage 2018 groups cases into broad categories of in situ, local, regional (by direct extension, by regional nodes, or by both), distant, benign,

and unstaged. There are two Summary Stage 2018 data items: Summary Stage 2018 [764] and Derived Summary Stage 2018 [762]. Summary Stage 2018 [764] is a directly coded field. The information from EOD 2018 can be collapsed by algorithm to populate Derived Summary Stage 2018 [762]. The Summary Stage 2018 chapter order follows AJCC 8th chapter order as much as possible.

EOD 2018, Summary Stage 2018, and the SSDIs are all included in the SEER Staging API, EOD v1.3. In addition, there is a version of the Summary Stage 2018 coding manual available online at https://seer.cancer.gov/tools/ssm/.

Questions regarding Summary Stage 2018 and EOD 2018 should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

6 EDITS

A beta version of the v18 edits metafile was made available in mid-April. The beta version is available upon request (see contact info below). The initial release of the v18 metafile was made available online in mid-August at https://www.naaccr.org/standard-data-edits/

Changes to edits for cases diagnosed in 2018 are minimal and primarily address fixes to edit logic. Standard setters have requested that any new edits released in the v18 metafile apply only to cases diagnosed in 2019 or later. Standard setters are concerned that new edits on cases diagnosed in 2018 and released in subsequent metafiles could potentially impose additional burdens on central and hospital registries and further delay submission of 2018 cases.

The v18 edits metafile was developed in EditWriter v5 (EW5) and will only be available in a .smf format. EW5 includes a metafile converter (converts EDITS40 .EMF to EDITS50 .SMF), so that authors of custom metafiles can bring their work forward. However, edits developed in EW5 cannot be converted to previous versions of EditWriter.

The v18 edits include a group of edits that are important for vendors, to check the derivations of the new data items, SCHEMA ID and AJCC ID. These edits all have the prefix '_SYS.' The EDITS Workgroup has suggested that the _SYS edits be run by the vendors to make certain that, for example, the SCHEMA ID and AJCC_ID derivations are accurate. The _SYS edits could also be run by central registries at the time of validation of vendor versions – for communication of any identified software errors to the vendors. However, the Workgroup members think it's important that the _SYS edits NOT be included in metafiles that are run by the tumor registrars at the reporting facilities. This is because any edit errors based on those edits are due (presumably) to software bugs that must be addressed by the vendors, and the tumor registrars will not be able to make the corrections.

Another change for v18 is that all 8th edition AJCC TNM edits have been removed from the NPCR edit sets (*Central: vs18 NPCR Required-Consol-All Edits* and *Central: vs18 NPCR Required-Incoming Abstracts*) and placed in a separate edit set titled *AJCC Edits for 2018*. Central registries that choose to collect and edit AJCC 8th TNM data items can select AJCC 8th edition TNM edits from the *AJCC Edits for 2018* edit set to add to their state specific edits metafile. Similarly, an *EOD Edits for 2018* edit set is available for central registries reporting to NPCR that choose to collect and edit EOD data items.

A NAACCR forum has been established for anyone using the EDITS50 tools to post questions, report problems or review what others have posted:
http://news.naaccr.org/forums/forum/edits-support/edits50-implementation

Contact Jim Hofferkamp at jhofferkamp@naaccr.org with any questions or concerns about the NAACCR edits metafile.

7 Standard Setters Reporting Requirements for 2018

Each standard setting agency provided their respective information for section 7.

7.1 CoC Reporting Requirements

For all cases diagnosed on or after January 1, 2018, the Commission on Cancer (CoC) will require its accredited programs to use the STandards for Oncology Registry Entry (STORE); 8th Edition of the AJCC Staging Manual, SSDI and Grade manuals; NAACCR Guidelines for ICD-O-3 Update Implementation; 2018 Solid Tumor Coding Rules; SEER Summary Stage 2018 Manual to assign Summary Stage; most current SEER Hematopoietic and Lymphoid Neoplasm Database and rules; and SEER*RX systemic therapy database application.

Revisions to CoC reporting requirements for 2018 accommodate the transition from Collaborative Stage Site-Specific Factors to the new SSDI and Grade data items, as well as implementation of new data items for the collection of radiation therapy, information associated with sentinel and regional lymph nodes, and cancer recurrence. Other than the below-specified revisions, CoC data reporting requirements remain the same.

7.1.1 Comorbidities and Complications

CoC will no longer be requiring the ICD-9-CM-based Comorbid/Complication 1-10 [3110-3164] or ICD Revision Comorbid [3165] data items.

As of cases diagnosed January 1, 2018 and later, only ICD-10-CM codes will be accepted to document secondary diagnoses. The ICD-10-CM code-based data items of Secondary Diagnosis 1- 10 [3780-3798] will continue to be required. Some of our programs are currently not documenting this information.
Note: The documentation and submission of secondary diagnosis information is required for all CoC-accredited programs.

7.1.2 Revisions to Staging Requirements

7.1.2.1 Staging Data Items No Longer Required (Required historically for cases diagnosed 2017 and earlier):

To accommodate the implementation of the AJCC 8th Edition Staging system, collection of SSDIs and SEER Summary Stage 2018, the following data items are no longer required for cases diagnosed January 1, 2018 and later:

TNM Path T, N, and M [880, 890, 900]
TNM Path Stage Group [910]
TNM Path Descriptor [920]
TNM Path Staged By [930]

TNM Clin T, N, and M [940, 950, 960]
TNM Clin Stage Group [970]
TNM Clin Descriptor [980]
TNM Clin Staged By [990]
CS Site-Specific Factors [2861-2880, 2890-2930]
CS Version Input Original, Derived, Input Current [2935-2937]
Summary Stage 2000 [759]

7.1.2.2 Specific Staging Data Items with Continuing Requirement:

Tumor Size Summary [756] (Required 2016+)
Regional Nodes Positive [820] (Required 2004+)
Regional Nodes Examined [830] (Required 2004+)
Mets at Diagnosis – Bone, Brain, Distant LN, Liver, Lung, Other [1112-1117] (Required 2016+)
Lymphovascular Invasion [1182] (Required 2009+)

7.1.2.3 Newly-required AJCC 8th Edition Staging Data Items (Required for cases diagnosed 2018+):

Required 8th Edition AJCC Stage T, N, M Data Items (may be blank as appropriate):

AJCC TNM Clin T, N, M [1001-1003]
AJCC TNM Path T, N, M [1011-1013]
AJCC TNM Post Therapy T, N, M [1021-1023]

Required 8th Edition AJCC Stage Groups:

AJCC TNM Clin Stage Group [1004] **AND**
AJCC TNM Path Stage Group [1014] **OR** AJCC TNM Post Therapy Stage Group [1024]

Newly-required when appropriate for the tumor being abstracted:

AJCC TNM Clin T Suffix [1031]
AJCC TNM Path T Suffix [1032]
AJCC TNM Post Therapy T Suffix [1033]
AJCC TNM Clin N Suffix [1034]
AJCC TNM Path N Suffix [1035]
AJCC TNM Post Therapy N Suffix [1036]

7.1.2.4 Other Newly-Required Stage-associated Data Items:

Summary Stage 2018 [764]
Clinical, Pathological and Post Therapy Grade [3843-3845]
Site-Specific Data Items: Refer to the CoC data item requirements listed in the Data Standards and Data Dictionary, Version 18, Chapter VIII Required Status Table for the CoC's required status of the new/revised SSDIs for cases diagnosed 1/1/2018 and later.

7.1.3 Implementation of New Sentinel and Regional Node Data Items

Because sentinel lymph node biopsies have been generally under-reported and the timing and results of sentinel lymph node biopsy procedures are used in multiple CoC Quality of Care Measures, the CoC has developed six new data items for collection of more specific information on sentinel and regional nodes.

Date Regional Lymph Node Dissection [682]
Date Regional Lymph Node Dissection Flag [683]

Date SLN Biopsy (for breast and melanoma only) [832]
Date SLN Biopsy Flag (for breast and melanoma only) [833]
SLN Examined (for breast and melanoma only) [834]
SLN Positive (for breast and melanoma only) [835]

7.1.4 Revisions to Radiation Treatment Requirements

7.1.4.1 Radiation Treatment Data Items No Longer Required

The following data items are no longer required as of 2018, regardless of the date of diagnosis. They have been replaced by new 2018 radiation data items. Values in the existing v16 data items below will be converted to the new data items upon conversion to v18-compliant software.

Rad--Regional Dose: cGy [1510]
Rad--No of Treatment Vol [1520]
Rad--Treatment Volume [1540]
Rad--Regional RX Modality [1570]
Rad—Boost RX Modality [3200]
Rad—Boost Dose cGy [3210]

7.1.4.2 Specific Radiation Treatment Data Items with Continuing Requirement:

Date Radiation Started [1210] (Required All Years)
Date Radiation Ended [3220] (Required 2003+)
Rad--Location of RX [1550] (Required 2003+)
Reason for No Radiation [1430] (Required 2003+)
RX Summ—Surg/Rad Seq [1380]

7.1.4.3 Newly-required Radiation Data Items:

The CoC has developed 24 new data items associated with radiation treatment in order to update the way radiation treatment and the treatment target volumes are described to better reflect modern nomenclature and practice and to enable patterns of care, comparative effectiveness, clinical guideline concordance and other large database studies.

New Radiation Treatment Phase-specific Data Items

To promote consistency across the clinical and registry community, new “phase” terminology has been adopted, replacing the traditional terms of “regional” and “boost”. The first phase (Phase I) of a radiation treatment may be commonly referred to as an initial plan and a subsequent phase (Phase II) may be referred to as a boost or cone down. A new phase begins when there is a change in the target volume of a body site, treatment fraction size, modality or treatment technique. Up to three phases of radiation treatment can now be documented.

Typically, in each phase, the primary tumor or tumor bed is treated. However, radiation treatment also commonly includes draining lymph node regions that are associated with the primary tumor or tumor bed. Because of this the historical Rad--Treatment Volume [1540] data item has been divided into the phase-specific data items of Radiation Primary Treatment Volume and Radiation to Draining Lymph Nodes.

Historically, the previously-named Regional Treatment Modality data item [1570] utilized codes that were not mutually exclusive. Rather, it included codes describing a mix of modalities, treatment

planning techniques, and delivery techniques that are commonly utilized by radiation oncologists. The implementation of separate phase-specific data items for the recording of radiation modality (Radiation Treatment Modality) and radiation treatment planning techniques (Radiation External Beam Planning Technique) will clarify this information using mutually exclusive categories.

The following are the new phase-specific data items (Phase I [1501-1507], Phase II [1511-1517], Phase III [1521-1527]):

Radiation Primary Treatment Volume
Radiation to Draining Lymph Nodes
Radiation Treatment Modality
Radiation External Beam Planning Technique
Dose Per Fraction (Session)
Number of Fractions (Sessions)
Total Dose

Other New Radiation Data items

Three other new summary radiation data items are being implemented that are cumulative across the phases of radiation treatment:

Number of Phases of Rad Treatment to this Volume [1532]
Radiation Treatment Discontinued Early [1531]
Total Dose [1533]

7.1.4.4 Radiation Data Item Conversion

Although the 2018 implementation of new radiation data items and terminology sounds extensive, the information being collected is very similar to what is already being collected in CoC-accredited facilities. As a result, conversion/mapping of values from historical radiation data items will occur upon upgrade to v18-compliant software, and once upgraded, the new data items will be displayed and abstracted within the v18-compliant software. The "FORDS to STORE Radiation Data Item Conversion" specifications are located on the NAACCR Data Standards and Data Dictionary webpage: https://www.naaccr.org/data-standards-data-dictionary/.

New STORE Radiation Data Item	Historical FORDS Radiation Data Item
Phase I Radiation Primary Treatment Volume [1504]	Converted from Rad--Treatment Volume [1540]
Phase I Radiation to Draining Lymph Nodes [1505]	Converted from Rad--Treatment Volume [1540]
Phase I Radiation Treatment Modality [1506]	Converted from Rad--Regional RX Modality [1570]
Phase I Radiation External Beam Planning Tech [1502]	Converted from Rad--Regional RX Modality [1570]
Phase I Dose Per Fraction (Session) [1501]	99999
Phase I Number of Fractions (Sessions) [1503]	1-1 Map from Rad--No of Treatment Vol [1520]
Phase I Total Dose [1507]	1-1 Map from Rad--Regional Dose: cGy [1510]
Phase II Radiation Primary Treatment Volume [1514]	Converted from Rad--Treatment Volume [1540] when Rad--Boost RX Modality [3200] administered
Phase II Radiation to Draining Lymph Nodes [1515]	99
Phase II Radiation Treatment Modality [1516]	Converted from Rad--Boost RX Modality [3200]
Phase II Radiation External Beam Planning Tech [1512]	Converted from Rad--Boost RX Modality [3200]
Phase II Dose Per Fraction (Session) [1511]	99999
Phase II Number of Fractions (Sessions) [1513]	999
Phase II Total Dose [1517]	1-1 Map from Rad--Boost Dose cGy [3210]

7.1.5 New Follow-up Data items

In order to facilitate research on cancer recurrence, two new follow-up data items have been added for 2018 that allow for the recording of the last date on which the patient's cancer status has been updated. Unlike the Date of Last Contact [1750], which is a patient-specific data item, these new data items are tumor-specific to better document tumor recurrence/no evidence of disease (NED).

Date of Last Cancer (tumor) Status [1772]
Date of Last Cancer (tumor) Status Flag [1773]

7.1.6 New Case Administration Data Item

The NCDB is moving to submission of data via a single data portal rather than the current separate data portals for RQRS and NCDB. The new RQRS NCDB Submission Flag data item [2155] will facilitate identification of the purpose of the data submission at the receiving end.

7.1.7 Looking Forward

The CoC acknowledges the magnitude of the 2018 changes. CoC acknowledges that these changes are coming late in the abstracting cycle, and that timeliness and productivity reports will be affected. History is being repeated in terms of having hands-on an abstract multiple times, documenting information via text until the appropriate software updates come out. Although things seem overwhelming, much of the concern is due to the fact that the majority of registrars have not yet seen how the NAACCR v18-compliant software will facilitate the task of abstraction.

CoC would like to assuage some of the concerns voiced by our programs.

- Implementation of the AJCC 8th edition staging system: Originally scheduled for release in 2017, the CoC worked directly with AJCC and our surveillance partners to delay implementation until 2018. Many lessons have been learned by all, and experience will guide future efforts and updates.
- Reclassification of the CS SSFs as discrete data items: The *majority* of these data items have not changed in terms of the information collected, except for the codes used to document the data. In addition, all of the CS SSFs were reviewed in conjunction, and aligned with, the CAP Protocols. It is the hope of the CoC that this will greatly facilitate the abstraction work necessary for the SSDIs, enabling rapid abstraction into the hospital registry from the CAP checklist. This alignment will become instrumental to the eventual direct filling of values from the EHR into the registry and will eventually *save* abstraction efforts and time.
- Implementation of the new data collection infrastructure for Grade: The new way of collecting grade will greatly simplify the abstractor's task. There is no more guessing at whether you are dealing with a 2, 3, or 4 level grading system; there will be no more manual "calculation" of what value to enter for grade. The new site-specific look-ups for grade leave no room for error and will result in high quality grade data.
- New radiation data items from CoC: When the CoC re-engineered the way radiation data are collected we did so with several higher goals in mind. At the same time that CoC developed the new data items, we have been working with radiation oncology groups at the national level to adopt and implement a standard End of Treatment Summary (EOTS) to be used by all radiation oncologists across the nation and by all EHRs. This standardized template is directly aligned with the new radiation data items, and when fully implemented will greatly facilitate abstraction of radiation therapy and communication between registrars and radiation oncologists. As with the SSDIs, this

alignment will become instrumental to the eventual direct filling of values from the EHR into the hospital registry database and will eventually *save* abstraction efforts and time.

- Although the CoC is pursuing more rapid case finding and reporting by our accredited programs, we are doing so via a long-term plan in a gradual, feasible pace over several years. It is CoC's hope that the integration of the EHR into hospital registry vendor software over the next few years will revolutionize the art of cancer case abstraction and free up valuable registrar resources for timelier reporting.

And finally, one piece of information that may help with the stress of the 2018 implementation is that once these new standards have been implemented, the CoC will have NO CHANGES in cancer data standards until 2020. CoC will be using the NAACCR Version 18 standards throughout 2019, and any changes that are made for 2020 will be completed far in advance of implementation. The NCDB would not exist without the efforts of cancer registrars across the nation, and the CoC thanks the registrars at all CoC-accredited programs for their perseverance and patience during these difficult, but necessary, times of change.

7.2 CDC NPCR Reporting Requirements

Beginning with cases diagnosed 1/1/2018 and forward, CDC-NPCR will adopt the new record layout and data collection requirements as published in the Data Standards and Data Dictionary, Version 18. The majority of the 2018 changes relate to the final transition from Collaborative Stage V2 (CSv2) to directly assigned Summary Stage 2018, EOD 18, ICD-O-3 changes, and AJCC-TNM 8th Edition Clinical and Pathological Stage and changes to Radiation Treatment. Refer to the CDC-NPCR requirements listed in the Data Standards and Data Dictionary, Version 18, Chapter VIII Required Status Table. Share these requirements with your software vendors and key stakeholders. **There may be slight changes as we put these items in place and usage demands a change.**

CDC NPCR has received inquiries related to the use of the NPCR Derived Stage Group data items by reporting sources. Note that NPCR's intent is for the NPCR Derived Stage Group data items to be calculated at the central registry and not at facilities. As stated in the data dictionary entry for the rationale for NPCR Derived Clin Stg Grp [3650], "NPCR's primary interest is in the directly-entered values, but derived values will have a purpose primarily at the central registry." It would not be accurate to tell facilities that NPCR requires them to calculate and submit the NPCR Derived stage groups to the central registry. NPCR does not require the derivation of TNM stage, but some NPCR registries may want to voluntarily apply the derivation to any submitted AJCC TNM data.

CDC is following the NAACCR Guidelines for ICD-O-3 Update Implementation (published Dec. 2017).

7.2.1 Staging Requirements for 2018 Diagnosis

Central registries funded by CDC/NPCR are required to collect directly assigned Summary Stage 2018 for all cases. AJCC TNM 8th Edition Clinical and Pathological T, N, M and Staged Groups, EOD 2018, Derived EOD TNM data items, and Derived Summary Stage 2018 are voluntary.

Central registries funded by CDC/NPCR and NCI/SEER are required to collect directly assigned Summary Stage 2018 for all cases.

For Summary Stage 2018 and EOD 2018: Follow the SEER Manual rules.

Central registries will inform state reporters of their individual state requirements.

CDC is producing the TNM 8th Edition Staging API for inclusion in Registry Plus software and distribution to NPCR registries and to software vendors that have obtained a license for the AJCC copyrighted contents. The library will support collection of the 8th ed. AJCC TNM, directly coded Summary Stage 2018, and EOD data items by providing the tools to create site-specific pick lists, including for appropriate SSDIs. The TNM 8th Edition Staging API will not be publicly available because it contains content licensed from AJCC. Licensed users will need to contact Joe Rogers (jrogers@cdc.gov) to obtain the software. A version without the licensed content will be made available for public release.

The algorithm for deriving NPCR Derived AJCC 8 TNM stage group data items [3645, 3646, and 3647] will be included in the Registry Plus central registry software but not the Registry Plus abstracting software. We will not include the EOD derivation algorithms in abstracting software because we will not be requiring derivation at the facility level.

Questions related to the Stage Transition can be submitted to**: cancerstaging@cdc.gov**

7.3 NCI SEER Reporting Requirements

NCI SEER expects that all cases diagnosed in year 2018 and thereafter will be transmitted by central registries to NCI in NAACCR version 18. Refer to the NCI SEER requirements listed in the Data Standards and Data Dictionary, Version 18, Chapter VIII Required Status Table.

EOD 2018 is required for all cases diagnosed in 2018 and later. Summary Stage 2018 will be derived using EOD information. The new AJCC TNM data items are required when available.

Refer to the Data Standards and Data Dictionary, Version 18, Chapter VIII, Required Status Table for the SEER requirements for SSDIs for cases diagnosed 1/1/2018 and forward.

Approximately 130 data items are designated “Required when available” (R*, RC, RS*) in the Data Standards and Data Dictionary, Version 18, Chapter VIII, Required Status Table. NCI SEER expects SEER central registries to perform minimal consolidation and editing of these fields.

NCI SEER requires collection and transmission of the new Radiation Modality data items [1506, 1516, and 1526] for cases diagnosed in 2018 and later. The remaining new radiation data items are required when available. Rx Summ—Radiation [1360] is required for all 2017 and prior cases; it is not required for cases diagnosed in 2018 and later.

The SEER code for deceased in Vital Status [1760] has been changed. The code is now aligned with the vital status code used by other registries in the U.S. SEER registries will convert Vital Status for deceased patients from 4 to 0 for all years when moving to NAACCR Version 18.

SEER requires the CoC Accredited Flag [2152] for 2018 and later cases.

> Collection in Facilities: CoC Accredited Flag is assigned at the time of data abstraction to label an abstract being prepared for an analytic cancer case at a facility accredited by the Commission on Cancer (CoC). The flag may be assigned manually or can be defaulted by the registry’s software.
>
> Calculation in Central Registry: If any of the facilities that contributed to the consolidated data for a cancer record set the CoC Accredited Flag to 1, the central registry should set the flag to 1. If all

incoming records for the consolidated case had the CoC Accredited flag set to 0, the central registry should set the flag to 0. This flag should be blank for DCOs. Path only, and Autopsy only cases.

SEER Site-specific Factor 1 [3700] is required for 2018 cases. This data item is reserved for human papilloma virus (HPV) status. See the 2018 SEER manual for coding instructions. This data item only applies to the schemas:

- Oropharynx HPV-Mediated (p16+) (Schema ID = 00100): C019, C024, C051-C052, C090-C091, C098-C099, C100, C102-C104, C108-C109, C111
- Oropharynx (p16-) (Schema ID = 00111): C019, C024, C051-C052, C090-C091, C098-C099, C100, C102-C104, C108-C109, C111
- Hypopharynx (Schema ID = 00112): C129, C130-C132, C138-C139
- Oral Cavity:
    - Lip (Schema ID = 00071): C003-C005, C008-C009
    - Tongue Anterior (Schema ID = 00072) C020-C023, C028-C029
    - Gum (Schema ID = 00073): C030-C031, C039, C062
    - Floor of Mouth (Schema ID = 00074): C040-C041, C048-C049
    - Palate Hard (Schema ID = 00075): C050
    - Buccal Mucosa (Schema ID = 00076): C060-C061
- Mouth Other (Schema ID = 00077): C058-C059, C068-C069

The most up-to-date version of the SEER Registrar Staging Assistant (SEER*RSA) can be found https://seer.cancer.gov/tools/staging/rsa.html. The SEER abstracting tool (SEER*Abs) and the SEER*DMS system were updated soon after the SEER*RSA release.

Questions regarding the SEER Program Coding Manual should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

7.4 CCCR Reporting Requirements

Beginning with cases diagnosed on or after January 1, 2018, the Canadian Council of Cancer Registries (CCCR) will implement the data collection, and submission requirements as published in the Data Standards and Data Dictionary, Version 18, Chapter VIII, Required Status Table.

Beginning with cases diagnosed January 1, 2018, Canada will implement TNM stage data collection using the AJCC Cancer Staging Manual 8th Edition. Refer to the Canadian SSDI spreadsheet and Canadian Cancer Registry Variable Specifications 2018 edition for specific requirements for cases diagnosed 1/1/2018 and forward.

Canada is following the NAACCR Guidelines for ICD-O-3 Update Implementation (published December 2017). Refer to the Canadian version of this listing that was distributed by Statistics Canada in August 2018.

Cases will be submitted to the Canadian Cancer Registry during Statistic Canada's Call for Data. Provincial/Territorial cancer registries can reference the 2018 Canadian Cancer Registry Input Record layout and supporting collection documentation for a more comprehensive listing.

8 Summary for Central Cancer Registries

Due to the significant number of data item changes for 2018, each central cancer registry should review as necessary to determine which revisions are required to be reported to meet individual requirements of national standard setters, see section 7. These determinations should be communicated to the reporting facilities and registry software vendors as soon as possible.

8.1 Record Length, New Data Items, and Changed Data Items

8.1.1 Record Length

Significant changes have been made to the Record Layout; see section 4 for details.

8.1.2 New Data Items

A total of 223 new data items have been implemented; see section 2 and the Data Standards and Data Dictionary, Version 18 for detailed description of new fields.

8.1.3 Changed Data Items

Changes have been made to existing data items, including the retirement of 11 fields. See section 3 and the Data Standards and Data Dictionary Version, 18 for details.

8.2 Other Changes

8.2.1 AJCC 8th Edition

AJCC 8th Edition will be used for cases diagnosed on or after January 1, 2018 and collected in new data items; see section 5.1 for details and the Data Standards and Data Dictionary, Version 18, Chapter VIII Required Status Table to determine which staging data items are required to be collected by the various standard setters.

8.2.2 Site-Specific Data Items (SSDIs)

Collaborative Stage Site-Specific Factors (CS SSFs) have been discontinued and Site-Specific Data Items (SSDIs) are used for collection of site-specific information for cases diagnosed on or after January 1, 2018. See section 5.2 for details and the Data Standards and Data Dictionary, Version 18, Chapter VIII Required Status Table, and refer to directions provided by the standard setters in section 7 above to determine which staging data items are required to be collected by the various standard setters.

8.2.3 ICD-O-3 Histologies

Comprehensive updates have been made to ICD-O-3 histologies and behaviors collected for cases diagnosed January 1, 2018 and forward; see section 5.3 for details.

8.2.4 SEER Site/Histology Validation List

The SEER Site/Histology Validation List will be updated to include the new ICD-O-3 histologies and behaviors; see section 5.4 for details.

8.2.5 2018 Solid Tumor Coding Rules (formerly known as Multiple Primary and Histology Rules)

The 2018 Solid Tumor Coding Rules will be used for cases diagnosed January 1, 2018 and forward; see section 5.5 for details.

8.2.6 SEER Hematopoietic and Lymphoid Neoplasm Database

The updated SEER Hematopoietic and Lymphoid Neoplasm Database will be applicable for cases diagnosed 2010 and forward; see section 5.6 for details.

8.2.7 Summary Stage 2018 and EOD 2018

Summary Stage 2018 and EOD 2018 staging systems will be used for cases diagnosed January 1, 2018 and forward. See section 5.7 for details and the Data Standards and Data Dictionary, Version 18, Chapter VIII Required Status Table to determine which staging data items are required to be collected by the various standard setters.

8.3 Central Registry Edits

The central cancer registry should review section 6 for the v18 metafile information that will inform the use of the edit sets. Additionally, it is important to note that the v18 edits metafile is released in a .smf format. Central cancer registries that develop their own edits or maintain their own reporting software will need to implement EditWriter v5.

Central cancer registries will need to review the EDITS metafile for Data Standards and Data Dictionary, Version 18, to determine which edits to implement for incoming records and for consolidated items in the central registry's database. Central cancer registries should review the NAACCR v18 metafile documentation in parallel with the newly required data items and include every applicable edit in their state-specific EDITS metafile.

Central cancer registries should note that edits in the metafile may need to be revised to accommodate central registry-specific or state-specific reporting requirements, and that special edits may need to be developed for central registry-specific data items. Implementation, testing, and distribution of central registry-specific EDITS metafiles to reporting facilities and registry software vendors should be considered as central cancer registries develop their requirements for 2018 reporting. Central cancer registries that generate and distribute their own metafiles should have a plan to keep them updated.

The central cancer registry should evaluate the time required to correct errors in previous years' data that appear after retrospectively applying new edits, particularly when there are no guidelines that limit diagnosis years to which the new edit(s) should be applied. Taking into account the relative importance of the affected data items and the amount of time required to edit the records, central registries should prioritize and fix these retrospectively-identified errors.

8.4 Software Implementation Plan

Central cancer registries that receive submissions from facilities using commercial software to generate their files should pay close attention to the new releases of these products and coordinate their own Data Standards and Data Dictionary, Version 18 implementation plan accordingly. Every new vendor version should be reviewed to ensure compliance with the new record layout version and with registry requirements, before files are merged into the central registry's database. Various methods can be used to test a data submission for compliance with standards, including visual review and the application of an EDITS metafile. The use of a test environment into which submissions can be loaded and viewed as they would appear in the production database is recommended.

A reporting facility's first Version 18 transmission file should be tested as thoroughly as possible to identify layout and/or code problems before v18 records are accepted from that facility. Some central registries require a "test file" from each software vendor and/or reporting facility.

Conversion of the central registry database to v18 may include conversion of vital status and radiation field codes. The central registry should be alert to directives from their software vendor about any conversion logs. No manual review is anticipated to be needed.

8.5 Communication with Reporting Facilities and Software Vendors

Central cancer registries will need to distribute their implementation plan and timeline to reporting facilities and software vendors as early as possible. The communication should include a new reportability list and an updated list of required data items, including explicit instructions for state/province/territory-specific items. Changes to the implementation plan or the timeline should be forwarded immediately to all affected parties. Reporting facilities that are not CoC-accredited cancer programs may be less aware of upcoming changes and may need more transition time. Facilities that do not use a vendor for their reporting software will need extra attention.

Central registries relying on vendor software for their own systems and/or their reporting facilities should be aware that delays in the communication of this information or customizations to software vendors may result in a delay in receiving and/or incorporating 2018 cases.

Until each reporting facility is fully converted to Version 18 transmission format, vendors and central registries will need to provide continued support for reporting and processing of records diagnosed 2017 and earlier in Version 16 transmission format.

8.6 Education and Training

Central cancer registries will need to facilitate training to their reporting facilities on changes identified in this document. Trainings should focus instructions for newly-required data items, along with the new and/or revised coding manuals.

It is anticipated that education and training opportunities will be offered by AJCC, NCRA, and all of the national standard setters, which can be utilized by the central cancer registries as appropriate. Information on education resources is available on the NAACCR 2018 Implementation Information page: https://www.naaccr.org/2018-implementation/#Education. Organizations may also be open to suggestions for training/education needs.

Central registry staff will also have to be trained on rules for consolidation of newly required information coming from multiple sources for the same tumors. The NAACCR Data Item Consolidation Manual prescribing best practices for many standard data items should be distributed to central registry staff, with the rules followed manually until they can be implemented automatically in the central registry software.

9 Summary for Software Developers and Vendors

Until each state registry is fully converted to Data Standards and Data Dictionary, Version 18 software vendors will need to provide continued support for reporting and processing of records for 2017 and earlier diagnoses in NAACCR Version 16 record format.

Regarding 2018 data changes, software vendors will be responsible for identifying required software changes, accommodating new and changed data items; providing support for the implementation of revised and new staging systems; performing data conversions, and providing access to updated supplementary coding resources such as updated and new manuals. Vendors will also need to address testing and implementation issues, as well as technical support and training. Instructions to development staff should address the additions/updates needed to registry software.

9.1 Identify Software Changes

Each vendor will need to review published documentation of changes and generate appropriate specifications for their software, based on their user base (hospital or central registries; U.S. or Canadian registries), their software capabilities, and standard-setter requirements. Specifically, vendors will need to accommodate the following changes and additions documented in this guide:

Section Number	Section Contents
2	New data items: consider only displaying fields appropriate for the year of diagnosis.
3	Changed data items: may require updated pick lists. A shortened field name list (V18 Short Names), which is a supplement to the Data Standards and Data Dictionary, is available.
3.1	Update coding system version and coding values.
3.2	Retired AJCC data fields: can be removed from databases and screens because they were never implemented.
4	V18 record layout: some state central registries may require XML data submission.
5.1	AJCC 8th Edition: at a minimum create new picklists. Consider integrating licensed manual content in software. Recommend integrating the CDC TNM 8th Edition Staging API into software for code descriptions.
5.2	SSDI: recommend calls to the CDC TNM 8th Edition Staging API or the SEER Staging REST API/library to determine Schema Discriminators and AJCC ID. Recommend displaying only SSDI fields required by the schema. Grade: CoC recommends placing new Grade fields in the same location in the abstract as the original Grade field.
5.3	ICD-O-3 changes: some codes only apply to cases diagnosed beginning 1/1/2018. Picklist labels or software help should identify those codes. Link to an Excel file of ICD-O-3 histology codes: https://www.naaccr.org/2018-implementation/#Vendors
5.4	SEER Site/Histology Validation List
5.5	2018 Solid Tumor Coding Rules (formerly known as Multiple Primary and Histology Rules)
5.6	SEER Hematopoietic and Lymphoid Neoplasm Database
5.7	Summary Stage 2018 and EOD 2018: direct entry fields added to the abstracting screens. Create codes and descriptions using the SEER Staging REST API/library or the CDC TNM 8th Edition Staging API. Derivation of Derived Summary Stage 2018 [762] and the Derived EOD 2018 fields [785, 815, 795, 818] is to be implemented only in central registry software.
6	EditWriter v4 and rmf formatted metafiles are no longer supported. NAACCR and state registries will create EditWriter v5 metafiles in .smf format.

Section Number	Section Contents
7.1	CoC Reporting Requirements
7.2	CDC NPCR Reporting Requirements
7.3	NCI SEER Reporting Requirements
7.4	CCCR Reporting Requirements

9.2 Tracking Versions

Vendor software should store the original and current versions for any included components such as APIs or DLLs as system-generated fields (vendor-specific). NAACCR data items for API and DLL versioning have been recommended to be developed.

The SEER Staging API 's TNM and EOD versions are listed on the website and also can be acquired from the API. The CDC TNM 8th Edition Staging API will include version fields for the DLL as well as for TNM and EOD. The AJCC 8th Edition API will have a version field.

9.3 Data Conversion

The CDC will provide a Northcon conversion utility for the conversions below and for the mapping changes in going from v16 to v18.

Vital Status

Vital Status [1760] SEER code for deceased will be converted from '4' to '0' for all years.

Radiation

The list of the radiation data items that will be in the conversion specification is in section 7.1.4. The conversion specifications are posted on the NAACCR Data Standards and Data Dictionary Version 18 webpage (https://www.naaccr.org/data-standards-data-dictionary/) and will be included in the CDC's Northcon 180 Registry Plus Utility Program.

9.4 Ordering of CoC Radiation Data Items on Software Interfaces

As stated in the CoC requirements section 7.1.7, the CoC has been working in conjunction with radiation oncology groups at the national level to adopt and implement a standard End of Treatment Summary (EOTS) to be used by all radiation oncologists across the nation and by all EHRs. This standardized template is directly aligned with the new radiation data items, both in terms of information to be collected as well as the order in which it is recorded. As a result, software interfaces should be configured to display the radiation data items in a specific order, matching that of the information recorded in the EOTS. See Appendix C for the correct display order for the new radiation treatment data items.

9.5 Edits

Cancer staging depends on the accurate classification of the tumor, based on site, histology, and in some situations, a 'schema discriminator.' For cancers diagnosed effective with 2018, two new data items, Schema ID [3800] and AJCC ID [995] are derived by software and are used to classify each tumor for staging and for appropriate provision of Site-Specific Data Items. The Edits Workgroup is providing several edits in a separate edit set that should be used by every vendor as they develop and test their software, to ensure that these crucial data items are derived correctly. These edits have the prefix "SYS",

indicating an edit on system-generated data items. For accuracy in virtually all staging data items, the groundwork must be laid by the accurate derivation of AJCC ID [995] and Schema ID [3800].

Vendors will need to accommodate the derivation of the ID data items for cases diagnosed in 2018 that were abstracted using v16 software. It is recommended that special attention be paid to this by vendors that incorporated the ability to abstract data for 2018 cases in v16 software for new 2018 data items.

Examples of Edits to check software Schema IDs and AJCC IDs	
EDIT NAME	Validity Check
_SYS Schema ID, Primary Site, Histology, Behavior (NAACCR)	Software **must** return a Schema ID consistent with site, histology, behavior, sex, and schema discriminators
_SYS AJCC ID, Primary Site, Histology, Behavior (NAACCR)	Software **must** return an AJCC ID consistent with site, histology, behavior, sex, and schema discriminators
_SYS Schema ID, Site, Histo, Schema Discriminator 1	Software should not present schema discriminator 1 values incompatible with Schema ID
_SYS Schema ID, Site, Histo, Schema Discriminator 2	Software should not present schema discriminator 2 values incompatible with Schema ID
_SYS AJCC ID, Site, Histo, Schema Discriminator 1 (NAACCR)	Software should not present schema discriminator 1 values incompatible with AJCC ID
_SYS AJCC ID, Site, Histo, Schema Discriminator 2 (NAACCR)	Software should not present schema discriminator 2 values incompatible with AJCC ID
_SYS Schema ID, Site, Histo, Sex (NAACCR)	Software should **not** return Schema IDs that are incompatible with site, histology, and sex
_SYS AJCC ID, Site, Histo, Sex (NAACCR)	Software should **not** return AJCC IDs that are incompatible with site, histology, and sex

Refer to section 6 for general EDITS information.

9.6 Staging

CoC (section 7.1), NPCR (section 7.2), and SEER (section 7.3) specified that hospital facilities are not required to submit derived stage groups. CoC requires physician AJCC staging. Standard setters do not support Collaborative Stage for cases diagnosed in 2018 and later.

9.7 Programming, Testing, and Implementation

Clear communication with standard setters, central cancer registries, and reporting facility customers is critical to avoid delays in delivering software that can meet the requirements for 2018 cases. Software vendors should provide programming instructions to their developers to support the necessary changes for the Data Standards and Data Dictionary, Version 18, as well as testing (if time allows, beta site testing) and implementing the items listed elsewhere in this document. Software vendors, to the best of

their ability, need to revise/develop, test, distribute, and install software prior to implementation dates set by standard setting organizations and central cancer registries.

Central cancer registries may require software vendors to submit test files prior to reporting in the Version 18 format. Testing should determine that appropriate values are validated within the software. Testing should also accommodate verification of revisions for data import and export, revisions to the software interface, addition of look-ups for new and changed data items where applicable, data entry verifications internal to the software (if available within the software), data item consolidation where applicable, data item conversion where applicable, and standard as well as ad hoc report writing. Any changes to the implementation timeline should be immediately reported to all involved parties. If there are delays to the standards or errata that have not yet been identified, the software vendor programs will be at risk of delay. States must communicate individual changes to the state-specific state requestor section as well as correction record triggering fields early in the coding and implementation period in order to be accommodated for software release. State-specific edit metafiles which address the state requestor section must be provided in a timely manner.

9.8 Help Files

Changes to any software's online help system (if available) will need to be made in conjunction with Data Standards and Data Dictionary, Version 18-related changes made to the software. The new CDC Registry Plus Online Help for the Data Standards and Data Dictionary, Version 18 will be delayed until late 2018. For vendors that do not use Registry Plus Online Help within their software, or those that supplement it with extra information, updates will need to be made to online help.

9.9 Technical Support and Training

Software vendors are expected to support the data changes in the Data Standards and Data Dictionary, Version 18 in the software and provide their clients with training and documentation appropriate to use the updated software. For reporting-facility-level applications, this will include instruction regarding export of records for transmission to their respective central registries in the correct format with correctly coded and error-free data, as well as import from their previously supported casefinding interface. Documentation to support the updated software may include information presented via the software's online help system and/or training or tutorial guides. Training and support on new coding rules should be referred to the appropriate standard setting organization.

9.10 Communication with Central Cancer Registries and Hospital Registries

Software vendors should provide a timeline to the central registries, as well as their registry clients, indicating when they will be able to produce software that is able to process and export Data Standards and Data Dictionary, Version 18 case records in either flat file or XML format. Vendors should have an avenue for timely communication from all central registry clients so that proper support of state-specific changes in required data reporting are made, including mapping of state-specific data items in the state requestor section of the record. Vendors should work with central registries to accommodate test files in their state-specific export version, as may be required by each central registry. In addition, vendors should accommodate state edit sets as provided by the registries. Central registries should be aware that delays in communication of this information from central registry clients to the software vendor may result in further delays in reporting 2018 cases.

10 Summary for Hospital Cancer Registrars and Reporting Facilities

Cancer reporters and registrars should review the entire 2018 Implementation Guidelines and carefully note changes that specifically affect their facility, i.e., ACoS CoC Accredited Programs and non-accredited hospitals within states that report to the CDC NPCR and/or NCI SEER. Facilities may also receive additional specific requirements from their central registry.

It is important to note that histologies appropriate to clinical use in patient care that use current preferred terminology have been added to the third printing of the AJCC 8th Edition. These histologies were not included in the print versions. See Section 5 Other Changes. A full list of histology and topography codes that are sortable by chapter and staging system is available at cancerstaging.org.

SSDI inconsistencies between the AJCC 8th Edition and the CAP have been reconciled so that the codes developed for each data item would align with the associated CAP protocol. Refer to https://www.naaccr.org/SSDI/SSDI-Manual-Appendix-B.pdf.

No plans have yet been announced by the World Health Organization to either release an ICD-O-4 or update ICD-O-3. Therefore, the 2018 ICD-O-3 Histology and Behavior Code Update table should be checked first to determine if the histology is listed. If the histology is not included in the update, then review ICD-O- 3, Hematopoietic and Lymphoid Neoplasm Database, and Solid Tumor (MP/H) rules.

Given the complexity and dynamics involved in the changes for 2018, the sources referred to in this implementation guidelines document must be used to obtain the most up-to-date information. See Appendix B 2018 Source References.

10.1 Prioritize Case Abstracting

Refer to NAACCR 2018 Implementation and Guidelines Task Force *2018 Concurrent Abstracting Overview Statement* for additional information. It may be helpful to abstract cases in batches by site to gain familiarity with the data changes and/or additions for a particular site before moving on to a different site.

10.2 Communicate with Central Cancer Registries and Software Vendors

Software vendors and central cancer registries should provide reporting facilities with a timeline for registry software release and requirements for completion of cases, edit validation and transmitting of cases. If information is not received from the central cancer registry and software vendor, it is recommended that registrars contact their central registry and/or software vendor representative. Any questions concerning software and transmission of data should be addressed in a timely manner so that problems can be resolved consistently and as soon as possible.

10.3 Education and Training

It is anticipated that education and training will continue for all rule changes and that all standard setters will continue to offer various education training opportunities for 2018. Information on educational resources is available on the NAACCR 2018 Implementation Information page: https://www.naaccr.org/2018-implementation/#Education

11 Appendix A New Data Items

Data Standards and Data Dictionary, Version 18 New Data Items			
Data Item Name	**Item #**	**Column(s)**	**Source of Standard**
State at DX Geocode 1970/80/90	81	153 - 154	NAACCR
State at DX Geocode 2000	82	167 - 168	NAACCR
State at DX Geocode 2010	83	180 - 181	NAACCR
State at DX Geocode 2020	84	193 - 194	NAACCR
County at DX Analysis	89	150 - 152	NAACCR
Census Tract 2020	125	198 - 203	NAACCR
RUCA 2000	339	460 - 460	NAACCR
RUCA 2010	341	461 - 461	NAACCR
URIC 2000	345	462 - 462	NAACCR
URIC 2010	346	463 - 463	NAACCR
GeoLocationID - 1970/80/90	351	153 - 164	NAACCR
GeoLocationID - 2000	352	167 - 178	NAACCR
GeoLocationID - 2010	353	180 - 191	NAACCR
GeoLocationID - 2020	354	193 - 204	NAACCR
Census Block Group 2020	361	204 - 204	Census
Census Tract Certainty 2020	369	205 - 205	NAACCR
Date Regional Lymph Node Dissection	682	1002 - 1009	NAACCR
Date Regional Lymph Node Dissection Flag	683	1010 - 1011	NAACCR
Derived EOD 2018 T	785	926 - 940	SEER
Derived EOD 2018 M	795	956 - 970	SEER
Derived EOD 2018 N	815	941 - 955	SEER
Derived EOD 2018 Stage Group	818	971 - 985	SEER
Date of Sentinel Lymph Node Biopsy	832	1016 - 1023	CoC
Date Sentinel Lymph Node Biopsy Flag	833	1024 - 1025	CoC
Sentinel Lymph Nodes Examined	834	1014 - 1015	CoC
Sentinel Lymph Nodes Positive	835	1012 - 1013	CoC
AJCC ID	995	1722 - 1725	NAACCR
AJCC TNM Clin T	1001	1082 - 1096	AJCC
AJCC TNM Clin N	1002	1101 - 1115	AJCC
AJCC TNM Clin M	1003	1120 - 1134	AJCC
AJCC TNM Clin Stage Group	1004	1135 - 1149	AJCC

Data Standards and Data Dictionary, Version 18 New Data Items			
Data Item Name	**Item #**	**Column(s)**	**Source of Standard**
AJCC TNM Path T	1011	1150 - 1164	AJCC
AJCC TNM Path N	1012	1169 - 1183	AJCC
AJCC TNM Path M	1013	1188 - 1202	AJCC
AJCC TNM Path Stage Group	1014	1203 - 1217	AJCC
AJCC TNM Post Therapy T	1021	1218 - 1232	AJCC
AJCC TNM Post Therapy N	1022	1237 - 1251	AJCC
AJCC TNM Post Therapy M	1023	1256 - 1270	AJCC
AJCC TNM Post Therapy Stage Group	1024	1271 - 1285	AJCC
AJCC TNM Clin T Suffix	1031	1097 - 1100	AJCC
AJCC TNM Path T Suffix	1032	1165 - 1168	AJCC
AJCC TNM Post Therapy T Suffix	1033	1233 - 1236	AJCC
AJCC TNM Clin N Suffix	1034	1116 - 1119	AJCC
AJCC TNM Path N Suffix	1035	1184 - 1187	AJCC
AJCC TNM Post Therapy N Suffix	1036	1252 - 1255	AJCC
Phase I Dose per Fraction	1501	2289 - 2293	CoC
Phase I Radiation External Beam Planning Tech	1502	2287 - 2288	CoC
Phase I Number of Fractions	1503	2294 - 2296	CoC
Phase I Radiation Primary Treatment Volume	1504	2281 - 2282	CoC
Phase I Radiation to Draining Lymph Nodes	1505	2283 - 2284	CoC
Phase I Radiation Treatment Modality	1506	2285 - 2286	CoC
Phase I Total Dose	1507	2297 - 2302	CoC
Phase II Dose per Fraction	1511	2311 - 2315	CoC
Phase II Radiation External Beam Planning Tech	1512	2309 - 2310	CoC
Phase II Number of Fractions	1513	2316 - 2318	CoC
Phase II Radiation Primary Treatment Volume	1514	2303 - 2304	CoC
Phase II Radiation to Draining Lymph Nodes	1515	2305 - 2306	CoC
Phase II Radiation Treatment Modality	1516	2307 - 2308	CoC
Phase II Total Dose	1517	2319 - 2324	CoC
Phase III Dose per Fraction	1521	2333 - 2337	CoC
Phase III Radiation External Beam Planning Tech	1522	2331 - 2332	CoC
Phase III Number of Fractions	1523	2338 - 2340	CoC
Phase III Radiation Primary Treatment Volume	1524	2325 - 2326	CoC

Data Standards and Data Dictionary, Version 18 New Data Items			
Data Item Name	**Item #**	**Column(s)**	**Source of Standard**
Phase III Radiation to Draining Lymph Nodes	1525	2327 - 2328	CoC
Phase III Radiation Treatment Modality	1526	2329 - 2330	CoC
Phase III Total Dose	1527	2341 - 2346	CoC
Radiation Treatment Discontinued Early	1531	2349 - 2350	CoC
Number of Phases of Rad Treatment to this Volume	1532	2347 - 2348	CoC
Total Dose	1533	2351 - 2356	CoC
Vital Status Recode	1762	2786 - 2786	NAACCR
Date of Last Cancer (tumor) Status	1772	2788 - 2795	CoC
Date of Last Cancer (tumor) Status Flag	1773	2796 - 2797	CoC
Record Number Recode	1775	2798 - 2799	NAACCR
SEER Cause Specific COD	1914	2944 - 2944	SEER
SEER Other COD	1915	2945 - 2945	SEER
Over-ride TNM Stage	1992	2580 - 2580	NAACCR
Over-ride TNM Tis	1993	2581 - 2581	NAACCR
Over-ride TNM 3	1994	2582 - 2582	NAACCR
Over-ride Name/Sex	2078	2595 - 2595	NAACCR
CoC Accredited Flag	2152	2624 - 2624	NPCR
RQRS NCDB Submission Flag	2155	2623 - 2623	CoC
Medicare Beneficiary Identifier	2315	4337 - 4347	NAACCR
EHR Reporting	2508	5105 - 6104	NAACCR
NPCR Derived AJCC 8 TNM Clin Stg Grp	3645	1457 - 1471	NPCR
NPCR Derived AJCC 8 TNM Path Stg Grp	3646	1472 - 1486	NPCR
NPCR Derived AJCC 8 TNM Post Therapy Stg Grp	3647	1487 - 1501	NPCR
Schema ID	3800	1726 - 1730	NAACCR
Chromosome 1p: Loss of Heterozygosity (LOH)	3801	1740 - 1740	NAACCR
Chromosome 19q: Loss of Heterozygosity (LOH)	3802	1741 - 1741	NAACCR
Adenoid Cystic Basaloid Pattern	3803	1839 - 1843	NAACCR
Adenopathy	3804	1910 - 1910	NAACCR
AFP Post-Orchiectomy Lab Value	3805	1959 - 1965	NAACCR
AFP Post-Orchiectomy Range	3806	1966 - 1966	NAACCR
AFP Pre-Orchiectomy Lab Value	3807	1951 - 1957	NAACCR
AFP Pre-Orchiectomy Range	3808	1958 - 1958	NAACCR

Data Standards and Data Dictionary, Version 18 New Data Items			
Data Item Name	**Item #**	**Column(s)**	**Source of Standard**
AFP Pretreatment Interpretation	3809	1844 - 1844	NAACCR
AFP Pretreatment Lab Value	3810	1845 - 1850	NAACCR
Anemia	3811	1911 - 1911	NAACCR
B symptoms	3812	1868 - 1868	NAACCR
Bilirubin Pretreatment Total Lab Value	3813	1851 - 1855	NAACCR
Bilirubin Pretreatment Unit of Measure	3814	1856 - 1856	NAACCR
Bone Invasion	3815	1950 - 1950	NAACCR
Brain Molecular Markers	3816	1994 - 1995	NAACCR
Breslow Tumor Thickness	3817	1891 - 1894	NAACCR
CA-125 Pretreatment Interpretation	3818	1919 - 1919	NAACCR
CEA Pretreatment Interpretation	3819	1789 - 1789	NAACCR
CEA Pretreatment Lab Value	3820	1790 - 1795	NAACCR
Chromosome 3 Status	3821	1874 - 1874	NAACCR
Chromosome 8q Status	3822	1875 - 1875	NAACCR
Circumferential Resection Margin (CRM)	3823	1796 - 1799	NAACCR
Creatinine Pretreatment Lab Value	3824	1857 - 1860	NAACCR
Creatinine Pretreatment Unit of Measure	3825	1861 - 1861	NAACCR
Estrogen Receptor Percent Positive or Range	3826	1752 - 1754	NAACCR
Estrogen Receptor Summary	3827	1743 - 1743	NAACCR
Estrogen Receptor Total Allred Score	3828	1755 - 1756	NAACCR
Esophagus and EGJ Tumor Epicenter	3829	1814 - 1814	NAACCR
Extranodal Extension Clin (non-Head and Neck)	3830	1922 - 1922	NAACCR
Extranodal Extension Head and Neck Clinical	3831	1818 - 1818	NAACCR
Extranodal Extension Head and Neck Pathological	3832	1819 - 1821	NAACCR
Extranodal Extension Path (non-Head and Neck)	3833	1923 - 1923	NAACCR
Extravascular Matrix Patterns	3834	1876 - 1876	NAACCR
Fibrosis Score	3835	1862 - 1862	NAACCR
FIGO Stage	3836	1816 - 1817	NAACCR
Gestational Trophoblastic Prognostic Scoring Index	3837	1924 - 1925	NAACCR
Gleason Patterns Clinical	3838	1927 - 1928	NAACCR
Gleason Patterns Pathological	3839	1929 - 1930	NAACCR
Gleason Score Clinical	3840	1931 - 1932	NAACCR

Data Standards and Data Dictionary, Version 18 New Data Items			
Data Item Name	**Item #**	**Column(s)**	**Source of Standard**
Gleason Score Pathological	3841	1933 - 1934	NAACCR
Gleason Tertiary Pattern	3842	1935 - 1936	NAACCR
Grade Clinical	3843	1286 - 1286	NAACCR
Grade Pathological	3844	1287 - 1287	NAACCR
Grade Post Therapy	3845	1288 - 1288	NAACCR
hCG Post-Orchiectomy Lab Value	3846	1975 - 1981	NAACCR
hCG Post-Orchiectomy Range	3847	1982 - 1982	NAACCR
hCG Pre-Orchiectomy Lab Value	3848	1967 - 1973	NAACCR
hCG Pre-Orchiectomy Range	3849	1974 - 1974	NAACCR
HER2 IHC Summary	3850	1757 - 1757	NAACCR
HER2 ISH Dual Probe Copy Number	3851	1758 - 1761	NAACCR
HER2 ISH Dual Probe Ratio	3852	1762 - 1765	NAACCR
HER2 ISH Single Probe Copy Number	3853	1766 - 1769	NAACCR
HER2 ISH Summary	3854	1770 - 1770	NAACCR
HER2 Overall Summary	3855	1744 - 1744	NAACCR
Heritable Trait	3856	1909 - 1909	NAACCR
High Risk Cytogenetics	3857	1915 - 1915	NAACCR
High Risk Histologic Features	3858	1949 - 1949	NAACCR
HIV Status	3859	1869 - 1869	NAACCR
International Normalized Ratio Prothrombin Time	3860	1863 - 1865	NAACCR
Ipsilateral Adrenal Gland Involvement	3861	1833 - 1833	NAACCR
JAK2	3862	1830 - 1830	NAACCR
Ki-67	3863	1771 - 1775	NAACCR
Invasion Beyond Capsule	3864	1834 - 1834	NAACCR
KIT Gene Immunohistochemistry	3865	1815 - 1815	NAACCR
KRAS	3866	1800 - 1800	NAACCR
LDH Post-Orchiectomy Range	3867	1984 - 1984	NAACCR
LDH Pre-Orchiectomy Range	3868	1983 - 1983	NAACCR
LDH Pretreatment Level	3869	1916 - 1916	NAACCR
LDH Upper Limits of Normal	3870	1895 - 1897	NAACCR
LN Assessment Method Femoral-Inguinal	3871	1992 - 1992	NAACCR
LN Assessment Method Para-Aortic	3872	1987 - 1987	NAACCR

Data Standards and Data Dictionary, Version 18 New Data Items			
Data Item Name	**Item #**	**Column(s)**	**Source of Standard**
LN Assessment Method Pelvic	3873	1988 - 1988	NAACCR
LN Distant Assessment Method	3874	1989 - 1989	NAACCR
LN Distant: Mediastinal, Scalene	3875	1990 - 1990	NAACCR
LN Head and Neck Levels I-III	3876	1822 - 1822	NAACCR
LN Head and Neck Levels IV-V	3877	1823 - 1823	NAACCR
LN Head and Neck Levels VI-VII	3878	1824 - 1824	NAACCR
LN Head and Neck Other	3879	1825 - 1825	NAACCR
LN Isolated Tumor Cells (ITC)	3880	1906 - 1906	NAACCR
LN Laterality	3881	1993 - 1993	NAACCR
LN Positive Axillary Level I-II	3882	1745 - 1746	NAACCR
LN Size	3883	1826 - 1829	NAACCR
LN Status Femoral-Inguinal, Para-Aortic, Pelvic	3884	1991 - 1991	NAACCR
Lymphocytosis	3885	1912 - 1912	NAACCR
Major Vein Involvement	3886	1835 - 1835	NAACCR
Measured Basal Diameter	3887	1877 - 1880	NAACCR
Measured Thickness	3888	1881 - 1884	NAACCR
Methylation of O6-Methylguanine-Methyltransferase	3889	1742 - 1742	NAACCR
Microsatellite Instability (MSI)	3890	1801 - 1801	NAACCR
Microvascular Density	3891	1885 - 1886	NAACCR
Mitotic Count Uveal Melanoma	3892	1887 - 1890	NAACCR
Mitotic Rate Melanoma	3893	1872 - 1873	NAACCR
Multigene Signature Method	3894	1747 - 1747	NAACCR
Multigene Signature Results	3895	1748 - 1749	NAACCR
NCCN International Prognostic Index (IPI)	3896	1870 - 1871	NAACCR
Number of Cores Examined	3897	1937 - 1938	NAACCR
Number of Cores Positive	3898	1939 - 1940	NAACCR
Number of Examined Para-Aortic Nodes	3899	1807 - 1808	NAACCR
Number of Examined Pelvic Nodes	3900	1811 - 1812	NAACCR
Number of Positive Para-Aortic Nodes	3901	1805 - 1806	NAACCR
Number of Positive Pelvic Nodes	3902	1809 - 1810	NAACCR
Oncotype Dx Recurrence Score-DCIS	3903	1776 - 1778	NAACCR
Oncotype Dx Recurrence Score-Invasive	3904	1779 - 1781	NAACCR

Data Standards and Data Dictionary, Version 18 New Data Items			
Data Item Name	**Item #**	**Column(s)**	**Source of Standard**
Oncotype Dx Risk Level-DCIS	3905	1782 - 1782	NAACCR
Oncotype Dx Risk Level-Invasive	3906	1783 - 1783	NAACCR
Organomegaly	3907	1913 - 1913	NAACCR
Percent Necrosis Post Neoadjuvant	3908	1734 - 1738	NAACCR
Perineural Invasion	3909	1802 - 1802	NAACCR
Peripheral Blood Involvement	3910	1908 - 1908	NAACCR
Peritoneal Cytology	3911	1813 - 1813	NAACCR
Pleural Effusion	3913	1926 - 1926	NAACCR
Progesterone Receptor Percent Positive or Range	3914	1784 - 1786	NAACCR
Progesterone Receptor Summary	3915	1750 - 1750	NAACCR
Progesterone Receptor Total Allred Score	3916	1787 - 1788	NAACCR
Primary Sclerosing Cholangitis	3917	1831 - 1831	NAACCR
Profound Immune Suppression	3918	1907 - 1907	NAACCR
Prostate Pathological Extension	3919	1941 - 1943	NAACCR
PSA (Prostatic Specific Antigen) Lab Value	3920	1944 - 1948	NAACCR
Residual Tumor Volume Post Cytoreduction	3921	1920 - 1921	NAACCR
Response to Neoadjuvant Therapy	3922	1751 - 1751	NAACCR
S Category Clinical	3923	1985 - 1985	NAACCR
S Category Pathological	3924	1986 - 1986	NAACCR
Sarcomatoid Features	3925	1836 - 1838	NAACCR
Schema Discriminator 1	3926	1731 - 1731	NAACCR
Schema Discriminator 2	3927	1732 - 1732	NAACCR
Schema Discriminator 3	3928	1733 - 1733	NAACCR
Separate Tumor Nodules	3929	1866 - 1866	NAACCR
Serum Albumin Pretreatment Level	3930	1917 - 1917	NAACCR
Serum Beta-2 Microglobulin Pretreatment Level	3931	1918 - 1918	NAACCR
LDH Pretreatment Lab Value	3932	1898 - 1904	NAACCR
Thrombocytopenia	3933	1914 - 1914	NAACCR
Tumor Deposits	3934	1803 - 1804	NAACCR
Tumor Growth Pattern	3935	1832 - 1832	NAACCR
Ulceration	3936	1905 - 1905	NAACCR
Visceral and Parietal Pleural Invasion	3937	1867 - 1867	NAACCR

12 Appendix B 2018 Source References

2018 SEER Program Manual: https://seer.cancer.gov/tools/codingmanuals/

Questions regarding the SEER Program Coding and Staging Manual 2018 should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

AJCC 8th Edition Chapter Updates and Histologies: https://cancerstaging.org/references-tools/deskreferences/Pages/8EUpdates.aspx

Questions regarding AJCC Cancer Staging should be directed to the CAnswer Forum at: http://cancerbulletin.facs.org/forums/forum/ajcc-tnm-staging-8th-edition

AJCC API: https://cancerstaging.org/Pages/Vendors.aspx

AJCC Cancer Staging Form Supplement: https://cancerstaging.org/references-tools/deskreferences/Pages/Cancer-Staging-Forms.aspx

CAnswer Forum: http://cancerbulletin.facs.org/forums/help

Commission on Cancer STORE Manual: https://www.facs.org/quality-programs/cancer/ncdb/registrymanuals/cocmanuals

Data Standards and Data Dictionary (Volume II): https://www.naaccr.org/data-standards-data-dictionary/

EDITS: https://www.naaccr.org/standard-data-edits/

Questions regarding the NAACCR edits metafile should be directed to Jim Hofferkamp at jhofferkamp@naaccr.org.

EOD 2018: https://seer.cancer.gov/tools/staging/rsa.html

Grade Manual: https://www.naaccr.org/SSDI/Grade-Manual.pdf

Hematopoietic and Lymphoid Neoplasm Database: https://seer.cancer.gov/tools/heme/

Questions regarding the SEER Hematopoietic and Lymphoid Neoplasm Database should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

ICD-O-3 Histology Revisions: https://www.naaccr.org/implementation-guidelines/

Questions regarding ICD-O-3 Histology changes should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

ICD-O-3 SEER Site/Histology Validation List: https://seer.cancer.gov/icd-o-3/

Questions regarding the SEER Site/Histology Validation List should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

NPCR Northcon Converter: https://www.cdc.gov/cancer/npcr/tools/registryplus/up_download.htm

NPCR Registry Plus Software: https://www.cdc.gov/cancer/npcr/tools/registryplus/index.htm

Radiation Conversion Specifications: https://www.naaccr.org/data-standards-data-dictionary/

SEER API: https://api.seer.cancer.gov/

SEER Registrar Staging Assistant (SEER*RSA): https://seer.cancer.gov/tools/staging/rsa.html

SEER*Rx: https://seer.cancer.gov/tools/seerrx/

Site-Specific Data Items Manual: https://www.naaccr.org/SSDI/SSDI-Manual.pdf

Questions regarding SSDIs should be directed to the CAnswer Forum at: http://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018

Solid Tumor Rules: https://seer.cancer.gov/tools/solidtumor/

Questions regarding the Solid Tumor Rules should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

Summary Stage 2018: https://seer.cancer.gov/tools/ssm/

Questions regarding Summary Stage 2018 and EOD 2018 should be directed to Ask a SEER Registrar at: https://seer.cancer.gov/registrars/contact.html

TNM 8th Edition Staging Library: AJCC licensees can request the licensed version of the library from Joseph Rogers, jdr0@cdc.gov. As of mid-October, the version for unlicensed users had not been released. Once it is released it will be available from https://www.cdc.gov/cancer/npcr/tools/tnmstaging/index.htm.

13 Appendix C Software Display Order for CoC Radiation Data Items

NAACCR Item #	Data Item Name
1504	Phase I Radiation Primary Treatment Volume
1505	Phase I Radiation to Draining Lymph Nodes
1506	Phase I Radiation Treatment Modality
1502	Phase I Radiation External Beam Planning Tech
1501	Phase I Dose Per Fraction (Session)
1503	Phase I Number of Fractions (Sessions)
1507	Phase I Total Dose
1514	Phase II Radiation Primary Treatment Volume
1515	Phase II Radiation to Draining Lymph Nodes
1516	Phase II Radiation Treatment Modality
1512	Phase II Radiation External Beam Planning Tech
1511	Phase II Dose Per Fraction (Session)
1513	Phase II Number of Fractions (Sessions)
1517	Phase II Total Dose
1524	Phase III Radiation Primary Treatment Volume
1525	Phase III Radiation to Draining Lymph Nodes
1526	Phase III Radiation Treatment Modality
1522	Phase III Radiation External Beam Planning Tech
1521	Phase III Dose Per Fraction (Session)
1523	Phase III Number of Fractions (Sessions)
1527	Phase III Total Dose
1532	Number of Phases of Rad Treatment to this Volume
1531	Radiation Treatment Discontinued Early
1533	Total Dose

14 Appendix D Revision Control

2018 Implementation Guidelines Revision Control			
Version Number	**Revision Date**	**Section**	**Revision Notes**
1.1	10/23/18	Appendix B	TNM 8th Edition Staging Library: Added content with link.
1.2	11/1/18	7.1.3 and 7.1.4.3	Fixed data item names.