

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

## **2021 Implementation Guidelines and Recommendations**

(For NAACCR Data Standards and Data Dictionary, Version 21, effective  
with cases diagnosed on or after January 1, 2021)

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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), American Joint Committee on Cancer (AJCC), 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 21 (referred to as Data Standards and Data Dictionary, Version 21). The 2021 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 the various stakeholders will need to consider for 2021 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 21 and its log of changes. Given the complexity and dynamics involved in the changes for 2021, the sources referred to in the IG must be used to obtain the most up-to-date and the most granular information.

Effective with 2021, there are numerous changes to cancer surveillance standards, involving multiple aspects of reporting in North America. The most important change is that effective with 2021, data transmission using column-designated flat files will no longer be supported by NAACCR.

In addition to this major change in the structure of the transmission file, the 2021 standards include a number of additions and updates, described below and included in appendices. 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.

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

### 2.1 SSDI Data Items

New SSDIs have been added to capture information related to prognosis and/or treatment planning and reflect changes in clinical guidelines. Two existing SSDIs, [3855] and [3863], will be collected for additional schemas, Schema Discriminator 2 [3927] will be required for soft tissue sarcomas, and 5

completely new Site-Specific Data Items (SSDIs) have been created. New SSDIs and applicable Schemas are summarized below. Only Schema Discriminator 2 [3927] for soft tissue sarcomas is required for staging. All of the new SSDI information has been incorporated into the Staging APIs. Please see the SSDI Manual, Version 2.0 (<https://apps.naaccr.org/ssdi/list/>).

Item #	SSDI Name	Schema
3855*	HER2 Overall Summary	Esophagus Squamous (00161) Esophagus (00169) Stomach (00170)
3863*	Ki-67	NET Ampulla of Vater (00302) NET Appendix (00320) NET Colon and Rectum (00330) NET Duodenum (00301) NET Jejunum and Ileum (00310) NET Pancreas (00340) NET Stomach (00290)
3927*	Schema Discriminator 2**	Soft Tissue Abdomen and Thoracic (00421) Soft Tissue Trunk and Extremities (00410) Soft Tissue Other (00450)
3938	ALK Rearrangement	Lung (00360)
3939	EGFR Mutational Analysis	Lung (00360)
3940	BRAF Mutational Analysis	Colon and Rectum (00200)
3941	NRAS Mutational Analysis	Colon and Rectum (00200)
3942	CA 19-9 PreTx Lab Value	Pancreas (00280)
<p>* These SSDIs exist in other schemas but are new to the schemas listed. The valid values and meanings in the new schemas differ from the existing definition.</p> <p>** Schema Discriminator 2 [3927] is now required for C473, C475, C493-C495 with respect to Soft Tissue Abdomen and Thoracic or Soft Tissue Trunk and Extremities. These sites can be an external structure or internal viscera, and correct classification within a schema depends on this distinction. For those cases diagnosed in 2018-2020 and already collected, the value '8' should be automatically assigned to indicate the distinction was not captured and these cases will remain in Soft Tissue Abdomen and Thoracic. Registrars have the option of reviewing such cases and assigning a 1, 2, or 9 if they choose, but no standard setter is requesting or expecting this to be done. If it is done, then the schema may change, and the registrar would have to reassign the TNM and EOD fields; Summary Stage would not be affected. Cases diagnosed in 2018-2020 but collected after implementation may also be coded as '8' or may be specifically coded. Code '8' may not be used for cases diagnosed in 2021 or later. Please see Appendix B, <a href="#">section 12.1</a> for additional information.</p>		

New SSDIs are applicable to cases diagnosed January 1, 2021 forward. With the exception of Schema Discriminator 2, the value for these SSDI's should be blank for cases diagnosed prior to January 1, 2021.



## 2.2 Neoadjuvant Data Items

There are three new neoadjuvant data items.

- Neoadjuvant Therapy [1632]
- Neoadjuvant Therapy-Clinical Response [1633]
- Neoadjuvant Therapy-Treatment Effect [1634]

These data items can be found in the SEER Program and Coding Manual and are applicable for cases diagnosed January 1, 2021 forward only. (These fields must be blank for cases diagnosed prior to 2021).

## 2.3 yc Data Items

The AJCC Post Therapy Clin (yc) stage classification has been added. The yc staging will be used for cases receiving neoadjuvant therapy with the planned surgery cancelled for various reasons. AJCC will provide education on the appropriate use of the yc TNM data items which go into effect with cases diagnosed January 1, 2021 forward. A new grade data item, Grade Post Therapy Clin (yc), has been added to the Grade Manual (see [Link to Change Log](#) and <https://www.naaccr.org/SSDI/Grade-Manual.pdf>). Grade Post Therapy Clin (yc) is applicable for cases diagnosed January 1, 2021 forward.

- AJCC TNM Post Therapy Clin (yc) T [1062]
- AJCC TNM Post Therapy Clin (yc) T Suffix [1063]
- AJCC TNM Post Therapy Clin (yc) N [1064]
- AJCC TNM Post Therapy Clin (yc) N Suffix [1065]
- AJCC TNM Post Therapy Clin (yc) M [1066]
- AJCC TNM Post Therapy Clin (yc) Stage Group [1067] (\*Not yet available in v21)
- Grade Post Therapy Clin (yc) [1068]

These data items have the same valid value lists as the corresponding Post Therapy Path (yp) data items for each site. The notes associated with the lookups indicate when they should be left blank.

These data items can be found in STORE v2 and are applicable for cases diagnosed January 1, 2021 forward.

## 2.4 Name—Birth Surname

The last name (surname) of patients at birth, regardless of gender or marital status, this data item is introduced in 2021 as a gender-neutral replacement for the NAACCR data item Name—Maiden [2390]. Allowable values for Name—Birth Surname [2232] are identical to those used for Name—Maiden, and the NorthCon 210 Registry Plus Utility Program will move values that have been in Name—Maiden. Other alternate names should continue to be recorded in the data item, Name—Alias.

The Name-Birth Surname can be used to link reports on a person whose surname might be different on different documents. It is also useful when using a Spanish surname algorithm to categorize ethnicity. There are data queries and algorithms that will be affected by this change that should be identified and updated.

Although Name—Maiden has not been retired, it is expected that it will be retired with the subsequent update. Name-Maiden will not be used effective with this implementation. See [section 12.20](#) for conversion specifications.

## 2.5 Versioning Data Items

### 2.5.1 AJCC API Version Current and Original

AJCC API Version Original [2157] will be assigned based on the version of the AJCC Staging API in use at the time the case is first collected. Once the value is set, it should not be changed for the case. For users of the AJCC Cancer Surveillance API, this value is returned by the Surveillance API. Some users may obtain this value directly from the AJCC Staging API.

- For cases diagnosed prior to 2018, this field should remain blank.
- For cases diagnosed in 2018-2020 and abstracted prior to implementation, assign '08.XX.XX' to indicate the specific version was not captured.
- For cases diagnosed in 2021 and later, as well as cases diagnosed in 2018-2020 abstracted after implementation, use the version value returned by the API you are referencing.

AJCC API Version Current [2156] will be assigned based on the version of the AJCC Staging API in use in the registry system. It will be updated every time a new version is incorporated into your system and all cases in the entire database should be updated to reflect the same value. For users of the AJCC Cancer Surveillance API, this value is returned by the Surveillance API. Some users may obtain this value directly from the AJCC Staging API.

- For cases diagnosed prior to 2018, this field should remain blank.
- For cases diagnosed in 2018-2020, this field should be set to the AJCC API Version in use at the time of implementation.
- For cases diagnosed in 2018 and later abstracted after implementation, use the AJCC API version returned by the API you are referencing.

### 2.5.2 AJCC Cancer Surveillance API Version Current and Original

AJCC Cancer Surveillance API Version Original [2159] will be assigned based on the version of the AJCC Cancer Surveillance API in use at the time the case is first collected. Once the value is set, it should not be changed for the case.

- For cases diagnosed prior to 2018, this field should remain blank.
- For cases diagnosed in 2018-2020 and abstracted prior to implementation of this data item, assign '08.XX.XX.XXXX' to indicate the specific version was not captured.
- For cases diagnosed in 2021 and later, as well as cases diagnosed in 2018-2020 abstracted after implementation, use the AJCC Cancer Surveillance API Version returned by AJCC Cancer Surveillance API.

AJCC Cancer Surveillance API Version Current [2158] will be assigned based on the version of the AJCC Cancer Surveillance API in use in the registry software system. It must be updated every time a new version is incorporated into your system, and all relevant cases should be updated to reflect the same value.

- For cases diagnosed prior to 2018, this field should remain blank.
- For cases diagnosed in 2018-2020, this field should be set to the AJCC Cancer Surveillance API Version in use at the time of implementation.

- For cases diagnosed in 2018 and later abstracted after implementation, use the AJCC Cancer Surveillance API Version in use at the time the case is being abstracted.

### 2.5.3 Schema ID Version Current and Original

Schema ID Version Original [2118] will be assigned based on the version of the EOD component of the SEER Staging API in use at the time the case is first collected. Once the value is set, it should not be changed for the case.

- For cases diagnosed prior to 2018, this field should remain blank.
- For cases diagnosed in 2018-2020 and abstracted prior to implementation, assign '1.99' to indicate the specific version was not captured.
- For cases diagnosed in 2021 and later, as well as cases diagnosed in 2018-2020 abstracted after implementation, use the "Derived Version" (derived\_version) returned by the EOD component of the SEER Staging API.

Schema ID Version Current [2117] will be assigned based on the version of the EOD component of the SEER Staging API in use in the system. It will be updated every time a new version is incorporated into your system and all cases in the entire database should be updated to reflect the same value.

- For cases diagnosed prior to 2018, this field should remain blank.
- For cases diagnosed in 2018-2020, this field should be set to '2.0' at this time.
- For cases diagnosed in 2018 and later abstracted after implementation, use the "Derived Version" (derived\_version) returned by the EOD component of the SEER Staging API.

\* The SEER Staging API contains 3 components: one for CS, which contains the Collaborative Stage information for 2004-2015; one for TNM, which contains the U7 enhanced TNM information, as well as the SSF information used for 2016 and 2017; and one for the EOD, which contains the Schema definitions, EOD 2018, SS2018, SSDIs and Grade information for 2018 forward. 'EOD' was used to distinguish the main staging system in use, but those who are not using EOD, but are using SS2018 or are using the SSDIs and Grade value lists from this API would be using the EOD component.

## 2.6 NCDB COVID-related Data Items

COVID-related data items have been added to evaluate the impact of SARSCoV2 diagnosis on cancer patients and can be found in STORE v2. The first three data items denote patient status for the SARSCoV2 virus, and the fourth item denotes any treatment effects from hospital services disruptions related to the COVID19 pandemic (for diagnosis effective January 1, 2020 through December 31, 2021):

- NCDB--SARSCoV2--Test [3943]
- NCDB--SARSCoV2--Pos Date [3945]
- NCDB--SARSCoV2--Pos [3944]
- NCDB--COVID19--Tx Impact [3946]

## 3 Changed Data Items

### 3.1 Name - Alias

The description of this data item has been updated to refer to Name—Birth Surname in place of Name—Maiden, as an alternate name that should not be entered in Name—Alias.

### 3.2 Radiation Treatment Modality

When the data item Phase I Radiation Treatment Modality [1506] was implemented in v18 a code indicating *radiation was given but type of radiation unknown* was not included. Currently patients that receive radiation, but the modality is not known are assigned a code 99. Code 99 is also used when it is unknown if radiation is given. This makes it difficult to distinguish patients that did receive radiation from those where it is unknown if radiation was given.

Code 98 is added to the data item Phase I Radiation Treatment Modality for cases where it is known radiation was given, but modality is unknown. Code 99 is only used when it is unknown if radiation was given. See [section 12.21](#) for conversion specifications.

The new code and changed code may be used for all cases abstracted after the v21 implementation regardless of diagnosis year.

### 3.3 Name Changes

The AJCC Post Therapy (yp) stage classifications have been renamed to Post Therapy Path (yp) to distinguish them from the Post Therapy Clin (yc) stage classification. Grade Post Therapy [3845] has been changed to Grade Post Therapy Path (yp) due to the addition of Grade Post Therapy Clin (yc) [1068].

Two SSDIs collected for Schema ID 00470 (Melanoma Skin) have been renamed. LDH Pretreatment Level [3869] was renamed to LDH Level, and LDH Pretreatment Lab Value [3932] was renamed to LDH Lab Value. The change was made to clarify that LDH may be measured before or after surgical resection.

Prostate Pathological Extension [3919] has been renamed to EOD Prostate Pathological Extension in order to clarify that this field is part of EOD 2018.

### 3.4 Site-Specific Data Items

Some SSDI codes and code descriptions were changed to reflect changes in clinical management and/or staging and to improve clarity or to address questions that were raised in the various forums. Code changes for SSDIs are applicable to cases diagnosed January 1, 2018 forward, but registrars will not be required to update previously coded information.

Codes for the following SSDIs were changed:

- Visceral and Parietal Pleural Invasion [3937], used in the Lung schema, has been modified. Codes 1, 2 and 3 are being removed and code 5 has been added. Codes 1 (PL1) and 2 (PL2) are now collapsed into Code 4 (PL1 or PL2) as they are treated similarly clinically. Code 3 has been moved to Code 5. See [section 12.12](#) for conversion specifications.
- FIGO Stage [3836], used by the Female Genital Schemas, needed a new value and it was decided that switching from a coded value (10 means IC2, 11 means IC3) to simply storing the stage

would be more sustainable long term. Accordingly, the valid values for this field have all been changed to be the actual stage values and the field lengthened to 5 characters. See [section 12.13](#) for conversion specifications.

- Residual Tumor Volume Post Cyto reduction [3921], used by Ovary, Primary Peritoneal Carcinoma and Fallopian Tube, has been modified. Codes 10-40, 90-93 have been removed and Codes 50-80 have been added. The distinction of “neoadjuvant chemotherapy not given or unknown if given” has been removed, and codes have thus been collapsed. Codes 10 and 20 are now Code 50; Codes 30 and 40 are now code 60; Codes 90 and 91 are now Code 70; and Codes 92 and 93 are now Code 80. See [section 12.14](#) for conversion specifications.

In addition to these changes, which require conversion, some SSDIs had new codes added which would be available for newly collected cases but do not require changes to existing cases. Some code descriptions were modified to improve clarity. There have also been revisions to notes and additional notes for many SSDIs; due to the addition of new notes, many of the note numbers have changed. See the SSDI Manual, Version 2.0 (<https://apps.naaccr.org/ssdi/list/>) for changes to existing codes and code descriptions.

New SSDIs and code changes are incorporated in the AJCC Cancer Surveillance Staging API and the SEER Staging REST API/library. Other than updating the staging API that you use, there is no need for action for these types of changes. They are documented in the change log which can be accessed on <https://apps.naaccr.org/ssdi/list/>.

## 4 Other Changes

### 4.1 Grade

In addition to the new Grade Post Therapy Clin (yc) [1068] data item and renaming Grade Post Therapy [3845] to Grade Post Therapy Path (yp) for clarity, changes were made to several grade fields that will require conversion.

- The Grade fields for Lacrimal Gland have had Codes A-D removed, and Code 4 has been added. Since Code 1 and Code A both meant Well Differentiated, and similarly for codes 2 and B, codes 3 and C, it was decided to streamline the available codes. Code 4 was added to capture the Undifferentiated, anaplastic cases. See [section 12.15](#) for conversion specifications.
- The Grade fields for Lymphoma Ocular Adnexa have been modified. Codes 5 and L have been removed, and the text of Codes 3 and 4 have been revised. Code 3 is now G3, more than 15 centroblasts per 10 HPF but with admixed centrocytes. Cases that used to have Code 4 should be changed to Code 3. Code 4 is now G4, more than 15 centroblasts per 10 HPF but without centrocytes. Cases that used to have Code 5 should be changed to Code 4. Code L, Low Grade (1 or 2) was determined to be a variation of Unknown, so cases that used to have L should be changed to Code 9. See [section 12.16](#) for conversion specifications.

Notes have been added to all the Grade tables in response to questions from registrars. Due to the addition of new notes, many of the note numbers have changed. These updates can be applied to cases diagnosed January 1, 2018 forward; however, registrars are not required to update previously coded grade information based on the new notes.

Grade changes are incorporated in the AJCC Cancer Surveillance Staging API and the SEER Staging REST API/library. Other than updating the staging API that you use, there is no need for action for these types of changes. They are documented in the change log which can be accessed on <https://apps.naaccr.org/ssdi/list/>.

## 4.2 ICD-O-3

In developing the 2021 ICD-O update, 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 principal sites of cancer and includes ICD-O morphology codes for each neoplasm. Since the release of the 2018 NAACCR ICD-O update, WHO has published the remaining 4th Edition WHO Classification of Tumors books. 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 adopting the changes for 2021, and implementation of the changes was approved by the standard setting agencies.

As of April 2019, the International Association of Cancer Registries (IARC) and the WHO ICD-O committee finalized ICD-O-3.2. ICD-O-3.2 includes changes from all twelve 4th Edition Classification of Tumor books. The Work Group recommended ICD-O-3.2 be implemented January 1, 2021 to which the standard setting agencies agreed. Beginning with cases diagnosed January 1, 2021, ICD-O-3.2 is the preferred morphology coding reference manual. The Work Group strongly recommends using ICD-O-3.2 jointly with the 2021 ICD-O Histology and Behavior Code Update tables, Hematopoietic and Lymphoid Neoplasm Database, and Solid Tumor (MP/H) rules.

The 2021 ICD-O-3 histology code and behavior update includes comprehensive tables listing all changes made after the 2018 update and is effective for cases diagnosed January 1, 2021 and forward. The 2021 tables include coding instructions for cases diagnosed prior to January 1, 2021. Edits will enforce the new codes/behaviors allowed only for cases diagnosed January 1, 2021 forward. Date driven edits will also be implemented for those histology codes which are no longer valid.

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. The 2021 guidelines include specific tables listing histologies which have changed behavior codes. **These new behavior codes resulted in a change to reportability.** Along with changes to behavior codes, several histology terms that were previously non-reportable are now reportable. A table listing these terms is also included in the guidelines. The Work Group strongly recommends users read the guidelines in order to efficiently use ICD-O-3.2 and the 2021 Update tables.

Note: Use of these guidelines is required for determining reportability and accurate coding.  
<https://www.naaccr.org/icdo3/>

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

## 4.3 Site/Histology Validation List

The SEER Site/Histology Validation List will be updated to include the new ICD-O-3.2 histologies and behaviors and posted on the SEER website <https://seer.cancer.gov/icd-o-3/>.

## 4.4 Solid Tumor Rules

The 2018 Solid Tumor Coding Rules are a comprehensive revision to the 2007 site-specific Multiple Primary and Histology Rules (MP/H), which were developed to promote consistent and standardized coding for cancer surveillance. In 2018, eight site groups were revised: Malignant and Benign CNS, Breast, Colon, Head & Neck, Kidney, Lung, and Urinary. Minor revisions have been made to these eight site groups for 2021. The Cutaneous Melanoma Solid Tumor Rules have been revised for 2021. Continue to use the 2007 Other Sites MP/H rules for cases diagnosed in 2021. Details follow.

### 4.4.1 2021 Updates to 2018 Site-Specific Instructions

The eight site groups which were updated in 2018 will include minor updates\* for 2021:

- New histologies, codes, and terms from ICD-O-3.2 and the 2021 ICD-O Update added to tables
- Corrections to histology tables
- Additional H rules to enforce correct histology coding
- Clarification of coding histology prior to neo-adjuvant therapy
- Clarification to Malignant and Benign CNS Terms & Definitions: WHO Grade II and behavior
- Additional notes and examples

\*Updates will **not** require review of previously abstracted cases.

### 4.4.2 2021 Cutaneous Melanoma Solid Tumor Rules

Site specific instructions for Cutaneous Melanoma have been updated for cases diagnosed January 1, 2021 forward. What to expect in the 2021 Cutaneous Melanoma 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 coding primary site and laterality
- Reportable and non-reportable histology tables
- Histology table updated to include WHO 4<sup>th</sup> Ed Skin Tumors, 2021 ICD-O update, and ICD-O-3.2

### 4.4.3 2007 Multiple Primary & Histology Rules (MP/H): Other Sites

The Other Sites rules are currently being revised. ***Continue to apply the 2007 MP/H Other Sites Rules for cases diagnosed January 1, 2007 through December 31, 2021.***

Visit the [coding manual download page](#) to obtain a copy of the current 2018 Solid Tumor Rules Manual.

### 4.4.4 Solid Tumor Revision History

The Solid Tumor download page includes a section for revision history which includes comprehensive change logs for each update. The change logs are for reference only and should not be used in place of the solid tumor rules.

Questions regarding the Solid Tumor Rules should be directed to Ask a SEER Registrar at:

<https://seer.cancer.gov/registrars/contact.html>

## 4.5 SEER Hematopoietic and Lymphoid Neoplasm Database

The updated SEER Hematopoietic and Lymphoid Neoplasm Database will continue to be applicable for cases diagnosed 2010 and forward. There are a few minor changes to the database along with some



new histology codes and some histologies that are no longer reportable (effective with cases diagnosed January 1, 2021). A change log will be made available for the database revisions.

#### 4.6 Summary Stage 2018 and EOD 2018

Summary Stage 2018 and EOD 2018 staging systems will continue to be used for cases diagnosed on or after January 1, 2021. A change log will be made available for the SS2018 revisions. See the [Data Standards and Data Dictionary](#), Version 21, Chapter VIII Required Status Table to determine which staging data items are required to be collected by the various standard setters.

#### 4.7 AJCC Edition

The AJCC has started rolling updates with the release of Cervix 9<sup>th</sup> version. As warranted by medical practice, additional disease sites will be updated in the future as necessary, while the other disease sites will remain unchanged and the 8<sup>th</sup> Edition will be used. There will no longer be a single edition or version number applicable to every disease site for the diagnosis year. While references will be made to the 9<sup>th</sup> version, the registry data item will continue to reference TNM Edition Number [1060]. Additional updates to the *AJCC Cancer Staging Manual* are always available at [cancerstaging.org](http://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/help>

#### 4.8 Reportability

Reportability for cases diagnosed in 2021 is based on the ICD-O-Third Edition, Second Revision Morphology (ICD-O-3.2). The following changes are also applicable for cases diagnosed in 2021.

- Early or evolving melanoma, in situ and invasive: As of 01/01/2021, early or evolving melanoma in situ, or any other early or evolving melanoma, is reportable.
- As of 01/01/2021, all GIST tumors are reportable and classified as 8936/3 in ICD-O-3.2.
- As of 01/01/2021, nearly all thymomas are reportable; the exceptions are microscopic thymoma or thymoma benign (8580/0), micronodular thymoma with lymphoid stroma (8580/1), and ectopic hamartomatous thymoma (8587/0).

#### 4.9 Scope of Lymph Node Surgery

There are revised instructions related to Scope of Lymph Node Surgery code 1 (Biopsy or aspiration of regional lymph node, NOS). Do not count Scope of Lymph Node Surgery code 1 as surgery for the purpose of coding these data items.

- Date Therapy Initiated [SEER}
- Date First Course Treatment [CoC]
- Treatment Status
- Date of First Surgical Procedure
- Radiation Sequence with Surgery
- Systemic Sequence with Surgery



## 5 XML

The NAACCR fixed width data transmission format has been formally retired. NAACCR Version 18 is the last format which includes the fixed width specification. Records sent from reporting facilities to central cancer registries must use the NAACCR XML Data Exchange Standard starting in 2021. Central cancer registries are already required to submit their NAACCR Call for Data cases using the XML standard.

The NAACCR XML Data Exchange Work Group has developed the XML standard over the past several years. The standard has been introduced to the NAACCR community through articles, webinars, pilot projects, and a detailed implementation guide. Additionally, dictionaries, sample data, and software tools have been produced. The [XML website](#) provides links to these as well as CDC and SEER XML software products.

### 5.1 XML Dictionaries

NAACCR XML dictionaries are XML files that define key metadata about NAACCR data items as they relate to a NAACCR XML data exchange file, their valid parent XML elements, and processing rules for dealing with text nodes containing coded values. There are two types of dictionaries:

1. Base dictionaries define standard data items that are defined in the NAACCR Data Standards and Data Dictionary. [Base Dictionary XML \(NAACCR Version 21.0\)](#) can be found on the NAACCR XML web page under the Documentation tab. This dictionary represents the NAACCR standard and must not be modified.
2. User dictionaries define non-standard (state or organization-specific) items, maintained by the organizations defining them.

Note: state registries which only collect standard NAACCR data items do not need to produce a user dictionary.

### 5.2 XML Software Utilities

This section highlights several XML software tools.

[Registry Plus XML Exchange Plus](#) software by NPCR (see [section 6.2](#)) is an aid for central registries that want to collect their own data items. It produces a valid user dictionary that can be distributed to cancer registry software vendors. The software's "New Dictionary" function automatically adds the NPCR data fields to user dictionaries. The software also validates data files and produces an edit report similar to Genedits Plus 5. A training webinar will be held in Summer 2020.

[File\\*Pro](#) by SEER provides a variety of useful functions for central registries. It can be used to view, edit, and manage data in text files. The NAACCR XML Dictionary Editor creates and validates XML dictionaries.

The [NAACCR XML Utility Tool](#) translates fixed-width NAACCR files to NAACCR XML files and back. It also validates XML files and creates and validates user-defined NAACCR XML dictionaries.

### 5.3 Standards Volume Changes

Standards for Cancer Registries, Volume I now incorporates the NAACCR XML Data Exchange Standard Implementation Guide, and the name has changed to NAACCR Data Exchange Standard, *XML Specifications for Cancer Registry Records*, Version 1.4.

Data Standards and Data Dictionary, Volume II, v21 no longer specifies start columns for any data items, existing or newly introduced data items, but each data item will continue to have a standard length and format. In addition, new NAACCR XML dictionaries, both base dictionaries and user dictionaries, no longer specify start columns. However, each data item still includes the XML NAACCR ID and the Parent XML Element in the entry. These are the primary tags that will inform the creation of the XML record. Dictionaries for previous NAACCR versions retain start columns, and these dictionaries have been archived.

## 5.4 Other Considerations

- Hospital registry operations should not be affected. Cancer registry software will create XML data submission files without additional input from the registrar.
- Software that still require the fixed-width or other flat file formats will not be able to process data files created using the new NAACCR XML standard. Therefore, software vendors should continue to offer flat file export options.
- Registries that import data may need to continue to support NAACCR Version 18 flat files.
- Contact the NAACCR XML Data Exchange WG with any questions. Isaac Hands is the work group chair ([isaac.hands@uky.edu](mailto:isaac.hands@uky.edu)).

# 6 EDITS

## 6.1 V21 NAACCR Edits Metafile

A beta version of the v21 edits metafile was made available in mid-April. The beta version is available upon request (see contact info below). The initial release of the v21 metafile is scheduled to be made available online in mid-August at <https://www.naaccr.org/standard-data-edits/>

Changes to edits for cases diagnosed 2018 through 2020 address fixes to edit logic as well as updates necessary to accommodate changes to existing data items for 2021. The NAACCR v21 Change Spreadsheet includes a “Corrections” page that lists corrected edits, an “Updates” page that lists existing edits modified to accommodate 2021 changes in data items, and a “New Edits” page that lists all new edits for both existing and new data items. The changes made in NAACCR v18D Patch 1, which may not have been implemented in all hospital and registry software systems, are also listed on the “Corrections” page. All existing and new edits that involve new data items are identified on both the “Updates” and “New Edits” pages.

Corrections to edits include changes to edit names, edit descriptions, and edit logic. Changes were prompted by problem reports from users as well as review of edits when considering required updates for 2021. The skip for blank AJCC IDs and Schema IDs was removed from the \_SYS and Schema Discriminator edits checking valid assignment of IDs and Schema Discriminators, to allow the edits to be used to identify cases where ID assignment failed and blank was returned by registry software.

Updates to existing edits were necessitated by changes to data item names, changes in code structure in existing data items, changes to coding instructions, and application of some SSDIs to additional schemas. The addition of the Grade Post Therapy Clin (yc) data item and change in name of the Grade Post Therapy Path (yp) item required changes in edits involving the previous Grade Post Therapy item. The

implementation of AJCC 9<sup>th</sup> Edition for Cervix in 2021 required changing a number of edits checking valid values for staging items and the addition of new reference tables for the 9<sup>th</sup> Edition. Updates to ICD-O-3 codes for 2021 also required changes to edits validating histology coding.

Most of the new edits are based on findings of the EOD Consolidation Project, a comprehensive review of existing EOD codes and relationships among data items and codes undertaken by SEER. This review suggested a large number of edits, which are assigned Agency of SEER when involved fields are collected only by SEER, and Agency of NAACCR when involved fields may be collected by other standard setters as well as SEER. Most of the edits for new data items are limited to valid value edits, with no interfield checking for consistency among related data items.

The v21 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 authors of custom metafiles can bring their work forward. This conversion should have been performed on the upgrade from the v16 to the v18 metafile. Edits developed in EW5 cannot be converted to previous versions of EditWriter.

Contact Jim Hofferkamp at [jhofferkamp@naaccr.org](mailto:jhofferkamp@naaccr.org) with any questions or concerns about the NAACCR edits metafile.

## 6.2 Impact of XML for EDITS

It is important to note the NAACCR XML Standard is the standard for data exchange between agencies using files. It should not be confused with how data are passed in memory between applications. Applications that use the Edit Engine to validate data will need to continue to construct a flat buffer with data items in fixed column positions. The Edit Engine will continue to use record layouts maintained in the metafile to retrieve data from the flat buffer and run edits. The new [NPCR XML Exchange Plus](#) automates the creation of record layouts in metafiles by automatically assigning column positions to data items based on certain rules. Applications will need to construct the flat buffer by placing data items in the same column positions as specified in the record layout.

While a record layout must continue to be generated, fixed column positions are not expected to be defined by edit metafile administrators for the record layout. The record layout for the NAACCR v21 Edit Metafile will be created automatically and maintained using the XML Exchange Plus.

XML Exchange Plus will create a layout assigning the column positions based on NAACCR item number order with a few exceptions due to special circumstances. Since grouped data items and the data items associated with grouped items are not always in consecutive NAACCR item number order and to address state-specific data items as well as standard setter-specific data items, all non-grouped data items will be sorted first, and grouped items will be allocated at the end of the layout adjacent to the items they are associated with.

An example of a grouped data item is Morph--Type&Behav ICD-O-3, and its associated data items include Histologic Type ICD-O-3 and Behavior Code ICD-O-3. An example of a grouped item that contains associated items or subfields that are not in consecutive NAACCR item number order is GeoLocationID – 2020 which is a twelve-character concatenation of State at DX Geocode 2020, County at DX Geocode2020, Census Tract 2020, and Census Block Group 2020.

The column start position automatically generated by XML Exchange Plus will be sorted in the following order:

1. Non-grouped data items
2. Grouped data items with associated items contained in the group
3. User-defined data items added to the user dictionary (items not specifically defined in NAACCR Volume II and not included in the NAACCR Base Dictionary).

A record layout sorted by NAACCR item number will be generated in XML Exchange Plus and inserted into the NAACCR edit metafile, and the data exchange layout will continue to be packaged in the NAACCR edit metafile. Registries with defined local data items will be instructed to add the local items to the end of the layout in customized edit metafiles. When registries are creating user dictionaries, the order in which the items are listed is the same order in which the fields need to be added to the record layout in EditWriter5.

While the EditWriter application is planned to be re-written in 2020, the existing EditWriter5 application can continue to be used to generate customized edit metafiles for use in editing XML files. A modification in the procedure is necessary since the record layout will no longer continue to be maintained for fixed column positions. Instructions will be provided to edit metafile administrators generating customized edit metafiles. Existing customized v18 Data Exchange layouts based on the v18 fixed column position format should not be imported when importing objects from the customized v18 edit metafiles. Edit metafile administrators will continue to import all other objects from customized metafiles except Layouts.

Since local fields will be imported, the existing registry-specific data items will be available and new fields can be added as newly defined for v21. Once the import process is complete (excluding import of layouts), edit metafile administrators will update the customized edit metafile as needed, and the final step will be to update the layout in EditWriter5. Registry-specific fields will simply be added to the customized registry layout at the bottom of the layout in the same order as the order in which they appear in the registry customized user dictionary.

Training will be provided for XML Exchange Plus. A two-part training is also planned for Summer 2020 for registry edit metafile administrators to provide guidance for creating registry-specific edit metafiles including modifying the customized record layout to accommodate editing of .xml files.

#### 6.2.1 Running *EDITS* on XML Files

Edits can be run directly on XML files using GenEDITS Plus5 and XML Exchange Plus.

It is not necessary to convert NAACCR XML data files to flat buffer format to run EDITS. Both GenEDITS Plus5 and XML Exchange Plus convert each patient and tumor to flat buffer to pass to the Edit Engine.

Please note that the current version of EditWriter5 cannot edit XML files when running Edits to test Edit Sets and when using the Data Wizard within the Test Bench. The interactive testing tool known as the Test Bench within EditWriter5 can still be used to test individual edits using the Test button with the user entering values for each of the fields involved in the edit to determine the test result. Running Edits on XML files for testing will be addressed in the re-written version of EditWriter.

### 6.2.2 Differences Between the NAACCR Edit Metafile Record Layout and the Base Dictionary

The NAACCR XML *base dictionary* defines the standard data items that are defined in the NAACCR data dictionary. User dictionaries define non-standard data items that are maintained by the organizations defining them.

There are several NPCR data items included in the record layout in the NAACCR edit metafile which are not defined in the NAACCR data dictionary. For example, NPCR has a set of data items (Height, Weight, MDE Link, MDE Link Date, etc.) that are collected in the NPCR Specific Field [3720].

New data items can be introduced in the standard setter-specific and state-specific fields for collection as a pilot or special study project. Until the NPCR items are standardized and added to the NAACCR data dictionary, the data items must be addressed in a user-defined dictionary, especially if edits have been written for the data items. As mentioned in [section 5](#), XML Exchange Plus will automatically add the NPCR user-defined data items to the user dictionary when a new user dictionary is created. Since these items are included in the NAACCR standard edit metafile, the items have been automatically added to the user dictionary in an effort to avoid confusion and to prevent users of the NAACCR standard edit metafile from having to add items included in the metafile to a user dictionary.

The NAACCR edit metafile will contain a record layout that includes items from the base and user dictionaries since these items are included in the NAACCR edit metafile with associated edits.

## 7 Standard Setters Reporting Requirements for 2021

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

### 7.1 CoC Reporting Requirements

Beginning with cases diagnosed January 1, 2021 and forward, all CoC accredited programs should follow the rules and instructions in STORE v2021. The only new data items for collection include: the AJCC Post Therapy Clin (yc) T, N, and M stage classification (yc stage group is not yet available); updated radiation treatment modality code for Phase I; all SSDI's except NAACCR 3850, 3851, 3852, 3853, 3854, 3859, and 3919; and, allowable values U, Z75.2, and Z75.3 for secondary diagnosis 1-10 [3780, 3782, 3784, 3786, 3788, 3790, 3792, 3794, 3796, 3798]. These new data items should be collected when applicable.

To evaluate the impact of SARSCoV2 diagnosis on cancer patients, CoC accredited facilities will collect the 4 new data items listed in [section 2.6](#). These data items will be collected for cases diagnosed January 1, 2020 through December 31, 2021.

Questions related to STORE can be submitted to [ncdb@facs.org](mailto:ncdb@facs.org) or the [CA Forum](#). The revised STORE Manual is planned to be released by November 1, 2020.

#### 7.1.1 STORE Manual Data Item Reduction

In an effort to make the STORE Manual more reflective of the needs of CoC hospital registrars and the NCDB, data items defined in the STORE Manual that are not collected by the NCDB or are otherwise out of use by the NCDB were identified for removal. Removed data items that will continue to be collected by other standards setters will have their definitions added to their respective manuals. Please refer to [Appendix C](#) for the list of data items removed from the STORE Manual.

## 7.2 CDC NPCR Reporting Requirements

Beginning with cases diagnosed January 1, 2021 and forward, CDC-NPCR will adopt the new record format and data collection requirements as published in the [Data Standards and Data Dictionary](#), Version 21. CDC NPCR **will require** directly assigned Summary Stage 2018 (most current version). If voluntarily reporting EOD 18, use the most current version available on SEER\*RSA, ICD-O-3 2021, and if voluntarily reporting AJCC-TNM, please use the most current edition Clinical and Pathological Stage. Refer to the CDC-NPCR requirements listed in the Data Standards and Data Dictionary, Version 21, 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. NPCR no longer requires the NPCR Derived Stage Group variables effective with v21. However, if the central registry wishes to continue capturing information for these variables, for the appropriate diagnosis years, please note that NPCR's intent was 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 appropriate for facilities 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 for 2021).

### 7.2.1 Staging Requirements for 2021 Diagnosis

Central registries funded by CDC NPCR are **required** to collect directly assigned Summary Stage 2018 [764] for all cases. AJCC TNM current edition Clinical and Pathological T, N, M and Staged Groups [1001-1004 and 1011-1014], EOD 2018 [772, 774 and 776], Derived EOD TNM data items [785, 795, 815 and 818], and Derived Summary Stage 2018 [762] are **voluntary**. For Summary Stage 2018 and EOD 2018, follow the SEER Manual rules.

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

Effective in calendar year 2020, responsibility for continued development and maintenance of the CDC staging DLL has shifted to AJCC. The DLL's new name is AJCC Cancer Surveillance API. This surveillance API will continue to provide a one-stop-shop for registry software vendors for the staging data collection systems used in North American registries: AJCC TNM, EOD, and Summary Stage 2018. Obtaining a license for AJCC TNM will still be required for full use of the surveillance API. The AJCC Cancer Surveillance API for 2021 data collection is being re-programmed to accommodate AJCC's rolling TNM updates which means both 8th and 9th edition schemas will be in use at the same time.

Having the surveillance API managed by AJCC allows closer integration of the surveillance API with the AJCC API intended for EHR vendors, since both are based on the same underlying content. Redundant development and support are reduced, benefitting both APIs.

Questions related to the Stage Transition can be submitted to: [cancerstaging@cdc.gov](mailto:cancerstaging@cdc.gov).

### 7.3 NCI SEER Reporting Requirements

NCI SEER expects all cases diagnosed in year 2021 and thereafter will be transmitted by central registries to NCI in NAACCR version 21. Refer to the NCI SEER requirements listed in the [Data Standards and Data Dictionary](#), Version 21, 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 AJCC TNM data items are required when available.

NCI SEER requires collection and transmission of the new Neoadjuvant Data Items [1632, 1633, and 1634] for cases diagnosed January 1, 2021 and later.

The most up-to-date version of the SEER Registrar Staging Assistant (SEER\*RSA) can be found at <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, Summary Stage 2018 and EOD 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, 2021, the Canadian Council of Cancer Registries (CCCR) will implement the data collection and submission requirements as published in the NAACCR [Data Standards and Data Dictionary](#), Version 21, Chapter VIII, Required Status Table.

For cases diagnosed January 1, 2021 onward, Canada will continue to collect TNM stage data using the AJCC Cancer Staging Manual 8<sup>th</sup> Edition for all sites except Cervix, where Canada will follow the AJCC Cancer Staging Manual 9<sup>th</sup> Edition. Information regarding new and updated SSDIs is available in the NAACCR SSDI Manual. Refer to the Canadian SSDI spreadsheet and the 2021 Canadian Cancer Registry Variable Specifications for specific requirements.

Canada will follow the NAACCR Guidelines to implement ICD-O-3.2 for cases diagnosed January 1, 2021 onward. Refer to the 2021 Canadian Cancer Registry Reference Tables for more information.

Canada will follow any updates to the NAACCR Grade Manual and the SEER Solid Tumor Rules for cases diagnosed January 1, 2021 onward.

Cases will be submitted to the Canadian Cancer Registry during Statistic Canada's Call for Data. Provincial/Territorial cancer registries can reference the 2021 CCR Record Layout and supporting collection documentation for a more comprehensive listing.

## 8 Summary for Central Cancer Registries

Although there are fewer changes for 2021 than there were for 2018, each central registry should review this entire document to determine which revisions will affect their operations. Central registries must consider the revisions that will be necessary to meet the different requirements of the national standard setters, see [section 7](#). These determinations should be communicated to reporting facilities and registry software vendors as soon as possible.



## 8.1 XML, New Data Items, and Changed Data Items

### 8.1.1 XML

As part of the 2021 update, the NAACCR XML Data Exchange Standard was adopted as the standard transmission format, and the NAACCR fixed-width format has been retired. This change affects many operations, such as the transmission and processing of records received from reporting facilities, implementation of edits software, and the reporting of data from central registries to standard setters. See [NAACCR Data Exchange Standard, XML Specifications for Cancer Registry Records](#) for more details about XML.

The NAACCR XML Data Exchange Standard utilizes a base dictionary and user dictionaries to define standard and non-standard data items as they relate to the NAACCR XML data exchange file. Central registries are responsible for maintaining their state-specific user dictionaries, which should include all items required by their standard setters, and any other state-specific items they wish to collect. Software vendors have requested that central registries provide their user dictionaries to them by September 15, 2020. This will help vendors prepare customized files and software applications and reduce the chance of delay for deployment of v21 software. For more information about creating and maintaining user dictionaries, see [section 5.1](#).

### 8.1.2 New Data Items

A total of 26 new data items have been implemented; see [section 2](#) and the [Data Standards and Data Dictionary](#), Version 21 for detailed description of new fields. The replacement of the data item Name—Maiden [2390] with Name—Birth Surname [2232] will necessitate modification of any programs or queries that the Central Cancer Registry uses (e.g. NHIA-type algorithm) that currently use Name—Maiden [2390].

### 8.1.3 Changed Data Items.

Changes have been made to existing data items. See [section 3](#) and the Data Standards and Data Dictionary, Version 21 for details.

## 8.2 Other Changes

### 8.2.1 AJCC Current Edition

AJCC 8<sup>th</sup> Edition and AJCC 9<sup>th</sup> version (in 2021, only for cervix) will continue to be used for most cases diagnosed on or after January 1, 2021. Additional disease sites will update to the 9<sup>th</sup> version as medically appropriate as part of the AJCC rolling updates. The TNM-related data items introduced in 2018 will still be collected as well; see the [Data Standards and Data Dictionary](#), Version 21, Chapter VIII: Required Status Table for details. Refer to communication directly from the various standard setters to determine which staging data items are required to be collected.

### 8.2.2 Site-Specific Data Items (SSDIs)

The SSDIs introduced in 2018 will continue to be collected for cases diagnosed on or after January 1, 2021, along with new SSDIs related to prognosis and/or treatment planning. See [section 2.1](#), [section 3.4](#), and the Data Standards and Data Dictionary, Version 21, Chapter VIII: Required Status Table for details. Refer to directions provided by standard setters in [section 7](#) to determine which SSDIs are required to be collected.



### 8.2.3 ICD-O-3 Histologies

Updates consistent with the WHO Blue Books have been made to ICD-O-3 histologies and behaviors collected for cases diagnosed on or after January 1, 2021; see [section 4.2](#).

### 8.2.4 SEER Site/Histology Validation List

The SEER Site/Histology Validation List will be updated to include the new ICD-O-3.2 histologies and behaviors; see [section 4.3](#).

### 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 on or after January 1, 2021, with the addition of an updated section on cutaneous melanomas; see [section 4.4](#).

### 8.2.6 SEER Hematopoietic and Lymphoid Neoplasm Database

The updated SEER Hematopoietic and Lymphoid Neoplasm Database will continue to be applicable for cases diagnosed 2010 and forward, see [section 4.5](#).

### 8.2.7 Summary Stage 2018 and EOD 2018

Summary Stage 2018 and EOD 2018 staging systems will continue to be used for cases diagnosed on or after January 1, 2021, see [section 4.6](#).

### 8.2.8 Scope of Lymph Node Surgery

There are revised instructions related to Scope of Lymph Node Surgery code 1 (Biopsy or aspiration of regional lymph node, NOS), see [section 4.9](#).

## 8.3 Central Registry Edits

Central registries should carefully review [section 6](#) for information regarding the NAACCR v21 EDITS metafile. The impact of XML, and instructions for converting customized edit metafiles for XML implementation, are covered in [section 6.2](#) and in trainings provided by NPCR. If central registries wish to write their own edits, create new edit sets, or develop customized metafiles, EditWriter 5 should be utilized. See the manual, [Developing a Central Registry Edits Metafile](#), for detailed instructions on selecting edits and developing customized metafiles in EditWriter 5.

One crucially important change is that although the previous fixed-width format had columns reserved for state-specific data items that could be easily mapped for defining edits for state-specific items, these items must now be defined in an XML dictionary in order for edits to be incorporated in metafiles.

Central registries should review the NAACCR v21 EDITS metafile, associated documentation, and the data items required by their standard setters in the Required Status Table (Chapter VIII) of the Data Standards and Data Dictionary when developing edit sets for incoming abstracts and consolidated records in their state-specific metafile. Edits in the metafile may need to be revised to accommodate central registry-specific or state-specific reporting requirements, and custom edits may need to be developed for any central registry-specific data items. Implementation, testing, and distribution of central registry-specific metafiles to reporting facilities and registry software vendors should be considered as central registries develop their requirements for 2021 reporting. Central registries that generate and distribute their own metafiles should have a plan to keep them updated.

Central registries should evaluate the time required to correct errors in previous years' data that appear retrospectively when applying new edits, particularly when there are no guidelines that limit diagnosis years to which the new edits are applied. Edits developed for the data items that were new to 2018 were released over a couple of years, and standard setters agreed they would not hold central registries accountable to meet all of the more recently-released edits for 2018 diagnoses. However, central registries might want to 'clean' as many of their 2018 records as possible. 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 registries that receive submissions from facilities using commercial vendor software to generate their files should pay close attention to the new releases of these products and coordinate their own v21 implementation plan accordingly. Every new vendor software version should be reviewed to ensure compliance with the v21 format and with registry requirements, before files are added to the central registry's database. Various methods can be used to test a submission for compliance with standards, such as running edits and performing visual review of abstracts. The use of a test environment into which submissions can be loaded and reviewed is recommended.

When implementing v21, some central registries may require a "test file" from each software vendor and/or reporting facility. Regardless of whether a registry requires an initial test file, a reporting facility's first v21 transmission file should be tested as thoroughly as possible to identify layout and/or code problems before additional v21 records are accepted from that facility.

Conversion of the central registry database to v21 will include conversion of radiation, maiden name and some EOD, SSDI and grade codes. TNM codes for some in-situ gynecologic primary cancers will have to be reassigned. The central registry should be alert to directives from their software vendor about any conversion logs. Only minimal manual review is anticipated to be needed, see [Appendix B](#).

#### 8.5 Communication with Reporting Facilities and Software Vendors

Central registries will need to distribute their implementation plan and timeline to reporting facilities and software vendors as early as possible. The communication should include an updated list of reportable tumors and required data items, with explicit instructions for state/province/territory-specific data items. Changes to the implementation plan or timeline should be forwarded immediately to all affected parties. Reporting facilities that are not CoC-accredited 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. Note: CDC Registry Plus Online Help is no longer maintained and updated by CDC.

Central registries relying on vendor software for their own systems or for 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 processing v21 cases.

Central registries must continue to support the reporting and processing of v18 records for diagnosis years 2020 and earlier until all reporting facilities are converted to v21.

## 8.6 Education and Training

Central registries will need to facilitate training to their reporting facilities on changes identified in this document. Trainings should focus on new required data items and new or revised coding manuals.

It is anticipated that education and training opportunities will be offered by AJCC, NCRA, and all national standard setters, which should be utilized by central registries as appropriate. Information on education and training resources will be available on the [y21 Reference Page](#). Organizations may also be open to suggestions for training/education needs.

Central registry staff must also 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 have been 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 21 software vendors will need to provide continued support for reporting and processing of records for 2020 and earlier diagnoses in NAACCR Version 18 flat file record format.

Regarding 2021 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 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
<a href="#">2</a>	New data items: consider only displaying fields appropriate for the year of diagnosis.
<a href="#">2.1</a>	SSDIs: these are schema specific and should be blank for diagnosis years prior to 2021. The only exception is Schema Discriminator 2 for Soft Tissue Sarcomas and a default value for the existing data for 2018-2020 diagnosis years is defined.
<a href="#">2.2</a>	Neoadjuvant data items
<a href="#">2.3</a>	yc data items: do not display AJCC TNM Post Therapy Clin (yc) Stage Group [1067] on abstract screens.
<a href="#">2.4</a>	Name – Birth Surname: move text from Name – Maiden into Name – Birth Surname; Name – Maiden is expected to be retired in a future version.

Section Number	Section Contents
<a href="#">2.5</a>	Versioning data items: would have values for 2018 and later cases. Default values for existing data are provided.
<a href="#">3</a>	Changed data items: may require updated picklists.
<a href="#">3.2</a>	Radiation Treatment Modality: a new code has been added and there is a conversion for existing data
<a href="#">3.3</a>	yp Name Changes: existing Post Therapy fields for AJCC have been changed to include Path in the name to distinguish them from the new yc data items; two SSDIs and the EOD field for prostate pathologic extension also had name changes for clarity.
<a href="#">3.4</a>	SSDIs: new lookups can be obtained from the AJCC Cancer Surveillance Staging API or the SEER Staging REST API/library. Three SSDIs had modifications which require conversions.
<a href="#">4.1</a>	Grade: new lookups can be obtained from the AJCC Cancer Surveillance Staging API or the SEER Staging REST API/library. Two schemas had changes to Grade which require conversions.
<a href="#">4.2</a>	ICD-O-3 changes: ICD-O-3.2 changes were adopted for 2021; some codes only apply to cases diagnosed beginning 1/1/2021. Picklist labels or software help should identify those codes, and edits should enforce such limitations. An Excel file of changes, including those to terminology, will be available on the NAACCR website: <a href="https://www.naacr.org/icdo3/">https://www.naacr.org/icdo3/</a> . There are 11 new reportable codes, 9 codes that changed from reportable to not reportable, and 14 codes that changed from non-reportable to reportable (approved by all standard setters). The 2021 ICD-O Guidelines for Registrars should be completed by early fall.
<a href="#">4.3</a>	SEER Site/Histology Validation List
<a href="#">4.4</a>	2018 Solid Tumor Rules (formerly known as Multiple Primary and Histology Rules). Cutaneous Melanoma Solid Tumor rules were updated for 2021. Provide queries or other mechanisms for manual review of the sites and histologies under Case Review Instructions: <a href="https://seer.cancer.gov/tools/solidtumor/clarifications.html">https://seer.cancer.gov/tools/solidtumor/clarifications.html</a>
<a href="#">4.7</a>	AJCC 9 <sup>th</sup> Edition: '09' added as a valid value for TNM Edition Number [1060]. Cervix 9 <sup>th</sup> version <b>must</b> be used for 2021 and later diagnoses of cervix. The 8 <sup>th</sup> edition should continue to be used for all other 2018 and later diagnoses. The correct version (based on variables including date of diagnosis to API function call) should be returned by AJCC Cancer Surveillance Staging API or the SEER Staging REST API/library. If you will not be able to provide 2021 compliant software prior to January 1, 2021, please instruct your clients to hold cervix cases diagnosed in 2021 in suspense.
<a href="#">5</a>	XML: all vendors must be able to export in XML format. Communication between the registries and vendors is very important to ensure success in the transition to XML and 2021 updates. Deadlines for XML dictionaries must be provided to states. The NAACCR XML Data Exchange WG is willing to help with questions related to XML
<a href="#">6</a>	EditWriter v4 and rmf formatted metafiles are no longer supported. NAACCR and state registries will create EditWriter v5 metafiles in .smf format. The initial

Section Number	Section Contents
	release of the v21 metafile is scheduled for mid-August, but the beta metafile is already available.
<a href="#">7.1</a>	CoC Reporting Requirements. Note that STORE has provided a list of data items that CoC no longer requires (see Appendix C). Metadata for these items may need to be updated in the software.
<a href="#">7.2</a>	CDC NPCR Reporting Requirements
<a href="#">7.3</a>	NCI SEER Reporting Requirements
<a href="#">7.4</a>	CCCR Reporting Requirements
<a href="#">12 Appendix B</a>	Conversions and Manual Review Logs: list of all the data conversions and notes when manual review will be necessary

## 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 developed.

The SEER Staging API 's TNM and EOD versions are listed on the SEER\*RSA [website](#) and also can be acquired from the API. The AJCC Cancer Surveillance Staging API will include version fields for the DLL as well as for TNM and EOD. The AJCC API will have a version field to designate whether the disease site is using 8<sup>th</sup> or 9<sup>th</sup>. All three Original staging API version fields have a default value that should be set for existing data. All three Current staging API version fields should be set to the current version of the API in use. See [section 2.5](#) Versioning Data Items for additional information; see [section 12.19](#) for a concise list of values to be set.

NAACCR Record Version [50] will have a new value of '210' meaning '2021 Version 21'.

Morph Coding Sys – Current [470] and Morph Coding Sys – Originl [480] will have a new value of 'B' for 'ICD-O-3.2, effective 1/1/2021'.

SEER Coding Sys – Current [2120] and SEER Coding Sys – Original [2130] will no longer be supported and should be blank for cases diagnosed January 1, 2021 or later.

CoC Coding Sys – Current [2140] and CoC Coding Sys – Original [2150] will no longer be supported and should be blank for cases diagnosed January 1, 2021 or later.

There are no changes to RX Coding System – Current [1460], Race Coding Sys—Current [170], Race Coding Sys—Original [180], Site Coding Sys—Current [450] or Site Coding Sys—Original [460].

## 9.3 Data Conversion

The CDC will provide a NorthCon 210 Registry Plus Utility Program conversion utility for the conversions below and for the changes going from v18 to v21. Manual review logs will be provided where applicable. The conversions are listed in [Appendix B](#), with a section for each one. The conversions related to staging are listed first, then those for other data items.

There are several conversions related to EOD 2018, which are listed by Schema and data item. These are typically limited to specific sites, histologies or codes. Some situations do require manual review, but the

number of cases to be reviewed is expected to be very low. There are conversions for 3 SSDIs, where data item values were changed. The most notable is the change for FIGO stage [3836] from codes which represent the stage to the actual stage values. There are also changes to Grade for 2 schemas. Neither the SSDI nor Grade changes require review. There are two changes to the AJCC ID expected. These will require manual intervention to set the T, N, M and Stage Group values correctly, but again, the case counts are expected to be low.

Outside of staging, there are changes to two data items. First, Name-Maiden [2390] values are moving to Name – Birth Surname [2232]. Second, Phase I Radiation Treatment Modality has a new value to indicate it is unknown what kind of radiation was given. Again, details are provided in [Appendix B](#).

## 9.4 Edits

There are over 160 new edits, many of which deal with the EOD 2018 fields. These include data conflicts with SSDIs, Regional Nodes Positive, the six Mets at DX fields, and other fields. Refer to [section 6](#) for general EDITS information.

## 9.5 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.

AJCC is releasing the 9<sup>th</sup> version of Cervix. All Cervix cases diagnosed in 2021 or later should be staged using this version. Cervix cases diagnosed in 2018-2020, regardless of when they are collected, should continue to be staged using the 8<sup>th</sup> edition. The correct TNM Edition Number value, schema, and related stage field valid value lists will be returned by the AJCC Cancer Surveillance Staging API or the SEER Staging REST API/library.

New versions of the SEER Staging API, the AJCC API and the Cancer Surveillance API are being released. If you used these APIs to derive values, the derivations should be recalculated across all 2018 and later cases.

## 9.6 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 2021 cases. Software vendors should provide programming instructions to their developers to support the necessary changes for the Data Standards and Data Dictionary, Version 21, 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 21 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 data items, 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-specific data items must be provided in a timely manner.

## 9.7 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 21-related changes made to the software.

CDC Registry Plus Online Help is no longer maintained and updated by CDC.

## 9.8 Technical Support and Training

Software vendors are expected to support the data changes in the Data Standards and Data Dictionary, Version 21 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.

## 9.9 Communication with Central Cancer Registries and Hospital Registries

Software vendors should provide a timeline to the central registries, as well as their registry clients, for plans to release registry software that is able to process and export NAACCR Version 21 case records in the XML format. Vendors and central registries need to communicate expectations for the delivery of state-specific changes in required data reporting including data fields, metafiles and XML dictionaries for state-specific data items. Delays in providing state specific changes to vendors may result in delay of facility reporting capabilities. Vendors should work with central registries to accommodate test files in their state-specific export version as may be required by individual central registries. This recommendation is especially important in 2021 because of the new XML requirement. 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 2021 cases. Central registries should note that with release of v21 software, XML will be the only export format for state reporting.

# 10 Summary for Hospital Cancer Registrars and Reporting Facilities

Note: CDC Registry Plus Online Help is no longer maintained and updated by CDC.

## 10.1 Prioritize Case Abstracting

Registrars should pay particular attention to what is required by their standard setter and their state central registry for cases diagnosed 1/1/2021 and forward. Most times these will overlap, but occasionally, fields may only be required by one or the other. Registrars should consult their reporting manuals and state central registry for instructions on reportable and reportable-by-agreement cases. Hospital Registries should also be aware of any completeness and timeliness guidelines established by their state central registry.



## 10.2 Communicate with Central Cancer Registries and Software Vendors

Several new developments for 2021 will affect cancer reporting software requirements. New Edits have been developed and updates to existing edits were necessitated by changes to data item names, changes in code structure in existing data items, and changes to coding instructions for the v21 NAACCR Edits Metafile.

In addition, records sent from reporting facilities to central cancer registries must use the NAACCR XML Data Exchange Standard starting with the 2021 data year. Hospital registry operations should not be affected by the conversion to XML. Cancer registry software will create XML data submission files without additional input from the registrar.

CTRs should maintain open communications with their software vendor and state central registry to ensure their registry software is up-to-date with current edit files and guidelines. Dates and timelines should be communicated to all parties. CTRs should include hospital IT Departments in communications if needed.

## 10.3 Education and Training

Continuing education is necessary to maintain a high level of knowledge and skills in cancer registry practice. New data field requirements for 2021 and the implementation of these new fields will likely enhance the education and training opportunities for registrars. CTRs should register for Standard Setter ListServ including NAACCR, NCI/SEER, CDC/NPCR and CoC. NCRA, as well as state and regional professional organizations, maintain membership lists and regularly post education opportunities on their websites and notify members of upcoming education events. Many organizations are offering a greater number of online training opportunities. CTRs should check with their state registry for further education opportunities or make suggestions for needed educational subjects.



## 11 Appendix A New Data Items

New Data Items for 2021					
Length	Item Number	Item Name	XML NAACCR ID	PARENT XML ELEMENT	Section
8	2156	AJCC API Version Current	ajccApiVersionCurrent	Tumor	Edit Overrides/Conversion History/System Admin
8	2157	AJCC API Version Original	ajccApiVersionOriginal	Tumor	Edit Overrides/Conversion History/System Admin
13	2158	AJCC Cancer Surveillance API Version Current	ajccCancerSurvApiVersionCurrent	Tumor	Edit Overrides/Conversion History/System Admin
13	2159	AJCC Cancer Surveillance API Version Original	ajccCancerSurvApiVersionOriginal	Tumor	Edit Overrides/Conversion History/System Admin
15	1066	AJCC TNM Post Therapy Clin (yc) M	ajccTnmPostTherapyClinM	Tumor	Stage/Prognostic Factors
15	1064	AJCC TNM Post Therapy Clin (yc) N	ajccTnmPostTherapyClinN	Tumor	Stage/Prognostic Factors
4	1065	AJCC TNM Post Therapy Clin (yc) N Suffix	ajccTnmPostTherapyClinN Suffix	Tumor	Stage/Prognostic Factors
15	1067	AJCC TNM Post Therapy Clin (yc) Stage Group (*Not yet available in v21)	ajccTnmPostTherapyClinStageGrp	Tumor	Stage/Prognostic Factors
15	1062	AJCC TNM Post Therapy Clin (yc) T	ajccTnmPostTherapyClinT	Tumor	Stage/Prognostic Factors
4	1063	AJCC TNM Post Therapy Clin (yc) T Suffix	ajccTnmPostTherapyClinTSuffix	Tumor	Stage/Prognostic Factors
1	3938	ALK Rearrangement	alkRearrangement	Tumor	Stage/Prognostic Factors
1	3940	BRAF Mutational Analysis	brafMutationalAnalysis	Tumor	Stage/Prognostic Factors
6	3942	CA 19-9 PreTX Lab Value	ca199PretxLabValue	Tumor	Stage/Prognostic Factors
1	3939	EGFR Mutational Analysis	egfrMutationalAnalysis	Tumor	Stage/Prognostic Factors
1	1068	Grade Post Therapy Clin (yc)	gradePostTherapyClin	Tumor	Stage/Prognostic Factors
40	2232	Name--Birth Surname	nameBirthSurname	Patient	Patient-Confidential
1	3946	NCDB--COVID19--Tx Impact	ncdbCovid19TxImpact	Tumor	Special Use
1	3944	NCDB--SARSCoV2--Pos	ncdbSarsCov2Pos	Patient	Special Use
8	3945	NCDB--SARSCoV2--Pos Date	ncdbSarsCov2PosDate	Patient	Special Use
1	3943	NCDB--SARSCoV2--Test	ncdbSarsCov2Test	Patient	Special Use
1	1632	Neoadjuvant Therapy	neoadjuvantTherapy	Tumor	Treatment-1st Course
1	1633	Neoadjuvant Therapy-Clinical Response	neoadjuvTherapyClinicalResponse	Tumor	Treatment-1st Course
1	1634	Neoadjuvant Therapy-Treatment Effect	neoadjuvTherapyTreatmentEffect	Tumor	Treatment-1st Course
1	3941	NRAS Mutational Analysis	nrasMutationalAnalysis	Tumor	Stage/Prognostic Factors
5	2117	Schema ID Version Current	schemaldVersionCurrent	Tumor	Edit Overrides/Conversion History/System Admin
5	2118	Schema ID Version Original	schemaldVersionOriginal	Tumor	Edit Overrides/Conversion History/System Admin

## 12 Appendix B Conversions and Manual Review Logs

The conversions that follow are related to staging, grade, and SSDI fields. The field affected is listed in the section header. These changes apply to cases diagnosed on or after January 1, 2018.

### 12.1 Schema Discriminator 2 [3927] and Soft Tissue Abdomen and Thoracic

If Schema ID [3800] = 00421 (Soft Tissue Abdomen and Thoracic) and Primary Site [400] = C473, C475, C493-C495 and Date of Diagnosis [390] is 2018-2020, set Schema Discriminator 2 = 8.

No manual review is necessary.

C473, C475, C493-C495 are now split between Soft Tissue Abdomen and Thoracic, Soft Tissue Trunk and Extremities, and Soft Tissue Other based on Schema Discriminator 2. 8 indicates a 2018-2020 diagnosis and that the relevant information was not collected. Code 8 cannot be used for a case diagnosed Jan 1, 2021 or later.

### 12.2 EOD Primary Tumor [772] and Oral Cavity, Head and Neck

If Schema ID [3800] is

- 00112 (Hypopharynx)
- 00118 (Pharynx Other)
- 00119 (Middle Ear)
- 00121 (Maxillary Sinus)
- 00122 (Nasal Cavity and Ethmoid Sinus)
- 00128 (Sinus Other)

If EOD Primary Tumor = 800, convert the Primary Site [400] for the case to C760.

This will change the Schema ID and will necessitate a **manual review**.

Code 800 has been removed from EOD Primary Tumor for these schemas.

### 12.3 EOD Primary Tumor [772] and Bone Spine

If Schema ID [3800] = 00382 (Bone Spine) and EOD Primary Tumor is 600, convert EOD Primary Tumor to 750.

No manual review is necessary.

Code 600 has been removed from EOD Primary Tumor for Bone Spine.

### 12.4 EOD Primary Tumor [772] and Corpus Carcinoma and Carcinosarcoma

If Schema ID [3800] = 00530 (Corpus Carcinoma and Carcinosarcoma) and Histology ICD03 [522] = 8380 and Behavior ICD03 [523] = 2

Because there are 3 new codes, manual review is necessary. **Manually review and set EOD Primary Tumor to 050, 070 or 080.**

Codes 050, 070, and 080 have been added to EOD Primary Tumor for Corpus Carcinoma and Carcinosarcoma for this morphology. Note that AJCC ID needs to be recalculated and will become 53. See [section 12.17](#) for AJCC staging conversion specifications.

### 12.5 EOD Primary Tumor [772] and Ovary

If Schema ID [3800] = 00551 (Ovary) and Histology ICDO3 [522] = 8441 and Behavior ICDO3 [523] = 2

Set EOD Primary Tumor = 050.

No manual review is necessary.

Code 050 has been added to EOD Primary Tumor for Ovary for this morphology. Note that AJCC ID needs to be recalculated and will become 55.

### 12.6 EOD Primary Tumor [772] and Fallopian Tube

A) If Schema ID [3800] = 00553 (Fallopian Tube) and Histology ICDO3 [522] = 8441 and Behavior ICDO3 [523] = 2

**Manually review and set EOD Primary Tumor to 050, 070 or 080.**

Because there are 3 new codes, manual review is necessary.

Codes 050, 070 and 080 have been added to EOD Primary Tumor for Fallopian Tube for this morphology. Note that AJCC ID needs to be recalculated and will become 55. See [section 12.18](#) for AJCC staging conversion specifications.

B) If Schema ID [3800] = 00553 (Fallopian Tube) and EOD Primary Tumor = 200

**Manually review and EITHER correct the EOD Primary Tumor or change Primary Site [400] to C569.**

Code 200 has been removed from EOD Primary Tumor for Fallopian Tube.

### 12.7 EOD Primary Tumor [772] and Plasma Cell Disorders

If Schema ID [3800] = 00822 (Plasma Cell Disorders) and EOD Primary Tumor [772] = 500 and Histology ICDO3 [522] = 9731 or 9734

Convert the Histology ICDO3 [522] for the case to 9732 and **manually review** (the schema will change).

Code 500 has been removed from EOD Primary Tumor for Plasma Cell Disorders.

### 12.8 EOD Regional Nodes [774] and Cervical Lymph Nodes, Unknown Primary of Head and Neck

If Schema ID [3800] is 00060 (Cervical Lymph Nodes, Unknown Primary of Head and Neck) and EOD Regional Nodes = 000, convert Schema Discriminator 1 [#3926] = 1.

This will change the Schema ID and will necessitate a **manual review**.

Code 000 has been removed from EOD Regional Nodes for Cervical Lymph Nodes, Unknown Primary of Head and Neck.

### 12.9 EOD Regional Nodes [774] and Melanoma Iris

A) If Schema ID [3800] = 00671 (Melanoma Iris) and EOD Regional Nodes is 400, convert EOD Regional Nodes to 300.

400: Discrete tumor deposit(s) in orbit not contiguous to the eye, WITHOUT positive regional lymph node(s)

We recommend a **manual review** of such cases because Discrete tumor deposits does not apply to Melanoma Iris, so the original coding was questionable.

B) If Schema ID [3800] = 00671 (Melanoma Iris) and EOD Regional Nodes is 500, convert EOD Regional Nodes to 300.

No manual review is necessary.

Codes 400 and 500 have been removed from EOD Regional Nodes for Melanoma Iris.

#### 12.10 EOD Regional Nodes [774] and Melanoma Choroid and Ciliary Body

If Schema ID [3800] = 00672 (Melanoma Choroid and Ciliary Body) and EOD Regional Nodes is 500, convert EOD Regional Nodes to 300.

No manual review is necessary.

Code 500 has been removed from EOD Regional Nodes for Melanoma Choroid and Ciliary Body.

#### 12.11 EOD Mets [776] and NET Stomach

If Schema ID [3800] = 00290 (NET Stomach) and EOD Mets is 20 or 30

- Convert EOD Mets = 20 to be EOD Mets = 30
- Convert EOD Mets = 30 to be EOD Mets = 20

No manual review is necessary.

The meaning of these values has been flipped for EOD Mets in NET Stomach.

#### 12.12 Visceral and Parietal Pleural Invasion [3937] and Lung

If Schema ID [3800] = 00360 (Lung)

- If Visceral and Parietal Pleural Invasion = 1 or 2, convert Visceral and Parietal Pleural Invasion = 4
- If Visceral and Parietal Pleural Invasion = 3, convert Visceral and Parietal Pleural Invasion = 5

No manual review is necessary.

Codes 1-3 were removed from Visceral and Parietal Pleural Invasion.

#### 12.13 FIGO Stage [3836] and Female Genital Schemas

If Schema ID [3800] is

- 00500 (Vulva)
- 00510 (Vagina)
- 00520 (Cervix)
- 00530 (Corpus Carcinoma and Carcinosarcoma)
- 00541 (Corpus Sarcoma)
- 00542 (Corpus Adenosarcoma)
- 00551 (Ovary)

- 00552 (Primary Peritoneal Carcinoma)
- 00553 (Fallopian Tube)
- 00560 (Placenta)

FIGO stage is being converted from a 2-digit code to a length 5 field to store actual stage values. All values must be converted according to the table below.

Old Value	New Value		Old Value	New Value		Old Value	New Value
01	1		11	1C3		34	3A12
02	1A		20	2		35	3A2
03	1A1		21	2A		36	3B
04	1A2		22	2A1		37	3C
05	1B		23	2A2		38	3C1
06	1B1		24	2B		39	3C2
07	1B2		30	3		40	4
08	1C		31	3A		41	4A
09	1C1		32	3A1		42	4B
10	1C2		33	3A11			

No manual review is necessary.

#### 12.14 Residual Tumor Volume Post Cytoreduction [3921] and Ovary, Primary Peritoneal Carcinoma and Fallopian Tube

If Schema ID [3800] is

- 00551 (Ovary)
- 00552 (Primary Peritoneal Carcinoma)
- 00553 (Fallopian Tube)

Collapse the value of Residual Tumor Volume Post Cytoreduction as follows

- If Residual Tumor Volume Post Cytoreduction = 10 or 20, convert to 50
- If Residual Tumor Volume Post Cytoreduction = 30 or 40, convert to 60
- If Residual Tumor Volume Post Cytoreduction = 90 or 91, convert to 70
- If Residual Tumor Volume Post Cytoreduction = 92 or 93, convert to 80

No manual review is necessary.

Codes 10-40, 90-93 have been removed from Residual Tumor Volume Post Cytoreduction.

#### 12.15 Grade Clinical [3843], Grade Pathological [3844], Grade Post Therapy [3845] and Lacrimal Gland

If Schema ID [3800] = 00690 (Lacrimal Gland), for each of Grades, perform the following conversion:

- If Grade = A, convert Grade = 1
- If Grade = B, convert Grade = 2
- If Grade = C, convert Grade = 3
- If Grade = D, convert Grade = 4

No manual review is necessary.

Codes A-D have been removed from the Grade fields for Lacrimal Gland, and code 4 has been added.

#### 12.16 Grade Clinical [3843], Grade Pathological [3844], Grade Post Therapy [3845] and Lymphoma Ocular Adnexa

If Schema ID [3800] = 00710 (Lymphoma Ocular Adnexa), for each of Grades, perform the following conversion:

- If Grade = 4, convert Grade = 3
- If Grade = 5, convert Grade = 4
- If Grade = L, convert Grade = 9

No manual review is necessary.

Codes 5 and L have been removed from the Grade fields for Lymphoma Ocular Adnexa. Codes 3 and 4 have been revised.

#### 12.17 TNM Edition, AJCC Staging and Corpus Carcinoma and Carcinosarcoma

For 2018-2020, if Primary Site [400] = C540-C549, C559 and Histology ICDO3 [522] = 8380 and Behavior ICDO3 [523] = 2

The AJCC ID [995] will be changed from XX to 53

The TNM edition number [1060] will be changed from 88 to 08.

The AJCC TNM fields (see table below) will be converted to blank for T, N, and M (for c, p, and yp). Stage group (see table below) should be converted to 99 for c and p stage group and blank for yp stage group.

These cases will be flagged for the registrar to **manually review** and assign a new T, N, M, and Stage group for the appropriate classification(s).

TNM item number and data item name

1001	AJCC TNM Clin T
1002	AJCC TNM Clin N
1003	AJCC TNM Clin M
1004	AJCC TNM Clin Stage Group
1011	AJCC TNM Path T
1012	AJCC TNM Path N
1013	AJCC TNM Path M
1014	AJCC TNM Path Stage Group
1021	AJCC TNM Post Therapy Path (yp) T
1022	AJCC TNM Post Therapy Path (yp) N
1023	AJCC TNM Post Therapy Path (yp) M
1024	AJCC TNM Post Therapy Path (yp) Stage Group
1031	AJCC TNM Clin T Suffix

1032	AJCC TNM Path T Suffix
1033	AJCC TNM Post Therapy Path (yp) T Suffix
1034	AJCC TNM Clin N Suffix
1035	AJCC TNM Path N Suffix
1036	AJCC TNM Post Therapy Path (yp) N Suffix

## 12.18 TNM Edition, AJCC Staging and Ovary, Fallopian Tube, and Primary Peritoneal Carcinoma

For 2018-2020, if Primary Site [400] = C569, C570 and Histology ICDO3 [522] = 8441 and Behavior ICDO3 [523] = 2

The AJCC ID [995] will be changed from XX to 55

The TNM edition number [1060] will be changed from 88 to 08.

The AJCC TNM fields (see table below) will be converted to blank for T, N, and M (for c, p, and yp). Stage group (see table below) should be converted to 99 for c and p stage group and blank for yp stage group.

These cases will be flagged for the registrar to **manually review** and assign a new T, N, M, and Stage group for the appropriate classification(s).

TNM item number and data item name

1001	AJCC TNM Clin T
1002	AJCC TNM Clin N
1003	AJCC TNM Clin M
1004	AJCC TNM Clin Stage Group
1011	AJCC TNM Path T
1012	AJCC TNM Path N
1013	AJCC TNM Path M
1014	AJCC TNM Path Stage Group
1021	AJCC TNM Post Therapy Path (yp) T
1022	AJCC TNM Post Therapy Path (yp) N
1023	AJCC TNM Post Therapy Path (yp) M
1024	AJCC TNM Post Therapy Path (yp) Stage Group
1031	AJCC TNM Clin T Suffix
1032	AJCC TNM Path T Suffix
1033	AJCC TNM Post Therapy Path (yp) T Suffix
1034	AJCC TNM Clin N Suffix
1035	AJCC TNM Path N Suffix
1036	AJCC TNM Post Therapy Path (yp) N Suffix

### 12.19 Staging API Versions Original and Current

These are new fields discussed in [section 2.5](#) and are included here for convenience. Conversion specifications apply to cases with diagnosis year of 2018 and later.

- Schema ID Version Original [2118]: Set to 1.99
- Schema ID Version Current [2117]: Set to the version of the SEER Staging API in use when you go live. (2.0 or later)
- AJCC API Version Original [2157]: Set to 08.XX.XX
- AJCC API Version Current [2156]: Set to the version of the AJCC API in use when you go live. (09.00.00 or later)
- Cancer Surveillance API Version Original [2159]: Set to 08.XX.XX.XXXX
- Cancer Surveillance API Version Current [2158]: Set to the version of the Cancer Surveillance API in use when you go live. (09.00.00.0000 or later)

**The conversions that follow are for non-staging related fields. The field affected is listed in the section header. These two changes apply to all diagnosis years.**

### 12.20 Name – Birth Surname [2232]

If Name – Maiden [2390] has a value, copy the value into Name – Birth Surname.

No manual review is necessary.

The meaning of the field is being expanded to capture other situations where an individual's surname has changed from their birth name. We expect Name – Maiden to be retired in the future, although that is not the case for this version of NAACCR. It is recommended to change Name – Maiden to blank and remove it from editing screens.

### 12.21 Phase I Radiation Treatment Modality [1506]

If Phase I Radiation Treatment Modality = 99 and Reason for No Radiation [1430] = 0 (Radiation Given), convert Phase I Radiation Treatment Modality to 98.

No manual review is necessary.

Code 98 has been added to Phase I Radiation Treatment Modality to indicate Radiation given, but treatment modality unknown.

### 12.22 TNM Edition, AJCC staging and Paget Disease of Breast, Behavior In Situ

The CDC Cancer Staging DLL (TNM 8<sup>th</sup> edition staging library) was assigning some Paget disease of the breast cases to AJCC ID XX instead of the correct value of 48.1. The conversion program corrects AJCC ID and then looks to see if TNM Edition Number is populated, as an indicator that TNM staging was coded.

- For cases diagnosed 2018-2020, if Primary Site [400] = C500-C509 and Histology ICDO3 [522] = 8540 or 8543 and Behavior ICDO3 [523] = 2:
  - If AJCC ID [995] = XX. AJCC ID [995] is set to 48.1
  - if TNM Edition Number blank or = 00 (indicating that TNM is not coded in the record), additional changes are not made to TNM.
  - If TNM Edition Number [1060] populated (not blank) and not = 00:



- TNM fields are set according to the table below
- TNM Edition Number [1060] is set to 08
- Add record to Manual Review list for OPTIONAL coding of appropriate TNM values

TNM item number and data item name		Value Set to:
1001	AJCC TNM Clin T	Blank
1002	AJCC TNM Clin N	Blank
1003	AJCC TNM Clin M	Blank
1004	AJCC TNM Clin Stage Group	99
1011	AJCC TNM Path T	Blank
1012	AJCC TNM Path N	Blank
1013	AJCC TNM Path M	Blank
1014	AJCC TNM Path Stage Group	99
1021	AJCC TNM Post Therapy T	Blank
1022	AJCC TNM Post Therapy N	Blank
1023	AJCC TNM Post Therapy M	Blank
1024	AJCC TNM Post Therapy Stage Group	Blank
1031	AJCC TNM Clin T Suffix	Blank
1032	AJCC TNM Path T Suffix	Blank
1033	AJCC TNM Post Therapy T Suffix	Blank
1034	AJCC TNM Clin N Suffix	Blank
1035	AJCC TNM Path N Suffix	Blank
1036	AJCC TNM Post Therapy N Suffix	Blank

## 13 Appendix C STORE Reduction Data Items

STORE Reduction Data Items		
Item #	Name	Source of Standard
2300	Medical Record Number	NAACCR
2320	Social Security Number	SEER
2230	Last Name	SEER
2240	First Name	SEER
2250	Middle Name (Middle Initial)	SEER
2330	Patient Address (Number and Street) at Diagnosis	SEER
2335	Patient Address at Diagnosis-Supplemental	SEER
2350	Patient Address (Number and Street) Current	SEER
2355	Patient Address Current-Supplemental	SEER
1810	City/Town-Current	SEER
1820	State-Current	SEER
1830	Postal Code-Current (Zip Code)	SEER
1832	Address Current-Country	NAACCR
2360	Telephone	SEER
161	Race 2	SEER
162	Race 3	SEER
163	Race 4	SEER
164	Race 5	SEER
2465	NPI-Managing Physician	CMS
2475	NPI-Following Physician	CMS
833	Date of Sentinel Lymph Node Biopsy Flag	SEER
683	Date Regional Lymph Node Dissection Flag	NAACCR
764	Summary Stage 2018	SEER
1271	Date 1st Crs Rx Flag	NAACCR
3171	Rx Date Mst Defn Srg Flag	NAACCR
3181	Rx Date Surg Disch Flag	NAACCR
1211	Rx Date-Radiation Flag	NAACCR
3221	Rx Date Rad Ended Flag	NAACCR
3231	Rx Date Systemic Flag	NAACCR
1251	Rx Date-Other Flag	NAACCR
1861	Recurrence Date-1st Flag	NAACCR
1773	Date of Last Cancer (tumor) Status Flag	NAACCR
1751	Date of Last Contact Flag	NAACCR
2445	NPI-Following Registry	CMS
2155	RQRS NCDB Submission Flag	No longer required by CoC
1985	Override Acsn/Class/Seq	NAACCR

STORE Reduction Data Items		
Item #	Name	Source of Standard
1986	Override HospSeq/DxConf	NAACCR
1987	Override CoC-Site/Type	NAACCR
1988	Override HospSeq/Site	NAACCR
1990	Override Age/Site/Morph	SEER
2020	OverrideSurg/DxConf	SEER
2040	Override Histology	SEER
2070	Override Leuk, Lymphoma	SEER
2071	Override Site/Behavior	SEER
2074	Override Site/Lat/Morph	SEER
2140	CoC Coding System-Current	No longer required by CoC
2150	CoC Coding System-Original	No longer required by CoC
170	Race Coding System-Current	NAACCR
180	Race Coding System-Original	NAACCR
450	Site Coding System-Current	NAACCR
460	Site Coding System-Original	NAACCR
470	Morphology Coding System_Current	NAACCR
480	Morphology Coding System-Original	NAACCR
1980	ICD-O-2 Conversion Flag	SEER
2116	ICD-O-3 Conversion Flag	SEER
1460	Rx Coding System-Current	NAACCR

## 14 Appendix D 2021 Source References

**2021 SEER Program Manual:** <https://seer.cancer.gov/tools/codingmanuals/>

Questions regarding the SEER Program Coding and Staging Manual 2021 should be directed to  
Ask a SEER Registrar at: <https://seer.cancer.gov/registrars/contact.html>

**AJCC 8<sup>th</sup> 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/>

**AJCC API:** <https://cancerstaging.org/Pages/Vendors.aspx>

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

**Cancer Surveillance API:** AJCC licensees can request the licensed version of the library from Martin Madera, [mmadera@facs.org](mailto:mmadera@facs.org). The version for unlicensed users will be available from the AJCC website, please contact Martin Madera ([mmadera@facs.org](mailto:mmadera@facs.org)) for access.

**CAnswer Forum:** <http://cancerbulletin.facs.org/forums/help>

**Commission on Cancer STORE Manual:** <https://www.facs.org/quality-programs/cancer/ncdb/call-for-data/cocmanuals>

**Data Exchange Standard, XML Specifications for Cancer Registry Records, Version 1.4:**  
<https://www.naaccr.org/xml-data-exchange-standard/>

**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](mailto:jhofferkamp@naaccr.org).

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

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

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

Questions regarding the Grade Manual should be directed to the CAnswer Forum at:  
<http://cancerbulletin.facs.org/forums/>

**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-3.2:** [http://www.iacr.com.fr/index.php?option=com\\_content&view=article&id=149:icd-o-3-2&catid=80:newsflashes&Itemid=545](http://www.iacr.com.fr/index.php?option=com_content&view=article&id=149:icd-o-3-2&catid=80:newsflashes&Itemid=545)

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 210 Registry Plus Utility Program:**

[https://www.cdc.gov/cancer/npcr/tools/registryplus/up\\_download.htm](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>

Questions regarding SEER\*RSA should be directed to Ask a SEER Registrar at:  
<https://seer.cancer.gov/registrars/contact.html>

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

Questions regarding SEER\*Rx should be directed to Ask a SEER Registrar at:  
<https://seer.cancer.gov/registrars/contact.html>

**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/>

**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 should be directed to Ask a SEER Registrar at:  
<https://seer.cancer.gov/registrars/contact.html>

## 15 Appendix E Revision Control

2021 Implementation Guidelines Revision Control			
Version Number	Revision Date	Section	Revision Notes
1.1	10/9/20	4.9	Added new section for Scope of LN Surgery
1.1	10/9/20	8.2.8	Added new section for Scope of LN Surgery
1.1	10/9/20	12.22	Added new section for TNM Edition, AJCC staging and Paget Disease of Breast, Behavior In Situ
1.2	2/4/21	11	Changed Parent XML Element from Tumor to Patient for three data items: NCDB--SARSCoV2--Pos [3944], NCDB--SARSCoV2--Pos Date [3945], and NCDB--SARSCoV2--Test [3943].