
Hospital Registry Validate and Edit Abstracted Data Use Case

Version 1.0

**Prepared by: NPCR–AERRO Central Cancer Registry Workgroup
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**Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Division of Cancer Prevention and Control
National Program of Cancer Registries**

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General Information

1. Use Case ID

HUC 1.6

2. Use Case Name

Validate and Edit Abstracted Data

3. Description

Validating and editing abstracted data is the process of verifying that recorded data in the cancer registry abstract meets logic, consistency, and data validity standards. This use case provides the steps taken to validate the accuracy of data in the registry database and is intended for hospital registrars.

4. Actors

- Cancer registry (CR) software
- Registrar

5. Definition

ErrorMonitoring Table: Maintains information regarding errors found in event reports. It is used to monitor the occurrence of errors and to ensure that corrected event reports have been re-submitted.

Validate and Edit Abstracted Data

Note: Diagrams for this use case are in [Appendix A](#) and [Appendix B](#).

1.0 Precondition

A set of conditions that must be met before the activities described in the use case can begin.

Current versions of edit sets that are required for abstract validation and reporting to agencies or organizations have been installed.

2.0 Post Condition

A set of conditions that must be met after the activities described in the use case have been completed.

Data has been validated with no errors.

3.0 Priority

Describes the importance and sequence of the use case in the overall activities of the cancer registry.

High priority.

4.0 Frequency of Use

Describes how often the activities in the use case take place.

Validating and editing abstracted data occurs daily. It can be performed as each abstract is completed or when abstracts are selected for reporting or analysis.

5.0 Normal Course of Events

Describes the specific steps taken to perform the activity in the use case.

Normal refers to the steps that are taken when everything goes according to routine procedures. Problems and exceptions are described in section 6, [Alternative Course](#).

Business rules are statements that describe a decision that must be made and agreed to by those involved in the activity. In the context of this document, a business rule describes the decision that needs to be made, and in some circumstances provides a recommendation; in others, options for consideration and use.

Software requirements are statements that describe the functionality of the software that is required or recommended.

5.1 This use case begins when a registrar marks an abstract as ready to be edited. [BR01] [SR01]

BR	Business Rule	Purpose	Remarks
01	Validation of the full abstract should be performed when the abstract is marked as complete or when it is edited or changed in any way.	To have the source records available at the time of validation.	It may not be possible to perform validating directly after completing the record; an option to perform validation at another time is needed.

SR	Software Requirement	Purpose	Remarks
01	CR software should mark an abstract for validation needed when any change is made.	To ensure data that has been changed, is evaluated.	

5.2 Registrar selects appropriate edit set(s). [BR02] [SR02, SR03, SR04, SR05]

BR	Business Rule	Purpose	Remarks
02	EDITS software should be used.	To ensure consistent validation is performed nationally.	EDITS is a free validation software package developed by the NPCR. http://www.cdc.gov/cancer/npcr/tools/edits/

SR	Software Requirement	Purpose	Remarks
02	CR Software should provide a help function describing the available edit sets. Information should be included on when to use each edit set.	To ensure registrars use the appropriate edit set for validating the data.	
03	At a minimum, the most current version of the following edit sets should be available: <ul style="list-style-type: none"> • NAACCR Standard: "Hosp: Vers_ COC Required Non Confid" • NAACCR Standard: "Hosp: Vers___ COC Required Confid" • State-specific • Hospital-specific 	To ensure registrars use the appropriate edit set for validating the data.	See Appendix C for information on edit sets and metafiles.
04	CR software should display the NAACCR Standard's name of the edit set in addition to the CR software's internal name of the edit set.	To ensure registrars use the appropriate edit set for validating the data.	Example of NAACCR: <ul style="list-style-type: none"> • NAACCR Standard: "Hosp: Vers___ COC Required Non Confid" • NAACCR Standard: "Hosp: Vers___ COC Required Confid" See Appendix C for information on edit sets and metafiles.
05	Edit sets should be updated no later than 60 days of a new/updated edit set release.	To ensure the most up-to-date edits are being used.	

5.3 CR software runs all selected metafiles against the abstract and finds no errors.

5.4 CR software records that the abstract has passed edits.

5.5 CR software stores results of editing in the ErrorMonitoring table. [SR06]

SR	Software Requirement	Purpose	Remarks
06	<p>CR software should store information on the edit process for every event report, regardless of whether an edit error is found. At a minimum, the table should include:</p> <ul style="list-style-type: none"> • Date of editing • Abstract ID (accession number) • Abstractor ID • Edit set name • Edit set version • Edit name 	<p>To provide a log of errors that were identified.</p>	<p>Edit Set Name, Version, and Edit Name can be obtained from the EDITS Engine Metafile. See Appendix C for a discussion of metafiles.</p>

5.6 End of use case.

6.0 Alternative Course of Events

Numbering in this section refers to its associated step above in section 5, [Normal Course of Events](#).

5.3a CR software displays abstract and the results of the edit(s) that failed. [SR07, SR08, SR09]

5.3a.1 Registrar corrects the error(s) or overrides error message based on confirmation data are correct, and the process continues with [step 5.3](#).

SR	Software Requirement	Purpose	Remarks
07	CR software should be customizable to display errors in abstract (case) order or grouped by Edit Name.	To provide flexibility to the registrar for reviewing and correcting edit errors.	
08	CR software should display: <ul style="list-style-type: none"> • Name of Edit Set • Edit Set Version • Edit Name • Edit Message • Data Items • Data Item Content 		
09	When displaying errors grouped by abstract, CR software should show all edit errors for an abstract, regardless of edit set.		

7.0 Business Rules and Software Requirements

A statement that describes a decision that must be made and agreed to by those involved in the activity. In the context of this document, a business rule describes the decision that needs to be made, and in some circumstances provides a recommendation; in others, options for consideration and use.

Business rules for this use case are presented under the step to which they apply.

Software requirements are identified in the context of enhancing and improving current cancer registry software. They are not a complete requirements list from which a new software package can be developed.

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05	Edit sets should be updated no later than 60 days of a new/updated edit set release.	To ensure the most up-to-date edits are being used.	
06	<p>CR software should store information on the edit process for every event report, regardless of whether an edit error is found. At a minimum, the table should include:</p> <ul style="list-style-type: none"> • Date of editing • Abstract ID (accession number) • Abstractor ID • Edit set name • Edit set version • Edit name 	To provide a log of errors that were identified.	Edit Set Name, Version, and Edit Name can be obtained from the EDITS Engine Metafile. See Appendix C for a discussion of metafiles.
07	CR software should be customizable to display errors in abstract (case) order or grouped by Edit Name.	To provide flexibility to the registrar for reviewing and correcting edit errors.	

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09	When displaying errors grouped by abstract, CR software should show all edit errors for an abstract, regardless of edit set.		

8.0 Exceptions

None.

9.0 Includes

None.

10.0 Special Requirements

None.

11.0 Assumption

The use case takes HIPAA rules and regulations into consideration.

12.0 Notes and Issues

None.

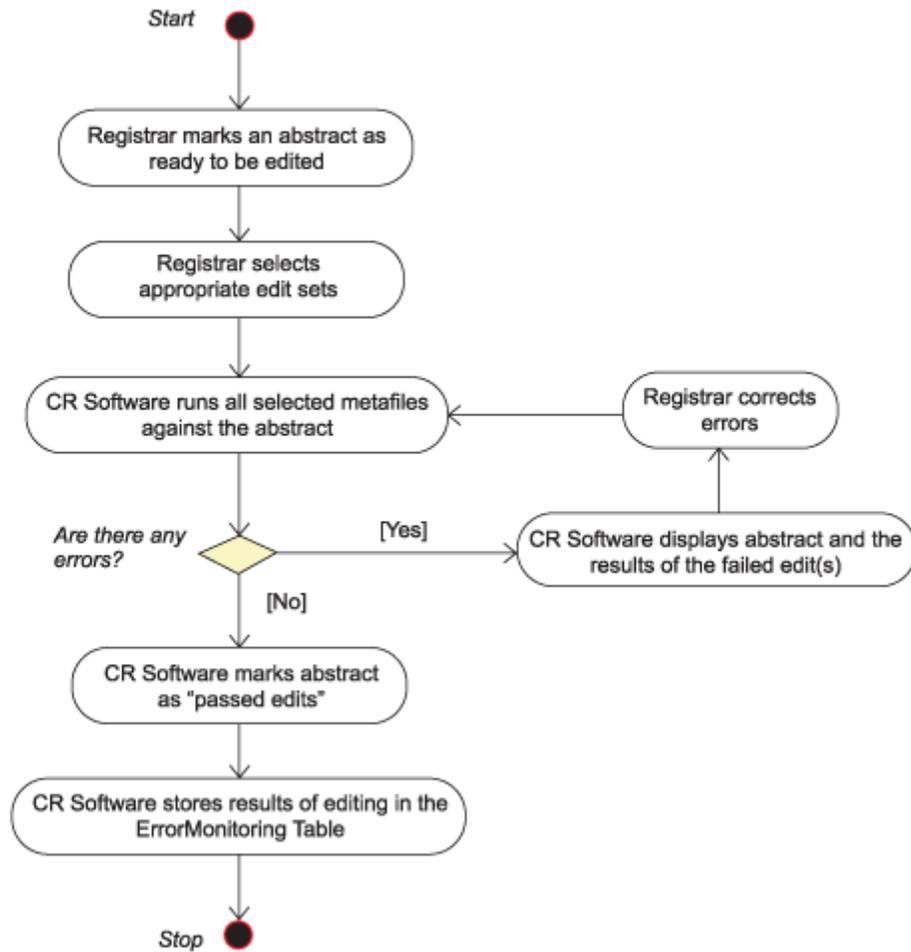
13.0 Reference

Capron S, Seiffert J. Computer Aspects on Data Management Data Editing. In: Menck H, et. al., editors. *Central Cancer Registries: Design, Management and Use; 2nd Edition*. Dubuque (IA): Kendall/Hunt, 2007: 145–152.

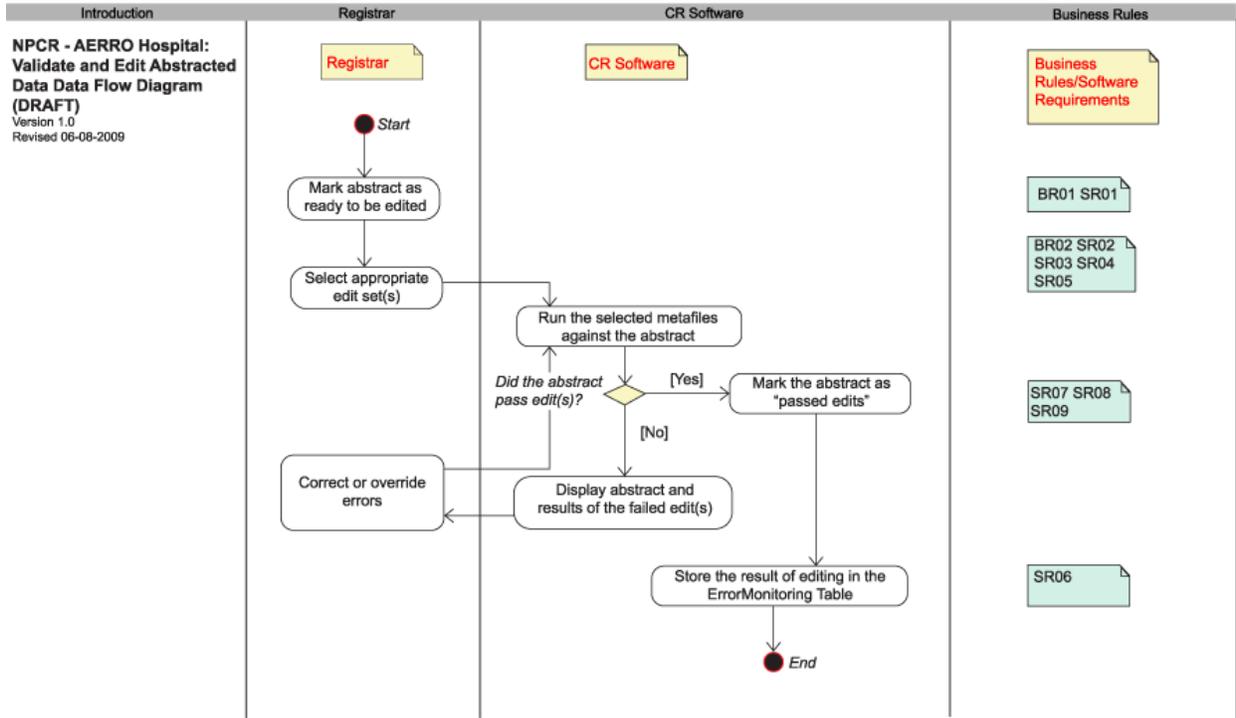
Appendix A: Validate and Edit Abstracted Data Workflow Diagram

NPCR - AERRO Hospital: Validate and Edit Abstracted Data Workflow Diagram (DRAFT)

Version 1.0
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Appendix B: Validate and Edit Abstracted Data Data Flow Diagram



Appendix C: Edit Sets and Metafiles¹

The NAACCR Edits Workgroup of the NAACCR Uniform Data Standards Committee (UDSC) is responsible for developing, selecting, and testing data validation edits for the NAACCR Metafile. Edits in the metafile are applied to the data collected under the NAACCR Standards for Cancer Registries, Volume II: Data Standards and Data Dictionary. All cancer registries (hospital, central, and national) use Volume II to collect standardized data.

The Workgroup includes members from standard-setting organizations:

- The Centers for Disease Control and Prevention's National Program of Cancer Registries (NPCR)
- The National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Program
- The North American Association of Central Cancer Registries
- The Commission on Cancer (CoC) of the American College of Surgeons

Members from central cancer registries, hospital cancer registries, and registry software providers are also members of this workgroup.

Example of an Edit

Age at Diagnosis (SEER AGEDX)

```
Agency:          SEER                               Last Changed: 03/04/2003
Edit Sets:       Central: Vs11 NPCR Req-Consol-All Edits
                  Central: Vs11 State Ex-Incoming Abstracts
                  Hosp: Vs11 COC Required - All
                  Hosp: Vs11 COC Required Non Confid
                  SEER Transmit Edits - Vs11 - All
Fields:         Age at Diagnosis [Std# 230]
Tables:
Default Error Message: [262] Age at Diagnosis not valid
                                     Age at Diagnosis not valid
```

Description:

This field became a required (rather than optional) data item for COC as of 1/1/2003 and is required for all diagnosis years. Consequently this edit is now used by COC, as well as SEER, and will be added to the COC edit set.

Must be a valid value for Age at Diagnosis (000...120, 999).

Administrative Notes:

```
Edit Logic:
            return INLIST(#S"Age at Diagnosis", "000-120,999", "ddd");
```

The standard setters create and maintain the standard edits. These edits are:

- SEER Edits, based on the *SEER Program Coding Manual*
- CoC Edits, based on the *Facility Oncology Registry Data Standards (FORDS)*
- NPCR Edits, based on requirements for central registries collecting data under the NPCR cooperative agreements
- NAACCR Edits, additional edits created to fill in gaps the collaborators identify.

¹ Please refer to *Central Cancer Registries: Design, Management and Use*, chapter 15 for a complete discussion on data editing. (See 13.0 Reference for the full citation.)

Edits generally are grouped together into an edit set, which comprise all of the data validation edits that need to be applied to a record. An individual registry or a software vendor also may create edit sets for special studies.

Example of an Edit Set

```
Hosp: Vs11 COC Required - All
Edits Count: 475                               Last Changed: 05/24/2007
Description: This edit set includes all edits for the confidential and the non-
confidential portions of the layout.
  Edits:   Abstracted By (COC)
           Abstracted By, Date of Diagnosis (COC)
           Accession Number, Class of Case, Seq Number (COC)
           Accession Number--Hosp (COC)
           Addr at DX--City (COC)
           Addr at DX--City, Date of Diagnosis (COC)
           Addr at DX--No/Street (COC)
           [.....]
           [.....]
           Vital Status (COC)
```

The standard setters also establish various metafiles which contain everything needed to edit a data file. A metafile includes information about the:

- Agency that is responsible for creating and maintaining the edit
- Data elements included in the edits
- Record layout for the data file
- Edits, with descriptions (edit error help)
- Edit set
- Error messages
- User lookup tables.

The main metafile is the NAACCR Metafile; it includes edits all standard setters develop. All other metafiles are derived from the NAACCR Metafile.

The Edits Workgroup produces a new version of the NAACCR Metafile for each new version of the NAACCR data layout. The metafile accommodates new and deleted fields in the NAACCR layout. Additional releases of the metafile may correct errors, add new edits, enhance edits, or clean up old edits and edit sets. The NAACCR Metafile and an online help tool are posted at http://www.naacrr.org/index.asp?Col_SectionKey=7&Col_ContentID=136.

NAACCR posts a spreadsheet with each release of the NAACCR Metafile. The spreadsheet lists all of the standard edits and edit sets, identifies new and deleted edits, and describes changes in edit names and edit logic. As a group, these spreadsheets are the best sources of information for changes occurring between versions of the edits metafiles.

The following chart lists the NAACCR Record Layout versions, the date of printing of the record layout, the diagnosis date for which the new layout (and corresponding data dictionary) should be implemented, the corresponding Edits metafile, and the full metafile computer file name.

Table 1: NAACCR Metafile Information

NAACCR Record Layout	Date of Printing	Diagnosis Date	NAACCR Metafile	Full Metafile Name
11.2	June 2007	January 1, 2008		
			11.1B	NAACCR_v11_1B.emf NAACCR_v11_1B.rmf
			11.1A	NAACCR_v11_1A.emf NAACCR_v11_1A.rmf

Metafiles derived from the NAACCR Metafile include:

- NAACCR Call for Data Metafile: The NAACCR Data Evaluation and Certification Committee determines this file for use by central registries submitting data for certification.
- NCDB Call for Data Metafile: In addition to a subset of edits from the NAACCR Metafile, it provides a few NCDB-specific edits for cancer registries in CoC-approved hospitals.
- CSS [Submission] Metafile: Contains sets of “critical” and “non-critical” edits that NPCR registries submitting data to the CSS run.
- State-specific metafiles: Contain edits from the NAACCR Metafile and possibly new edits for state-specific data items.
- Vendor-specific metafiles: Added cross-checks for better data validation or vendor-specific fields.

Both hospital and central cancer registries may need to edit their data using more than one metafile. Follow instructions from the organization requiring data reporting or responsible for certification to determine which edit set to run on a file prior to submission.

As a general rule, software providers should use the required metafile(s) that are based the most current NAACCR Metafile posted on the NAACCR Web site. To minimize confusion regarding which edit sets are being applied to the data, software providers should provide a help option that describes the metafile names that are included in the software.

Use Case Administrative Information

1. Use Case History

Version 1.0 presented to the NPCR-AERRO Workgroup.

2. Created By

- NPCR-AERRO Hospital Workgroup
- NPCR-AERRO Technical Development Team

3. Date Created

October 25, 2007

4. Last Updated By

MA, WKS

5. Date Last Updated

July 13, 2009

Revision History

Name	Date	Reason for Changes	Version
MA	10/25/07	Created the new use case	0.1
Hospital Workgroup	11/27/07	Revised Normal Course of Events	0.2
Hospital Workgroup	12/19/07	Revised Edits Appendix	0.3
MA	3/26/08	Added diagram and updated the actors, definition, and TOC	1.0
MA	6/4/08	Final review	1.0
WKS	6/5/08	Final review	1.0
MA	1/23/09	Formatting changes	1.0
MA	6/8/09	Formatting changes and updates	1.0
WKS, MA	7/13/09	Updated after clearance comments	1.0