

## SECTION III – APPENDIXES

### A. ACRONYMS

The following table contains acronyms used in this document.

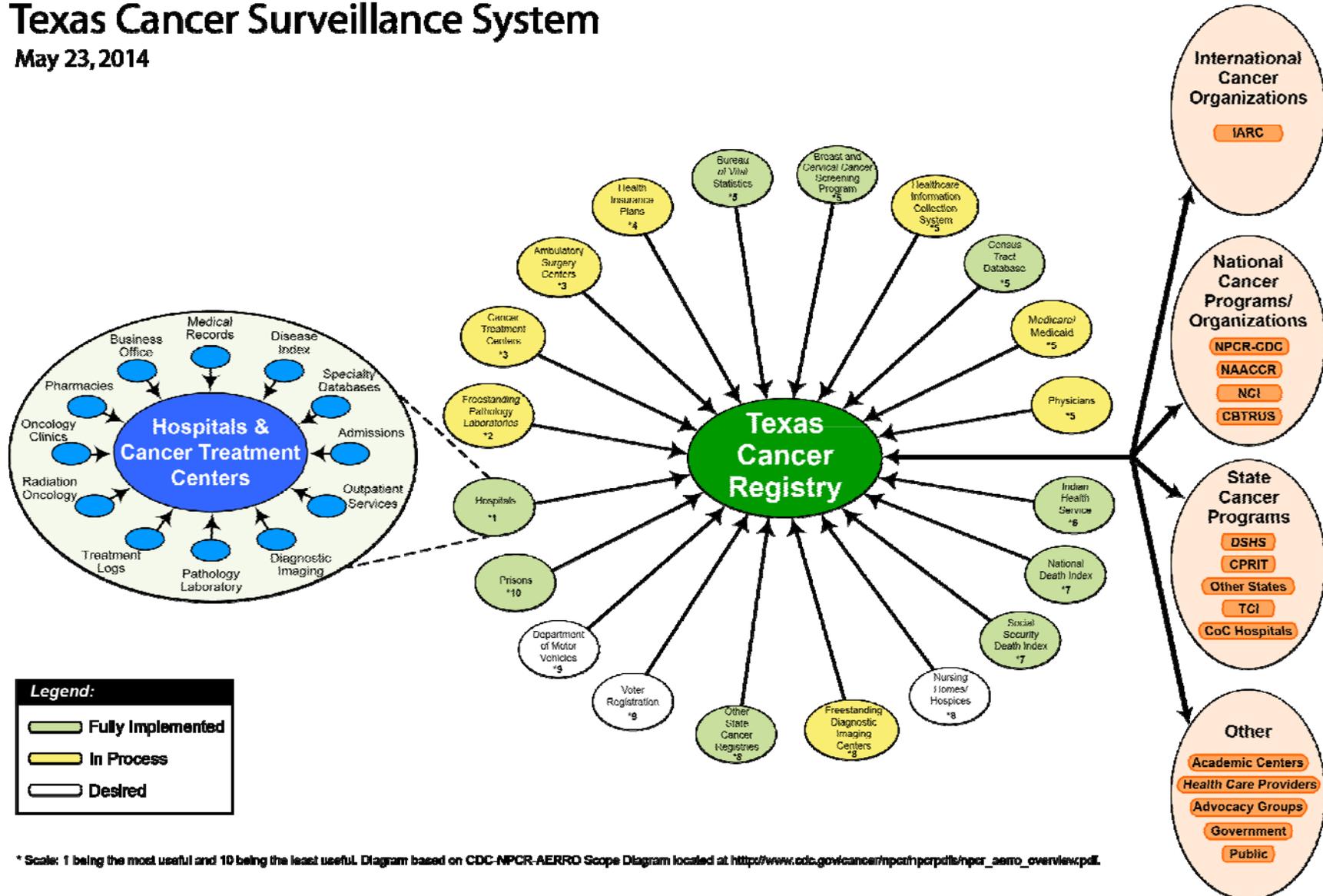
<b>Acronym</b>	<b>Expansion</b>
<b>ACC</b>	Active Case Collection
<b>ACTCR</b>	Advisory Committee to the Texas Cancer Registry
<b>BPM</b>	Business Process Mapping
<b>CDA</b>	Clinical Document Architecture
<b>CDC</b>	Centers for Disease Control and Prevention (Use NPCR)
<b>CESB</b>	Cancer Epidemiology and Surveillance Branch
<b>CHS</b>	Center for Health Statistics
<b>CIRT</b>	Computer Incident Response Team
<b>COSA</b>	Core Operations Systems Analyst
<b>CRS</b>	Central Registry System
<b>DCO</b>	Death Certificate Only
<b>DCPS</b>	Disease Control and Prevention Services Division
<b>DCS</b>	Data Center Services
<b>DI</b>	Disease Indices
<b>DUA</b>	Data Use/Exchange Agreement
<b>EEDRS</b>	Environmental Epidemiology and Disease Registries Section
<b>EHR</b>	Electronic Health Record
<b>eMaRC</b>	Electronic Mapping, Reporting, and Coding
<b>HHSC</b>	Health and Human Services Commission
<b>HL7</b>	Health Level 7
<b>HSR</b>	Health Service Region
<b>IRB</b>	Institutional Review Board
<b>JP</b>	Justice of the Peace
<b>KCR</b>	Kentucky Cancer Registry
<b>LTS</b>	Legislative Tracking System
<b>ME</b>	Medical Examiner
<b>MU2</b>	Stage 2 Meaningful Use
<b>NAACCR</b>	North American Association of Central Cancer Registries
<b>NCI</b>	National Cancer Institute
<b>NEDSS</b>	National Electronic Disease Surveillance System
<b>NPCR</b>	NPCR-CDC – National Program of Cancer Registries, Centers for Disease Control and Prevention
<b>PHINMS</b>	Public Health Information Network Messaging System
<b>QML</b>	Questionable Match Listing
<b>RCCRD</b>	Request for Confidential Cancer Registry Data
<b>RESC</b>	Research Executive Steering Committee
<b>RIP</b>	Reporting Improvement Plan
<b>SEER</b>	Surveillance and Epidemiology End Results
<b>TCR</b>	Texas Cancer Registry
<b>VHA</b>	Veterans Health Administration

DOCUMENT NUMBER	VERSION
100	3.0
PAGE 134 OF 146	

**B. TEXAS CANCER SURVEILLANCE SYSTEM – SCOPE DIAGRAM**

# Texas Cancer Surveillance System

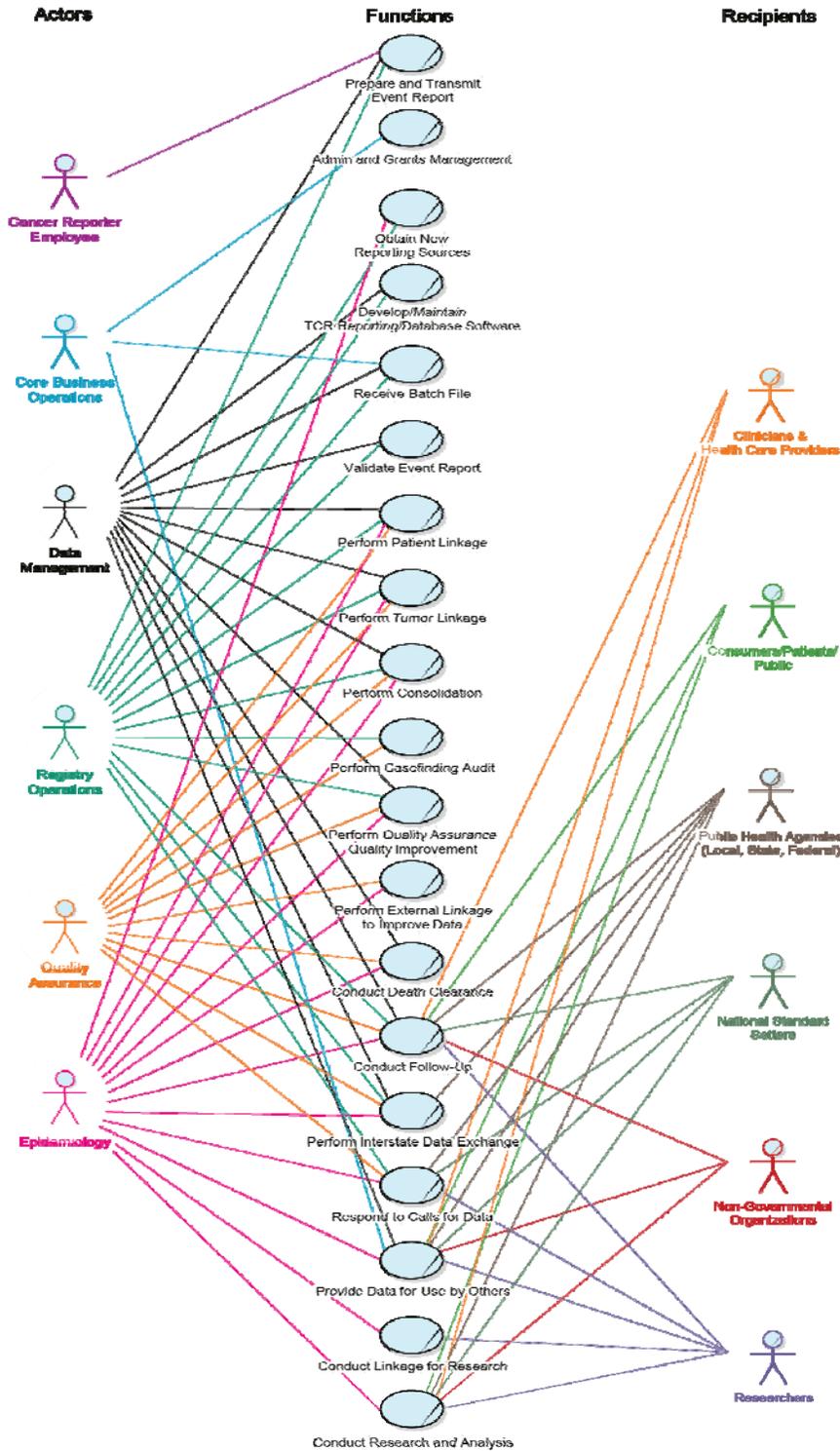
May 23, 2014



\* Scale: 1 being the most useful and 10 being the least useful. Diagram based on CDC-NPCR-AERRO Scope Diagram located at [http://www.cdc.gov/cancer/npcr/path/perpdl/npcr\\_aerro\\_overview.pdf](http://www.cdc.gov/cancer/npcr/path/perpdl/npcr_aerro_overview.pdf).

**C. TEXAS CANCER REGISTRY – WORK PROCESS**

**Texas Cancer Registry Work Process**  
**November 15, 2011**

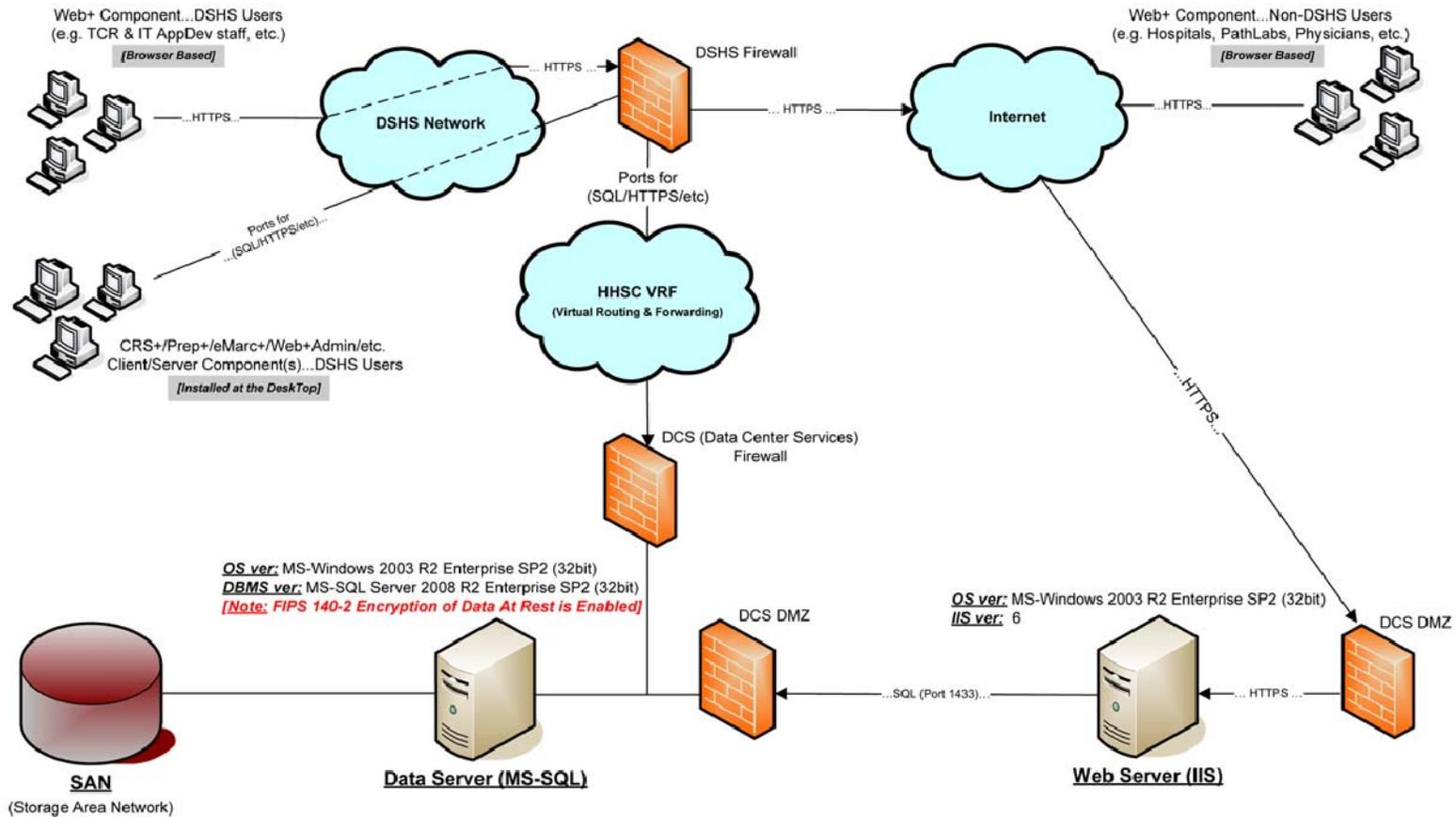


Functions after "Perform Consolidation" can be performed in any order. They are parallel to each other in the hierarchy.  
Diagram based on CDC-NPCR-AERFD Work Process Diagram, located at [http://www.cdc.gov/cancer/npcr/aerfd/npcr\\_aerfd\\_overview.pdf](http://www.cdc.gov/cancer/npcr/aerfd/npcr_aerfd_overview.pdf).

DOCUMENT NUMBER 100	VERSION 3.0
PAGE 136 OF 146	

D. TCR REGISTRY PLUS – TOPOLOGY/SYSTEM BOUNDARY DIAGRAM

**Texas Cancer Registry RegistryPlus Application Suite**  
Topology/System Boundary Diagram





## F. REGISTRY PLUS SOFTWARE – DESCRIPTIONS

Registry Plus and its associated utilities are publicly available free software programs for collecting, processing, and converting cancer registry data. These software programs, compliant with national standards, are made available by CDC (Centers for Disease Control and Prevention) to implement the National Program of Cancer Registries (NPCR), established by Public Law 102-515.

TCR uses the following software from the NPCR.

Name	Description
<b>Web Plus</b>	Web Plus is a Web-based application that collects and receives cancer data securely over the public Internet. It supports these functions: <ul style="list-style-type: none"> <li>• Online abstraction</li> <li>• File upload and download</li> <li>• Follow-back efforts</li> <li>• Logs in file submissions and tracks incoming records</li> <li>• Applies standard NAACCR edit checks on NAACCR-formatted files</li> </ul>
<b>Online Help</b>	Online Help provides standard coding instructions from multiple sources to abstractors and others who work with cancer data. It includes a collection of standard coding manuals that are cross-referenced, indexed, and context-linked to minimize the need for reference to printed manuals during abstracting and editing.
<b>Web Plus Admin Tool</b>	Web Plus Admin Tool is a utility that enables collecting files abstracted or uploaded in the Web Plus application. It also has functions to export the submitted NAACCR-formatted files to Prep Plus and provides some limited administrative reports.
<b>Prep Plus</b>	Prep Plus prepares NAACCR-formatted abstracts that are created or received through Web Plus for importing into CRS Plus. It performs these functions: <ul style="list-style-type: none"> <li>• Logs in abstracts and continues tracking incoming records.</li> <li>• Applies standard NAACCR edit checks.</li> <li>• Allows visual inspection of submitted records and error correction.</li> </ul>
<b>CRS Plus</b>	CRS (Central Registry System) Plus is the main central registry database program used by the TCR for the following activities: <ul style="list-style-type: none"> <li>• Links incoming abstracts against the existing database, compares incoming and stored data, and provides software-assisted consolidation. <ul style="list-style-type: none"> <li>○ TLC Plus - Is a rules-based, automated tumor linkage and consolidation function for CRS Plus that determines multiple primary tumors automatically, consolidates data items from multiple case reports, and provides user-customizable rules.</li> </ul> </li> <li>• Tracks and documents abstract processing.</li> <li>• Provides management reports and work listings.</li> <li>• Exports records in NAACCR format.</li> <li>• Assists in preparing files for national calls for data.</li> </ul>
<b>eMaRC Plus</b>	eMaRC (Electronic Mapping, Reporting, and Coding) Plus views and processes HL7 files, messages, and documents. The program performs these functions: <ul style="list-style-type: none"> <li>• Imports HL7 files manually or directly from the PHINMS queue.</li> <li>• Tests messages or documents for existence of required data items.</li> <li>• Parses HL7 messages or documents.</li> <li>• Maps HL7 data elements to NAACCR data elements.</li> </ul>
<b>EditWriter</b>	EditWriter is a development environment for defining, testing, documenting, and distributing data standards in the form of data edits. It also provides a means of maintaining a standard definition.

BRANCH NAME: TCR

<b>DOCUMENT NUMBER</b> <b>100</b>	<b>VERSION</b> <b>3.0</b>
PAGE 139 OF 146	

<b>Name</b>	<b>Description</b>
<b>GenEDITS Plus</b>	GenEDITS Plus is software for checking and running edits on any standard NAACCR-formatted data file with any metafile (i.e., a file that defines the edits). It also provides summary and detailed error reports.
<b>Link Plus</b>	Link Plus is a probabilistic record linkage program that detects duplicates in a cancer registry database and links cancer registry files with external files.
<b>Northcon</b>	Northcon is a CDC-provided utility that converts NAACCR formatted files to the current NAACCR format version.

## G. OTHER SOFTWARE AND UTILITIES – DESCRIPTIONS

The TCR uses other non-Registry Plus software programs to conduct various registry activities.

Non-Registry Plus software programs include:

<b>Name</b>	<b>Description</b>
<b>Reporters Plus</b>	Reporters Plus is the repository for TCR reporting facilities and contacts. It manages reporting facility information, including IDs, expected cases, and contacts.
<b>SAS</b>	SAS is a statistical package used for analysis and queries.
<b>SEER*Stat</b>	SEER*Stat is an NCI software used for statistical analyses of cancer incidence and mortality data.
<b>SEER*Prep</b>	SEER*Prep is an NCI software used to prepare cancer incidence and mortality data for analysis in SEER*Stat.
<b>Tableau</b>	Tableau is a business intelligence and data visualization software used for tracking and presentation of performance measures.
<b>Adobe</b>	Adobe (Illustrator) is a vector graphics editor used in the graphic design of registry publications, websites, and reports.
<b>EndNote</b>	EndNote is used for publishing and managing bibliographies, citations, and references.

**H. REGISTRY PLUS USE CASES**

<b>ID:</b>	<b>UC-01</b>
Title:	Web Plus
Description:	Facility accesses Web Plus via the internet and sends a tumor abstract bundle to Texas Cancer Registry.
Primary Actor:	Facility Administrative User (Reporter)
Preconditions:	Facility has registered with TCR and has access to Web Plus.
Postconditions:	TCR receives abstract bundle from facility and readies for Prep Plus.
Trigger:	Reporter logs in to Web Plus and selects Release Abstracts.
Basic Flow:	<ol style="list-style-type: none"> <li>1. Reporter selects completed file (abstract bundle) to release to TCR.</li> <li>2. Reporter releases abstract bundle to Web Plus.</li> <li>3. Web Plus sends automated File Receipt Notification.</li> <li>4. Business Operations imports abstract bundle(s) into Web Plus application using Web Plus Admin Tool.</li> <li>5. Web Plus Admin Tool prepares all released NAACCR abstracts.</li> <li>6. Business Ops exports NAACCR files to Prep Plus Raw Abs folder.</li> </ol>
Extensions:	<ol style="list-style-type: none"> <li>5a. Abstracts are non-NAACCR files.</li> <li>5a1. Abstracts are routed to TCR staff for correction.</li> <li>5a2. TCR staff corrects and exports bundles to Prep Plus.</li> </ol>
Variations:	<ol style="list-style-type: none"> <li>1a. Abstracts may be entered into Web Plus directly by TCR staff tumor registrars.</li> </ol>
Frequency of Use:	Daily
Owner:	Texas Cancer Registry

<b>ID:</b>	<b>UC-01a</b>
Title:	Web Plus Download
Description:	Facilities or epidemiology Customers access Web Plus via the internet and download files created by the Texas Cancer Registry for that facility or data request.
Primary Actor:	Facility Administrative User or Data Request Customer
Preconditions:	Facility or data requestor has registered with TCR and has access to Web Plus.
Postconditions:	Facility or data requestor receives file from TCR.
Trigger:	Request from facility or data requestor for file, or facility or data requestor has need to upload a confidential file.
Basic Flow:	<ol style="list-style-type: none"> <li>1. File is uploaded to Web Plus by TCR EPI Customer or staff, or designate through Post File for Download by Facilities.</li> <li>2. Facility or data requestor/TCR EPI staff logs into Web Plus application and chooses File Upload link.</li> <li>3. Facility or data requestor/TCR EPI staff then chooses File Download to view any files available for download.</li> <li>4. Facility or data requestor/TCR EPI staff clicks the Download link to retrieve the file and download it to the facility's system.</li> </ol>
Extensions:	
Variations:	
Frequency of Use:	As needed
Owner:	Texas Cancer Registry

BRANCH NAME: TCR

<b>DOCUMENT NUMBER</b> 100	<b>VERSION</b> 3.0
PAGE 142 OF 146	

<b>ID:</b>	<b>UC-02</b>
Title:	GenEDITS
Description:	Business Operations runs each abstract bundle through GenEDITS to preview number of cases and errors in the file. Epidemiology and Quality Assurance also use for checking Call for Data submission files.
Primary Actor:	Business Operations (Business Ops), Quality Assurance (QA), Epidemiology Users (Epi)
Preconditions:	Abstract bundles uploaded to Web Plus. Calls for Data submission file created by Epidemiology.
Postconditions:	File has been processed and is ready for Prep Plus. Call for Data submission file passes 100% of all required edits.
Trigger (Basic Flow):	Pending NAACCR file in Raw Abs folder.
Trigger (Variation):	Pending Call for Data NAACCR format submission file.
Basic Flow:	<ol style="list-style-type: none"> <li>1. Business Ops runs abstract bundles through GenEDITS.</li> <li>2. GenEDITS produces Report listing number of cases and errors.</li> <li>3. Business Ops places Report in file.</li> <li>4. Business Ops places processed bundles back in Raw Abs folder for Prep Plus.</li> </ol>
Extensions:	<ol style="list-style-type: none"> <li>1a. File fails               <ol style="list-style-type: none"> <li>1a1. Business Ops determines if file is in correct format                   <ol style="list-style-type: none"> <li>1a1.1. If not correct, file to be resubmitted</li> <li>1a1.2. If correct, file assigned to TCR Registry Ops for review and update.</li> </ol> </li> </ol> </li> </ol>
Variations:	<ol style="list-style-type: none"> <li>1a. QA or Epi runs submission file through GenEDITS.</li> <li>2a. GenEDITS produces Report listing number of errors in file.</li> <li>3a. QA and Epi use report to view and correct errors in submission file.</li> </ol>
Frequency of Use:	As needed
Owner:	Texas Cancer Registry

<b>ID:</b>	<b>UC-03</b>
Title:	Prep Plus
Description:	Through Prep Plus, Registry Operations receives and edits batches of abstracts.
Primary Actor:	Registry Operations User
Preconditions:	Abstract bundles have been sent through Gen Edits to check for edits and are in the Raw Abs folder, ready for review.
Postconditions:	Abstract bundles are error free, in NAACCR format, and ready to send to CRS Plus.
Trigger:	Bundles available in Prep Abs folder.
Basic Flow:	<ol style="list-style-type: none"> <li>1. Registry Ops receives bundles from Raw Abs folder.</li> <li>2. Registry Ops prepares bundles for final CRS database by reviewing and validating coding and correcting any errors.</li> <li>3. Prep Plus archives and tracks bundles as they are processed.</li> <li>4. Registry Ops releases processed bundles into the Prep Abs folder for importing into CRS Plus.</li> </ol>
Extensions:	2a. Abstract may be assigned to a specific Registrar.
Variations:	
Frequency of Use:	Daily
Owner:	Texas Cancer Registry

BRANCH NAME: TCR

<b>DOCUMENT NUMBER</b> 100	<b>VERSION</b> 3.0
PAGE 143 OF 146	

<b>ID:</b>	<b>UC-04</b>
Title:	CRS Plus
Description:	CRS Plus is the central database used to manage the central registry. CRS Plus Links, consolidates, and maintains source records; creates consolidated patient and tumor tables. Produces standard queries and extracts.
Primary Actor:	Quality Assurance (QA) and Registry Operations
Preconditions:	Abstract bundles are in Prep Abs folder.
Postconditions:	Abstract bundles have been imported into CRS Plus database.
Trigger:	QA and/or Registry Ops User logs in to CRS Plus, selects Prep Abs folder
Basic Flow:	<ol style="list-style-type: none"> <li>1. User imports the processed bundles into the CRS database.</li> <li>2. TCR team checks for and corrects any errors, completes pending patient linkage, consolidates, and/or resolves any other pending conditions for record.</li> <li>3. CRS resulting record is either a new analytic case, or information is consolidated into an existing analytic case/record in the database.</li> </ol>
Extensions:	
Variations:	
Frequency of Use:	Daily
Owner:	Texas Cancer Registry

<b>ID:</b>	<b>UC-04a</b>
Title:	CRS Plus Extracts
Description:	Management staff accesses CRS Plus and produces user-requested data extracts, and NAACCR-formatted files.
Primary Actor:	Business Operations User
Preconditions:	User is logged on to CRS Plus and has rights to perform an extract.
Postconditions:	Extract Report is produced.
Trigger:	User selects Extracts from the menu.
Basic Flow:	<ol style="list-style-type: none"> <li>1. User chooses Extract Wizard function.</li> <li>2. User selects record source.</li> <li>3. User selects output format.</li> <li>4. User selects fields to extract and values.</li> <li>5. CRS Plus produces extract in chosen format.</li> </ol>
Extensions:	
Variations:	
Frequency of Use:	As needed
Owner:	Texas Cancer Registry

BRANCH NAME: TCR

<b>DOCUMENT NUMBER</b> 100	<b>VERSION</b> 3.0
PAGE 144 OF 146	

<b>ID:</b>	<b>UC-05</b>
Title:	eMaRC Plus (ePath)
Description:	eMaRC Plus identifies cancer pathology and electronic health record reports received in the HL7 format and converts them into abstracts in the NAACCR format. HL7 reports come through the PHINMS queue (an FTP server) or WebPlus.
Primary Actor:	Registry Operations (Non-Hospital Group) User
Preconditions:	HL7 files exist on the FTP server or have been uploaded through Web Plus
Postconditions:	File has been converted to abstract with NAACCR Record Layout.
Trigger:	Registry Ops retrieves batch file from PHINMS queue or WebPlus and moves file to Registry's encrypted shared drive.
Basic Flow:	<ol style="list-style-type: none"><li>1. Registry Operations User logs on to eMaRC and chooses the ePath Module.</li><li>2. User imports the batches into eMaRC</li><li>3. eMaRC determines reportability, provides all ICDO-3 codes, and identifies cancer related terms.</li><li>4. eMaRC (using ePath database) converts data to NAACCR values and creates abstract.</li><li>5. Registry Ops reviews and validates coding.</li><li>6. Registry Ops exports abstracts to Web Plus.</li></ol>
Extensions:	
Variations:	
Frequency of Use:	Daily
Owner:	Texas Cancer Registry

<b>DOCUMENT NUMBER</b> 100	<b>VERSION</b> 3.0
PAGE 145 OF 146	

## I. BPM OVERVIEW

### Disease Control and Prevention Services Environmental Epidemiology and Disease Registries Section

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#### **Business Process Mapping (BPM)**

An approach to increasing program efficiency and effectiveness where Business Analysts conduct meetings with program subject matter experts (SMEs) to:

- Map and document current business processes
- Evaluate the current business environment (Gap Analysis)
- Discover opportunities for improving business processes

#### **BPM Characteristics**

- Owner or Principal Stakeholder
- Subject Matter Expert Contributor Roles
- Process Entry Criteria
- Primary Inputs to the workflow
- Process Exit Criteria
- Primary Outputs of the workflow
- Performance Indicator Measures
- Business Process Components

#### **BPM Methodology and Product**

- Utilizes hands-on, iterative communication techniques
- Uses small facilitated meetings with SMEs
- Builds business or system processes as a team
- Employs process design software tools
- Produces flowchart and narrative outputs
- Evaluates the current business environment (Gap Analysis)
- Discovers opportunities for improving business processes

#### **BPM Purpose**

- Create a clearer understanding of program activities
- Gain insight to improve business processes
- Prepare for technology changes
- Develop and document business requirements
- Provide documentation for business process continuity
- Identify business performance indicator measures

#### **BPM Benefits**

- Provide comprehensive snapshot of business processes
- Increase understanding of program interdependencies
- Improve business process quality
- Lower program costs – increase efficiencies
- Facilitate program succession planning
- Provide performance indicators, analytics, and metrics
- Allow more timely, better informed business decisions

BRANCH NAME: TCR

<b>DOCUMENT NUMBER</b> 100	<b>VERSION</b> 3.0
PAGE 146 OF 146	

**J. CHANGE LOG**

<b>Version No.</b>	<b>Description of Change</b>	<b>Who</b>	<b>Effective Date</b>
1.0	"Incomplete" Deliverable – Current 2011 BPM for Branch Manager Approval	Holbrook	11/30/2011
2.0	Deliverable – Current 2013 BPM for Branch Manager Approval	Holbrook	8/30/2013
3.0	Deliverable – Current 2014 BPM for Branch Manager Approval	Holbrook	8/26/2014