**DRAFT**

"A network of networks for a healthier nation."

March 28, 2001

To the reader of these documents,

The National Electronic Disease Surveillance System (NEDSS) is a broad initiative to use data and information system standards to advance the development of efficient, integrated and interoperable surveillance systems. NEDSS also facilitates electronic connection with the burgeoning clinical information systems infrastructure to develop new surveillance methods that promise to revolutionize the practice of public health surveillance.

To support the broad NEDSS initiative, some states are developing NEDSS-compatible systems. The CDC is developing software for state and local health department use that provides specific implementation standards of core elements of the NEDSS architecture. The software also begins to implement the NEDSS architecture for those who choose to use the CDC-developed option. The first pieces of this new software are the NEDSS Base System.

Attached are three documents that describe the NEDSS Base System.

1. The first is a fact sheet developed by the CDC that provides an "at-a-glance" description of what the NEDSS Base System is and what it is not.
2. The second document, also developed by the CDC, is a more detailed description of the Base System that further describes the Base System functionality and its relationship to the broader NEDSS initiative.
3. The final and longest document is a Computer Sciences Corporation (CSC) product incorporating specifications from joint application and development sessions with CDC and state partners and from discussions with data and process modeling consultants (IDX) engaged by the CDC.

We encourage you to review as much of the attached documents as is relevant. Comments and suggestions concerning these documents can be posted to the NEDSS Web board or sent to the e-mail addresses below.

Thank you for your help and we look forward to working with you to implement the NEDSS vision.

# *NEDSS Base System Fact Sheet*

What is the Base System vision?

- For those states that choose to use a CDC-developed option, the NEDSS Base System is a platform upon which many public health surveillance systems, processes, and data can be integrated in a secure environment.
- For those states that choose to develop their own NEDSS compatible systems, the Base System provides specific implementation standards.

What is the Base System?

- Platform to support state notifiable disease surveillance and analysis activities
- Successor of NETSS
- A modular system (states may use all or part of the Base System)

What the Base System is *not*:

- NEDSS
- Complete NEDSS solution
- The integrated disease surveillance system for all states

What will the Base System do?

- Support state and local surveillance activities, such as data entry of core demographic (CDM) and notifiable disease (NNDM) data via Web-based modules
- Provide seamless view and management of cross program data to authorized users via selected program area modules (PAMs); PAMs will also integrate program area data with demographic and notifiable disease data
- Support the storage and maintenance of data in an integrated database at the state level
- Provide access to specific commercial off-the-shelf (COTS) products to support data analysis and visualization activities related to NEDSS and electronic exchange of laboratory, clinical, and epidemiologic data between the state and other providers/laboratories (dependent on licensing agreements)

What are modules?

- NEDSS software modules are individually packaged functional units that work together as an integrated package.
- Some NEDSS modules have been classified as core, such as Core Demographic modules and Nationally Notifiable Disease Modules. Core modules handle information that is important and common to all programs. PAMs support the collection and management of information relevant to a particular disease program. For example, specific questions related to Hepatitis would be managed in the Hepatitis program area module

What are the technical components of the Base System architecture?

- Web-based modules, and screens for data entry and management of demographic and notifiable disease data
- Web application server (SilverStream) to support the functionality of the Web-based modules
- Integrated data repository to support management and storage of data across programs (database management system supplied by the state)
- Messaging software tool (E-Link executable) to support messaging and electronic data interchange between states and the CDC; may support transmission of lab results from multi-jurisdictional labs to state health department.
- Security using existing state infrastructure or a CDC provided intranet-oriented authentication and authorization system

When will it be fielded?

- The Base System will be available for pilot testing in June 2001; several months after the pilot test a wider beta release will be available

# Description of the NEDSS Base System
# March 28, 2001

## I. Introduction

### Purpose of NEDSS Base System Document

This document describes the vision, development, implementation, and uses of the NEDSS Base System as a component of the overall NEDSS initiative. It is intended to provide public health professionals a better understanding of the proposed NEDSS Base System. This document is not intended to define the overall NEDSS effort nor does it provide any detailed technical specifications about NEDSS Base System components. More information on NEDSS can be found at (http://www.cdc.gov/od/hissb/docs.htm).

### Background and Overview

The National Electronic Disease Surveillance System (NEDSS) project is a public health initiative to provide a standards-based, integrated approach to disease surveillance and to connect public health surveillance to the burgeoning clinical information systems infrastructure. NEDSS will improve the nation's ability to identify and track emerging infectious diseases (including potential bioterrorism attacks), investigate outbreaks, and monitor disease trends.

To initiate implementation of NEDSS, states have received funds to assess their current systems and develop plans for implementation of NEDSS-compatible systems. Some states are choosing to develop their own systems using specified NEDSS standards, while other states have expressed interest in using all or a portion of a CDC developed system. For those states that choosing to use a CDC-developed option, the NEDSS Base System is a platform upon which many public health surveillance systems, processes, and data can be integrated in a secure environment. For those states that choose to develop their own NEDSS compatible systems, the Base System provides specific implementation standards.

As a primary goal, the first release of the NEDSS Base System will serve to support the electronic processes involved in notifiable disease surveillance and analysis, replacing the functionality currently supported by the National Electronic Telecommunications System for Surveillance (NETSS). The NEDSS Base System is not intended to represent the complete NEDSS solution, but will provide the foundation upon which state and program area needs, data collection, and processing can be built. This foundation will include, for example, the development of modules (e.g. core demographic module, nationally notifiable disease module) that can be used for data entry and management of core demographic and notifiable disease data.

### NEDSS Users

The NEDSS Base System, and the modules that interact with it, is intended for use by state health departments for the purposes of communicable disease surveillance. Future modules for the Base System and additional Base System functionality may support content and functionality needed from other programs (e.g. Chronic, Environmental health, etc.). Users may include epidemiologists, laboratorians, data managers, and data entry clerks from various program areas. State and local health departments should plan to develop and institute policies addressing user access and sharing of data between different program areas.

### Timeline

Completion of the major components of the NEDSS Base System for pilot testing is targeted for June 2001. In addition, concurrent development of program area modules (PAMs) is planned to provide complementary surveillance functionality shortly after the Base System is ready for production use. This first release of the Base System will represent an integrated system using a Web-based architecture that is intended to integrate with existing state network and Web infrastructures. Experience gained from states implementing components of the NEDSS Base System (e.g. Web-based modules, integrated data repositories, etc.) will help identify desired changes and additional requirements for future releases.

## II. NEDSS Base System Framework

### Base System Functionality

The NEDSS Base System will provide users the ability to enter, manage, and view core demographic and nationally notifiable disease data via a Web browser. These basic functions will also be utilized by the NEDSS PAMs. The Base System will allow for several different methods of data entry. In addition to allowing for the entry of completed case reports, the Base System will facilitate the management of open cases under investigation and have basic infrastructure to receive and hold electronic lab results and other electronic clinical reports. Defined tables for all of the data will reside in a state-managed integrated data repository (IDR). Three major Base System functions are described in detail below:

### Data Entry Via the Web

The Base System will provide Web screens for the entry, management, and querying of core demographic and nationally notifiable diseases data. The Core Demographic module (CDM) will provide basic functionality for the accumulation and management of core demographic data, including the addition, modification, and deletion of patient demographic data and registry matching for the purposes of identifying patients. The CDM will work with other NEDSS modules to allow for seamless entry of program area and core data. The Nationally Notifiable Disease module (NNDM) will support management of core notifiable disease data and replace the reporting functionality provided by NETSS. Shareable, core data across disease programs will be captured in the CDM and NNDM modules. Shareable data that is specific to a particular disease program (including some of the NETSS extended records) will be managed through PAMs that build on Base System functionality. PAMs are being developed concurrently by categorical programs to collect and manage information relevant to the disease program. Together, these modules will provide the seamless display of demographic, notifiable disease, laboratory, and program area data via a Web browser.

### Electronic Interchange of Laboratory Data

The Base System software will include software to support the electronic receipt of laboratory results from CDC labs. This software will also allow for the routing of laboratory data from national laboratories to state health departments as a state selectable option. This will allow states to electronically receive and store laboratory information in defined tables in the IDR. After verifying the completeness of the imported laboratory findings, this information can be linked with demographic and notifiable disease data to provide an integrated view of a patient's demographics, lab result, and disease history in a timely and efficient manner. Although NEDSS electronic data interchange has focused initially on the receipt of laboratory findings, the methodologies and tools to support this function can also be used for the electronic exchange and reporting of clinical and epidemiologic data.

### Storage and Maintenance of Data

A core building block of the NEDSS Base System framework is the IDR – a data store for data from multiple disease programs. To ensure data confidentiality, the IDR will allow for selective access to the data based on users' roles and responsibilities. The IDR will provide state health departments the opportunity to manage, analyze, and share data based on state and locally defined business rules. As states continue collaboration with other external partners (such as clinical providers), the IDR provides a means to have a single point of contact to interchange data with external data sources. As a function of the local extensibility and flexibility of the NEDSS architecture, states can choose to implement separate instances of the IDR if necessary.

For the Base System, the IDR will contain CDC-defined tables to store core demographic, notifiable disease, and some electronic lab and clinical report data. The IDR will support the workflow of state activities involved in case investigation and evaluation by providing views of lab and clinical data to help users determine whether additional follow-up and/or verification is needed before it is designated to a particular disease program (e.g., a positive chlamydia test is captured in the IDR). This record is flagged and viewed via Web screens. Staff members contact labs for additional demographic information before electronically assigning the record to the STD program.

### Base System Architecture

The major components of the Base System are shown in Exhibit 1. They include

- Web-based modules; screens for data entry and management of demographic and notifiable disease data
- A Web application server (SilverStream) to support the functionality of the Web-based modules
- An IDR to support management and storage of data across programs (the IDR database is to be supplied by the state)
- A messaging software tool (E-Link executable) to support messaging and electronic data interchange between states and the CDC
- Security using existing state infrastructure or a CDC-provided, Intranet-oriented authentication and authorization system
- Data analysis functionality

The components provided in the NEDSS Base System will be structured to support data entry via Web-based screens, an application server (e.g., SilverStream) to support the functionality of the Web-based screens, and storage of demographic and notifiable disease data in an integrated database (e.g., IDR). To support the communication and analytical needs of states, tools will also be provided for messaging between states and the CDC (electronic data interchange), data analysis (e.g., SAS), and authentication/security functions.

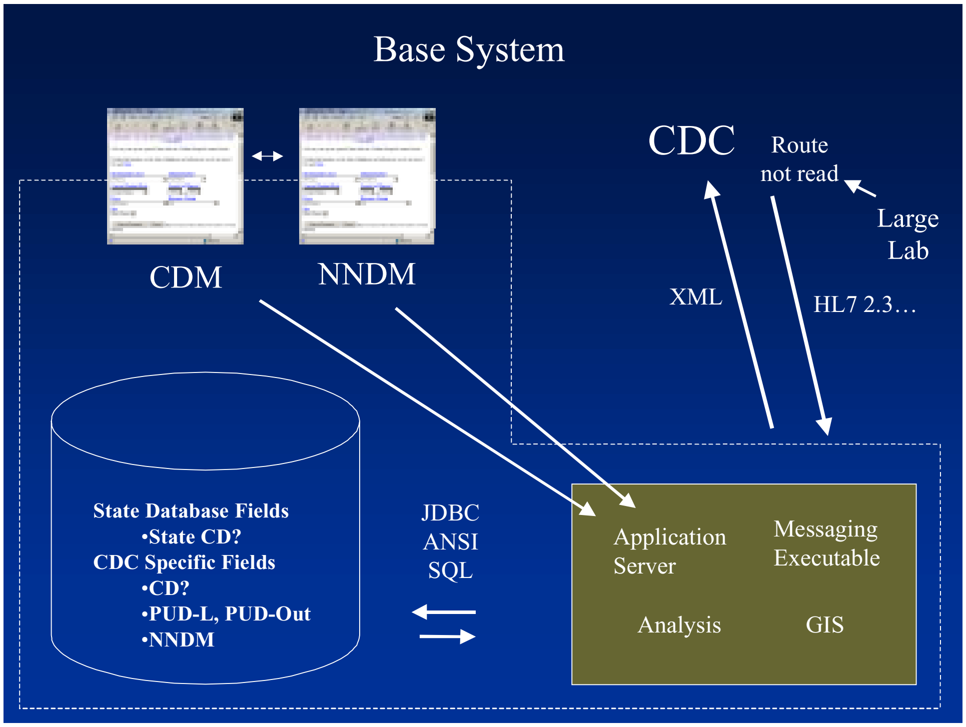


***Exhibit 1. NEDSS Base System***

## *III. Development and Implementation of the NEDSS Base System*

### *Development and Implementation*

The functional requirements for the NEDSS Base System are being captured and documented based on structured joint application development (JAD) sessions, existing documents from various working groups, and state input. Design requirements for the Base System include the implementation of the Public Health Conceptual Data Model and the NEDSS state architecture and architecture standards (see http://www.cdc.gov/od/hissb/). The CDC has contracted with Computer Sciences Corporation (CSC) to lead development of the Base System components using Capability Maturity Model (CMM) Level 3 development methodologies and tools. IDX Corporation, the principal architects behind the Public Health Conceptual Data Model, have been contracted to provide states technical assistance designing and implementing a NEDSS-compliant IDR. In addition, IDX is collaborating with CSC, CDC, and other state partners to develop a shareable NEDSS Base System logical data model that will be used to construct the Base System's Web-based modules, message specifications, and data repositories at both the states and CDC.

### *Product Licensing for NEDSS*

Licensing of commercial off the shelf (COTS) products for use in NEDSS is currently underway. Agreements have been made with COTS vendors for specific uses of their products. Licensing has been arranged with the SAS Institute for distribution of SAS to state and local partners. These licenses allow for the use of select SAS products for data analysis activities related to

NEDSS. An agreement has also been reached for use of the SilverStream Application Server product for support of the CDC-developed Base System applications (e.g., Web-based modules). Finally, the E-Link product has been licensed for the messaging of data to and from states and the CDC. This license currently does not cover the development or deployment of messaging of data directly from labs and other providers in the state to the state health department. Additional input is needed from state and local partners to determine further licensing needs for the NEDSS initiative.

### *Stakeholder Input*

Partner input is being solicited from a variety of groups and sources. CDC is continuing to participate in discussions of NEDSS with representatives from state and local health organizations such as ASTO, APHL, CSTE, NAACHO, and NAPHSIS. On April 10-11, 2001, state and local partners are invited to participate in the second NEDSS Stakeholders' Meeting. Working groups have been created that include the 14 states funded for NEDSS development activities to coordinate issues common to multiple states, such as electronic reporting and messaging, data modeling and standards, data analysis and visualization, and security. These working groups provide a forum for states to dialogue and share documentation and requirements via several listservers and an associated electronic Web board. As draft Base System requirements and specifications are available, they will be shared with our state partners and posted to the Web board for comments. The Web board is open to interested NEDSS participants and is accessible via the Internet. To sign up, please contact Jason Hall via e-mail (cjhall@cdc.gov).

**National Electronic Disease Surveillance System (NEDSS)**
**Base System**

# NEDSS Base System Overview: Functional Requirements

**Version 1.1**

**March 28, 2001**

# Revision History

| Date | Version | Description | Author |
|---|---|---|---|
| 02/09/2001 | 0.5 | Added Generic Activities concept | <CSC NEDSS Enterprise Team> |
| 02/13/2001 | 0.6 | Added new Use Cases for each of the PH Activities and moved previous Use Cases to the Task Level. | <CSC NEDSS Enterprise Team> |
| 02/16/2001 | 0.7 | Corrected editorial issues, added Data Variables associated with each Module | <CSC NEDSS Enterprise Team> |
| 2/28/01 | 0.8 | Incorporated the Activity Level and Task level Use Cases in Sections 5 & 6 | <CSC NEDSS Enterprise Team> |
| 3/01/01 | 0.9 | Corrected TOC problems due to headers in the Use Case Tables | <CSC NEDSS Enterprise Team> |
| 3/03/01 | 1.0 | Editorial & Format corrections. Released for CDC Review | <CSC NEDSS Enterprise Team> |
| 3/16/01 | 1.1 | Incorporated feedback from CDC | <CSC NEDSS Enterprise Team> |

# Table of Contents

## List of Exhibits

# Section 1—Introduction

The NEDSS Program is a broad initiative supported by CDC through a cooperative partnership with many stakeholders in the public health community. NEDSS objectives are to improve the efficiency, effectiveness, and timeliness of public health related surveillance information and associated activities. These stakeholders include the CDC, other agencies within HHS, state public health departments, health care standards organizations, health care product vendors, and health case professional services organizations.

The approach being taken to meet the NEDSS Program objectives is many-faceted. The NEDSS approach includes initiating, organizing, and maintaining dialog among public health partners to share best practices; contributing to and making use of evolving standards; evaluating and interpreting evolving trends and regulations (such as HIPAA) and their impact on public health practices; consulting with and sharing experiences in public health systems development, and integrating the best of these shared experiences into the design and development of a reference system model to support public health related surveillance activities. This reference system model along with its implementation by CDC is referred to as the NEDSS Base System.

This document describes both the long-term vision for functionality to be provided by the NEDSS Base System, as well as, the functionality targeted for inclusion in Release 1 of the NEDSS Base System. It focuses on how the application functionality provided by the NEDSS Base System will provide enhanced support to public health professionals for many of their activities needed to accomplish surveillance in an efficient and effective way. An important design principal beyond the vision for the first release of the NEDSS Base System is that the system should support the public health workers' primary functions and that the <u>reporting</u> of surveillance data (as opposed to the <u>collecting</u> and <u>recording</u> of the data) should be an automatic side effect of the surveillance and intervention processes. That is, it should not necessitate an additional task for the public health worker.

The primary purpose of the Base System is to serve as a reference model for use by state agencies in support of increased sharing of data through the broad adoption of information system standards. State agencies will have the option to take advantage of any of the many NEDSS System deliverables to meet their own particular objectives. These deliverables will range from Reference Design Models to full implementations of these reference designs. These deliverables will include a broad range of products and services, including

- A Public Health Conceptual Data Model (PHCDM) based on the HL7 Reference Information Model
- A Public Health Logical Data Model (PHLDM) for an integrated data repository (IDR) based on the PHCDM
- Conceptual and logical designs for a family of standard Public Health Messages that can be used to share data between partners with different information systems
- Coding standards for data elements used in public health surveillance
- A Surveillance System Reference Architecture that addresses primary requirements for any surveillance system (for example, patient confidentiality)

- An integrated set of commercially available infrastructure products (COTS) that has been tested and shown to support the application support needs of state agencies
- **A NEDSS Base System including the set of integrated products and software components that support the wide range surveillance functions common across public health surveillance activities**
- An evolving set of PAMs that provide additional functionality specific to particular disease programs

State agencies are welcome to use any or all of these deliverables to best meet their particular needs.

This specification addresses the application functionality (bolded item in the list) that will support the surveillance processes common across all program areas. Separate specifications will address additional functionality that is considered disease or program area specific.

The report focuses specifically on the application functionality to be provided to state and local health departments to support the many activities performed to accomplish their surveillance functions. Important topics related to the NEDSS Base System functionality, such as security, deployment, etc., are addressed in other reports,. These aspects of the NEDSS Base System and the initiative to develop it are described in the following related documents:

- NEDSS System Vision (To be published)
- NEDSS System Designers' Guide (To be published)

## 1.1 Purpose and Intended Audience

The primary purpose of this document is to describe the planned functionality of the NEDSS Base System so that CDC partners, especially state public health professionals and the supporting systems developers can provide detailed recommendations to the NEDSS program team on the priority of candidate functionality, preferences for how the functionality should be designed, and surface recommendations for functionality not mentioned in this draft version. Suggestions received by the NEDSS program team will be considered for inclusion in the initial functional prototype and for NEDSS functionality review session at the April 2001 NEDSS Stakeholders' Workshop.

Recommendations can be e-mailed or conveyed by phone to any of the following:

- John Loonsk, e-mail = jloonsk@cdc.gov
- Barbara Kilborne, e-mail = bwk1@cdc.gov
- Mike Rigden, e-mail = NZR1@cdc.gov

As recommendations are received and as the prototyping of NEDSS proceeds, this document will be updated and, in particular, some sections will be made much more specific. Future updates will be posted to the Web Board.

## 1.2 Scope

This document describes the overall vision for the NEDSS Base System functionality as well as the functionality planned for Release 1 of the NEDSS Base System. As described in more detail in the documents referenced above, from the functional perspective NEDSS consists of a Base System and multiple program-area- specific modules.

The **Base System functionality** provides core modules that support functions common to most surveillance functions regardless of disease or condition being managed, such as master person indexing, investigation and WorkUp management, case determination, data analysis, messaging, security, notifiable disease reporting, etc.

Those functions that are specific to particular program areas, diseases, or conditions are developed in an integrated fashion by independent teams and use the modules of the Base system for common functions. These domain specific modules are called Program Area Modules (PAMs).

Requirements for the following PAMs are currently being collected and analyzed and are targeted for release shortly after Release 1 of the Base System is released so as to completely supplant NETSS functionality:

- National Immunization Program
- Bacterial Meningitis
- Lyme Disease
- Hepatitis

Several additional PAMs will follow soon thereafter.

## 1.3 Definitions, Acronyms, and Abbreviations

The following are key words used in this specification to refer to the entities and events relevant to public health activities.

**Entities** are people, animals, and inanimate things that have a physical existence. We also include conceptual things such as organizations. Examples include: person, patient, clinician, laboratory technician, specimen, a state IT department.

**Health-Related Activities** are actions taken by entities for some public health purpose. Examples include: entering a case report, reporting a lab test result, interviewing a patient, and investigating a suspected case. The major categories of health-related activities are: Observations, Notifications, Interventions, Referrals, and WorkUps.

- **Observations** are recordings of actions performed to determine an answer or result value.
- **Notifications** are the communication of one or more observations from one entity to another, such as a lab sending the results of a battery of tests to the local public health department informing them of the likely occurrence of a particular disease condition.
- **Interventions** are the administration of a substance or technique to provide care for an existing condition or to prevent the occurrence of a condition.
- **Referrals** are the introduction of an individual or individuals from one health care organization to another for the purpose of diagnosis or treatment.
- **WorkUps** are the accumulated collection of Observations, Notifications, Interventions, and Referrals made by a public health worker on a given individual for one or more

conditions. It is synonymous with the term **Case WorkUp**, but is used to cover a broader range of conditions than just those covered by **Case Definitions.**

**Protocols** are agreed on guidelines for diagnosis, investigation, notification, or intervention based on a set of presenting **observations**.

While many different public health professional roles will be using various features of the NEDSS Base System, for ease of reading we use the generic term **'user'** throughout this document. This should not be interpreted to mean that any user could use any of the functions described. The NEDSS Base System will include a role-based Authentication and Authorization security subsystem that will allow the local and state NEDSS System administrators to assign individuals to roles and define the access privileges of those roles. The basics of the NEDSS Base System security subsystem is described in the NEDSS System Vision referenced in Section 1, Introduction.

## 1.4 Overview

The main sections of this document present

- The **Positioning** of the NEDSS Base System functionality with respect to existing CDC-provided applications and applications developed by individual states
- The **Identification of NEDSS Stakeholders** and **Users** and the primary benefits of the NEDSS Base System functionality to each
- An **Overview** of the public health surveillance activities and how they will be supported by specific NEDSS System activity level modules
- A summary of the overall NEDSS Base System **Functionality Features** common to all applications
- A detailed description of the requirements of each surveillance activity that will be supported by NEDSS System Activity Level Modules in Release 1 of the Base System; these detailed requirements specifications are expressed in the form of Use Cases
- A detailed description of the requirements of common Application Support Modules that are used by multiple Application Level Modules; including a listing and description of the data elements that are managed by each module; these modules correspond to the major entities in the NEDSS Base System Integrated Data Repository
  - Core Demographic Module (CDM)
  - National Notifiable Disease Module (NNDM)

## 1.5 Suggestions for Review of Document by Different Audiences

The sections of the document build incrementally in the level of NEDSS detail presented. Few reviewers are expected to read all sections in detail.

- Sections 1 through 3 provide an overview of the NEDSS Base System for all readers.
- Section 4 describes the public health activities, processes, and tasks that the NEDSS Base System will support and some detail on how these processes will be supported.

- Section 5 presents a detailed explanation in the form of Use Cases of the requirements addressed for each of the major activity areas (see Section 4 for a description terms such as ‘activity areas’).
- Section 6 presents and even more detailed explanation, also in the form of Use Cases, of the requirements of specific tasks that are performed to accomplish the many activities shown in Exhibit 4-1.

By way of analogy to common integrated desktop office tools, such as Microsoft Office, the Activities correspond to such things as word processing and spreadsheet analyses. The Activity Level modules correspond to such Office products as Word and Excel. Tasks correspond to such lower level tasks as spell checking, which are common to both word processing and spreadsheets. The task level functions in the NEDSS Base System are reused similarly. For example, many activity modules share the need to do patient lookup by various person attributes.

Sections 5 and 6 are the sections that are the most likely to change as the NEDSS Base System specification progresses based on feedback not only to this document but also from functional reviews of the working prototypes.

# Section 2—NEDSS Base System Positioning

NEDSS Base System is intended to initiate a process to replace most of the surveillance applications provided by the CDC to support surveillance functions by their public health partners. Previously, CDC programs provided independently developed applications, focused on specific disease or condition domains. CDC's public health partners have requested that CDC provide an integrated product with a consistent user interface and integrated data repository. With the NEDSS Base System, states will begin to phase out the use of NETSS for reporting nationally notifiable diseases. With the phased-release of each of the PAMs, states will be able to phase out the corresponding legacy program specific applications or extensions to NETSS. The NEDSS Base System will supersede most of the legacy systems as the Base System progresses through the iterative development process and as specific Program Area Modules are added to the Base System.

They have also requested that this product be customizable to meet local public health needs and be configurable so that states can decide whether to install a single implementation to serve all state and local programs or to install multiple instances for individual program areas (e.g., AIDS) or organizational departments (e.g., individual county departments).

See the NEDSS System Vision for a more complete description of the deployment and extensibility features of the NEDSS Base System.

## 2.1 Approach to the Incremental Evolution of the NEDSS Base System Functionality

The long-term vision for the NEDSS Base System functionality is very ambitious. However, CDC is adopting a very incremental approach to achieving this vision. The initial releases will provide support for each of the main surveillance activities but this support will be fundamental rather than sophisticated and complex. For example, the vision includes the electronic capture of public health event data at its site of origination, but in Release 1 of the Base System this will be limited to the electronic capture of lab results from labs and the capture of unstructured documents in the form of HL7 Clinical Document Architecture files, which provide a structured header around the unstructured content so that the document can be linked to data records in the IDR for viewing in its original unstructured format. A midterm release will provide for the electronic capture of more structured event reports from hospital emergency rooms, public health clinics, etc.

This incremental approach will allow the stakeholders who use the system to do so with minimal disruption to their current activities and allow the NEDSS community to easily evaluate the base functionality and recommend enhancements to increase its usefulness before advanced data capture features are included.

## 2.2 Business Advantages of the NEDSS Approach

### 2.2.1 State and Local Public Health Professionals

NEDSS will provide a single, integrated system with a single user interface that can be used by public health professionals to manage and analyze all of their surveillance data across all disease and condition domains. In addition, NEDSS is designed to support a much wider range of surveillance activities than the legacy applications it is replacing. For example, rather than beginning support for the surveillance function once all relevant data has been collected and a case report form filled out, NEDSS supports the receipt and processing of individual event reports, investigation, and follow-up activities to determine (1) whether a condition or case actually exists; (2) notification of nationally notifiable diseases as a side effect of the investigation process rather than as a separate task; and (3) planning for next actions, including interventions.

### 2.2.2 State and Local Surveillance System Developers

The fact that CDC will be supplying a single software suite built within a framework based on prevalent industry standards will significantly reduce their efforts in tailoring the system to state-specific needs.

See the NEDSS System Vision (Author: can we say where it is?) for more detailed information on this topic.

### 2.2.3 CDC Programs

NEDSS is designed to provide a common platform of components that are reusable across all program area specific applications. This will provide a less expensive and faster development cycle for all programs because program-specific development efforts can focus on program area specific functionality without having to independently duplicate all of the required supporting software infrastructure.

See the NEDSS System Vision for more detailed information on this topic.

### 2.2.4 Public Health Partners

As part of the overall NEDSS initiative, we will be developing a set of HL7-based XML messages that partners can use so that information can be shared with any partner that has implemented these standard messages. One of the protocols used by these standard messages is HTTPS, so implementation and security can be maintained with minimal disturbance to existing state network security systems, such as firewalls.

See the NEDSS System Vision for more detailed information on this topic.

## 2.3 NEDSS Base System Extensibility and Tailorability

NEDSS Base System will be delivered to the states in one or more of several deployable configurations. A high-priority design objective for the Base System is to support customization by the states to meet specific local needs. At the application functionality level, this will include the ability to modify the screen presentations (note we use the common term screen when referring to Web pages) by modifying the XSL schema associated with the XML file for each screen, adding user-defined fields, new data elements to tables, and screens to access and manage data in state-specific tables that are separate tables linked to the NEDSS Base System tables.

See the NEDSS System Vision for more detailed information on this topic.

# Section 3—Stakeholder and User Summary

Exhibit 3-1 summarizes the key benefits of NEDSS for the principle stakeholders in the NEDSS Program.

| Name | NEDSS Benefits |
|---|---|
| State & Local Public Health Professionals | ■ Allows public health workers and other public health care professional to use one type of system with a consistent user interface and an integrated database to record and manage their surveillance data<br>■ Provides significantly enhanced capabilities to support the user in collecting and organizing many types of event reports into a case report (here referred to more generally as a 'WorkUp')<br>■ Provides capability to receive event reports as electronic messages that can be reviewed and converted into event reports semi-automatically<br>■ Provides support for consistent use of standard codes defined by several standardization bodies and ability to define local codes that can be cross-mapped to these national standards (such as, local ethnicity codes that vary from OMB standards)<br>■ Supports a patient focus rather than an event or episode focus |
| State & Local System Developers | ■ Provides a faster and simpler mechanism for tailoring NEDSS Base System modules without necessarily having to change or add program code<br>■ Provides a detailed NEDSS Base System Design and Programming Guide along with skeleton code to guide developers in creating new modules and integrating them with the Base System<br>■ Provides a standard and consistent technical infrastructure and architecture across all CDC-provided applications<br>■ Allows for reuse and integration of industry-standard Enterprise Java Beans from any source to expedite local custom development |
| State & Local Surveillance Program Directors | ■ Provides support for definition Case Definitions and WorkUp Guidelines that can be used by public health workers as they enter and analyze data<br>■ Provides tools to analyze quality of data in surveillance database |
| State & Local Epidemiologists | ■ Provides ability to view and analyze all surveillance data across all program areas<br>■ Provides advanced support for integrating both COTS and custom analysis and reporting tools. while minimizing need for users to know specific details of how to use each<br>■ Provides a library of sharable predefined reports (created either by CDC or other local and state NEDSS Base System users) based on a standard data model across all diseases and program area |
| State & Local Clerical Specialists | ■ Provides extensive data entry help to increase both, speed of data entry as well as completeness and accuracy of data entered<br>■ Provides for electronic capture of event information from many sources in many formats rather than having to rely on manual entry of data |
| CDC Program Area Directors | ■ Provides reduced development costs for program area-specific functionality because all services of the Base System are made available for reuse |
| CDC Program Area System Developers | ■ Allows program area developers to focus on functionality that is unique to their domain without having to worry about infrastructure types services, such as security, logging, messaging, etc. |
| CDC Epidemiologists | ■ Allows analysis of data across all conditions and from a patient rather than episodic basis |
| Public Health Partners | ■ Provides for sending and receiving of data in electronic format<br>■ Provides for direct entry of event data into a NEDSS Base System without having to fill out and send paper-based forms |

***Exhibit 3-1. Key Benefits to NEDSS Stakeholders and Users***

# Section 4—NEDSS Base System Functional Overview

NEDSS functionality is based on a much broader perspective of how the surveillance activities can be supported with modern information technology than is taken by the current suite of CDC-provided applications.

Most previous program area applications provided detailed support for the entry of disease or condition-specific cases and the reporting of the case information for notifiable conditions to the CDC. Public health workers were still required to manually collect the many event reports and observations needed to determine whether a collection of related reported events constituted a case and whether that warranted reporting and intervention.

The NEDSS Base System is designed to support the

- Capture of all reports as they are received
- Association of an individual event report with other event reports for the same person
- Maintenance of person demographic data (MPI) independent of specific event reports (though a demographic record may be started from data received on an event report)
- Association of related event reports into a WorkUp as part of the process of the investigation process to determine what steps might need to be taken, such as intervention or notification
- Comparison of observations in a WorkUp with a Case Definition to assist the user in determining whether the set of event reports on a condition meets a particular Case Definition
- Broad analysis and reporting of observations across program-specific areas
- Organization and tracking of tasks performed as part of the FollowUp function
- Reporting of nationally notifiable diseases as a byproduct of the surveillance and case management functions rather than as a separate task

Exhibit 4-1 shows a summary view of how the NEDSS Base System functionality is intended to support the major surveillance functions and activities within each function. NEDSS Base System functionality is organized into the following function categories:

- Surveillance and Intervention Program Management
- Person Surveillance
- Person Intervention
- Population Surveillance
- Population Intervention
- Analysis, Visualization, and Reporting
- Notification
- Information Request

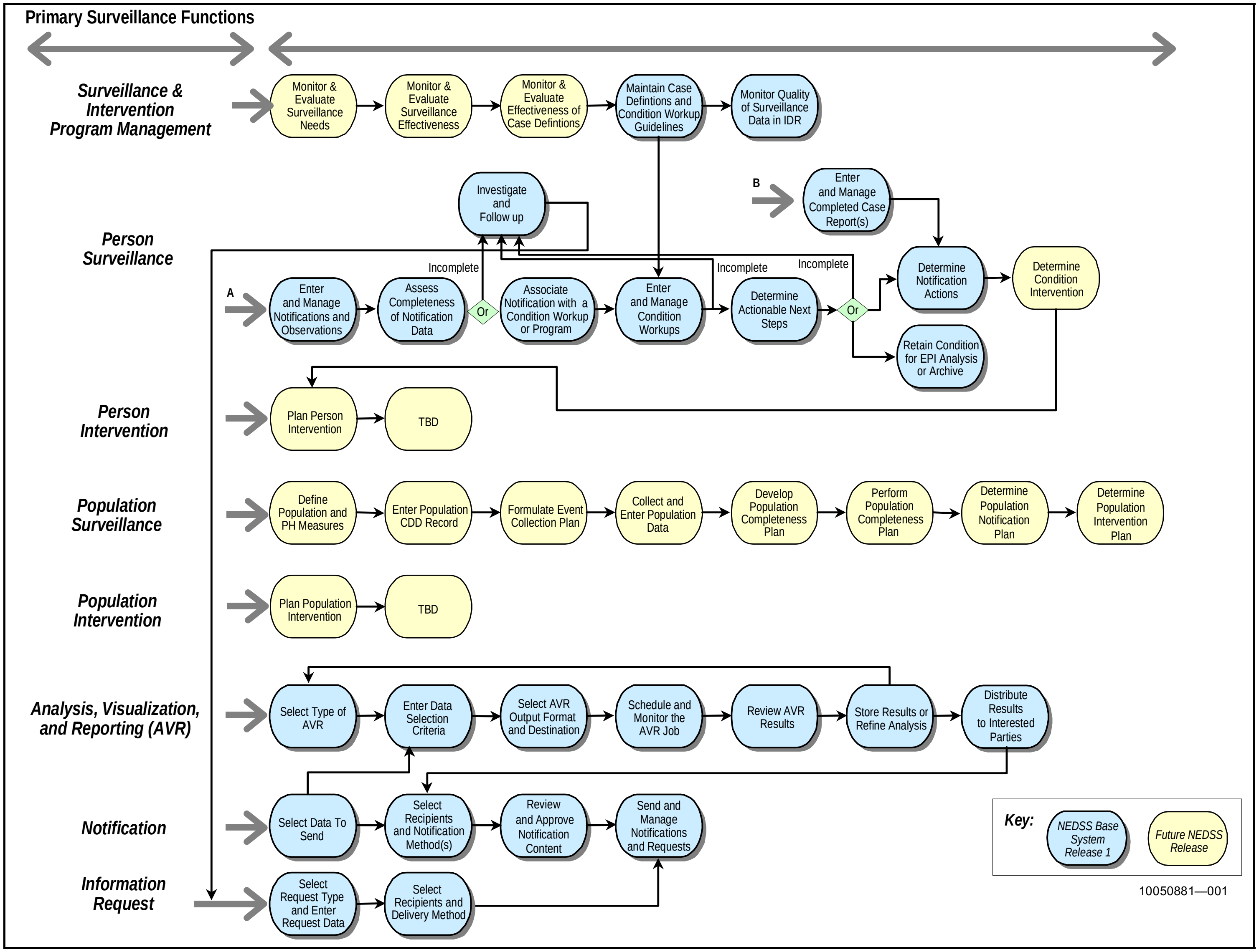


**Exhibit 4-1. The NEDSS Generic High-Level View of Public Health Activities**

These functional categories are quite arbitrary and have been used only to help describe NEDSS Base functionality and how that functionality is intended to support, directly or indirectly, the major functions of local and state public health professionals. Note also that the Analysis, Visualization, and Reporting, Notification, and Information Request functions are used in support of the five primary functions.

Exhibit 4-1 also shows the major surveillance activities performed within each of these functional domains. The following sections describe the major processes followed within these activities and how the initial version of the NEDSS Base System will support them. Each of these activities is defined more formally by activity level "Use Cases." Use Cases are a form of structured requirements specifications that defines what the user's requirements are to accomplish the specific activity. They also serve as a link to the design of the system and allow the system stakeholders to trace how subsequent system designs and implemented modules meet the specified requirements. We are developing Use Cases for each of the activities listed in Exhibit 4-1 and at one or more levels of greater detail. This is in line with the overall NEDSS System architectural approach of building reusable modules. The Use Case descriptions for the activities shown in Exhibit 4-1 contain pointers to each of the lower level task Use Cases that complete the activity.

The diagram shows a general sequential workflow from one activity to another. This is not intended to imply that the activities are always executed in the same sequence. The workflow is intended primarily to show the general sequence in which surveillance event data are received, assessed, and integrated, and acted on.

## 4.1 Introduction to the NEDSS Base System Functional Areas and Activities

The following functional areas are targeted for primary support in Release 1 of the NEDSS Base System:

- Surveillance and Intervention Program Planning (Guidelines and Case Definitions only)
- Person Surveillance
- Analysis, Visualization, and Reporting
- Notification
- Information Request

A brief overview of these functions is provided in this section and then each is described in more detail in the Sections 4.2 through 4.6, where the various activities performed within each functional area are described. Detailed Use Cases for each of the activities described in these sections are presented in Section 5.

The Base System will support two activities within **Program Planning**. The first is the specification of WorkUp guidelines and Case Definitions. The WorkUp guidelines are specifications of policies and procedures for users as they collect and analyze data associated with a condition. These guidelines are usually specific to conditions and to state and local organizations. They are analogous to clinical evaluation protocols. They are an option in NEDSS and do not necessarily need to be implemented. However, they do provide a readily available, online source of information for the caseworker. Case definitions are defined both nationwide to meet Nationally Notifiable Disease reporting regulations and locally for those conditions that the public health community has decided to address. They can also be defined at the state and local level for specific situations of local interest. The local case definitions can be entered and used in surveillance just as the Nationally Notifiable Disease case definitions are used.

**Person Surveillance** is the primary function supported by Release 1 of the NEDSS Base System. Two basic workflows are supported. The **first** is the traditionally supported mode whereby once a case definition form is completed it is entered in its entirety. This normally requires the caseworker to collect data manually from a number of sources both actively and passively. Once all of this manually collected data are organized, analyzed, and judged complete, the caseworker enters the case or condition into the application. The information in the case report can then be used for case management and reporting of nationally notifiable diseases. The **second** workflow provides application support to the caseworker from the time an initial report is received and throughout the lifecycle of the surveillance function.

**Analysis, Visualization, and Reporting** provides a set of tools for public health professionals to analyze data in the integrated data repository (IDR), visualize it in many ways, and create and run predefined or ad hoc reports. Alternatively, the state can implement their own security system and provide direct access to data in the IDR by any analysis tool. Once created, professionals can use the Notification functions to share the results of their analyses with other professionals.

**Notification** includes the standard reporting of nationally notifiable diseases to the CDC but also a much broader, flexible, and controllable set of notification functions. The functions support the notification by any authenticated and authorized user to send a health-related Event Report for follow-up and further processing by another user.

The **Information Request** function is designed to support the FollowUp surveillance activities by automating the creation and tracking of requests by professionals for additional data. For example, while building a WorkUp for a reported condition, the public health worker might discover that the patient's name as listed on the report is ambiguous and therefore they need to contact the reporting lab or the person that placed the lab order for more specific information. The Information Request Modules support the creation, sending, and tracking of such requests by creating an entry of the request in a request queue associated with the WorkUp.

## 4.2 Surveillance and Intervention Program Planning Function

Support for this function is somewhat limited in Release 1 of the Base System. It is limited to the Management of Case Definitions and Condition WorkUp Guidelines and to the Monitoring of Surveillance Data Quality.

### 4.2.1 Manage Case Definitions and Condition Workup Guidelines

Manage Case Definitions and Condition WorkUp Guidelines are supported by providing functions to create and modify highly structured documents for users to assess the data collected in a particular WorkUp against the guideline(s) for the condition being investigated. It also provides the capability for PAMs to implement automatic checking of WorkUp data against standard case definitions, as is done now in the HARS system for AIDS.

See Section 5.2.1 for a detailed description of the Use Case supporting this activity.

### 4.2.2 Monitor Quality of Surveillance Data in IDR

Maintaining high-quality data is essential to the success of disease surveillance and reporting. To support this critical need, the NEDSS Base System provides a set of data quality analysis reports based on the NEDSS IDR. The manager can also use the Analysis, Visualization, and Reporting functions to create specific analyses and reports of data quality to assess the quality of their data and to plan process improvement initiatives to address uncovered data quality issues.

See Section 5.2.2 for a detailed description of the Use Case supporting this activity.

## 4.3 Person Surveillance Function

Person surveillance includes the entire life cycle of monitoring public health related events specific to individuals. Based on the PHCDM extensions to the HL7 RIM, NEDSS extends the surveillance function to include surveillance activities on animals and arbitrarily defined populations of individuals. This monitoring life cycle varies in both complexity and duration depending on the specific condition under investigation. For example, both the complexity and duration of Salmonella investigations differ greatly from those for HIV/AIDS. As noted above, NEDSS supports two broadly defined modes of person surveillance from which each user can select, depending on their current activities, as described in the next paragraph. The simplest version is the manually collected event reports, manual assessment of the accuracy and completeness of the data, and manual determination of whether the collected observations constitute a case. In this mode the caseworkers can choose the case type that they want to enter and proceed to enter all of the data they have.

The more comprehensive version supports the caseworker from the time an isolated event report is received through the final disposition of any resulting case based on the report by supporting the entry and review of the various types of event reports, creating and tracking the progress of the requests for additional information, and recording intermediate as well as final conclusions in the WorkUp.

The following sections describe each of the activities supporting both versions of the Person Surveillance Function.

### 4.3.1 Enter and Monitor Observation and Notification Data

NEDSS Base System functions supporting the Enter and Monitor Event Reports provide for both the manual and electronic capture of basic health related events. NEDSS Base System provides definitions and management routines for the most common types of event reports and provides the capabilities for state and local users to define and implement their own event types. Event reports can be entered either by the originating party or by a health care worker receiving a verbal, written, or electronic report from the originator of the event.

This allows for the events to be entered immediately and reviewed by authorized users without having to wait until the event is associated with a particular program and placed in a folder for further evaluation. The event reports are entered with a particular status indicating that they have not been reviewed for completeness or accuracy and have not been associated with a particular condition or program area. They are essentially placed in a queue so that they can be reviewed and assessed. Individual workers can register to receive e-mail indications when notifications matching their profile or current case load are received. One typical example of such event reports are lab reports received, in paper or electronic form, from reporting labs. These event reports need to be reviewed for completeness before associating them with specific individuals, to program areas, and to particular health care professionals for investigation and WorkUp. For some well-defined conditions, such as many lab reports, the test type and test result values can be automatically checked and preliminary associations made with specific program areas.

See Section 5.3.1 for a detailed description of the Use Case supporting this activity.

### 4.3.2 Assess Completeness of Observation and Notification Data

This activity provides a combination of automatic and manual functions to review the completeness and accuracy of the data, particularly for the functions required to associate the event with an entry in the person registry and with a program area or condition. The event reports in the queue can be sorted for viewing by several criteria, such as event type, person identification, source of reports, reported result, etc. This activity uses functionality in the CDM to determine whether the person named in an event report is already entered in the registry or whether a new entry needs to be made. Local and state-defined criteria determine whether sufficient information is present to proceed or whether follow-up tasks are required to collect additional information or to obtain additional information for event reports.

See Section 5.3.2 for a detailed description of the Use Case supporting this activity.

### 4.3.3 Investigate

The FollowUp activity is a broad set of functions designed to support the users' efforts to obtain all of the information needed to assign an event to a person and to a program area WorkUp. It is also designed to obtain all of the information needed to complete the investigation and WorkUp and, potentially, a Case Determination. It provides the functionality to support the public health worker's defining a Request for Information and entering that particular request in a request queue associated either with the event report or with the WorkUp. It also provides general functionality for public health workers to monitor their queue of outstanding requests to determine whether responses have been obtained or whether additional FollowUp actions need to be initiated.

See Section 5.3.3 for a detailed description of the Use Case supporting this activity.

### 4.3.4 Associate Event Reports With Condition Workups

This activity includes the functionality to determine whether a WorkUp already exists for the person and condition related to a reported event and, if so, associate the event with that WorkUp. If a match to an existing WorkUp cannot be made, the event is associated with an event report queue for a specific program area. If no sufficient information exists to associate the event report with a particular program area, a FollowUp task is defined for the event. (See Section 4.3.3 for a description of the FollowUp activity.)

See Section 5.3.4 for a detailed description of the Use Case supporting this activity.

### 4.3.5 Enter and Manage Condition Workups

The term Condition WorkUp is used to describe the collection of information on a person specific to a particular condition and, generally, for a defined period of time. It includes Case WorkUps as well as investigations of conditions for which formal Case Definitions do not exist. The Condition WorkUp includes the information defining the Condition, a link to the Core

Demographic record for the patient, certain demographic information specific to the time of the condition, and links to all event report records relevant to this particular Condition. The Condition WorkUp record contains the core data needed for Nationally Notifiable Disease reports. It will also contain links to disease-specific data collected by PAMs.

The Manage Condition WorkUp module supports entry and update of WorkUp information as well as monitoring the completeness of the investigation and identification of missing data.

PAMs can also contain automated support for assessing the Event Reports for a Condition WorkUp against a Case Definition to help determine whether the current set of event observations meet the case definition. Suggestions for additional observations that would be useful for making a more confident determination is also an option.

See Section 5.3.5 for a detailed description of the Use Case supporting this activity.

### 4.3.6 Determine Next Steps

Once a WorkUp is complete, the caseworker needs to determine the actions to be taken. The first step in this process is normally to determine whether the condition meets any specific Case Definition. The NEDSS Base System provides automated support for this through PAMs that compare the event reports and condition WorkUp data against the official case definitions. The modules also suggest to the user whether the data meet or are in any way involved in the case definition(s) and whether that case is one of the nationally notifiable diseases. The user also needs to determine whether intervention should be taken and, if so, what the plan for that intervention should be and who should be assigned to carry it out. Finally, if the WorkUp is not going to be maintained in an active status for intervention or future follow up, the user needs to determine whether the WorkUp will be maintained for epidemiological analyses.

Note that notification can be triggered at any time, not just only after a WorkUp has been completed. For example, if a worker receives a notification from a lab that clearly indicates a critical situation, they can create and send a notification to any parties they believe need to be informed of the observation.

See Section 5.3.6 for a detailed description of the Use Case supporting this activity.

### 4.3.7 Enter and Manage Completed Case Reports

This activity provides for the streamlined entry of a case report assuming that all of the analyses and follow-up work has already been completed and that a determination has already been made that the condition meets a specific case definition.

See Section 5.3.7 for a detailed description of the Use Case supporting this activity.

### 4.3.8 Determine Notification Actions

Having determined that a WorkUp warrants notification, the user needs to determine what type of notification to send and who should receive the notifications.

See Section 5.3.8 for a detailed description of the Use Case supporting this activity.

### 4.3.9 Retain Condition Workup for Future EPI Analysis or Archive

This activity allows adding condition codes to the WorkUp so that it is recognized as no longer being actively reviewed for action, but is available for inclusion in various types of epidemiological analyses.

See Section 5.3.9 for a detailed description of the Use Case supporting this activity.

## 4.4 Analysis, Visualization, and Reporting (AVR)

The NEDSS Base System's *AVR* function is designed to provide an easy to use interface between NEDSS Base System and the data in its IDR and standard COTS AVR tools. The module allows the user to select the type of analysis to be done, the range of data to be included in the analysis, the format and destination of the results, a means to view the results, and a way to share the results with other interested parties.

A key design criteria is to provide users an easy to understand interface to analysis tools without requiring them to obtain extensive training on each of the tools, such as SAS.

### 4.4.1 Select Type of AVR

This activity allows the user to select the type of analysis or report to be performed, such as defined defaults that are included in the Base System, those provided with PAMs, and ad hoc reporting capabilities.

See Section 5.4.1 for a detailed description of the Use Case supporting this activity.

### 4.4.2 Enter Data Selection Criteria

This activity provides predefined parameters by which data to be selected for reporting is identified.

See Section 5.4.2 for a detailed description of the Use Case supporting this activity.

### 4.4.3 Select AVR Output Format and Report Destination

The types of analyses and reports needed by the many types of public health professionals require a flexible scheme for formatting reports and storing them for subsequent viewing over the Web. This activity provides the capability for the user to specify the format of the output and its destination. Normally, the destination will be a work area within the NEDSS Base System database for viewing via a Web browser. However, analysts who do iterative analysis of data and may need to have the output of the analysis stored on their local computer. This activity provides that capability for the user to select both the format and destination of the report results.

See Section 5.4.3 for a detailed description of the Use Case supporting this activity.

## 4.5 Notification

The notification process supports sending data or reports on a health condition to any specified recipient subject to NEDSS Base System security controls. It can also include more general types of communications, such as notifying a public health worker that a particular observation warrants creating a WorkUp and conducting a further investigation. This includes the standard nationally notifiable disease reporting by states to the CDC.

### 4.5.1 Select Data To Send

This activity allows the user to select from either predefined collections of data (such as NND cases) or user-specified sets of data. For example, the user could send a condition WorkUp to an epidemiologist for review or an emergency room clinician could file a gunshot wound notification with the local health department.

See Section 5.5.1 for a detailed description of the Use Case supporting this activity.

### 4.5.2 Select Recipients and Notification Method(s)

This activity allows the user to select one or more recipients of the notification (in a fashion similar to selecting e-mail addressees).

See Section 5.5.2 for a detailed description of the Use Case supporting this activity.

### 4.5.3 Review and Approve Notification Content

This activity allows the content of the notification to be reviewed either by the originator or by someone with higher levels of authorization based either on the recipient list or on the contents of the notification. The activity provides a formatted view of all of the data in the notification.

See Section 5.5.3 for a detailed description of the Use case supporting this activity.

### 4.5.4 Send and Manage Notification and Requests

This is an administrative activity, activating the delivery of the notification and tracking its receipt by the listed recipients and monitoring the queues for responses.

See Section 5.5.4 for a detailed description of the Use Case supporting this activity.

## 4.6 Information Request

This activity provides support to the health professional in actively acquiring additional information on event reports, patients, or WorkUps and linking these requests to the associated records, primarily to facilitate investigation and follow-up. This process allows the user to select from a set of predefined, formatted requests and recipients or to create a new request and have it delivered through the NEDSS Base System. The user is provided the option to have the request entered into the WorkUp queue for a given WorkUp and to be notified if a response to the request is received.

### 4.6.1 Select Request Type and Enter Request Data

As with notification types, the NEDSS Base System is delivered with a set of predefined information request forms associated with the various types of Event Reports and WorkUps. Individual local and state public health professionals can also create their own predefined forms. When the user wants to request information from one or more sources, they use this function to select the form they want to use, the Event Report or WorkUp they want to associate it with, and to enter specific requests in the form based on data in Event Report or WorkUp. They can optionally elect to have the Request for Information entered in the Follow-up queue for the Event or WorkUp.

See Section 5.6.1 for a detailed description of the Use Case supporting this activity.

### 4.6.2 Select Recipients and Delivery Method

This activity is very similar to the corresponding process for notifications, but the security restriction are lower and so it is implemented as a different, more flexible module.

See Section 5.6.2 for a detailed description of the Use Case supporting this activity.

### 4.6.3 Send and Manage Requests

This is an administrative activity, activating the delivery of the notification and tracking its receipt by the listed recipients.

See Section 5.6.3 for a detailed description of the Use Case supporting this activity.

## 4.7 Summary of General Functional Features and Capabilities

Exhibit 4-2 presents a summary of user benefits and supporting features.

| User Benefits | Supporting Features |
|---|---|
| One system for all surveillance functions across all programs | Single system design and implementation based on a precisely defined Web user interface |
| Capability for users to view data for all patients across all areas, based on the security policy chosen by local or state administrators | Application functionality is controlled by a role-based security system that provides fine-grained control over which types of information each defined role has access to; this can be used to constrain data entry people from one program to view data belonging to that program only, while allowing high-level epidemiologists to conduct analysis across all patients and all conditions within the state |
| Capability to local and state managers to decide whether to implement the system as a single node or as a set of nodes partitioned either by disease program or by geographical unit | Database design and security design allow central or decentralized deployment providing whatever levels of security by physical isolation their environment requires |
| Unrestricted geographical access – where local security capabilities exist | System can be accessed from any Web browser subject to security policy implemented by each local and state administrator |
| Consistent data input validation against national standard codes and vocabularies | All NEDSS System codes across Base System modules as well as PAMs verified against same set of reference tables |
| Improved data confidentiality | NEDSS IDR will enforce a separation of person and demographic data from Event, WorkUp, and Case Management data; access to patient personal data can only be made through use of an internal unique person identifier that is kept in Event and WorkUp records |
| Automated translation, receiving, and sending of electronic messages | NEDSS program will support development of a set of HL7-based public health messages that will facilitate exchange of data between instances of NEDSS systems and any other systems supporting defined set of HL7 PH messages |
| Capability for users to share data across organizational boundaries | NEDSS security subsystem coupled with standard IDR and public health messaging standards will support sharing of data between current organizational boundaries (i.e., state-to-state) in a secure way |
| Locally extensible and customizable user interface | NEDSS System presentation technology will include use of XSL and XML so that administrators of local instances of a NEDSS System can tailor the system without having to make changes to underlying program code |

***Exhibit 4-2. Summary of User Benefits and Supporting Features***

# Section 5—NEDSS System Detailed Functional Use Cases—Activity Level

## 5.1 Introduction to the Detailed Activity Level Functional Use Cases

## 5.2 Surveillance and Intervention Program Management

### 5.2.1 Maintain Case Definitions and WorkUp Guidelines

#### Introduction

This feature allows the user to update the set of reference information designed to support decision making and adherence to recommended practice guidelines relevant to managing and entering data.

***Purpose***

Provide a process for maintaining the most current and applicable reference guidelines.

***Scope***

Maintain Case Definitions and Condition WorkUp Guidelines encompasses all activities associated with updating case definitions and condition WorkUp guidelines and reference information.

***Definitions, Acronyms, and Abbreviations***

Flat Text Guideline – A qualitative guideline primarily composed of text designed to support user decision making through presenting reference information in a readable, anecdotal format. It does not contain any structure that is recognizable by the system for the purpose of automated system-driven evaluation of cases or WorkUps.

System-Driven Evaluation – System comparison between attributes in a template guideline and a given case or WorkUp.

Template Guideline – A database-driven guideline with sufficient structure to allow the system to compare its attributes with a given case or WorkUp. A template guideline may contain flat text as well, but the text will not directly support a system-driven comparison.

***References***

None.

***Overview***

Maintain Case Definitions and Condition WorkUp Guidelines allows the user to modify an existing case definition of condition WorkUp guideline or create a new one. In either case, the configurable options will vary by the type of guideline, flat text, or template.

#### Business Use Case Name – Maintain Case Definitions and Condition WorkUp Guidelines

***Brief Description***

The caseworker initiates this Use Case. It allows the employee to update an existing reference guideline document in the system or create a new one.

#### Business Goals

Provide a process to update case definitions and condition WorkUp guidelines.

## Performance Goals

Not applicable.

## Representative Actors

Caseworker (state and county level).

## Relationships to Other Use Cases

None.

## Initiating Events

Identification of new or more current renditions of case processing guidelines than those that exist in the system.

## System Triggers

None.

## Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

Availability of new or more current renditions of case processing guidelines than those that exist in the system.

## Processes Supported

Surveillance and intervention program management.

Person surveillance.

## Workflow

### *Basic Workflow*

Input: New or more current case definition or condition WorkUp guidelines

- User uses Search to select an existing reference guideline to modify.
- User selects type of modification to make to existing guideline: altering flat text or altering a template and its parameters. If the guideline document exists in a template, the user may change existing parameters in template fields and/or update the template structure by creating new fields, or deleting or changing existing fields. An example of such a document is a case definition which, in addition to flat text, may exist as a structured template to facilitate automated system-driven evaluation of a case or WorkUp against it.
- User makes the desired type of modification.
- User updates or verifies the set of scenarios or conditions under which the guideline should be automatically presented by the system to the user for consultation. If necessary, the user may define a new scenario or condition.
- User saves the modified reference guideline.

Output: A new or more current case definition or condition WorkUp guideline in the system.

***Alternative Workflows***

Input: WorkUp.

***Create New Flat Text Guideline***

Input: Information for New Flat Text Guideline

- User chooses to create a flat text guideline.
- User enters.
- User updates or verifies the set of scenarios or conditions under which the guideline should be automatically presented by the system to the user for consultation. If necessary, the user may define a new scenario or condition.
- User saves the new reference guideline.

Output: New Flat Text Guideline in system.

***Create New Template Guideline***

Input: Information for New Template Guideline

- User chooses to create a template guideline.
- User defines fields and accompanying descriptions.
- User updates or verifies the set of scenarios or conditions under which the guideline should be automatically presented by the system to the user for consultation. If necessary, the user may define a new scenario or condition.
- User saves the new reference guideline.

Output: New Template Guideline in system.

### Post Conditions

The system supports user decision making with a new or more current case definition or condition WorkUp guideline.

### Business Rules

Not Applicable.

### Category

None.

### Risk

None.

### Possibilities

None.

### Process Owner

State Health Department

### Supplementary Specifications

None.

### Extension Points

None.

### 5.2.2 Monitor and Evaluate Quality of Surveillance Data

TBD

## 5.3 Person Surveillance

### 5.3.1 Enter and Manage Event Reports

#### Introduction

Enter and Manage Event Reports refers to the activities that commence once an Event Report has been received.

***Purpose***

The CDM and NNDM modules are used to enter the demographic and NNDM data, in conjunction with a separate program area module, designed to enter any program area data.

***Scope***

The scope of Enter and Manage Event Reports includes all activities that are associated with entering, modifying, deleting, searching for, and merge duplicate data records (Core Event/Party Data).

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

An Event Report is received, which contains minimal demographic and Event (NNDM) data, and may contain program area data. The CDM and NNDM modules are used to enter the demographic and NNDM data. Features supported include Event (CDM/NNDM) Entry and Event (CDM/NNDM) association with a program area, WorkUp or case. These features allow the Event data to be entered by not-PH skilled users, who may include data entry clerks, lab technicians, emergency room staff attendees, etc.

Users may enter data and update status levels to be assigned to each received Event Record. A user's ability to assign status levels is to be based on the user's security profile.

The Enter feature allows the user to select a particular entry status for the Event Record to indicate whether additional data are needed before association with a particular person, event type, or program area.

The Search/View feature allows the user to review Event (CDD/NNDM) Records in the system. The records displayed are determined by the selection criteria, chosen by the user. The user can choose any record from the selection list to view all fields within the record. The user may use this feature to conclude whether an event is indeed new, or a duplicate of an existing record.

The Modify feature allows the user to alter existing values within the record, as well as add values to data fields, previously unpopulated.

The Manual Merge feature allows the user to combine data from multiple records, deemed to be duplicates of one another. The Manual Merge feature will present the corresponding values from each record and allow the user to select the record that should be placed into the merged record. On consummation, all merged records will be marked with a status of merged and linked to the new record.

### Business Use Case Name – Enter and Manage Event Reports

***Brief Description***

Enter and Manage Event Reports refers to the activities that commence once an Event Report has been received.

### Business Goals

Accuracy in data reporting.

Significant reductions within duplicate data reporting.

### Performance Goals

Not applicable.

### Representative Actors

Data Entry Representative (Clerk or Caseworker), State and Local Health Department

Data Entry Representative (Clerk or Technician), Laboratory or Clinic

### Relationships to Other Use Cases

FollowUp.

### Initiating Events

The event is initiated once a report (Core Event/Party Data) is received.

### System Triggers

Electronic receipt of a report (Core Event/Party Data).

### Pre-Conditions

User has logged into the system.

User is authorized to perform the function.

### Processes Supported

Person Surveillance.

### Workflow

***Basic Workflow***

Input: Event details (Party)

- User receives notification of an event (Party).
- User selects the Search option to identify prior occurrences of the event (Party).

- User concludes that the occurrence is already documented and must be updated, or that a new occurrence is needed within the system database.
- User selects an option listed below, based on the conclusion reached in Step #3:

  Create Party Record

  Modify Party Record

Output: New Event Record (Party), updated Event Record (Party).

***Alternative Workflow***

- User receives information concluding that a previously reported event (Party) has been duplicated.
- User selects the Search option to identify the duplicate data record (Party).
- User selects an option listed below to remove the duplicate record (Party).

  Delete Party Record

  Manual Merge Party Record

Output: Deleted Event Record (Party), Merged Event Record (Party).

***Basic Workflow***

Input: Event details (Core Event)

- User receives notification of an Event (Core Event).
- User selects the Search option to identify prior occurrences of the Event (Core Event).
- User concludes that the occurrence is already documented and must be updated, or that a new occurrence is needed within the system database.
- User selects an option listed below, based on the conclusion reached in Step #3:

  Create Core Event Record

  Modify Core Event Record

Output: New Event Record (Core Event), Updated Event Record (Core Event)

***Alternative Workflows***

- User receives information concluding that a previously reported event (Core Event) has been duplicated.
- User selects the Search option to identify the duplicate data record (Core Event).
- User selects an option listed below to remove the duplicate record (Core Event).

  Delete Core Event Record

  Manual Merge Core Event Record

Output: Deleted Event Record (Core Event), Merged Event Record (Core Event)

## Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and local health administrators.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 5.3.2 Assess Completeness of Event Data

#### Introduction

This activity determines whether data in a reported event are complete and accurate enough to be associated with a particular person, NNDM event type, program area, and WorkUp or reportable case.

***Purpose***

This activity is used to review the completeness and accuracy of the event data, for purposes of associating the event with a particular party, program area, or condition.

***Scope***

Assess Completeness of Event Data encompasses all activity associated with assessing the completeness of event data in NNDM.

***Definitions, Acronyms, and Abbreviations***

The following is the initial set of probable life-cycle statuses identified for the event records:

New – The record has not been reviewed at any level.

Held – The data in the record are incomplete or inaccurate to determine the correct Person Record to link it to, the event type for the record, or the program area to which the record should be assigned.

Active – The data in the record are sufficient to make the person and event type determination.

Suspended – The data in the record are sufficient to make the person and event type determination, but insufficient to make the program area or WorkUp assignment.

Assigned – The event record is assigned to a program area and, if appropriate, to a WorkUp.

Removed – The data in the event record could not be improved enough through additional research to associate it with the person or event type.

Inactive – The data in event record could not be improved enough through additional research to make program area or WorkUp possible or they were was determined to be non-notifiable.

***References***

None.

***Overview***

This process group provides a combination of automatic and manual functions to review the completeness and accuracy of the data, particularly for the functions required to associate the event with an existing entry in the person registry, as well as a program area or condition. The event reports in the queue can be sorted for viewing by several criteria, such as event type, person identification, source of reports, and reported result. This process group uses functionality in the CDM to determine whether the person named in the Event Report is already entered in the registry or whether a new entry needs to be made. Local and state-defined criteria are used to determine whether sufficient information exists to proceed or whether follow-up tasks are required to collect additional information or to obtain additional event reports.

## Business Use Case Name – Assess Completeness of Event Data

***Brief Description***

A public health employee, designated with the role of assessing case surveillance reports, initiates this Use Case. It allows the employee to determine if it is of sufficient quality to meet the criteria for a defined case.

### Business Goals

Avoidance of duplicating existing party data information.

Accuracy in record matching.

### Performance Goals

Not applicable.

### Representative Actors

Case Surveillance Assessor (State and County Level).

### Relationships to Other Use Cases

Analyze Held Event Records.

Analyze Suspended Event Records.

### Initiating Events

Suspected Case data has been entered into the system, and is now available for assessment.

### System Triggers

None.

### Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

### Processes Supported

Assess Completeness of Event Data.

### Workflow

***Basic Workflow***

Input: Criteria for identifying data to be assessed.

The following flow applies to each data type (Party Data/Core Event Data/Disease Specific). This Use Case starts when the Case Surveillance Assessor wishes to evaluate and record evaluation of the state of completeness/accuracy of existing data in the system. Key considerations for determining completeness status include the capability to associate the data with a specific event type, program area, and person.

- The user uses the Search feature to identify and view data for an event.
- Based on defined Case criteria for surveillance data, other relevant reference guidelines, and user's personal discretion, user assesses and sets the completeness status for the data to New, Held, Active, Suspended, Assigned, Removed, or Inactive.

Output: Data reassessed for completeness with revised completeness status.

***Alternative Workflow***

None.

### Post Conditions

Assigned with respect to the record status. The following post-conditions will result:

New – The data in the record have not been associated with a Person Record, a program area, or even an event type.

Held – The data in the record have not been associated with a Person Record, a program area, or even an event type.

Active – The data in the record have been associated with an event type, person, and program area.

Suspended – The data in the record have been associated with a person and an event type, but not with a program area.

Assigned – The data in the record have been associated with a program area and, if appropriate, a WorkUp association but not with a person.

Removed – The data in the record have been associated with a program area but not with a person or an event type.

Inactive – The data in the record have been determined to be non-notifiable/non-reportable.

### Business Rules

The Surveillance Assessor applies defined Case criteria to evaluate the surveillance data.

### Category

None.

### Risk

The degree of system assistance and automation in checking data for compliance with reference guidelines for completeness has not yet been determined.

### Possibilities

The system should automate compliance checking of data with reference guidelines for determining completeness status as fully as possible where it is desirable to narrow the degree of flexibility in the user's interpretation of those guidelines.

### Process Owner

State Health Department.

### Supplementary Specifications

None.

### Extension Points

None.

### 5.3.3 FollowUp

## Introduction

The user conducts FollowUp activities to assign an event to a person and program area, including obtaining all of the information needed to complete the WorkUp and for Case determination purposes.

***Purpose***

The Use Case allows the user to assign events to a person or program area. The user completes this activity to eventually create Request for Information, as well as monitor existing requests for response information.

***Scope***

The scope of FollowUp includes all activities performed by the user after an Event Report has been entered and assessed for data completeness. These activities may include creating requests for additional information, monitoring outstanding requests for additional information, assessing the need for follow-up action, and assigning the event to a person.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Workup – Refers to an incomplete series of events, with or without party data, which may evolve into a case, with additional data received.

Condition Workup – Refers to the collection of information on a person, which is specific to a particular condition, over a given period of time.

***References***

Not applicable.

***Overview***

FollowUp is a broad set of functionality, designed to support the caseworker's efforts to obtain the information needed to assign an event to a person and a program area WorkUp, including securing the information needed to complete a WorkUp and satisfy the Case definition criteria. A caseworker may also use this functionality to monitor the outstanding requests for information, as well as conclude which responses have been received or need to be addressed further.

## Business Use Case Name – FollowUp

***Brief Description***

FollowUp refers to the activities, which a user conducts to assign an event to a person and program area, including obtaining all of the information needed to complete the WorkUp and for Case Determination purposes.

## Business Goals

Satisfaction of Case definition criteria.

Defined level of activity needed to be taken at the next juncture.

### Performance Goals

Not applicable.

### Representative Actors

Data Entry Representative (Clerk or Caseworker), State and Local Health Department

Data Analysis Personnel, State and Local Health Department

### Relationships to Other Use Cases

Used in conjunction with Assess Completeness of Data and Enter and Manage Event Reports.

### Initiating Events

The event is initiated once a report has been entered and a determination has been made, whether it addresses the need for additional information or satisfies the Case definition criteria.

### System Triggers

Record is flagged as Incomplete Status.

Request for information expires.

### Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

### Functions, Processes, and Workflow Supported

Person Surveillance

### Workflow

#### *Basic Workflow*

Input: Event information request

- User has processed the event information request.
- User elects to review all outstanding information requests, previously submitted.
- User enters search criteria to filter the search results.
- User views the filtered results.
- User proceeds to enter additional data received.

Output: Updated record.

#### *Alternate Workflow*

Input: Event information request

- User has processed the event information request.
- User elects to review all outstanding information requests, previously submitted.
- User enters search criteria to filter the search results.

- User views the filtered results.
- User concludes that additional information is needed.
- User enters a request for additional information.
- User submits the request for additional information.

Output: New request for additional data.

### Post Conditions

System database is updated with the record information.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 5.3.4 Associate Event Report With Program Area or Condition Workup

#### Introduction

Associate Event Report With Program Area or Condition WorkUp refers to the activities, which are used to associate an individual event report with an existing condition Workup or with a program area, if it cannot be associated with a Workup. The event report's demographic information is referenced against the existing entries within the CDM module. A conclusion is reached as to whether or not the event needs to be associated with current Workups or a new Workup must be initiated at the present time, or at a later date.

***Purpose***

The purpose behind the Use Case is to allow the user the capability to avoid duplicating existing Workups, currently stored within NEDSS Base System.

***Scope***

The scope of Associate Event Report With Program Area or Condition WorkUp includes all activities that are associated with assessing a newly received report for relationships to existing Workup information to avoid duplication of Party Data Records.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Program Area – Refers to the specific disease and associated criteria.

WorkUp – Refers to information files received, which may be a potential case, yet currently lack necessary information (Party Information, Event Type Determination).

***References***

Not applicable.

***Overview***

This process associates an individual Event Report with an existing condition Workup or with a program area if it cannot be associated with a Workup. The process starts by matching the demographic information in the report with entries in the CDM. If an entry does not yet exist for the person, a new CDM entry is created from the information in the Event Report. The status of the newly created CDM entry is based on the completeness of the information available at the time; additional information may need to be collected as part of completing the condition Workup. The user then determines whether a WorkUp exists for this person by matching the data in the Event Report with any existing WorkUps for the person. If no WorkUp exists, the Event Report is set with a status indicating that a WorkUp needs to be started. This can be initiated at this time or can be deferred to another time or for another person to perform.

The Search/View Workups feature allows the user to review existing Workups in the system. The Workups displayed are determined by the selection criteria chosen by the user. The user can choose any WorkUp from the selection list to view all fields within the WorkUp. The user may use this feature to conclude whether an event may be traced to an existing WorkUp or to determine the need for a new WorkUp Record.

The Search/View Event Reports feature allows the user to review existing Event Records in the system. The records displayed are determined by the selection criteria chosen by the user. The user can choose any record from the selection list to view all fields within the record. The user may use this feature to conclude whether an event may be traced to an existing WorkUp or to determine the need for a new WorkUp record.

The Modify Event Reports feature allows the user to update an Event Report with additional information from its associated WorkUp. The updates may include WorkUp details (ID #)

The Search/View Case Definitions feature allows the user to review current Case Definitions to determine whether a WorkUp meets the specified criteria to evolve into a Case.

The Search/View Program Area Profiles feature allows the user to browse the database for profiles that correspond to Program Areas. The user may use this feature to receive information on a specific profile, to be used when reviewing a WorkUp for association against a Program Area.

## Business Use Case Name – Associate Event Report With Program Area or Condition WorkUp

***Brief Description***

Associate Event Report With Program Area or Condition WorkUp refers to the activities that commence once an Event Report has been received.

### Business Goals

Accuracy in data reporting.

Significant reductions within duplicate data reporting.

### Performance Goals

Not applicable.

### Representative Actors

Data Entry Representative (Clerk or Caseworker), State and Local Health Department

Data Entry Representative (Clerk or Technician), Laboratory or Clinic

### Relationships to Other Use Cases

Assess Completeness of Event Data.

### Initiating Events

The event is initiated once a report is received.

### System Triggers

Electronic receipt of a report.

### Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Person Surveillance

## Workflow

### *Basic Workflow*

Input: Event details (Core Event)

- User receives an Event Report.
- User selects the Search option to identify prior Workups for the Event Report received.
- User concludes that a prior WorkUp currently exists for this event.
- User selects the Modify Workup function for the Workup, believed to be associated with the Event Report.
- User reviews the Workup and attempts to match the Workup with CDD data within the database.
- User identifies the Party to associate the Workup against.
- User saves the changes completed to the Workup.

Output: Updated Workup Record (Party and Core Event Data)

### *Alternative Workflows*

Input: Event details (Core Event)

- User receives an Event Report.
- User selects the Search option to identify prior Workups for the Event Report received.
- User concludes that a prior WorkUp currently does not exist for this event.
- User selects the Search option to identify Program Areas to be associated with the Event Report.
- User identifies the Program Area to be used.
- User associates the Program Area with the Event Report.
- User edits the Event Report to reflect the need for a Workup to be created.

Output: Updated Event Report, with need identified for a new Workup Record, associated with a Program Area.

### *Basic Workflow*

Input: Event details (Core Event)

- User receives an Event Report.
- User selects the Search option to identify prior Workups for the Event Report received.
- User concludes that a prior WorkUp currently exists for this event.
- User selects the Modify Workup functionality for the Workup, believed to be associated with the Event Report.
- User reviews the Workup and attempts to match the Workup with CDD data within the database.

- User is unable to identify the Party to associate the Workup against.
- User selects the option to Enter Party Data (Reference – CDM – Enter Data)
- User saves the completed Workup.

Output: New/Modified Workup Record (Party and Core Event Data)

***Alternative Workflows***

Input: Event details (Core Event)

- User receives an Event Report.
- User selects the Search option to identify prior Workups for the Event Report received.
- User concludes that a prior WorkUp currently does not exist for this event.
- User selects the Program Area to associate with the Workup.
- User is unable to associate a Program Area with the Event Report.
- User edits the Event Report to reflect the need for a new Workup Record.

Output: Updated Event Record, unassociated with a Program Area flagged to be entered as a new Workup.

### Post Conditions

The system database is updated to store the new record.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for record specification.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 5.3.5 Enter and Manage Condition Workups

TBD

### 5.3.6 Determine Next Steps

#### Introduction

Determine Next Steps refers to the activities that a user conducts when a Workup has completed the necessary criteria. These steps may include comparing the Workup to a Case definition for evaluation purposes, assessing the need for manual intervention, creating the intervention plan, and determining the need to store the Workup for analytical/research purposes.

***Purpose***

The Use Case is utilized by the user for purposes of concluding the next logical steps to undertake once a Condition Workup criterion has been met.

***Scope***

The scope of Determine Next Steps includes all activities that are performed by the user after a Condition Workup has been met. These activities include Workup comparison to Case definitions, manual intervention, and addressing the need for further review of the WorkUp in Data Analysis activities.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Workup – Refers to an incomplete series of events, with or without Party data, which may evolve into a Case, with additional data received.

Condition Workup – Refers to the collection of information on a person, specific to a particular condition over a given period of time.

***References***

Not applicable.

***Overview***

Once a WorkUp is complete, the caseworker needs to determine the next course of action to be taken. The first step within this process is to determine whether the condition meets a specific Case Definition. NEDSS provides automated support for this activity via PAMs. These are used to compare the event reports and condition WorkUp data against the official case definitions, as well as to suggest to the user whether the data meets the case definition(s) and whether that case needs to be classified as a Nationally Notifiable Disease. The user also needs to determine whether intervention should be taken, as well as outline the intervention plan and its participants. Finally, if the WorkUp is to be maintained as an inactive status record, in terms of intervention or future follow-up activity, the user needs to determine whether the WorkUp will be maintained for epidemiological analyses.

#### Business Use Case Name – Determine Next Steps

***Brief Description***

Determine Next Steps refers to the activities that a user conducts to assign an event to a person and program area, including obtaining all of the information needed to complete the WorkUp and for Case Determination purposes.

### Business Goals

Satisfaction of Case definition criteria.

Defined level of activity needed to be taken at the next juncture.

### Performance Goals

Not applicable.

### Representative Actors

Data Entry Representative (Clerk or Caseworker), State and Local Health Department

Data Analysis Personnel, State and Local Health Department

### Relationships to Other Use Cases

Used in conjunction with Assess Completeness of Data and Enter and Manage Event Reports.

### Initiating Events

The event is initiated once a report has been entered and a determination has been made, which addresses the need for additional information or satisfies the Case definition criteria.

### System Triggers

Record is flagged as Incomplete Status.

Request for information expires.

### Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

### Processes Supported

Person Surveillance

### Workflow

#### *Basic Workflow*

Input: Completed Workup

- User opens the completed Workup.
- User searches the Case definition library (NEDSS) to determine whether the condition meets the Case criteria.
- User determines that the condition meets the Case criteria.
- User reviews the Case definition information to determine the course of action to be taken (Intervention)
- User enters the Intervention plan details. (If none exist, the user bypasses this step).
- User saves the WorkUp for future review and data analysis purposes.

Output:

- Saved WorkUp for future review and analysis.
- Intervention Plan.
- Identified Case record.

***Alternate Workflow***

- User opens the completed WorkUp.
- User searches the Case definition library (NEDSS) to determine whether the condition meets the Case criteria.
- User determines that the condition meets the Case criteria.
- User reviews the Case definition information to determine the course of action to be taken (Intervention)
- User enters the Intervention plan details. (If none exist, the user bypasses this step).
- User removes the Workup for future review and data analysis purposes.

Output:

- Intervention Plan
- Identified Case record

***Alternate Workflow***

- User opens the completed WorkUp.
- User searches the Case definition library (NEDSS) to determine whether the condition meets the Case criteria.
- User concludes that the condition WorkUp does not meet Case criteria.
- User reviews the Case definition information to determine the course of action to be taken (Intervention)
- User enters the Intervention plan details. (If none exist, the user bypasses this step).
- User removes the WorkUp for future review and data analysis purposes.

Output: Intervention Plan

### Post Conditions

System database is updated to reflect the changes to the record information.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 5.3.7 Enter and Manage Completed Case Report

#### Introduction

Enter and Manage Completed Case Reports refers to the activities that are completed through utilization of manual processes; currently performed using paper-based forms. The detail is not entered into the tracking system until all data are received, thereby impeding the ability of a Caseworker to reference event data against current WorkUps.

***Purpose***

The Use Case is utilized by specific institutions, which currently use legacy-based tracking systems to enter case details, only after the details have been approved and reviewed manually. The system is then utilized simply for notification purposes and contacting external agencies.

***Scope***

The scope of Enter and Manage Completed Case Reports includes all activities that are performed by the user in entering data produced from observation results. This may include entry into the system for notification and Case management.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Work-Up – Refers to an incomplete series of events, with or without Party data, which may evolve into a Case, with additional data received.

***References***

Not applicable.

***Overview***

An Event Report is received and tracked manually via paper based forms. At conclusion and review against Case definition criteria, the user is able to identify both Notification and WorkUp Plans to be used.

#### Business Use Case Name – Enter and Manage Completed Case Reports

***Brief Description***

Enter and Manage Completed Case Reports refers to the activities that are completed through utilization of manual processes; currently performed using paper-based forms. The detail is not entered into the tracking system until all data are received, thereby impeding the ability of a Caseworker to reference event data against current WorkUps.

#### Business Goals

Entry of Case detail information, to be used for reporting and notification purposes.

#### Performance Goals

Not applicable.

## Representative Actors

Data Entry Representative (Clerk or Caseworker), State and Local Health Department

Data Entry Representative (Clerk or Technician), Laboratory or Clinic

## Relationships to Other Use Cases

Determine Notification Actions.

## Initiating Events

The event is initiated once a report is received.

## System Triggers

Not applicable.

## Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Person Surveillance

## Workflow

### *Basic Workflow*

Input: Event details (Party)

- User selects data for entry, focused on the results of event observations.
- User opens the Data Entry module within the system.
- User enters the selected data, derived from the observation results.
- User identifies several Case definitions to be used in the determination process.
- User opens the Case definition selected.
- User reviews the Case definition.
- User determines whether the event data meets the Case criteria.
- User determines that the Case meets the specified criteria and identifies it as Notifiable.

Output: New Event Record that contains all necessary criteria to be deemed a Case.

### *Alternative Workflows*

- User selects data for entry, focused on the results of event observations.
- User opens the Data Entry module within the system.
- User enters the selected data, derived from the observation results.
- User identifies several case definitions to be used in the determination process.

- User opens the Case definition selected.
- User reviews the Case definition.
- User determines whether the event data meets the Case criteria.
- User determines that the Case does not meet the specified criteria.
- User identifies the missing data and proceeds to identify and acquire additional data.

Output: Incomplete WorkUp, saved within the database for later modification.

### Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for record specification.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 5.3.8 Determine Notification Actions

## Introduction

Determine Notification Actions refers to the activities that are completed once it has been determined that a WorkUp meets the criteria for notification. Activities encompassed may include determining the type of notification to deliver and the notification recipient, and ensuring that all analysis has been completed.

***Purpose***

The Use Case is utilized to review a Workup that has met the criteria for notification, and to determine the method of contact needed to be employed by the party responsible for delivering the notification message.

***Scope***

The scope of Determine Notification Actions includes all activities that are performed by the user in contacting the appropriate parties for purposes of notification. Recipients may include primary care physicians, health and laboratory service providers, and the Party associated with the Workup.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Work-Up – Refers to an incomplete series of events, with or without Party data, which may evolve into a Case, with additional data received.

***References***

Not applicable.

***Overview***

It has been concluded that a given Workup has met the predetermined criteria for notification. On conclusion, the user must determine the respective parties to be contacted as well as select a method of notification to be used. The user will determine the answers to these questions, based on predetermined criteria, state and local regulations, and Workup details, currently stored within the NEDSS database.

## Business Use Case Name – Determine Notification Actions

***Brief Description***

Determine Notification Actions refers to the activities that are completed once it has been determined that a WorkUp meets the criteria for notification. Activities encompassed may include determining the type of notification to deliver and the notification recipient, and ensuring that all analysis has been completed.

## Business Goals

Prompt notification to interested parties.

Assurance of confidentiality in the reporting process.

## Performance Goals

Not applicable.

## Representative Actors

Data Entry Representative (Clerk or Caseworker), State and Local Health Department

Data Entry Representative (Clerk or Technician), Laboratory or Clinic

Primary Care Physician

## Relationships to Other Use Cases

Enter and Manage Completed Case Reports.

Determine Next Steps.

## Initiating Events

The event is initiated once a report is received.

## System Triggers

Message is received that a Workup meets the criteria needed for notification.

## Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Person Surveillance

## Workflow

### *Basic Workflow*

Input: Message received stating that a Workup has met the criteria for notification.

- User opens the message received pertaining to the Workup that has met the criteria for notification.
- User reviews the Workup for notification recipient identity and method of delivery.
- User lists the methods of delivery to be used in providing the notification

Output: Workup that is ready to be delivered as part of the notification process.

## Post Conditions

Database is updated to include the changes made to the record.

## Business Rules

Not applicable.

### Category

Parent

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for notification.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 5.3.9 Retain Condition for EPI Analysis or Archive

#### Introduction

Retain Condition for EPI Analysis or Archive refers to the activities that are completed once it has been determined that a WorkUp condition is complete. These activities may include archiving the condition for later use or performing data analysis on the data information within the condition.

***Purpose***

The Use Case is utilized to review a Workup condition that has satisfied the criteria for notification, and to determine whether further analysis is needed or if the condition may be saved for later use and review.

***Scope***

The scope of Retain Condition for EPI Analysis or Archive includes all activities that are performed by the user in determining the appropriate action to be taken, based on the receipt of a condition, which has satisfied the criteria established for completeness. These activities may include assigning codes to the WorkUp to be classified as non-active for review purposes, yet still available for inclusion within trend analysis calculations.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Condition Workup – Describes the collection of information on a person, which is specific to a particular condition for a defined period of time.

***References***

Not applicable.

***Overview***

It has been concluded that a given Workup has met the predetermined criteria for notification. On conclusion, the user must determine the respective parties to be contacted, as well as select a method of notification to be used. The user will determine the answers to these questions, based on predetermined criteria, state and local regulations, and Workup details, currently stored within the NEDSS Base System database.

#### Business Use Case Name – Retain Condition for EPI Analysis or Archive

***Brief Description***

Retain Condition for EPI Analysis or Archive refers to the activities that are completed once it has been determined that a WorkUp condition is complete. These activities may include archiving the condition for later use or performing data analysis on the data information within the condition.

#### Business Goals

Removal from consideration for active review.

### Performance Goals

Not applicable.

### Representative Actors

Data Entry Representative (Clerk or Caseworker), State and Local Health Department

Data Analyst (Caseworker), State and Local Health Department

### Relationships to Other Use Cases

Determine Next Steps.

### Initiating Events

The event is initiated once a condition has been deemed no longer needed for active review.

### System Triggers

Not applicable.

### Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

### Processes Supported

Person Surveillance

### Workflow

#### *Basic Workflow*

Input: Message received stating that a WorkUp has met the criteria for notification.

- User opens the record that contains the condition information to be classified.
- User selects the option to edit the record.
- User enters the condition code.
- User saves the updates to the record.

Output: WorkUp, which is removed from review action, yet is available for later use in analytical reporting processes.

#### *Alternate Workflow*

- User opens the record that contains the condition information to be classified.
- User selects the option to edit the record.
- User enters the condition code.
- User cancels the updates to the record.
- User closes the record.

Output: Workup, which contains all original values, before edits entered.

### Post Conditions

Database is not updated within the database.

### Business Rules

Not applicable.

### Category

Parent

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for satisfying condition requirements.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

## 5.4 Analysis, Visualization, and Reporting

### 5.4.1 Select Type of AVR

#### Introduction

This activity allows the user to specify the type of analysis, visualization, or reporting method through which raw data will be processed. The set of methods available to the user will include, but not be limited to, reports defined through previous use of NEDSS Base System, ad hoc reports, and external analytical applications.

***Purpose***

Select Type of AVR is used to identify the reporting procedures to be used in generating all data analysis, data reporting, and data views.

***Scope***

Select Type of AVR encompasses all activities associated with selecting the type of analysis, visualization, or reporting method.

***Definitions, Acronyms, and Abbreviations***

AVR – Analysis, Visualization, and Reporting.

CDM – Core Demographic Module.

NNDM – Nationally Notifiable Disease Module.

***References***

None.

***Overview***

Select Type of AVR allows the user to select the type of AVR to be performed. Current analysis features include predefined reports, ad hoc reports, statistical analysis, and geographical analysis. All reporting will be dependent on the selection of software package (SAS, Actuate Reports, etc.) to be included within the Base System release.

#### Business Use Case Name – Select Type of AVR

***Brief Description***

A caseworker generally initiates this Use Case. It allows the user to choose the method of processing raw data.

#### Business Goals

Provide a process for selection an analysis, visualization, or reporting method.

#### Performance Goals

Non-Applicable.

#### Representative Actors

Caseworker (State and County Level)

## Relationships to Other Use Cases

Store Results or Refine Analysis.

## Initiating Events

It has been determined that existing data must be processed or operated on to yield a result with analytical value.

## System Triggers

System Schedule. If the user has scheduled an AVR process, the system selects the method as specified in the schedule.

## Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

## Processes Supported

Analysis, Visualization, and Reporting

## Workflow

### *Basic Workflow*

Input: None.

- User opens the AVR functionality from the Main Window.
- User chooses from a list of predefined methods the method by which existing data will be processed.

Output: A method selection.

### *Alternative Workflows*

None.

## Post Conditions

User has selected a method through which existing data must be processed.

## Business Rules

None.

## Category

None.

## Risk

A set of predefined AVRs and their special requirements that influence subsequent steps in the AVR process has not been determined.

## Possibilities

The user should be able to set up a data processing workflow comprised of multiple processing methods. The conglomerate set of methods selected will be addressed as a single indivisible processing method for subsequent steps in analysis, visualization, and reporting activity.

## Process Owner

The State or County Health Department Administration controls the process.

## Supplementary Specifications

None.

## Extension Points

None.

### 5.4.2 Enter Data Selection Criteria

#### Introduction

This activity allows the user to specify the criteria that existing data must satisfy to be considered for selection into the set of data that will be processed through some analysis, visualization, or reporting method.

***Purpose***

Enter Data Selection Criteria is used to specify the data values to be analyzed for reporting purposes by the user.

***Scope***

Enter Data Selection Criteria encompasses all activities associated with defining the criteria for selecting data to be analyzed.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

Enter Data Selection Criteria allows the user to specify data values to be analyzed by the client. Data included would encompass all data parameters that are associated with predefined reports. Examples include the data subsets used for ad hoc reporting.

#### Business Use Case Name – Enter Data Selection Criteria

***Brief Description***

The caseworker initiates this Use Case. It allows the employee to enter the criteria for selecting data to be used as input to some analysis, visualization, or reporting method.

#### Business Goals

Provide a process to select a subset of existing data.

#### Performance Goals

Not applicable.

#### Representative Actors

Data Analyzer (State and County Level)

Research Personnel (CDC)

#### Relationships to Other Use Cases

Select AVR Output Format and Destination.

## Initiating Events

It has been determined that existing data must be selected for processing or other activity.

## System Triggers

System Schedule. If the user has scheduled an AVR process, the system selects the data according to criteria specified in the schedule.

## Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

The type of analysis, visualization, or reporting method has been specified.

## Processes Supported

Analysis, Visualization and Reporting, Surveillance and Intervention Program Management

## Workflow

### *Basic Workflow*

Input: Data selection criteria (manually derived)

- The user uses the Search feature to Enter Data Selection Criteria. Settings for certain parameters of the search may be dictated by the analysis, visualization, or reporting method chosen.
- The user identifies all or a subset of the data elements retrieved by the system.
- As required by the analysis, visualization, or reporting method specified, the user may repeat Steps 1 and 2 to perform as many searches as necessary.
- The user approves all data elements selected to be used as the final dataset to be processed.

Output: Data selection.

### *Alternative Workflows*

Not applicable.

## Post Conditions

Database has been updated.

## Business Rules

None.

## Category

None.

### Risk

Any restrictions imposed on the data selection criteria by any analysis, visualization, or reporting method have not been specified.

### Possibilities

None.

### Process Owner

State and Local Health Administrators.

### Supplementary Specifications

None.

### Extension Points

None.

### 5.4.3 Select AVR Output Format and Destination

#### Introduction

This activity addresses the user's need to define the format for the output file with results of existing data processed through some analysis, visualization, or reporting method as well as the destination where the file should be stored. If the method chosen dictates either of these parameters and does not allow the user to choose, that parameter will not be available for the user to customize.

***Purpose***

Allows the user to specify the format of the output as well as its destination.

***Scope***

Select AVR Output Format and Destination encompasses all activities associated with selecting an output format and destination.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

This activity provides the capability for the user to specify the format of the output and its destination. Normally, the destination will be a work area within the NEDSS Base System database, used for viewing via a Web browser. The user will utilize this functionality to specify the output format, as well as select the destination to be used for storing the result, after viewing is complete. The destination may include simple reports, as well as a disk drive or server.

#### Business Use Case Name – Select AVR Output Format and Destination

***Brief Description***

A caseworker initiates this Use Case. It allows the employee to specify an output format and destination of the file with processed results from some analysis, visualization, and reporting method.

#### Business Goals

Allow a process to select an output format for the results of the analysis.

Allow a process to select a storage location for the results of the analysis.

#### Performance Goals

Not applicable.

#### Representative Actors

Caseworker (State and County Level)

## Relationships to Other Use Cases

Not applicable.

## Initiating Events

It has been determined that additional data are needed to further evaluate Suspected Case Data.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

Select Type of AVR has been completed.

## Processes Supported

Analysis, Visualization, and Reporting.

## Workflow

### *Basic Workflow*

Input: AVR Type without an associated output format or destination.

The user opens the reporting function from the Main Window.

The user chooses the output format if the analysis, visualization, and reporting method allow the user to do so; otherwise, the default output format.

The user chooses the destination where the output file should be stored if the chosen method allows the user to do so. Otherwise, the destination will become the default value entered. The choice of locations will be restricted to the user’s machine or machines within the user’s local area network to which the user has permission.

Output: AVR Type with an associated output format or destination.

### *Alternative Workflows*

Not applicable.

## Post Conditions

System has received an output format to be used for reporting processes.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

## Possibilities

Not applicable.

## Process Owner

State and Local Health Administrator

## Supplementary Specifications

Not applicable.

## Extension Points

Not applicable.

### *5.4.4 Schedule and Monitor the AVR Job*

#### Introduction

This action addresses the need to schedule the execution of the specified analysis, visualization, or reporting method. The method may be executed one or more times immediately, at a specified time in the future, or periodically.

##### *Purpose*

See Introduction.

##### *Scope*

Schedule and Monitor the AVR Job encompasses all activities associated with scheduling the execution of the chosen analysis, visualization, or reporting method.

##### *Definitions, Acronyms, and Abbreviations*

Periodic Execution: Execution will occur on satisfaction of some specified time-based condition.

##### *References*

None.

##### *Overview*

One of the significant differences between the Web and classical desktop computing is that current browser communication protocols do not provide a monitoring of either client or server application statuses. NEDSS Base System addresses this limitation by providing the functionality for the user to indicate when they would like the report run, as well as a vehicle to monitor its progress. Schedule and Monitor the AVR Job allows the user to define time parameters for the generation of all reports, as well as inform the user of report generation completion.

#### Business Use Case Name – Schedule and Monitor the AVR Job

##### *Brief Description*

A public health employee, designated with the role of assessing Case Surveillance Reports, initiates this Use Case. It allows the employee to actively collect additional data from source providers to complete Case Surveillance Reports.

#### Business Goals

Provide a process for scheduling the execution of the AVR once or multiple times.

#### Performance Goals

Not applicable.

#### Representative Actors

Case Surveillance Assessor (State and County Level)

#### Relationships to Other Use Cases

Select AVR Output Format and Destination.

## Initiating Events

It has been determined that additional data are needed to further evaluate Suspected Case Data.

## System Triggers

None.

## Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

Select Type of AVR has been completed.

Enter Data Selection Criteria has been completed.

Select AVR Output Format and Destination has been completed.

## Processes Supported

Analysis, Visualization, and Reporting

## Workflow

### *Basic Workflow*

Input: Method scheduling parameters.

- The user opens the reporting functionality.
- The user chooses the setting menu functionality.
- The user sets the number of times the method is to be executed at a given instance in time.
- The user sets the instances of time at which the method is to be executed. These may be one or more independent instances in the future or instances that are periodic over a specified interval.
- If future executes are scheduled, system saves all user information entered so far in the AVR process to be capable to execute the process in the future. This information includes the AVR method selected and data selection criteria.

Output: An execution schedule with all necessary selection criteria.

### *Alternative Workflows*

Not applicable.

## Post Conditions

A schedule for system execution has been defined.

## Business Rules

Not applicable.

### Category

None.

### Risk

None.

### Possibilities

None.

### Process Owner

State and Local Health Administrators

### Supplementary Specifications

None.

### Extension Points

None.

### 5.4.5 Review AVR Results

#### Introduction

This collection of activity addresses the need to view the results of data processed through some analysis, visualization, or reporting method.

***Purpose***

Allows the user to view results derived from data calculations and regression analysis.

***Scope***

Review AVR Results encompasses all activities associated with reviewing the processed results.

***Definitions, Acronyms, and Abbreviations***

None.

***References***

None.

***Overview***

A user has previously selected data to be analyzed. The data has been analyzed, using the analysis features, contained within NEDSS Base System functionality. On conclusion of the analysis, the user must review the data calculations as well as identify a reporting feature to be used. On review of all results, the user will be given the option to print or refine the reviewed results.

#### Business Use Case Name – Review AVR Results

***Brief Description***

A researcher initiates this Use Case. It allows the researcher to review the results of data processed through some chosen analysis, visualization, or reporting method.

#### Business Goals

Provide a process to view the processed results.

#### Performance Goals

Not applicable.

#### Representative Actors

Data Analyzer (State and County Level)

Research Personnel (CDC)

#### Relationships to Other Use Cases

None.

## Initiating Events

It has been determined that additional data are needed to further evaluate Suspected Case Data.

## System Triggers

None.

## Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

An AVR scheduled in Schedule the AVR has been executed.

## Processes Supported

Analysis, Visualization, and Reporting (AVR).

## Workflow

### *Basic Workflow*

Input: Processed Results.

- User selects the Analysis functionality from the Main Window.
- User opens the file containing all processed data, previously generated by the Data Analysis functionality.
- User reviews the data and determines the next logical step (Reporting, Further Analysis).

Output: Processed results (unaltered).

### *Alternative Workflows*

None

## Post Conditions

User has reviewed the results of one or more instances of execution of the analysis, visualization, or reporting method.

## Business Rules

None.

## Category

None.

## Risk

None.

## Possibilities

None.

## Process Owner

State and Local Health Administrator

## Supplementary Specifications

None.

## Extension Points

None.

### 5.4.6 Store Results or Refine Analysis

#### Introduction

This activity addresses the need to finalize the chosen destination or choose additional destinations for the storage of the processed result as well as to perform a refined analysis utilizing the processed result as a basis for determining its input. The processed result may be used as input itself or support the decision in selected other input, such as raw data.

***Purpose***

This activity is used to save all analyzed data, as well as submit further analysis to be conducted.

***Scope***

Store Results or Refine Analysis encompasses all activities associated with storing the results and refining the analysis.

***Definitions, Acronyms, and Abbreviations***

Refined Analysis: An iteration of the analysis/visualization/reporting cycle, which utilizes the results of a previous iteration as a basis to determine its input. The results from a previous iteration may serve as input themselves or support the decision to select other input.

***References***

None.

***Overview***

Store Results or Refine Analysis allows the user to store analysis results as semipermanent files, to print results to hardcopy, and submit the results for further analysis. The user utilizes these options for purposes of presentation, reuse during data calculations, and for comparison purposes.

#### Business Use Case Name – Store Results or Refine Analysis

***Brief Description***

A data analyzer initiates this Use Case. It allows the data analyzer to store the results of the analysis and refine further analysis based on the results of the previous analysis.

#### Business Goals

Provide a process to specify one or more locations for storage of results.

Provide a process to refine the analysis.

#### Performance Goals

Not applicable.

#### Representative Actors

Data Analyst (State and County Level)

Research Personnel (CDC)

## Relationships to Other Use Cases

Not applicable.

## Initiating Events

The user has reviewed the processed results.

## System Triggers

None.

## Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

An AVR scheduled in Schedule the AVR has been executed.

User has used Review Results to review the results.

## Functions, Processes, and Workflows Supported

Supports Select Type of AVR, Enter Data Selection Criteria, Select AVR Output Format and Destination, Schedule the AVR, Review Results, and Distribute Results to Interested Parties.

## Workflow

### *Basic Workflow*

Input: User-entered parameters for storage of results.

- User opens analysis functionality from the Main window.
- User opens the data file, which contains all data analyzed during a previous session.
- User Reviews Data
- User is prompted save the data.
- User saves the data to be used for later review. (Stores Results)

Output: Stored Data Result File

### *Alternative Workflows*

- User opens the analysis functionality from the Main window.
- User opens the data file, which contains all data analyzed during a previous session.
- User reviews data.
- User is prompted save the data.
- User concludes that the data must be further analyzed.
- User selects a data analysis function to be performed.
- User submits the request to have the data further analyzed by the analysis tool.

Output: Additional Data Refined Calculations

### Post Conditions

System initiates the analysis process, as dictated by the submission in step 11.2.7.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Department

### Supplementary Specifications

Not applicable.

### Extension Points

Not applicable.

### 5.4.7 Distribute Results to Interested Parties

#### Introduction

This activity addresses the need for the user to distribute the processed results from an analysis to any parties interested in that result. The user may attach any further comments or interpretive notes to the results. The system will interoperate with an external e-mail application to perform the distribution.

***Purpose***

This activity provides the user with the capability to transmit data to requesting parties. The parties may include mandated, reporting agencies and external entities. (fellow states or counties)

***Scope***

Encompasses all activities associated with the distribution of analyzed data to external parties, inclusive of mandated reporting processes.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Party Data – Refers to all data with respect to a patient.

Core Event Data – Refers to all data with respect to a disease.

***References***

None.

***Overview***

The user has received the analyzed data from the system. On receipt, the user must distribute the result set to other parties with interest. Other parties may include mandated agencies (CDC), as well as fellow state and local agencies, which use the data for comparison purposes. The user utilizes this feature to provide the requesting agencies with an electronic copy of the analyzed data, in addition to providing an interpretation of the results for the receiving user. The user may include the actual result file, or provide a pointer, which links the receiving user to the source file.

This feature allows the user to share and transmit data files in a working format. The receiving user may utilize the data file to perform additional calculations, as well as store in compatible formats for later reporting and exchange.

#### Business Use Case Name – Distribute Results to Interested Parties

***Brief Description***

A data analyzer/researcher initiates this Use Case. It allows the individual agencies to exchange the results and interpretations of analysis to interested parties.

#### Business Goals

Provide a process for distributing processed results to any interested parties.

### Performance Goals

Not applicable.

### Representative Actors

Research Personnel (State and Local Level, CDC)

Reporting Agencies (State and Local Level, CDC)

### Relationships to Other Use Cases

None.

### Initiating Events

It has been determined that additional data are needed to further evaluate Suspected Case Data.

### System Triggers

None.

### Pre-Conditions

User has successfully logged in.

User has the authorization to perform the operation.

A processed result from an analysis exists in the system.

### Processes Supported

Analysis, Visualization, and Reporting, Notification.

### Workflow

#### *Basic Workflow*

Input: Processed results, user comments.

- User opens the analysis functionality.
- User utilizes search functionality to identify the results to be sent.
- User identifies the results.
- User selects the send functionality.
- User enters the data file recipient and the pointer (if applicable).
- User submits the file message.
- The system distributes the results.

Output: An electronic message with editable, processed results attached.

#### *Alternative Workflows*

- User opens the analysis functionality.
- User utilizes search functionality to identify the results to be sent.

- User identifies the results.
- User selects the send functionality.
- User enters the data file recipient and the pointer (if applicable).
- User cancels sending the file message.

Output: Message transmission terminated.

### Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

The system may support alternative delivery mechanisms such as XML messages.

### Process Owner

State and Local Health Administrator

### Supplementary Specifications

Not applicable.

### Extension Points

Not applicable.

# 5.5 Notification

## 5.5.1 Select Data To Send

### Introduction

Select Data To Send refers to all levels of activity that are associated with the selection of Workups for which notifications must be sent. The selection process may be based on select criteria, including WorkUps assigned to a particular user, WorkUps assigned to a particular program area, and predetermined notification plan criteria.

#### *Purpose*

Select Data To Send is utilized to identify Case/WorkUps that have met the required criteria for delivering notification to an external authority (CDC/Local health physician, patient).

#### *Scope*

The Scope for Select Data To Send includes all activities that are associated with the selection of Workups to be sent to reporting authorities. These activities may include reviewing Case/WorkUp entries, entering criteria, and specifying the notification type.

#### *Definitions, Acronyms, and Abbreviations*

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

#### *References*

Not applicable.

#### *Overview*

A caseworker or approved authority has determined that a Case or Workup satisfies the criteria and must now initiate the notification process. The caseworker or approved authority must now utilize NEDSS Base System to identify the WorkUps/Cases to include within the Notification transaction, as well as to specify the reporting method.

### Business Use Case Name – Select Data to Send

#### *Brief Description*

Select Data To Send refers to all levels of activity, which are associated with the selection of Workups for which notifications must be sent. The selection process may be based on select criteria, including Workups assigned to a particular user, Workups assigned to a particular program area, and predetermined Notification Plan criteria.

### Business Goals

100% confidentiality protection for the information, contained within the Workups that are included within the Notification Reports.

### Performance Goals

Not applicable.

### Representative Actors

Caseworker (State and Local Level)

### Relationships to Other Use Cases

Implements the following Use Cases: Implements Search/View Notification Queue, Search/View WorkUps, Search/View Notification Plans, Search/View PH Partner Profiles, Search/View Notification Reports, Create Notification Reports, Modify Notification Reports.

### Initiating Events

User is requested to identify certain records for reporting purposes.

### System Triggers

Not applicable.

### Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

### Processes Supported

Notification.

### Workflow

#### *Basic Workflow*

Input: Selection Criteria (Core Event)

- User selects the Select Data To Send functionality.
- User is prompted to enter their selection criteria.
- User enters their selection criteria.
- User selects the WorkUps to be sent to be included within the Notification Report.
- User reviews the entries contained within the selected WorkUp queues and determines the type of notification, which must be used.

Output: Identified Cases/WorkUps to be included within the Notification process

#### *Alternative Workflows*

- User selects the Select Data To Send functionality.
- User is prompted to enter their selection criteria.
- User enters invalid selection criteria.
- User receives an error message stating that the criterion entered is invalid.
- User is prompted to re-enter the invalid criterion.

Output: Error message received informing the user of the invalid criteria entered.

*Alternative Workflows*

- User selects the Select Data To Send functionality.
- User is prompted to enter their selection criteria.
- User enters their selection criteria.
- User selects the WorkUps to be sent to be included within the Notification Report.
- User selects the same WorkUps to be sent (listed in Section 11.3.4) to be included within a separate Notification Report (predetermined within the Notification Plan).
- User reviews the entries contained within the selected WorkUp queues and determines the type of notification to be used.

Output: Identified Cases/WorkUps to be included within multiple notification processes.

## Post Conditions

Not applicable.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

## Possibilities

Not applicable.

## Process Owner

State and Local Health Administrators

Disease Reporting Authorities

## Special Requirements

Refers to the requirements that are associated with establishing criteria for record specification.

## Extension Points

Not applicable.

### 5.5.2 Select Recipients and Notification Methods

#### Introduction

Select Recipients and Notification Methods refers to all levels of activity, which are associated with the selection of Notification Report recipients and the methods used to provide notification. The Notification Report may include individual/multiple Workups, previously identified by an authorized user.

***Purpose***

Select Recipients and Notification Methods is utilized to identify WorkUp notification recipients and the delivery manner to be used for the notification message.

***Scope***

The scope for Select Recipients and Notification Methods includes all activities that are associated with the selection of WorkUp Notification recipients.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

A caseworker or approved authority has determined that a Case or Workup satisfies the criteria for notification and may now be transmitted to an authorized user (physician, CDC representative). The caseworker or approved authority may now utilize NEDSS Base System to identify the users who will be the recipients of the information.

#### Business Use Case Name – Select Recipients and Notification Methods

***Brief Description***

Select Recipients and Notification Methods refers to all levels of activity that are associated with the selection of Notification Report recipients and the methods used to provide notification. The Notification Report may include individual/multiple Workups, previously identified by an authorized user.

#### Business Goals

100% confidentiality – Protection of any information pertaining to the WorkUp subject, which may not be released to unauthorized users.

#### Performance Goals

Not applicable.

## Representative Actors

Caseworker (State and Local Level)

Primary Care Physician (Individual)

Data Entry Representative (State and Local Level)

## Relationships to Other Use Cases

Parent (Search/View Notification Report Queue, Search/View PH Partner Profiles, Add Recipient to Notification Report, Add Notification Method to Recipient Addressee).

## Initiating Events

User has identified or received a list of identified WorkUps to be used in the notification process.

## System Triggers

Not applicable.

## Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Notification

## Workflow

### *Basic Workflow*

Input: Selection Criteria (Core Event)

- User selects the Select Recipients and Notification Methods functionality.
- User is prompted to enter the names/organizations to be notified.
- User enters the recipient name.
- User reviews the profile for the recipient to view delivery preferences.
- User is prompted to select the notification method for delivery (e-mail message, letter, telephone).
- User determines the appropriate method to be used, based on the current circumstances (emergency versus routine report) and submits the request.
- User is prompted to confirm the request.
- User confirms the request.

Output: Request for transfer approval is sent to the approval authority.

### *Alternative Workflows*

- User selects the Select Recipients and Notification Methods functionality.
- User is prompted to enter the names/organizations to be notified.

- User enters the recipient name.
- User reviews the profile for the recipient to view delivery preferences.
- User is prompted to select the notification method for delivery (e-mail message, letter, telephone).
- User determines the appropriate method to be used, based on the current circumstances (emergency versus routine report) and submits the request.
- User is prompted to confirm the request.
- User cancels the request.

Output: The notification message is not sent to the specified recipient.

### Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Core – Because the notification information must be protected, only authorized users must be included within the user list.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

CDC Reporting Contact Authority.

### Special Requirements

Refers to the requirements, which are associated with establishing criteria for record specification.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 5.5.3 Review and Approve Notification Content

#### Introduction

Review and Approve Notification Content refers to all levels of activity that are associated with the review and approval process for Notification Content. This activity may include approval of all content information supplied within the notification (name, age, sex, etc.), eligible recipients for distribution, and may be subject to local or state policy.

***Purpose***

Review and Approve Notification Content is utilized to restrict a user's ability to provide notifications to external organizations, as well as to prevent unauthorized information from being reported to external agencies.

***Scope***

The scope for Review and Approve Notification Content includes all activities that are associated with approving any notification messages before transmission.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Notification – Refers to the process of contacting a party (individual or agency) with information pertaining to an event, which contains a link to a particular party.

***References***

Not applicable.

***Overview***

An administrator is given the task of determining the criteria for transmitting any event notifications. The administrator must specify the information that may be provided to external users with regards to notification information, in addition to restricting a user's ability to release/transmit notification information.

#### Business Use Case Name – Review and Approve Notification Content

***Brief Description***

Review and Approve Notification Content refers to all levels of activity that are associated with the review and approval process for Notification Content. This activity may include approval of all content information supplied within the notification (name, age, sex, etc.), eligible recipients for distribution, and may be subject to local or state policy.

#### Business Goals

100% review of all notification information before release, facilitated within an easy manner.

#### Performance Goals

Not applicable.

## Representative Actors

Caseworker (State and Local Level)

## Relationships to Other Use Cases

Implements the following Use Cases: Search/View Notification Report, Modify Notification Report, Approve Notification Report for Release.

## Initiating Events

Not applicable.

## System Triggers

Not applicable.

## Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Notification.

## Workflow

### *Basic Workflow*

Input: Selection Criteria (Core Event)

- User receives a message stating that a notification is ready for delivery and must be approved before transmittal.
- User reviews the notification information to identify any information that must be included or excluded from the notification message.
- User reviews the distribution list information (recipients).
- User selects the Review and Approve Notification Content functionality and selects the approval command button.
- User is prompted to confirm the request for notification approval.
- User confirms the request to approve the notification.

Output: Transmitted Notification

### *Alternative Workflows*

- User receives a message stating that a notification must be approved before transmittal.
- User reviews the notification information.
- User reviews the distribution list information.
- User selects the Review and Approve Notification Content functionality and denies approval.

- User is prompted to confirm the request for notification denial.
- User confirms the request to approve the notification denial.

Output: The notification is denied and the originator is notified electronically of the rejection.

***Alternative Workflows***

- User receives a message stating that a notification must be approved before transmittal.
- User reviews the notification information.
- User reviews the distribution list information.
- User selects the Review and Approve Notification Content functionality and selects the approval command button.
- User is prompted to confirm the request for notification approval.
- User cancels the request to approve the notification.

Output: The notification is not transmitted and the transaction is flagged as awaiting approval.

### Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Parent

### Risk

Core – Based on the fact that the user must be able to restrict the access to the information and provide information on a pre-approved basis.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for record specification.

### Extension Points

Not applicable.

### 5.5.4 Send and Manage the Notifications and Requests

#### Introduction

Send and Manage the Notifications and Requests refers to all levels of activity that are associated with the submission of notifications to the Messaging Router, as well as the success of the transfer.

***Purpose***

Send and Manage the Notifications and Requests are utilized to administer the settings associated with the submission of Queue of Approved Notifications to the Messaging Router.

***Scope***

The scope for Send and Manage the Notifications and Requests includes all activities that are associated with the configuration of the notification transfer settings.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

An administrator is given the task of assigning the settings to be used in the delivery of the Approved Notifications to the Messaging Router. The administrator must identify the parameters (delivery service type and settings) to be used for transmitting notifications.

#### Business Use Case Name – Send and Manage the Notifications and Requests

***Brief Description***

Send and Manage the Notifications and Requests refers to all levels of activity that are associated with the submission of Notifications to the Messaging Router, as well as the success of the transfer.

#### Business Goals

Complete delivery of all notification messages to the Messaging Router.

Successful transmission of all notification messages to the identified recipient.

#### Performance Goals

Not applicable.

#### Representative Actors

Network Administrator (State and Local Level)

#### Relationships to Other Use Cases

Select Recipients and Delivery Method.

## Initiating Events

Not applicable.

## System Triggers

Not applicable.

## Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Notification.

## Workflow

### *Basic Workflow*

Input: Selection Criteria

- User selects the Send and Manage the Notifications and Requests functionality.
- User views the notification/request delivery criteria, currently specified.
- User configures the notification/request criteria to reflect desired settings, including message delivery and failure reports.
- User is prompted to save the request criteria.
- User confirms the request to save the criteria.

Output: User specified settings are saved and applied to all incoming requests for information and outgoing Notifications. User receives any notifications of failed error message transmission.

### *Alternative Workflows*

- User selects the Send and Manage the Notifications and Requests functionality.
- User views the notification/request delivery criteria, currently specified.
- User edits the notification/request criteria.
- User is prompted to save the request criteria.
- User cancels the request to save the criteria.

Output: User-specified settings are rolled back to reflect the prior settings. No updates to the settings are committed.

## Post Conditions

NEDSS Base System is updated to reflect the settings specified in Standard Workflow.

### Business Rules

### Category

Parent

### Risk

Core – User-specified settings must perform properly to ensure needed notification messages are transmitted to the proper recipient versus unauthorized users.

### Possibilities

Not applicable.

### Process Owner

State and Local System Administrators.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for record specification.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

## 5.6 Information Request

### 5.6.1 Select Request Type and Enter Request Data

#### Introduction

Select Request Type and Enter Request Data refers to all levels of activity that are associated with the creation of requests for additional data to be used in further evaluating the WorkUp for Case selection.

***Purpose***

Select Request Type and Enter Request Data is utilized to identify and request data needed to complete a WorkUp. The request will then be forwarded to the appropriate representative.

***Scope***

The scope for Select Request Type and Enter Request Data includes all activities that are associated with the identification and requests for additional data needed to complete a WorkUp.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

A caseworker or approved authority has determined that a Case or Workup satisfies the criteria and must now initiate the Requests for Data process. The caseworker or approved authority must now utilize NEDSS Base System to identify the Workups/Cases to include within the Requests for Data transaction, as well as to specify the reporting method.

#### Business Use Case Name – Select Request Type and Enter Request Data

***Brief Description***

Select Request Type and Enter Request Data refers to all levels of activity that are associated with the selection of WorkUp for which Requests for Data must be sent. The selection process may be based on select criteria, previously identified when comparing the WorkUp against Case criteria.

#### Business Goals

100% confidentiality protection for the information, contained within the WorkUp, which are included within the Requests for Data Reports.

#### Performance Goals

Not applicable.

### Representative Actors

Caseworker (State and Local Level)

### Relationships to Other Use Cases

Not applicable.

### Initiating Events

User is requested to identify data to be used in completing Workups on file.

### System Triggers

Not applicable.

### Pre-Conditions

User has logged in to the System.

User is authorized to perform the function.

### Processes Supported

Information Request

### Workflow

#### *Basic Workflow*

Input: Selection Criteria

- User selects the Select Request Type and Enter Request Data functionality.
- User is prompted to enter their request selection criteria (Program Area, CDM, etc.).
- User enters their selection criteria.
- User enters the data information needed within the request text fields.
- User saves the request.
- User submits the request.

Output: Request for additional data, which will be sent to a recipient, once the appropriate recipient has been identified.

#### *Alternative Workflows*

- User selects the Select Request Type and Enter Request Data functionality.
- User is prompted to enter their request selection criteria (Program Area, CDM, etc.).
- User enters their selection criteria.
- User enters the data information needed within the request text fields.
- User saves the request.
- User does not submit the request.

Output: Request for additional data, which will need to be sent to a recipient, once the appropriate recipient has been identified.

## Post Conditions

Not applicable.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

## Possibilities

Not applicable.

## Process Owner

State and Local Health Administrators.

## Special Requirements

Refers to the requirements that are associated with establishing criteria for record specification.

## Extension Points

Not applicable.

### 5.6.2 Enter Request Data

#### Introduction

Select Request Type and Enter Request Data refers to all levels of activity, which are associated with the creation of requests for additional data to be used in further evaluating the WorkUp for Case selection.

***Purpose***

Select Request Type and Enter Request Data is utilized to identify and request data needed to complete a WorkUp. The request will then be forwarded to the appropriate representative.

***Scope***

The scope for Select Request Type and Enter Request Data includes all activities that are associated with the identification and requests for additional data needed to complete a WorkUp.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

A caseworker or approved authority has determined that a Case or Workup satisfies the criteria and must now initiate the Requests for Data process. The caseworker or approved authority must now utilize NEDSS Base System to identify the Workups/Cases to include within the Requests for Data transaction, as well as to specify the reporting method.

#### Business Use Case Name – Select Request Type and Enter Request Data

***Brief Description***

Select Request Type and Enter Request Data refers to all levels of activity that are associated with the selection of WorkUp for which Requests for Data must be sent. The selection process may be based on select criteria, previously identified when comparing the WorkUp against Case criteria.

#### Business Goals

100% confidentiality protection for the information, contained within the WorkUp, which are included within the Requests for Data Reports.

#### Performance Goals

Not applicable.

#### Representative Actors

Caseworker (State and Local Level)

## Relationships to Other Use Cases

Not applicable.

## Initiating Events

User is requested to identify data to be used in completing Workups on file.

## System Triggers

Not applicable.

## Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Information Request

## Workflow

### *Basic Workflow*

Input: Selection Criteria

- User selects the Select Request Type and Enter Request Data functionality.
- User is prompted to enter their request selection criteria (Program Area, CDM, etc.).
- User enters their selection criteria.
- User enters the data information needed within the request text fields
- User saves the request
- User submits the request

Output: Request for additional data, which will be sent to a recipient, once the appropriate recipient has been identified.

### *Alternative Workflows*

- User selects the Select Request Type and Enter Request Data functionality.
- User is prompted to enter their request selection criteria (Program Area, CDM, etc.).
- User enters their selection criteria.
- User enters the data information needed within the request text fields.
- User saves the request.
- User does not submit the request.

Output: Request for additional data, which will need to be sent to a recipient, once the appropriate recipient has been identified.

## Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

State and Local Health Administrators.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for record specification.

### Extension Points

Not applicable.

### *5.6.3 Select Recipients and Delivery Methods*

#### Introduction

Select Recipients and Delivery Methods refers to all levels of activity that are associated with the selection of Delivery Report recipients and the methods used to provide Delivery of Information Requests. The Delivery report may include requests for information, which pertain to individual/multiple Workups, previously identified by an authorized user.

***Purpose***

Select Recipients and Delivery Methods is utilized to identify Information Request Delivery recipients and the delivery manner to be used for the delivery message.

***Scope***

The scope for Select Recipients and Delivery Methods includes all activities that are associated with the selection of Information Request Delivery recipients.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

***References***

Not applicable.

***Overview***

A caseworker or approved authority has determined that a Case or Workup needs additional information to meet Case definition criteria. The user has prepared the request and must now identify the request recipient and method to be used for delivery. The caseworker or approved authority may now utilize NEDSS Base System to identify the users who will be the recipients of the information.

#### Business Use Case Name – Select Recipients and Delivery Methods

***Brief Description***

Select Recipients and Delivery Methods refers to all levels of activity that are associated with the selection of Delivery Report recipients and the methods used to provide delivery of information requests. The Delivery Report may include requests for information, which pertain to individual/multiple Workups, previously identified by an authorized user.

#### Business Goals

100% confidentiality – Protection of any information pertaining to the Information Request subject, which may not be released to unauthorized users.

#### Performance Goals

Not applicable.

#### Representative Actors

Caseworker (State and Local Level)

Primary Care Physician (Individual)

Data Entry Representative (State and Local Level)

### Relationships to Other Use Cases

Search/View Delivery Report Queue

Search/View PH Partner Profiles

Add Recipient to Delivery Report

Add Delivery Method to Recipient Addressee

### Initiating Events

User has identified the need for additional information to be used in classifying a WorkUp as a Case.

### System Triggers

Not applicable.

### Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

### Processes Supported

Information Request

### Workflow

#### *Basic Workflow*

Input: Selection Criteria

- User selects the Select Recipients and Delivery Methods functionality.
- User is prompted to enter the names/organizations to be notified.
- User enters the recipient name.
- User reviews the profile for the recipient to view delivery preferences.
- User is prompted to select the delivery method for delivery (e-Mail message, letter, telephone)
- User determines the appropriate method to be used, based on the current circumstances (emergency versus routine report) and submits the request.
- User is prompted to confirm the request.
- User confirms the request.

Output: Request for Transfer Approval is sent to the approval authority.

*Alternative Workflows*

- User selects the Select Recipients and Delivery Methods functionality.
- User is prompted to enter the names/organizations to be notified.
- User enters the recipient name.
- User reviews the profile for the recipient to view delivery preferences.
- User is prompted to select the delivery method for delivery (e-mail message, letter, telephone)
- User determines the appropriate method to be used, based on the current circumstances (emergency versus routine report) and submits the request.
- User is prompted to confirm the request.
- User cancels the request.

Output: The delivery message is not sent to the specified recipient.

## Post Conditions

Not applicable.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Core – Because the delivery information must be protected, only authorized users must be included within the user list.

## Possibilities

Not applicable.

## Process Owner

State and Local Health Administrators.

CDC Reporting Contact Authority.

## Special Requirements

All criteria to be used in the determination process must be present.

## Extension Points

Not applicable.

### 5.6.4 Send and Track the Request

TBD

# Section 6—The NEDSS Base System Detailed Functional Use Cases – Task Level

## 6.1 Introduction

The Task Level Use Cases describe the functions used to manage the data stored in the IDR as opposed to the Activity Level Use Cases described in Section 5 that support the users' workflow requirements.

These Use Cases generally provide a consistent set of functions across all types of data: Search, View, Compare, Match, Modify, Consolidate, Associate, and Logically Delete. Consequently, the Use Cases are grouped by the major groupings of data elements, normally referred to as Entities or Classes.

The current definitions of Classes are based on the Public Health Conceptual Data Model (PHCDM), Version 1.1, as of 3/18/2001. These definitions are being extended and refined as the Public Health Logical Data Model is developed from the PHCDM. The PHLDM will be published in April 2001.

## 6.2 Core Demographic Module (CDM)

### 6.2.1 Data Elements Managed by CDM

The data elements managed by the CDM are listed in Exhibit 6-1. Where a data element corresponds to a data element currently used by the NETSS system or identified in previous NEDSS Base System documents, that variable name is listed in the first two columns.

| CDM Variables | | |
|---|---|---|
| NETTS Variable Name | NEDSS Variable Name | Description |
| SUBJECTID | Person_Unique_ID | Unique identifier for person/non-human entity (registry entry) |
| PRTYNMTYPE | Name_Type | Represents type of party name(alias name, legal name) |
| | | |
| CURPREFIX | Cur_Name_Prefix | Current (at this encounter) prefix for name (Mr., Ms.) |
| CURSURNAME | Cur_Surname | Current (at this encounter) surname (last name) |
| SURNAMESOUNDEXCD | Cur_Surname_Soundex | Surname or last name Soundex code |
| CURGNAME | Cur_Given_Name | Current (at this encounter) first name (given name) |
| GNAMESOUNDEXCD | Cur_Given_Name_Soundex | Given or first name Soundex code |
| CURMNAME | Cur_Middle_Name | Current (at this encounter) middle name |
| SUFFIX | Cur_Name_Suffix | Suffix for name (Jr., Sr., III) |
| CURPREFER | Cur_Preferred_Name | Current (at this encounter) preferred name |
| CURMAIDEN | Cur_Maiden_Name | Current (at this encounter) maiden name |
| | | |
| | | |
| SSN | SSN | Social Security Number |
| BIRTHREGNUMB | Birth_Reg_Num | Birth registration number |
| MEDICAIDNUMB | Medicaid_Num | Medicaid number |
| ACCOUNTNUMB | Accnt_Num | Account number |
| DLN | Driver_Lic_Num | Driver's license number |
| MOTHERID | Mother_Unique_ID | Mother's identifier |
| CALCDOB | Calculated_Date_Of_Birth | Calculated date of birth based on age and age type at a given event |
| LIV_STAT | Live_Status | Indicates if subject is alive or dead |
| DOB | Date_Of_Birth | Date of birth |
| STATE_B | State_Of_Birth | State of birth |
| CNTRY_B | Country_Of_Birth | Country of birth |
| BIRTHORDER | Birth_Order | Birth order |
| MULTIBIRTHORDER | Multiple_Birth_Indicator | Multiple birth indicator |
| SEX | Sex_At_Birth | Sex at birth |
| | Cur_Sex | |
| DOD | Date_Of_Death | Death date and time |
| | State_Of_Death | |
| MARRIED | Marital_Status | |
| ADLTHOUSE | Adults_In_Residence | |
| CHILDHOUSE | Children_In_Residence | |
| EDUC | Education_Level | Highest level of schooling completed |

***Exhibit 6-1. Core Demographic Variables (1 of 2)***

| CDM Variables | | Description |
|---|---|---|
| NETTS Variable Name | NEDSS Variable Name | |
| LANGUAGE | Primary_Language | Primary language |
| ETHNICITY_CODE | OMB_Ethnicity_Code | Ethnicity code |
| LOCAL_ETHNICITY_CODE | Local_Ethnicity_Code | Local ethnicity code |
| UNKNOWNRACE | Unknown_Ethnicity_Ind | Unknown race |
| OTH_SPEC | Other_Ethnicity | Specify other race |
| HISPANIC | Hispanic_Ind | Ethnic background or association |
| ASIAN | Asian_Ind | Asian |
| BLACK | Black_Ind | Black/African American |
| AMIND | Native_Amer_Alaskan | Native American/Alaskan Native |
| NAHAW | Native_Hawaiian_Pac_Islan | Native Hawaiian/Pacific Islander |
| WHITE | White | White |
| ORACE | | Other race |
| | | |
| | | |
| CURADDBLK | Cur_Res_Street | Current (at this encounter) address |
| | Cur_Res_Apt | |
| CURCITY | Cur_Res_City | Current (at this encounter) city of residence/location |
| CURCOUNTY | Cur_Res_County | Current (at this encounter) county of residence/location |
| CURSTATE | Cur_Res_State | Current (at this encounter) state/territory of residence/location |
| CURPOSTCD | Cur_Res_Zip | Current (at this encounter) zip code of residence |
| CURCOUNTRY | Cur_Res_Country | Current (at this encounter) country of residence/location of subject |
| CURPHONE | Cur_Res_Phone | Current telephone number |
| | Cur_Mobile_Phone | |
| | Cur_Res_Email | |
| | Cur_Occupation_Code | |
| | Cur_Occ_Street | Current (at this encounter) address |
| | Cur_Occ_Mail_Stop | |
| | Cur_Occ_City | Current (at this encounter) city of residence/location |
| | Cur_Occ_County | Current (at this encounter) county of residence/location |
| | Cur_Occ_State | Current (at this encounter) state/territory of residence/location |
| | Cur_Occ_Zip | Current (at this encounter) zip code of residence |
| | Cur_Occ_Country | Current (at this encounter) country of residence/location |
| | Cur_Occ_Phone | Current telephone number |
| | Cur_Occ_Email | |
| LOCADDR | Local_Addr_Description | District region or other locating information specified by state user |

***Exhibit 6-1. Core Demographic Variables (2 of 2)***

### 6.2.2 Search/View Party Records

#### Introduction

Search/View Party Records refers to the activities that begin when a user receives an Event Record; it determines whether the data in the record should be associated with an existing Party Record.

***Purpose***

Search/View Party Records is a function that allows the user to browse the database for existing Party Records to associate data in a new Event Record with an existing Party Record.

***Scope***

Search/View Party Records includes all activities associated with locating existing Party Records within the database.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Party Record –Information in an Event Report or WorkUp that is unique to an individual (may include name, demographic information, gender information, address information, and so on).

***References***

Referenced in "Enter and Manage Completed Case Reports".

***Overview***

A user receives a new Event Record and must determine whether the data in the report may be associated with an existing Party Record or conclude that a new Party Record is needed. The Party Record may contain similar data to existing Party Records, or it may need to be entered as a new Party Record. The user must associate the received Event Record with an existing Party Record to prevent duplication of Party Record material.

#### Business Use Case Name – Search/View Party Records

***Brief Description***

Search/View Party Records refers to the activities that begin when a user receives party information in an Event Record and must determine whether it should be associated with an existing Party Record.

#### Business Goals

Prevention of duplicate Party Record information.

Event association with an existing party.

#### Performance Goals

Not applicable.

### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

### Relationships To Other Use Cases

Extends “Enter and Manage Party Records”.

### Initiating Events

User receives notification of an event and is asked to confirm the prior existence of the event.

### System Triggers

Electronic record event data is received from the national lab or clinic.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Processes Supported

Person surveillance.

Notification.

### Workflow

#### *Basic Workflow*

Input: Event Details

- User receives notification of an event.
- User reviews the Event Record for detailed party information, which may facilitate association with an existing Party Record.
- User selects the Search option to identify existing Party Records.
- User enters the party data, listed within the Event Record, which may be related to the new event received.
- User locates the Party Record to be used for potential association with the event received.
- User opens the Party Record to review its contents to conclude whether the party data may be associated with existing party data.

Output:

- Identification of the need for a new Party Record to be entered into the database.
- Location of an existing Party Record, which matches the existing party data, contained in the Event Record, recently received.

### Post Conditions

User is able to conclude that the party data listed in the newly received Event Record may be associated with an existing Party Record.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The search/view process is managed by the state and/or county health administrator.

### Special Requirements

Refers to the requirements associated with establishing the criteria for record specification.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.2.3 Enter Party Record

#### Introduction

Enter Party Record refers to the activities that begin when a user determines that a new Party Record must be created to account for newly received party information.

***Purpose***

Enter Party Record is a function that allows the user to populate the database with a new Party Record for party information received. The user creates a record used to identify a unique party.

***Scope***

Enter Party Record includes all activities associated with entering new data records.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Party Record – Refers to a record that includes persona and demographic information.

***References***

Referenced in “Enter and Monitor Received Events”.

***Overview***

A user receives party information in an Event Report and determines the need for a new Party Record. The user creates additional database Party Records using pre-defined criteria.

#### Business Use Case Name – Enter Party Record

***Brief Description***

Enter Party Record refers to all activities associated with populating the database with new Party Records.

#### Business Goals

Tracking for new party.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

#### Relationships To Other Use Cases

Extends “Enter and Manage Event Reports”.

#### Initiating Events

User receives notification of a non-entered party and is asked to enter the new Party Record.

## System Triggers

Electronic record party data is received from the national lab or clinic, which does not match other party data previously received.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Person surveillance.

## Workflow

### *Basic Workflow*

Input: Party Details

- User receives notification of a non-entered party.
- User selects the Enter option to open the form used to enter the party's details..
- User enters the detailed information contained in the event notification form and submits the Save command option.
- User receives a confirmation message stating that the record has been entered in the database.

Output:

- New Party Record saved in the database.

### *Alternative Workflows*

Input: Party Details

- User receives notification of a non-entered party.
- User selects the Enter option to open the form used for entering the party's details.
- User enters incomplete information and submits the Save command option.
- User receives an error message that states the record is missing necessary information and prompts the user to save the record as "Inactive".

Output:

- New party record, with the status of "Inactive", saved in the database.

### *Alternative Workflows*

Input: Party Details

- User receives notification of a non-entered party.
- User selects the Enter option to open the form used for entering the party's details.
- User enters invalid information and submits the Save command option.

- User receives an error message that states the record is missing necessary information and prompts the user to change the invalid data within the record before committing the record to the database.

Output:

- Error message that states the data entered is invalid and the record cannot be saved to the database.

### Post Conditions

A newly created Party Record in the system database.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The state and/or county health administrator manages the Enter process.

### Special Requirements

Refers to the requirements associated with establishing criteria for record specification.

Not applicable.

### Extension Points

Not applicable.

### 6.2.4 Modify Party Records

#### Introduction

Modify Party Records refers to the activities that begin when a user determines that an existing Party Record needs to be updated with newly reported information.

***Purpose***

Modify Party Records allows the user to modify existing Party Records with additional information in the database.

***Scope***

Modify Party Records includes all activities associated with modifying an existing party in the system.

***Definitions, Acronyms, and Abbreviations***

None.

***References***

None.

***Overview***

An authorized user reviews a Party Record and concludes that the Party Record must be updated to reflect current information. The user locates the Party Record and uses Modify Party Records to reflect all current values.

#### Business Use Case Name – Modify Party Records

***Brief Description***

Modify Party Records refers to all activities associated with updating Party Records in the database. Party Records are updated in the NEDSS Base System database to provide users with current information in individual Party Record.

#### Business Goals

Current and/or complete data in Party Records available to the user.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker).

State and local health departments.

#### Relationships To Other Use Cases

Search/View Party Records.

### Initiating Events

User receives notification that additional information exists that needs to be entered into a Party Record.

### System Triggers

Not applicable.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Processes Supported

Person surveillance.

### Workflow

#### *Basic Workflow*

Input: Party Record Identification, Updated Party Information

- User receives updated information, pertaining to a given Party Record.
- User selects the Search option to locate an existing Party Record.
- User selects the existing Party Record to be modified.
- User selects the Modify option and enters the updated information to in the Party Record.
- User confirms the request to modify the Party Record.
- User receives a confirmation message that states the Party Record has been modified in the database.

Output:

- An updated Party Record.

#### *Alternative Workflows*

Input: Party Record Identification, Updated Party Information.

- User receives updated information, that must be entered into an existing Party Record.
- User selects the Search option to locate the existing Party Record.
- User selects the existing Party Record to be updated.
- User selects the Modify option.
- User modifies the Party Record to include incomplete information and submits the Save (Active Status) command option.
- User receives an error message that states the Party Record is missing necessary information and prompts the user to save the Party Record as an “Inactive” Party Record in the database.

Output:

- New Party Record with the status of “Inactive” in the system.

***Alternative Workflows***

Input: Party Record Identification, Updated Party Information

- User receives updated information that must be entered into an existing Party Record.
- User selects the Search option to locate the existing Party Record.
- User selects the existing Party Record to be updated.
- User selects the Modify option.
- User modifies the Party Record to include invalid information and submits the Save (Active Status) command option.
- User receives an error message that states the Party Record contains invalid information and prompts the user to reenter the data correctly.

Output:

- Error message that informs the user of the invalid data in the Party Record.

***Alternative Workflows***

Input: Party Record Identification, Updated Party Information

- User receives updated information that must be entered into an existing Party Record.
- User selects the Search option to locate an existing Party Record.
- User selects the existing Party Record to be updated.
- User selects the Modify option.
- User modifies the Party Record to include updated information and selects the Cancel command.

Output:

- The Party Record will be rolled back to reflect the data values held before entering the modifications.

### Post Conditions

User can identify the updated Party Record.

User can identify any changes entered in the Party Record with an audit trail history for traceability purposes.

### Business Rules

Not applicable.

### Category

None.

### Risk

None.

### Possibilities

### Process Owner

State and/or county health administrator.

### Special Requirements

Refers to the requirements associated with establishing criteria for Party Record specification.

### Extension Points

Not applicable.

## 6.3 Event Management Module

### 6.3.1 Data Elements Managed by the Event Management Module

| Core Event Report Module Variables | | |
|---|---|---|
| NETTS Variable Name | NEDSS Variable Name | Description |
| SUBJECTID | NEDSS_Person_ID | |
| | Local_Person_ID | |
| ONSETDATE | Illness_Onset_Date | Date of illness onset |
| DIAGDATE | Diagnosis_Date | Date of diagnosis |
| PHYSICIANNAME | Physician_Name | Physician name |
| PHYSICIANPHONE | Physician_Phone | Physician telephone |
| HOSPITAL | Person_Hospitalized_YN | Was patient hospitalized overnight as a result of this event? |
| HOSPADDDATE | Hospital_Admit_Date | Hospital admission date |
| HOSPDISDATE | Hospital_Discharge_Date | Hospital discharge date |
| HOSPSPECIFIC | Hospital_Name | Specific information about hospital |
| | Hospital_Standard_ID | |
| SPECDATE | Specimen_Collection_Date | Date of specimen collection |
| SPECTYPE | Specimen_Type | Specimen type or anatomic site of specimen collected |
| LABTEST | Lab_Test_Name | Disease-specific lab test name |
| | Lab_Test_Date | |
| LABRESULT | Lab_Result_Name | Disease-specific lab results |
| LABDATE | Lab_Result_Date | Date of lab result |
| LABNAME | Submitting_Lab_Name | Name of lab submitting report |
| PHDATE | Date_First_Report_PH | Earliest date reported to PH system (earliest date of COMMDATE and STATEDATE) |
| COMMDATE | Date_First_Report_County | Earliest date of report to public health system (at whatever PH level first reported) |
| STATEDATE | Date_First_Report_State | Date first reported to state health department |

### 6.3.2 *Search/View Event Reports*

#### Introduction

Search/View Event Reports refers to the activities that begin when a user has received an Event Record and needs to determine whether the record should be associated with an existing Event Report.

***Purpose***

Search/View Event Reports is a function that allows the user to browse the database for existing Event Reports to associate a new event with an existing Event Report.

***Scope***

Search/View Event Reports includes all activities associated with locating existing Event Reports in the database.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Event Report – Refers to a report received from a healthcare provider, laboratory, clinician, or health facility that contains information related to a disease, party, or related incident.

***References***

Referenced within “Enter and Manage Event Reports”.

***Overview***

A user receives a new Event Report and must determine whether the report may be associated with an existing Event Report. The Event Report may contain similar data to existing Event Reports, or may need to be entered as a new event. The user needs to associate the received event with an existing Event Report to prevent duplication of Event Report material as well as to augment the existing Event Reports.

#### Business Use Case Name – Search/View Event Reports

***Brief Description***

Search/View Event Reports refers to the activities that begin when a user receives an Event Record and must determine whether the record should be associated with an existing Event Report.

#### Business Goals

Prevention of duplicate Event Report information.

Event association with an existing WorkUp.

#### Performance Goals

Not applicable.

### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

### Relationships To Other Use Cases

Extends “Enter and Manage Event Reports”.

### Initiating Events

User receives notification of an event and is asked to confirm the prior existence of the event.

### System Triggers

Electronic event data is received from the national lab or clinic.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Processes Supported

Person surveillance.

Notification.

### Workflow

#### *Basic Workflow*

Input: Event Details

- User receives notification of an event.
- User reviews the event for detailed information, which may facilitate association with an existing Event Report.
- User selects the Search option to identify existing Event Reports.
- User enters the event data to filter any existing Event Reports, which may be related to the new event received.
- User locates the Event Report to be used for potential association with the event received.
- User opens the Event Report record to review its contents to conclude whether the event may be associated with other events.

Output:

- Identification of the need for a new Event Report in the database.
- Location of an existing Event Report that matches the existing Event Report recently received.

#### *Alternative Workflows*

Input: Event Details

- User receives notification of an event.
- User reviews the event for detailed information, which may facilitate association with an existing Event Report.
- User selects the Search option to identify existing Event Reports.
- User enters invalid event data to be used in filtering any existing Event Reports that may be related to the new event received.
- User receives an error message that states the event data entered does not meet the necessary criteria to be used in completing a search.
- User is prompted to reenter the event data.

Output:

- Error message that informs the user of invalid event data that is not related to an existing Event Report.

### Post Conditions

User can conclude that the newly received event may be associated with an existing Event Report record.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

Refers to the requirements associated with establishing criteria for record specification.

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.3.3 Enter Event Reports

## Introduction

Enter Event Reports refers to the activities that begin when a user receives a new Event Record.

***Purpose***

Enter Event Reports is a function that allows the user to enter the details associated with an event (demographic information, event source, Program Area information, and so on).

***Scope***

Enter Event Reports includes all activities associated with entering new Event Records in the NEDSS Base System.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

***References***

Referenced within “Enter and Manage Event Reports”.

***Overview***

A user receives an Event Report and determines the need for a new record. The user creates additional database Event Records using pre-defined criteria. Business Use Case Name – Enter Event Reports

***Brief Description***

Enter Event Reports refers to all activities associated with populating the database with new Event Records. Enter Event Reports tracks all events that have not been previously entered in the NEDSS Base System database.

## Business Goals

Tracking for new events.

Defined, unique Event Records.

## Performance Goals

Not applicable.

## Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

## Relationships To Other Use Cases

Extends “Enter and Monitor Received Events”.

## Initiating Events

User receives notification of a not-entered event and is asked to enter the new record.

## System Triggers

Electronic record data is received from the national lab or clinic, and it does not match other event data previously received.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### *Processes Supported*

Person surveillance.

## Workflow

### *Basic Workflow*

Input: Event Details

- User receives notification of a not-entered event.
- User selects the Enter option to open the form used for entering details of the event.
- User enters the detailed information contained in the event notification form and submits the Save command option.
- User receives a confirmation message that states the record has been entered in the database.

Output:

- New Event Record saved in the database.

### *Alternative Workflows*

Input: Event Details

- User receives notification of a not-entered event.
- User selects the Enter option to open the form to be used for entering details of the event.
- User enters incomplete information and submits the Save command option.
- User receives an error message that notifies the user that the record is missing necessary information and prompts the user to save the record as an “Inactive” record in the database.

Output:

- New Event Record, with the status of “Inactive”, saved in the database.

### *Alternative Workflows*

Input: Event Details

- User receives notification of a not-entered event.
- User selects the Enter option to open the form used for entering details of the event.
- User enters invalid information and submits the Save command option.

- User receives an error message that notifies the user the record is missing necessary information and prompts the user to change the invalid data within the record before committing the record to the database.

Output:

- Error message that states the data entered is invalid and the record cannot be saved to the database.

### Post Conditions

User can identify the newly created record.

### Business Rules

Not applicable.

### Category

Core functionality.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The state and/or county health administrator manages the Enter process.

### Special Requirements

Not applicable.

### Extension Points

Not applicable.

### 6.3.4 Modify Event Report

#### Introduction

Modify Event Report refers to the activities that begin when a user determines that an existing Event Report record needs to be updated with newly reported information.

***Purpose***

Modify Event Report is a function that allows the user to modify existing Event Report records from the database. The user needs to modify an Event Report record, when additional information is available.

***Scope***

Modify Event Report includes all activities associated with modifying existing Event Reports.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

***References***

None.

***Overview***

An authorized user reviews an Event Report record and concludes that it must be updated to reflect current information. The user locates the Event Report record and uses the Modify Event Report record to enter all current values in the database.

#### Modify Event Report

***Brief Description***

Modify Event Report refers to all activities associated with updating Event Report records in the NEDSS Base System database to provide users with current information pertaining to an Event Report record.

#### Business Goals

Current, complete Event Report data records available to users.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

#### Relationships To Other Use Cases

Search/View Event Reports.

## Initiating Events

User receives notification that additional information exists that needs to be entered into an Event Report record.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Person surveillance.

## Workflow

### *Basic Workflow*

Input: Event Report Record Identification, Updated Event Report Information

- User receives updated information that pertains to a given Event Report record.
- User selects the Search option to locate an existing Event Report record.
- User selects the existing Event Report record to be modified.
- User selects the Modify option and enters the updated information in the Event Report record.
- User confirms the request to Modify the Event Report record.
- User receives a confirmation message that states the Event Report record has been modified in the database.

Output:

- An updated Event Report record.

### *Alternative Workflows*

Input: Event Report Record Identification, Updated Event Report Information

- User receives updated information that must be entered into an existing Event Report record.
- User selects the Search option to locate the existing Event Report record.
- User selects the existing Event Report record to be updated.
- User selects the Modify option.
- User modifies the Event Report record to include incomplete information and submits the Save (Active Status) command option.
- User receives an error message that states the Event Report record is missing necessary information and prompts the user to save the Event Report record as an "Inactive" Event Report record in the database.

Output:

- New Event Report record, with the status of “Inactive”, in the system.

***Alternative Workflows***

Input: Event Report Record Identification, Updated Event Report Information

- User receives updated information that must be entered into an existing Event Report record.
- User selects the Search option to locate the existing Event Report record.
- User selects the existing Event Report record to be updated.
- User selects the Modify option.
- User modifies the Event Report record to include invalid information and submits the Save (Active Status) command option.
- User receives an error message that states the Event Report record contains invalid information and prompts the user to reenter the correct data.

Output:

- Error message, which informs the user of the invalid data, contained in the Event Report record.

***Alternative Workflows***

Input: Event Report Record Identification, Updated Event Report Information

- User receives updated information that must be entered into an existing Event Report record.
- User selects the Search option to locate an existing Event Report record.
- User selects the existing Event Report record to be updated.
- User selects the Modify option.
- User modifies the Event Report record to include updated information and selects the Cancel command.

Output:

- The Event Report record will be rolled back to reflect the data values held before the modifications were entered.

## Post Conditions

User can identify the updated Event Report record (Event Report Data).

User can identify any changes entered in the Event Report record with an audit trail history for traceability purposes (Event Report Data).

## Business Rules

None.

## Category

None.

### Risk

None.

### Possibilities

### Process Owner

State and/or county health administrator.

### Special Requirements

Refers to the requirements that are associated with establishing criteria for Event Report record specification.

### Extension Points

Not applicable.

### 6.3.5 Manually Merge Event Reports

#### Introduction

Manually Merge Event Reports refers to the activities that begin when a user determines that an existing Event Record is a duplicate Event Record; therefore, they must be merged into one Event Record.

***Purpose***

Manually Merge Event Reports is a function that allows the user to combine data from multiple, duplicate Event Records. This feature allows the user to identify an Event Record as a duplicate of an existing Event Record, as well as merge the Event Record details into the base Event Record.

***Scope***

Manually Merge Event Reports includes all activities associated with merging duplicate Event Records.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

***References***

Referenced in "Enter and Monitor Received Events (NNDM)".

***Overview***

An authorized user reviews an Event Record and concludes that it is a duplicate of another Event Record. The user uses Manually Merge Event Reports to merge the duplicate into the base Event Record.

#### Business Use Case Name – Manually Merge Event Reports

***Brief Description***

Manually Merge Event Reports refers to all activities associated with removing duplicate Event Records, which can ultimately skew data reporting, from the NEDSS Base System database.

#### Business Goals

Removal of all duplicate Event Records from the NEDSS Base System.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

#### Relationships To Other Use Cases

Extends "Enter and Monitor Received Events (NNDM)".

## Initiating Events

User receives notification that a duplicate Event Record needs to be removed from the NEDSS Base System database and is asked to manually merge the duplicate Event record.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Functions, Processes, and Workflows Supported

Search/View Data.

## Workflow

### *Basic Workflow*

Input: Event Details (Core Event Data)

- User receives notification of a duplicate Event Record (Event Data).
- User selects the Search option to locate the duplicate Event Record (Event Data).
- User selects the existing Event Record to be manually merged (Event Data).
- User selects the Manual Merge option (Event Data).
- User is prompted by the system, if dependent Event Records exist. User is prompted to confirm the inclusion of any dependent Event Records (Event Data).
- User confirms the request to Manually Merge the Event Record and identifies the Event Record into which it is merged (Event Data).
- User receives a confirmation message that states the duplicate Event Record has been merged into the base Event Record in the database.

Output:

- The duplicate Event Record is removed from the database and the base Event Record is updated with the information stored in the duplicate Event Record (Event Data).

### *Alternative Workflows*

Input: Event Details (Event Data)

- User receives notification of a duplicate Event Record (Event Data).
- User selects the Search option to locate the duplicate Event Record. (Event Data).
- User selects the existing Event Record to be manually merged. (Event Data).
- User selects the Manual Merge option (Event Data).
- User cancels the request to manually merge the Event Record (Event Data).

Output:

- The duplicate Event Record is not merged into the base Event Record (Event Data).

### Post Conditions

User can identify the Manually Merged Event record (Event Data).

User can identify that the Event Record has been manually merged inclusive of merge details within the Event Record with an audit trail history (Event Data).

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

The possibility exists that a user may accidentally delete an Event Record. Therefore, the functionality to identify deleted records—as well as restore deleted Event Records—must be available.

### Possibilities

Not applicable.

### Process Owner

The state and/or county health administrator manages the Manual Merge process.

### Special Requirements

Not applicable.

### Extension Points

Not applicable.

### 6.3.6 Delete/Undelete Event Reports

#### Introduction

Delete/Undelete Event Reports refers to the activities that begin when a user determines that an existing Event Record cannot be completed or modified to reflect the criteria needed for consideration as a completed Event Record; therefore, it must be deleted.

***Purpose***

Delete/Undelete Event Reports is a function that allows the user to delete existing Event Records from the database. It is used when an Event Record cannot be modified to include necessary data for consideration as a valid Event Record. Other initiating factors may include receipt of information, which states that a lab result was erroneously reported or erroneous program data may have been received.

***Scope***

Delete/Undelete Event Reports includes all activities associated with deleting Event Records.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Event – Refers to a report received from a lab, clinic, or other healthcare organization that contains detailed information about disease.

***References***

Referenced in "Enter and Monitor Received Events (NNDM)".

***Overview***

An authorized user reviews an Event Record and concludes that the Event Record will never meet the criteria established for consideration. The user locates and deletes the Event Record. The database will not remove the Event Record on a permanent basis, but will simply remove the Event Record from consideration for reporting purposes.

#### Business Use Case Name – Delete/Undelete Event Reports

***Brief Description***

Delete/Undelete Event Reports refers to all activities associated with removing Event Records from the NEDSS Base System database to mitigate/eliminate-skewed data reporting.

#### Business Goals

Removal of all Event Records extraneous to the NEDSS Base System.

#### Performance Goals

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

## Relationships To Other Use Cases

Extends “Enter and Monitor Received Events (NNDM)”.

## Initiating Events

User receives notification that an Event Record needs to be removed from the NEDSS Base System database and is asked to delete the extraneous Event Record.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Surveillance.

## Workflow

### *Basic Workflow*

Input: Record Identifier (Event)

- User is notified that an Event Record must be removed from the NEDSS Base System database.
- User selects the Search option to locate an existing Event Record (Event).
- User selects the existing Event Record to be deleted (Event).
- User selects the Delete option (Event).
- User is prompted by the system and notified of any dependent records. User is given the option to view the dependent records before confirming delete status (Event).
- User confirms the request to delete the Event Record, along with any dependent records (Event).
- User receives a confirmation message that states the Event Record has been flagged for deletion in the database.

Output:

- Deleted Event Record, removed from consideration for analysis, from the database (Event).

### *Alternative Workflows*

Input: Record Identifier (Event)

- User receives updated event information (Event).
- User selects the Search option to locate an existing Event Record (Event).
- User selects the existing Event Record to be updated (Event).

- User selects the Delete option (Event).
- User cancels the Delete option before confirmation (Event).

Output:

- Previously entered Event Record is reinstated to the database, inclusive of all previously stored values and parameters (Event).

### Post Conditions

User can identify the deleted Event Record (Event Data).

User can determine that the Event Record has been flagged for deletion and view all deletion details in the Event Record with an audit trail history for traceability and rollback purposes (Event Data).

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The state and/or county health administrator manages the Delete process.

### Special Requirements

Refers to the requirements associated with establishing criteria for Event Record specification.

Not applicable.

### Extension Points

Not applicable.

## 6.4 WorkUp Management Module

### 6.4.1 Data Elements Managed by the WorkUp Management Module

| Condition WorkUp Module Variables | | |
|---|---|---|
| NETTS Variable Name | NEDSS Variable Name | Description |
| CASESTATUS | Case_Level_Of_Certainty | Indication of level of certainty regarding whether a person has a disease/condition. Where applicable, is defined by CSGE/CDC Standard Case Definition |
| INVESTIGATIONSTATUS | Investigation_Status | Investigation status |
| OUTCOME | Condition_Outcome | Indicates disposition of subject of report |
| IMPORTED | Condition_Imported_YN | Indicates whether disease/condition was likely acquired outside location in which data were collected (country, state, or county) |
| IMPORTCOUNTRY | Imported_From_Country | Import country |
| IMPORTSTATE | Imported_From_State | Import state |
| IMPORTCOUNTY | Imported_From_County | Import county |
| IMPORTCITY | Imported_From_City | Import city |
| OUTBRKIND | Outbreak_Unique_ID | Denotes whether reported case was associated with identified outbreak |
| ONSETDATE | Illness_Onset_Date | Date of illness onset |
| DIAGDATE | Diagnosis_Date | Date of diagnosis |
| PHYSICIANNAME | Physician_Name | Physician name |
| PHYSICIANPHONE | Physician_Phone | Physician telephone |
| HOSPITAL | Person_Hospitalized_YN | Was patient hospitalized overnight as a result of this event? |
| HOSPADDDATE | Hospital_Admit_Date | Hospital admission date |
| HOSPDISDATE | Hospital_Discharge_Date | Hospital discharge date |
| HOSPSPECIFIC | Hospital_Name | Specific information on hospital |
|  | Hospital_Standard_ID |  |

### 6.4.2 Search/View WorkUps

#### Introduction

Search/View WorkUps refers to the activities that begin when a user receives an Event Record and determines whether the record should be associated with an existing WorkUp.

***Purpose***

Search/View WorkUps is a function that allows the user to browse the database for existing WorkUps to associate a new event with an existing WorkUp.

***Scope***

Search/View WorkUps includes all activities associated with locating existing WorkUps in the database.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module

Condition WorkUp – Refers to a collection of events, party data, and miscellaneous information that may evolve into a Case.

***References***

Referenced in “FollowUp”, “Enter and Manage Completed Case Reports”, and “Associate Event Report With a Condition WorkUp”.

***Overview***

A user receives a new Event Report and must determine whether the report may be associated with an existing WorkUp. The WorkUp may contain existing Event Reports as well as party information and Program Area material. The received event is associated with an existing WorkUp to prevent duplication of WorkUp material as well as further evolve the WorkUp to fulfill Case criteria.

#### Business Use Case Name – Search/View WorkUps

***Brief Description***

Search/View WorkUps refers to the activities that begin when a user receives an Event Record and determines whether the record should be associated with an existing WorkUp.

#### Business Goals

Prevention of duplicate WorkUp information.

Event association with an existing WorkUp.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

## Relationships To Other Use Cases

Extends “Enter and Manage Completed Case Reports”.

## Initiating Events

User receives notification of a party and is asked to confirm prior existence of the party.

## System Triggers

Electronic event data is received from the national lab or clinic.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Person surveillance.

Notification.

## Workflow

### *Basic Workflow*

Input: Event Details

- User receives notification of an event.
- User reviews the event for detailed information that may facilitate association with an existing WorkUp.
- User selects the Search option to identify existing WorkUps.
- User enters the event data to filter any existing WorkUps that may be related to the newly received event.
- User locates the WorkUp to be used for potential association with the event received.
- User opens the WorkUp record to review its contents to conclude whether the event may be associated with other events.

Output:

- Identification of the need for a new WorkUp.
- Location of an existing WorkUp.

### *Alternative Workflows*

Input: Event Details

- User receives notification of an event.
- User reviews the event for detailed information that may facilitate association with an existing WorkUp.
- User selects the Search option to identify existing WorkUps.

- User enters invalid event data to be used in filtering any existing WorkUps that may be related to the newly received event.
- User receives an error message that states the event data entered does not meet the necessary criteria to be used in completing a Search.
- User is prompted to reenter the event data.

Output:

- Error message that informs the user of invalid event data entered, as opposed to data, which may be valid, but not related to an existing WorkUp.

### Post Conditions

User can conclude that the newly received event may be associated with an existing WorkUp record.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### *6.4.3 Search/View Case Definitions*

#### Introduction

Search/View Case Definitions refers to the activities that begin when a user determines that a WorkUp has reached the level for potential association with a Case definition. The user must determine whether the WorkUp meets the criteria outline within the Case criteria.

***Purpose***

Search/View Case Definitions is a function that allows the user to browse the database for Case definitions to assess whether a Case has been satisfied.

***Scope***

Search/View Case Definitions includes all activities associated with searching for and comparing existing condition WorkUps against Case definitions for Case identification purposes.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Case – Refers to a defined instance, inclusive of Event Report data and party data, which satisfies.

***References***

Referenced within “Enter and Manage Condition WorkUps”.

***Overview***

A user concludes that a condition WorkUp may contain sufficient information to be reclassified as a Case. The evaluates the entered WorkUp information against the existing Case definition criteria. The WorkUp is reclassified as a Case, or additional information is requested, to be used to complete the criteria needed to be classified as a Case.

#### Business Use Case Name – Search/View Case Definitions

***Brief Description***

Search/View Case Definitions refers to the activities that begin when a user has determined that a WorkUp has reached the level for potential association with a Case definition. The user must determine whether the WorkUp meets the criteria outline in the Case criteria.

#### Business Goals

Reclassification of existing condition WorkUps into defined Cases.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

## Relationships to Other Use Cases

Extends “Enter and Manage Condition WorkUps”.

## Initiating Events

The user has determined that a condition may satisfy the criteria needed to be classified as a Case.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Person surveillance.

## Workflow

### *Basic Workflow*

Input: WorkUp Details

- User opens the Case Definition library functionality from the main window.
- User opens the WorkUp to be compared.
- User selects a type of Case to be used for comparison purposes.
- User compares the WorkUp details against the Case definition.
- User receives a system-generated evaluation that outlines the relationship between the WorkUp and the Case definition.

Output:

- Recommendation as to whether the WorkUp satisfies the Case definition criteria.

## Post Conditions

The user can conclude that a record has been entered or needs to be entered.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.4.4 Search/View Program Area Profiles

#### Introduction

Search/View Program Area Profiles refers to the activities in which the user browses the NEDSS Base System database for Program Area information.

***Purpose***

Search/View Program Area Profiles is a function that allows the user to browse the database and search for information used to identify Program Area details.

***Scope***

Search/View Program Area Profiles includes all activities associated with reviewing Program Area information.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Case – Refers to a defined instance, inclusive of Event Report data and party data, which satisfies the conditions defined in the governing Case Definition.

Condition WorkUp – Refers to the total collection of data and interpretations for a party gathered or entered during an investigation. A subset of this data is compared against Case Definitions to determine whether the condition being investigated constitutes a Case.

Program Area – Refers to a set of conditions that are normally researched, investigated, and treated by a particular organizational unit, such as STD.

***References***

Referenced within “Identify and Request Needed Additional Data”.

***Overview***

A user determines that data within a WorkUp may be related to a unique Program Area. The Program Area information refers to disease-specific details that may allow the user to associate the Program Area with the WorkUp, thus further defining the WorkUp for meeting Case criteria. The user browses the database to search for Program Area information as well as utilize the information to associate the WorkUp with a disease to define a Case.

#### Business Use Case Name – Search/View Program Area Profiles

***Brief Description***

Search/View Program Area Profiles refers to the activities in which the user browses the NEDSS Base System database for details about Program Area definition and detail criteria.

#### Business Goals

Further progression towards defining a Case.

#### Performance Goals

Not applicable.

## Representative Actors

Data analyzer (analyzer or caseworker), state and local health departments.

## Relationships To Other Use Cases

Extends “FollowUp”.

## Initiating Events

The user has reviewed an existing WorkUp and concludes that the WorkUp may be related to a Program Area.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Person surveillance.

## Workflow

### *Basic Workflow*

Input: Event/WorkUp Details

- User opens the FollowUp functionality from the main window.
- User reviews the data in the WorkUp and identifies a Program Area to be studied for association.
- User opens the Program Area selected in the previous step.
- User reviews the Program Area data against the WorkUp data.
- User concludes whether the WorkUp satisfies the Program Area criteria for association.

Output:

- Potential association with an existing WorkUp.

## Post Conditions

Not applicable.

## Business Rules

Not applicable.

## Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.4.5 Enter WorkUp

#### Introduction

Enter WorkUp refers to the activities that begin when a user has determined that a new WorkUp must be created to account for a particular series of events and party information received.

##### *Purpose*

Enter WorkUp is a function that allows the user to populate the database with a new WorkUp for event and party information received. The user creates a record that is used to identify a unique WorkUp.

##### *Scope*

Enter WorkUp includes all activities associated with entering new WorkUp records.

##### *Definitions, Acronyms, and Abbreviations*

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

WorkUp – Refers to a record, which may include party data, as well as event and Program Area information.

##### *References*

Referenced within “Enter and Manage Condition WorkUps”.

##### *Overview*

A user receives event(s) and/or party information in an Event Report and determines the need for a new WorkUp. The user uses the system to create additional database WorkUps using pre-defined criteria.

#### Business Use Case Name – Enter WorkUp

##### *Brief Description*

Enter WorkUp refers to all activity associated with populating the database with new WorkUps.

#### Business Goals

Eventual promotion of a WorkUp into a defined Case instance.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

#### Relationships To Other Use Cases

Extends “Enter and Manage Condition WorkUps”.

### Initiating Events

User receives notification of a non-entered party and is asked to enter the new WorkUp.

### System Triggers

Electronic record event and party data is received from the national lab or clinic, which may be related to other event and party data. All data may need to be associated with the new WorkUp.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Functions, Processes, and Workflows Supported

Person surveillance.

### Workflow

#### *Basic Workflow*

Input: Event and Party Details

- User receives notification of an event, including party data.
- User compares the event and party data against other event and party data for similarities.
- User concludes that the event and party data do not match existing WorkUp records.
- User selects the Enter option to open the form used for entering details of the WorkUp.
- User enters the detailed information contained within the WorkUp form and submits the Save command option.
- User receives a confirmation message that the WorkUp Record has been entered in the database.

Output:

- New WorkUp is saved in the database.

#### *Alternative Workflows*

Input: Event and Party Details

- User receives notification of an event, including party data.
- User compares the event and party data against other event and party data for similarities.
- User concludes that the event and party data do not match existing WorkUp records.
- User enters incomplete information and submits the Save command option.
- User receives an error message that the WorkUp Record is missing necessary information and prompts the user to reenter the invalid information.

Output:

- Invalid WorkUp information.

### Post Conditions

A newly created WorkUp in the system database.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The state and/or county health administrator manages the Enter process.

### Special Requirements

Not applicable.

### Extension Points

Not applicable.

### 6.4.6 Modify WorkUps

#### Introduction

Modify WorkUp refers to the activities that begin when a user determines that an existing WorkUp Record needs to be updated with newly reported information.

***Purpose***

Modify WorkUp is a function that allows the user to modify existing WorkUp Records from the database when additional information is available.

***Scope***

Modify WorkUp includes all activities associated with modifying WorkUp Records existing in the system.

***Definitions, Acronyms, and Abbreviations***

None.

***References***

None.

***Overview***

An authorized user reviews a WorkUp Record and concludes that the WorkUp Record must be updated to reflect current information. The user locates the WorkUp Record and modifies it to reflect all current values.

#### Modify WorkUp

***Brief Description***

Modify WorkUp refers to all activities associated with updating WorkUp Records in the NEDSS Base System database to provide users with current information.

#### Business Goals

Make up-to-date, complete WorkUp data records available to users.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker); state and local health departments.

#### Relationships to Other Use Cases

Search/View WorkUp.

#### Initiating Events

User receives notification that additional information exists that needs to be entered in a WorkUp Record.

### System Triggers

Not applicable.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Processes Supported

Person surveillance.

### Workflow

#### *Basic Workflow*

Input: WorkUp Record Identification, Updated WorkUp Information

- User receives updated information that pertains to a given WorkUp Record.
- User selects the Search option to locate an existing WorkUp Record.
- User selects the existing WorkUp Record to be modified.
- User selects the Modify option and enters the updated information to the WorkUp Record.
- User confirms the request to modify the WorkUp record.
- User receives a confirmation message that the WorkUp Record has been modified in the database.

Output:

- An updated WorkUp Record.

#### *Alternative Workflows*

Input: WorkUp Record Identification, Updated WorkUp Information

- User receives updated information that must be entered into an existing WorkUp Record.
- User selects the Search option to locate the existing WorkUp Record.
- User selects the existing WorkUp Record to be updated.
- User selects the Modify option.
- User modifies the WorkUp record to include incomplete information and submits the Save (Active Status) command option.
- User receives an error message that the WorkUp Record is missing necessary information and prompts the user to save the WorkUp Record as "Inactive" in the database.

Output:

- New event WorkUp Record with the status of "Inactive" in the system.

***Alternative Workflows***

Input: WorkUp Record Identification, Updated WorkUp Information

- User receives updated information that must be entered in an existing WorkUp Record.
- User selects the Search option to locate the existing WorkUp Record.
- User selects the existing WorkUp Record to be updated.
- User selects the Modify option.
- User modifies the WorkUp Record to include invalid information and submits the Save (Active Status) command option.
- User receives an error message that the WorkUp Record contains invalid information and prompts the user to reenter the correct data.

Output:

- Error message that informs the user of the invalid data in the WorkUp Record.

***Alternative Workflows***

Input: WorkUp Record Identification, Updated WorkUp Information

- User receives updated information that must be entered into an existing WorkUp Record.
- User selects the Search option to locate an existing WorkUp Record.
- User selects the existing WorkUp Record to be updated.
- User selects the Modify option.
- User modifies the WorkUp Record to include updated information and selects the Cancel command.

Output:

- The WorkUp Record will be rolled back to reflect its data values before the modifications.

### Post Conditions

User can identify the updated WorkUp Record.

User can identify any changes entered in the WorkUp record in an audit trail history for traceability purposes.

### Business Rules

Not applicable.

### Category

None.

### Risk

None.

## Possibilities

## Process Owner

State and/or county health administrators.

## Special Requirements

Refers to the requirements associated with establishing criteria for WorkUp Record specification.

## Extension Points

Not applicable.

### 6.4.7 Search/View Condition Details

#### Introduction

Search/View Condition Details refers to the user activities for browsing the NEDSS Base System database for existing Condition Details associated with a series of Event Records.

***Purpose***

Search/View Condition Details is a function that allows the user to browse the database and search for existing Condition Details.

***Scope***

Search/View Condition Details includes all activities associated with searching for existing Condition Details.

***Definitions, Acronyms and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Case – Refers to a defined instance, inclusive of Event Report data and party data, that satisfies.

Condition WorkUp – Refers to a collection of Event Records, that may include party data, that do not satisfy Case Definition criteria.

***References***

Referenced in "Enter and Manage Condition Details".

***Overview***

A user searches existing Condition Details, which may be used to associate existing Event Records with a Condition WorkUp. The user utilizes the NEDSS Base System functionality to evaluate the WorkUp Detail information against the event information. The Event Record(s) is associated with a WorkUp, or additional information is requested to complete the criteria needed for the Event Record to be associated with a Condition WorkUp.

#### Business Use Case Name – Search/View Condition Details

***Brief Description***

Search/View Condition Details refers to the user activities for browsing the NEDSS Base System database for existing Condition Details associated with a series of Event Records.

#### Business Goals

Association of existing Event Records with Condition Details.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

## Relationships to Other Use Cases

Extends “Enter and Manage Condition WorkUps”.

## Initiating Events

User has determined that a Condition may satisfy the criteria needed to be classified as a Case.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Person surveillance.

## Workflow

### *Basic Workflow*

Input: WorkUp Details

- User opens the WorkUp detail functionality from the main window.
- User opens the event(s) to be compared.
- User compares the WorkUp details against the event details.
- User receives a system-generated evaluation that outlines the relationship between the WorkUp and the event details.

Output:

- Recommendation as to whether the event may be associated with the WorkUp.

## Post Conditions

User can conclude that a record has been entered or needs to be entered.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.4.8 Enter Condition Details

#### Introduction

Enter Condition Details refers to the activities that begin when a user determines that a new Condition WorkUp must be created to account for newly received WorkUp information.

***Purpose***

Enter Condition Details is a function that allows the user to populate the database with new Condition Details for WorkUp information received. The user creates a record used to identify a unique WorkUp.

***Scope***

Enter Condition Details includes all activities associated with entering new WorkUp Records.

***Definitions, Acronyms, and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Condition WorkUp – Refers to a collection of events, party data, and miscellaneous information that may evolve into a Case.

***References***

Referenced within "Enter and Manage Event Reports".

***Overview***

A user receives WorkUp information, including a series of events and party data information, and determines the need for a new Condition WorkUp. The user creates an additional Condition WorkUp using pre-defined criteria.

#### Business Use Case Name – Enter Condition Details

***Brief Description***

Enter Condition Details refers to all activities associated with populating the database with new Condition WorkUps, including detailed event(s) information and party data information.

#### Business Goals

Tracking for new WorkUp.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

#### Relationships to Other Use Cases

Extends "Enter and Manage Event Reports".

### Initiating Events

User receives notification of the need for a new WorkUp and is asked to enter the new Condition Details.

### System Triggers

Not applicable.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Functions, Processes, and Workflows Supported

Person surveillance.

### Workflow

#### *Basic Workflow*

Input: WorkUp Details

- User receives notification of a non-entered WorkUp.
- User selects the Enter option to open the form used for entering details of the WorkUp.
- User enters the detailed information in the event notification form and submits the Save command option.
- User receives a confirmation message that the record has been entered in the database.

Output:

- New Condition WorkUp Details are saved in the database.

#### *Alternative Workflows*

Input: WorkUp Details

- User receives notification of a non-entered WorkUp.
- User selects the Enter option to open the form used for entering details of the WorkUp.
- User enters incomplete information and submits the Save command option.
- User receives an error message that the record is missing necessary information and prompts the user to save the record as an “Inactive” in the database.

Output:

- New Condition WorkUp Details, with the status of “Inactive”, saved in the database.

#### *Alternative Workflows*

Input: WorkUp Details

- User receives notification of a non-entered WorkUp.
- User selects the Enter option to open the form used for entering details of the WorkUp.

- User enters invalid information and submits the Save command option.
- User receives an error message that the record is missing necessary information and prompts the user to change the invalid data in the record before committing the record to the database.

Output:

- Error message that the data entered is invalid, and the record cannot be saved to the database.

### Post Conditions

A newly created Condition WorkUp in the system database.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The state and/or county health administrator manages the Enter process.

### Special Requirements

Not applicable.

### Extension Points

Not applicable.

### 6.4.9 Modify Condition Details

#### Introduction

Modify Condition Details refers to the activities that begin when a user determines that an existing Condition Details Record needs to be updated with newly reported information.

##### *Purpose*

Modify Condition Details is a function that allows the user to modify existing Condition Details Records from the database when additional information is available.

##### *Scope*

Modify Condition Details includes all activities associated with modifying Condition Details existing in the system.

##### *Definitions, Acronyms, and Abbreviations*

None.

##### *References*

None.

##### *Overview*

An authorized user reviews a Condition Details Record and concludes that the Condition Details Record must be updated to reflect current information. The user updates the Condition Details Record and Modify the Condition Details Record. to reflect all current values.

#### Modify Condition Details

##### *Brief Description*

Modify Condition Details refers to all activities associated with updating Condition Details Records in the NEDSS Base System database to provide users with current information.

#### Business Goals

Make up-to-date and complete Condition Details data records available to the user.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker); state and local health departments.

#### Relationships To Other Use Cases

Search/View Condition Details.

#### Initiating Events

User receives notification that additional information exists that needs to be entered in a Condition Details record.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Person surveillance.

## Workflow

### *Basic Workflow*

Input: Condition Details Record Identification, Updated Condition Details Information

- User receives updated information that pertains to a given Condition Details Record.
- User selects the Search option to locate an existing Condition Details Record.
- User selects the existing Condition Details Record to be modified.
- User selects the Modify option and enters the updated information in the Condition Details Record.
- User confirms the request to modify the Condition Details Record.
- User receives a confirmation message that the Condition Details Record has been modified in the database.

Output:

- An updated Condition Details Record.

### *Alternative Workflows*

Input: Condition Details Record Identification, Updated Condition Details Information

- User receives updated information, that must be entered in an existing Condition Details Record.
- User selects the Search option to locate the existing Condition Details Record.
- User selects the existing Condition Details Record to be updated.
- User selects the Modify option.
- User modifies the Condition Details Record to include incomplete information and submits the Save (Active Status) command option.
- User receives an error message that the Condition Details Record is missing necessary information and prompts the user to save the Condition Details Record as an "Inactive" Condition Details Record in the database.

Output:

- New event Condition Details Record with the status of "Inactive" in the system.

***Alternative Workflows***

Input: Condition Details Record Identification, Updated Condition Details Information

- User receives updated information that must be entered in an existing Condition Details Record.
- User selects the Search option to locate the existing Condition Details Record.
- User selects the existing Condition Details Record to be updated.
- User selects the Modify option.
- User modifies the Condition Details Record to include invalid information and submits the Save (Active Status) command option.
- User receives an error message that the Condition Details Record contains invalid information and prompts the user to reenter the correct data.

Output:

- Error message that informs the user of the invalid data in the Condition Details Record.

***Alternative Workflows***

Input: Condition Details Record Identification, Updated Condition Details Information

- User receives updated information that must be entered in an existing Condition Details Record.
- User selects the Search option to locate an existing Condition Details Record.
- User selects the existing Condition Details Record to be updated.
- User selects the Modify option.
- User modifies the Condition Details Record to include updated information and selects the Cancel command.

Output:

- The Condition Details Record will be rolled back to reflect its data values before the modifications.

## Post Conditions

User can identify the updated Condition Details Record.

User can identify any changes entered in the Condition Details Record with an audit trail history for traceability purposes.

## Business Rules

Not applicable.

## Category

None.

## Risk

None.

### Possibilities

### Process Owner

State and/or county health administrator.

### Special Requirements

Refers to the requirements associated with establishing criteria for Condition Details Record specification.

### Extension Points

Not applicable.

## 6.5 Nationally Notifiable Disease Module (NNDM)

### 6.5.1 Data Elements Managed by the NNDM

The variables listed in this module are those typically included in a NNDM report, including those that are managed by one of the modules listed above. Variables that are managed by other modules but accessed by the NNDM are listed in the column headed “Managing the NEDSS Module”.

| NNDM Module Data Variables | | Managing NEDSS Module | Description |
|---|---|---|---|
| Previous Variable Name | NEDSS Variable Name | | |
| MMWRWEEK | MMWR_Week | NNDM | MMWR week for which case information is counted for MMWR publications |
| MMWRYEAR | MMWR_Year | NNDM | Four digits for year for which case information is counted for MMWR publications |
| RCDTYPE | Record_Type | NNDM | Type of record used for reporting. |
| SYSVERS | NETTS_Version | NNDM | Represents version of NETSS-2 or NETSS record format |
| RECTYPE | NND_Report_Type | NNDM | NETSS record type M or S |
| REPORTINGSTATE | NND_Reporting_State | NNDM | State reporting case |
| COUNTY | NND_Reporting_County | NNDM | County name |
| | NND_Reporting_City | NNDM | |
| POSTCD | NND_Reporting_Zipcode | NNDM | Zip code of reporting location |
| SITE | Local_Reporting_Site_ID | NNDM | Identifier for physical site from which the report is being submitted (where software is installed/browser is accessed) |
| SOURCE | NND_Reporting_Source_Type | NNDM | Categorization of the reporting source associated with a public health notification |
| REPORTERSNAME | NND_Reporter_Name | NNDM | Reporter’s name (person filing report) |
| REPORTINGFACILITY | NND_Reporting_Facility_Name | NNDM | Reporting facility’s name |
| REPORTID | NND_Report_ID | NNDM | Unique identifier for event (actually NND report; not event) being reported |
| EVENT | CDC_Condition_Event_Code | NNDM | Proprietary NETSS event code for disease or condition being reported |
| RCDCOUNT | NND_Condition_Reported_Count | NNDM | Number of cases being reported in a single record |
| FSTXMTDATE | Date_First_Reported_CDC | NNDM | Date record was first transmitted to CDC |
| EVENTNAME | NND_Condition_Name | NNDM | Name of disease or condition being reported |
| | | | |
| CASESTATUS | Case_Level_Of_Certainty | WorkUp (WUMM) | Indication of level of certainty regarding whether a person has a disease/condition; where applicable, is defined by CSGE/CDC Standard Case Definition. |
| INVESTIGATIONSTATUS | Investigation_Status | WorkUp (WUMM) | Investigation status |
| OUTCOME | Condition_Outcome | WorkUp (WUMM) | Indicates disposition of subject of report |
| IMPORTED | Condition_Imported_YN | WorkUp (WUMM) | Indicates whether disease/condition was likely acquired outside location in which data were collected; includes outside of country, state, or county |
| IMPORTCOUNTRY | Imported_From_Country | WorkUp (WUMM) | Import country |
| IMPORTSTATE | Imported_From_State | WorkUp (WUMM) | Import state |

| NNDM Module Data Variables | | Managing NEDSS Module | Description |
|---|---|---|---|
| Previous Variable Name | NEDSS Variable Name | | |
| IMPORTCOUNTY | Imported_From_County | WorkUp (WUMM) | Import county |
| IMPORTCITY | Imported_From_City | WorkUp (WUMM) | Import city |
| OUTBRKIND | Outbreak_Unique_ID | WorkUp (WUMM) | Denotes whether reported case was associated with identified outbreak |
| ONSETDATE | Illness_Onset_Date | WorkUp (WUMM) | Date of illness onset |
| DIAGDATE | Diagnosis_Date | WorkUp (WUMM) | Date of diagnosis |
| PHYSICIANNAME | Physician_Name | WorkUp (WUMM) | Physician name |
| PHYSICIANPHONE | Physician_Phone | WorkUp (WUMM) | Physician telephone |
| HOSPITAL | Person_Hospitalized_YN | WorkUp (WUMM) | Was person hospitalized overnight as a result of this event? |
| HOSPADDDATE | Hospital_Admit_Date | WorkUp (WUMM) | Hospital admission date |
| HOSPDISDATE | Hospital_Discharge_Date | WorkUp (WUMM) | Hospital discharge date |
| HOSPSPECIFIC | Hospital_Name | WorkUp (WUMM) | Specific information on hospital |
| | Hospital_Standard_ID | WorkUp (WUMM) | |
| | | | |
| SPECDATE | Specimen_Collection_Date | Event ERMM) | Date of specimen collection |
| SPECTYPE | Specimen_Type | Event ERMM) | Specimen type or anatomic site of specimen collected |
| LABTEST | Lab_Test_Name | Event ERMM) | Disease-specific lab test name |
| | Lab_Test_Date | Event ERMM) | |
| LABRESULT | Lab_Result_Name | Event ERMM) | Disease-specific lab results |
| LABDATE | Lab_Result_Date | Event ERMM) | Date of lab result |
| LABNAME | Submitting_Lab_Name | Event ERMM) | Name of lab submitting lab report |
| PHDATE | Date_First_Report_PH | Event ERMM) | Earliest date reported to PH system (earliest date of COMMDATE and STATEDATE) |
| COMMDATE | Date_First_Report_County | Event ERMM) | Earliest date of report to public health system (at whatever PH level first reported) |
| STATEDATE | Date_First_Report_State | Event ERMM) | Date first reported to state health department |
| | | | |
| SUBJECTID | NEDSS_Person_ID | Demographic (CDM) | |
| | Local_Person_ID | Demographic (CDM) | |
| OCCUPATION | Occupation_Code | Demographic (CDM) | Person's occupation at time of event. |
| MARRIED | Marital_Status | Demographic (CDM) | Person's marital status at time of event |
| GENDER | Gender | Demographic (CDM) | Gender of person at time of event |
| DOB | Date_Of_Birth | Demographic (CDM) | |
| AGE | Stated_Age | Demographic (CDM) | Reported age of person at a defined event |
| AGETYPE | Stated_Age_Type | Demographic (CDM) | Age type for stated age |
| AGECAT | State_Age_Category | Demographic (CDM) | Categorical age (age group in which a person is included) |
| CALCAGE | Calculated_Age | Demographic (CDM) | Calculated age at a given event |
| CALCAGETYPE | Calculated_Age_Type | Demographic (CDM) | Age type unit for calculated age |
| EDUC | Education_Level | Demographic (CDM) | Highest level of schooling a person has completed |
| ADLTHOUSE | Adults_In_Residence | Demographic (CDM) | Number of adults (age >= 13 years) in subject of report's household; subject of report is included in number, if adult |
| CHILDHOUSE | Children_In_Residence | Demographic (CDM) | Number of children (age < 13 years) in subject's household report; subject of report is included in number, if child |

| NNDM Module Data Variables | | Managing NEDSS Module | Description |
|---|---|---|---|
| Previous Variable Name | NEDSS Variable Name | | |
| DAYCARE | Role_In_Daycare | Demographic (CDM) | Is this person associated with (attends/works at) a daycare facility? |
| FOODHANDLER | Role_In_Foodhandling | Demographic (CDM) | Is the person a food handler? |
| EVENTLASTUPDATED | Date_Last_Updated | system | Event last updated date |
| RECORDSTATUS | Record_Status | system | Status of record |

### 6.5.2 Search/View Notification Plans

#### Introduction

Search/View Notification Plans refers to user activities for browsing the NEDSS Base System database for details about Notification Plans.

***Purpose***

Search/View Notification Plans is a function that allows the user to browse the database and search for the proper information to be used in delivering a notification to the necessary recipient.

***Scope***

Search/View Notification Plans includes all activities associated with reviewing the information stored in a notification message.

***Definitions, Acronyms and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Case – Refers to a defined instance, inclusive of Event Report data and party data, that satisfies.

Condition WorkUp – Refers to a collection of Event Records that may include party data, that do not satisfy Case Definition criteria.

***References***

Referenced in “Determine Case Notification Plan”.

***Overview***

A user determines that an event meets the criteria for notification and must ensure that the proper mode and information are used in delivering the notification message to the designated recipient(s). The user must browse the database and review the Notification Plan on file for the current situation, then use the information to prepare the proper notification message for the recipient.

#### Business Use Case Name – Search/View Notification Plans

***Brief Description***

Search/View Notification Plans refers to user activities for browsing the NEDSS Base System database for details about Notification Plans.

#### Business Goals

Confidentiality and conformity to notification standards, as outlined in the Notification Plan.

#### Performance Goals

Not applicable.

## Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

## Relationships To Other Use Cases

Extends "Determine Case Notification Plan".

## Initiating Events

User has determined that a condition may satisfy the criteria needed to be classified as a Case.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Notification.

## Workflow

### *Basic Workflow*

Input: Event/WorkUp Details

- User opens the Notification functionality from the main window.
- User opens the Event(s)/WorkUp(s) to be used in the notification process.
- User reviews the Event/ WorkUp for notification information.
- User selects the notification type to be used and reviews its content information.

Output:

- Recommendation as to whether the event may be associated with the WorkUp.

## Post Conditions

Proper scheduling and delivery settings for all notification messages in the queue.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.5.3 Search/View Notification Queue

#### Introduction

Search/View Notification Queue refers to user activities in the NEDSS Base System database for viewing existing Notification messages to be sent to designated recipients.

***Purpose***

Search/View Notification Queue is a function that allows the user to browse the database and identify or access existing notification messages waiting for transmission.

***Scope***

Search/View Notification Queue includes all activities associated with reviewing any notification messages waiting for transmission.

***Definitions, Acronyms and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Case – Refers to a defined instance, inclusive of Event Report data and party data, that satisfies.

Condition WorkUp – Refers to a collection of Event Records, which may include party data, that do not satisfy Case Definition criteria.

Notification – Refers to the process of informing interested recipients, with legal cause, about event detail information.

***References***

Referenced in “Select Data to Send”.

***Overview***

Using the NEDSS Base System database for reviewing any outstanding notification messages for proper content, the user locates and identifies the existing notification messages waiting for transmission. The user may choose to delete or edit an existing message from the current view as well as confirm notification detailed information.

#### Business Use Case Name – Search/View Notification Queue

***Brief Description***

Search/View Notification Queue refers to user activities in the NEDSS Base System for viewing the existing notification messages waiting for transmission to designated recipients.

#### Business Goals

Confidentiality and conformity to notification standards, as outlined in the Notification Plan.

#### Performance Goals

Not applicable.

## Representative Actors

Data entry representative (clerk or caseworker), state and local health departments.

## Relationships To Other Use Cases

Extends “Select Data to Send”.

## Initiating Events

User determines that an event meets the criteria for notification and the appropriate message is created and is waiting for transmission.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Notification.

## Workflow

### *Basic Workflow*

Input: Event/WorkUp Details

- User opens the notification functionality from the main window.
- User selects the option to view outstanding messages.

Output:

- Detailed listing of all notification messages waiting for transmission.

## Post Conditions

Proper scheduling and delivery settings for all notification messages in the queue.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.5.4 Modify Notification Plan

#### Introduction

Modify Notification Plan refers to the activities that begin when a user determines that an existing Notification Plan Record needs to be updated with new information.

***Purpose***

Modify Notification Plan is a function that allows the user to modify existing Notification Plan Records in the database. The user modifies a Notification Plan Record when more current information is available.

***Scope***

Modify Notification Plan includes all activities associated with modifying Notification Plans existing in the system.

***Definitions, Acronyms, and Abbreviations***

None.

***References***

None.

***Overview***

An authorized user reviews a Notification Plan Record and wants to update it to reflect current information. The user locates and modifies the Notification Plan Record and Modify the Notification Plan Record to reflect all current values..

#### Modify Notification Plan

***Brief Description***

Modify Notification Plan refers to all activities associated with updating Notification Plan Records in the database. The activity is performed to update Notification Plan Records in the NEDSS Base System database to provide users with current information pertaining to a Notification Plan Record.

#### Business Goals

Current and/or complete Notification Plan data records available to the user.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker); state and local health departments.

#### Relationships To Other Use Cases

Search/View Notification Plans.

### Initiating Events

User receives notification that additional information exists that needs to be entered in a Notification Plan Record.

### System Triggers

Not applicable.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Processes Supported

Notification.

### Workflow

#### *Basic Workflow*

Input: Notification Plan Record Identification, Updated Notification Plan Information

- User receives updated information that pertains to a given Notification Plan Record.
- User selects the Search option to locate an existing Notification Plan Record.
- User selects the existing Notification Plan Record to be modified.
- User selects the Modify option and enters the updated information to the Notification Plan Record.
- User confirms the request to modify the Notification Plan Record.
- User receives a confirmation message that the Notification Plan Record has been modified in the database.

Output:

- An updated Notification Plan Record.

#### *Alternative Workflows*

Input: Notification Plan Record Identification, Updated Notification Plan Information

- User receives updated information that must be entered in an existing Notification Plan Record.
- User selects the Search option to locate the existing Notification Plan Record.
- User selects the existing Notification Plan Record to be updated.
- User selects the Modify option.
- User modifies the Notification Plan Record to include incomplete information and submits the Save (Active Status) command option.
- User receives an error message that the Notification Plan Record is missing necessary information and prompts the user to save the Notification Plan Record as an "Inactive" Notification Plan Record in the database.

Output:

- New event Notification Plan Record with the status of "Inactive" in the system.

***Alternative Workflows***

Input: Notification Plan Record Identification, Updated Notification Plan Information

- User receives updated information that must be entered in an existing Notification Plan Record.
- User selects the Search option to locate the existing Notification Plan Record.
- User selects the existing Notification Plan Record to be updated.
- User selects the Modify option.
- User modifies the Notification Plan Record to include invalid information and submits the Save (Active Status) command option.
- User receives an error message that the Notification Plan Record contains invalid information and prompts the user to reenter the correct data.

Output:

- Error message that informs the user of the invalid data in the Notification Plan Record.

***Alternative Workflows***

Input: Notification Plan Record Identification, Updated Notification Plan Information

- User receives updated information that must be entered in an existing Notification Plan Record.
- User selects the Search option to locate an existing Notification Plan Record.
- User selects the existing Notification Plan Record to be updated.
- User selects the Modify option.
- User modifies the Notification Plan Record to include updated information and selects the Cancel command.

Output:

- The Notification Plan Record will be rolled back to reflect its data values before the modifications.

## Post Conditions

User can identify the updated Notification Plan Record.

User can identify any changes entered in the Notification Plan Record with an audit trail history for traceability purposes.

## Business Rules

Not applicable.

## Category

None.

### Risk

None.

### Possibilities

None.

### Process Owner

State and/or county health administrator.

### Special Requirements

Refers to the requirements associated with establishing criteria for Notification Plan Record specification.

### Extension Points

Not applicable.

### 6.5.5 Search/View PH Partner Profiles

## Introduction

Search/View PH Partner Profiles refers to user activities for browsing the NEDSS Base System database for details about the Public Health (PH) Partner Profiles.

***Purpose***

Search/View PH Partner Profiles is a function that allows the user to browse the database and search for the proper information used in delivering a notification to a PH Partner.

***Scope***

Search/View PH Partner Profiles includes all activities associated with reviewing the information to be stored in a notification message delivered to a PH Partner.

***Definitions, Acronyms and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Case – Refers to a defined instance, inclusive of Event Report data and party data, that satisfies.

Condition WorkUp – Refers to a collection of Event Records that may include party data that do not satisfy Case Definition criteria.

PH Partner – Public Health Partner.

***References***

Referenced within “Select Data to Send”.

***Overview***

A user determines that an event meets the criteria for notification and must ensure that the proper mode and information, as specified in the PH Provider’s profile, are used in delivering the notification message to the designated recipient(s). The user browses the database and reviews the Notification Plan on file for the PH Partner recipient and uses the information to prepare the proper notification message for the recipient.

## Business Use Case Name – Search/View PH Partner Profiles

***Brief Description***

Search/View PH Partner Profiles refers to user activities for browsing the NEDSS Base System database for details about PH Partner Profiles.

## Business Goals

Ensure proper notification is made to the PH Partner.

## Performance Goals

Not applicable.

### Representative Actors

Data entry representative (clerk or caseworker; state and local health departments.

PH Partner.

### Relationships To Other Use Cases

Extends “Selects Data to Send”.

### Initiating Events

User identifies the PH Partner to be contacted about the delivery of a notification message.

### System Triggers

Not applicable.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Processes Supported

Notification.

### Workflow

#### *Basic Workflow*

Input: Event/WorkUp Details

- User opens the Notification functionality from the main window.
- User opens the PH Partner profiles window.
- User selects the PH Partner to be used for notification.
- User reviews the PH Partner’s information to determine the mode of delivery.

Output:

- Information concerning the primary mode of notification used for the PH Partner.

### Post Conditions

Proper scheduling and delivery settings for the notification message delivered to the PH Partner.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Not applicable.

### Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.5.6 Search/View Notification Reports

#### Introduction

Search/View Notification Report refers to user activities for browsing the NEDSS Base System database for details about the Notification Report.

***Purpose***

Search/View Notification Report is a function that allows the user to browse the database and search for the proper information to be used in delivering a notification to the necessary recipient.

***Scope***

Search/View Notification Report includes all activities associated with reviewing the information to be stored in a notification message.

***Definitions, Acronyms and Abbreviations***

CDD – Core Demographic Data.

NNDM – National Notifiable Disease Module.

Case – Refers to a defined instance, inclusive of Event Report data and party data, that satisfies.

Condition WorkUp – Refers to a collection of Event Records that may include party data that do not satisfy Case Definition criteria.

***References***

Referenced within "Determine Case Notification Plan".

***Overview***

A user determines that an event meets the criteria for notification and must ensure that the proper mode and information are used to deliver the notification message to the designated recipient(s). The user browses the database and reviews the Notification Plan on file for the current situation prepares the proper notification message for the recipient.

#### Business Use Case Name – Search/View Notification Report

***Brief Description***

Search/View Notification Report refers to user activities for browsing the NEDSS Base System database for details about the Notification Report.

#### Business Goals

Confidentiality and conformity to notification standards as outlined in the Notification Plan.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker); state and local health departments.

## Relationships to Other Use Cases

Extends "Determine Case Notification Plan".

## Initiating Events

User determines that a condition may satisfy the criteria needed to be classified as a Case.

## System Triggers

Not applicable.

## Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

## Processes Supported

Notification.

## Workflow

### *Basic Workflow*

Input: Event/WorkUp Details

- User opens the Notification functionality from the main window.
- User opens the Event(s)/WorkUp(s) to be used in the notification process.
- User reviews the Event/ WorkUp for notification information.
- User selects the notification type to be used and reviews its content information.

Output:

- Recommendation as to whether the event may be associated with the WorkUp.

## Post Conditions

Proper scheduling and delivery settings for all notification messages in the queue.

## Business Rules

Not applicable.

## Category

Not applicable.

## Risk

Not applicable.

## Possibilities

Not applicable.

### Process Owner

The Search/View process is managed by the state and/or county health administrator.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.5.7 Modify Notification Reports

#### Introduction

Modify Notification Report refers to the activities that begin when a user determines that an existing Notification Report Record needs to be updated with new information.

***Purpose***

Modify Notification Report is a function that allows the user to modify existing Notification Report Records in the database with more current information.

***Scope***

Modify Notification Report includes all activities associated with modifying Notification Reports existing in the system.

***Definitions, Acronyms, and Abbreviations***

None.

***References***

None.

***Overview***

An authorized user reviews a Notification Report Record and determines that the Notification Report Record must be updated to reflect current information. The user locates the Notification Report Record and Modify the Notification Report Record and modifies them to reflect all current values.

#### Modify Notification Report

***Brief Description***

Modify Notification Report refers to all activities associated with updating Notification Report Records in the NEDSS Base System database to provide users with current information..

#### Business Goals

Current and complete Notification Report Records available to the user.

#### Performance Goals

Not applicable.

#### Representative Actors

Data entry representative (clerk or caseworker); state and local health departments.

#### Relationships to Other Use Cases

Search/View Notification Reports.

#### Initiating Events

User receives notification that additional information exists that needs to be entered in a Notification Report Record.

### System Triggers

Not applicable.

### Pre-Conditions

User has successfully completed login.

User is authorized to perform the function.

### Processes Supported

Notification.

### Workflow

#### *Basic Workflow*

Input: Notification Report Record Identification, Updated Notification Report Information

- User receives updated information that pertains to a given Notification Report Record.
- User selects the Search option to locate an existing Notification Report Record.
- User selects the existing Notification Report Record to be modified.
- User selects the Modify option and enters the updated information to the Notification Report Record.
- User confirms the request to modify the Notification Report Record.
- User receives a confirmation message that the Notification Report Record has been modified in the database.

Output:

- An updated Notification Report Record.

#### *Alternative Workflows*

Input: Notification Report Record Identification, Updated Notification Report Information

- User receives updated information that must be entered in an existing Notification Report Record.
- User selects the Search option to locate the existing Notification Report Record.
- User selects the existing Notification Report Record to be updated.
- User selects the Modify option.
- User modifies the Notification Report record to include incomplete information and submits the Save (Active Status) command option.
- User receives an error message that the Notification Report Record is missing necessary information and prompts the user to save the Notification Report Record as an “Inactive” Notification Report Record in the database.

Output:

- New event Notification Report Record with the status of “Inactive” in the system.

***Alternative Workflows***

Input: Notification Report Record Identification, Updated Notification Report Information

- User receives updated information that must be entered in an existing Notification Report Record.
- User selects the Search option to locate the existing Notification Report Record.
- User selects the existing Notification Report Record to be updated.
- User selects the Modify option.
- User modifies the Notification Report record to include invalid information and submits the Save (Active Status) command option.
- User receives an error message that the Notification Report Record contains invalid information and prompts the user to reenter the correct data.

Output:

- Error message that informs the user of the invalid data in the Notification Report Record.

***Alternative Workflows***

Input: Notification Report Record Identification, Updated Notification Report Information

- User receives updated information that must be entered in an existing Notification Report Record.
- User selects the Search option to locate an existing Notification Report Record.
- User selects the existing Notification Report Record to be updated.
- User selects the Modify option.
- User modifies the Notification Report Record to include updated information and selects the Cancel command.

Output:

- The Notification Report Record will be rolled back to reflect its data before the modifications.

## Post Conditions

User can identify the updated Notification Report Record.

User can identify any changes entered in the Notification Report Record with an audit trail history for traceability purposes.

## Business Rules

Not applicable.

## Category

None.

### Risk

None.

### Possibilities

None.

### Process Owner

State and/or county health administrator.

### Special Requirements

Refers to the requirements associated with establishing criteria for Notification Report Record specification.

### Extension Points

Not applicable.

### 6.5.8 *Add Recipient to Notification Report*

#### Introduction

Add Recipient to Notification Report refers to all levels of activity associated with the selection of Notification Report recipients. The recipient may include individual and/or multiple entities as identified in the Notification Plan.

***Purpose***

Add Recipient to Notification Report is used to identify recipients of the notification messages.

***Scope***

The Scope for Add Recipient to Notification Report includes all activities associated with the selection of notification recipients.

***Definitions, Acronyms, and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Recipient – An authorized receiver of a notification message as determined by state and/or local government Notification Plans.

***References***

Not applicable.

***Overview***

A caseworker or approved authority determines that a Case or WorkUp satisfies the criteria for notification and may be transmitted to an authorized user (physician, CDC representative). The caseworker or approved authority can use the NEDSS Base System to identify the users who will be the recipients of the information.

#### Business Use Case Name – Add Recipient to Notification Report

***Brief Description***

Add Recipient to Notification Report refers to all levels of activity associated with the selection of Notification Report recipients. The recipient may include individual and/or multiple entities as identified in the Notification Plan.

#### Business Goals

One hundred percent confidentiality—protection of any information pertaining to the WorkUp subject, which may not be released to unauthorized users.

#### Performance Goals

Not applicable.

#### Representative Actors

Caseworker (state and local level); primary care physician (individual); data entry representative (state and local level)

## Relationships To Other Use Cases

Extends "Select Recipients and Notification Methods".

## Initiating Events

User has identified or received a list of identified WorkUps to be used in the notification process.

## System Triggers

Not applicable.

## Pre-Conditions

User has logged in to the system.

User is authorized to perform the function.

## Processes Supported

Notification.

## Workflow

### *Basic Workflow*

Input: Selection Criteria

- User selects the Add Recipient to Notification Report functionality.
- User is prompted to enter the names and/or organizations to be notified.
- User enters the recipient name.
- User reviews the profile for the recipient to view delivery preferences.
- User is prompted to confirm the request.
- User confirms the request.

Output:

- Request for Transfer Approval is sent to the approval authority.

### *Alternative Workflows*

- User selects the Add Recipient to Notification Report functionality.
- User is prompted to enter the names and/or organizations to be notified.
- User enters the recipient name.
- User reviews the profile for the recipient to view delivery preferences.
- User is prompted to confirm the request.
- User cancels the request.

Output:

- The notification message is not sent to the specified recipient.

### Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Core – Only authorized users are included in the user list because the notification information must be protected.

### Possibilities

Not applicable.

### Process Owner

State and local health administrators; CDC reporting contact authority.

### Special Requirements

All criteria to be used in the determination process must be present.

### Extension Points

Not applicable.

### 6.5.9 Approve Notification Report for Release

## Introduction

Approve Notification Report for Release refers to all levels of activity associated with the review and approval process for notification content. This activity may include approval of all content information supplied in the notification (name, age, sex, and so on) and eligible recipients for distribution, and may be subject to local or state policy.

***Purpose***

Approve Notification Report for Release is used to restrict a user's ability to provide notifications to external organizations as well as to prevent unauthorized information from being reported to external agencies.

***Scope***

The scope for Approve Notification Report for Release includes all activities associated with approving any notification messages before transmission.

***Definitions, Acronyms and Abbreviations***

NNDM – National Notifiable Disease Module.

CDM – Core Demographic Module.

Notification – Refers to the process of contacting a party (individual or agency) with information pertaining to an event with a link to a particular party.

***References***

Not applicable.

***Overview***

An administrator determines the criteria for transmitting any event notifications. The administrator approves or rejects any notification message that may be provided to external users and cab restrict a user's ability to release and/or transmit notification information.

## Business Use Case Name – Approve Notification Report for Release

***Brief Description***

Approve Notification Report for Release refers to all levels of activity associated with the review and approval process for notification content. These activities may include approval of all content information supplied in the notification (name, age, sex, and son on) and eligible recipients for distribution, and may be subject to local or state policy.

## Goals

One hundred percent review of all notification information, before release, and easily facilitated in

## Performance Goals

Not applicable.

### Representative Actors

Caseworker (state and local level).

### Relationships To Other Use Cases

Implements the following Use Cases: Search/View Notification Report, Modify Notification Report, Approve Notification Report for Release.

### Initiating Events

Not applicable.

### System Triggers

Not applicable.

### Pre-Conditions

User has logged into the system.

User is authorized to perform the function.

### Processes Supported

Notification.

### Workflow

#### *Basic Workflow*

Input: Selection Criteria (Core Event)

- User receives a message stating that a notification is ready for delivery and must be approved before transmittal.
- User reviews the notification information to identify any information, which must be included or excluded from the notification message.
- User reviews the distribution list information (recipients).
- User selects the Approve Notification Report for Release functionality and selects the approval command button.
- User is prompted to confirm the request for notification approval.
- User confirms the request to approve the notification.

Output:

- Transmitted notification.

#### *Alternative Workflows*

- User receives a message that a notification must be approved before transmittal.
- User reviews the notification information.
- User reviews the distribution list information.

- User selects the Approve Notification Report for Release functionality and selects the Deny Approval command.
- User is prompted to confirm the request for notification denial.
- User confirms the request to approve the notification denial.

Output:

- The notification is denied, and the originator is notified electronically of the rejection.

***Alternative Workflows***

- User receives a message stating that a notification must be approved before transmittal.
- User reviews the notification information.
- User reviews the distribution list information.
- User selects the Approve Notification Report for Release functionality and selects the Approval command.
- User is prompted to confirm the request for notification approval.
- User cancels the request to approve the notification.

Output:

- The notification is not transmitted, and the transaction is flagged as waiting for approval.

### Post Conditions

Not applicable.

### Business Rules

Not applicable.

### Category

Not applicable.

### Risk

Core – Confidentiality of the information is a primary concern. Failure to regulate the approval process functionality could permit confidential data to be sent to the wrong recipient.

### Possibilities

Not applicable.

### Process Owner

State and local health administrators.

### Special Requirements

Refers to the requirements associated with establishing criteria for record specification.

### Extension Points

Not applicable.