



# NewSTEPS

A Program of the Association of Public Health Laboratories™

## Newborn Screening Technical assistance and Evaluation Program (NewSTEPS)

### USER GUIDE

August 9 2016

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# 1 Introduction

Welcome to the Newborn Screening Technical assistance and Evaluation Program (NewSTEPS) Data Repository. This user guide will help you get started with using the system.

Please note that entering the data into the NewSTEPS data repository occurs on a voluntary basis. All data elements do not have to be provided if they are not available. Please provide as much information as you can.

The high-level workflow diagram (Figure 1) shows an overview of how you can interact with the NewSTEPS Data Repository. After you have registered for an account, you should plan to:

1. Update state profile (annually or on an as-needed basis)
2. Enter cases (frequency to be determined by state; recommended that cases be entered at diagnosis and updated as changes are known)
3. Enter quality indicators (annually - by April 15<sup>th</sup>)

This user guide will walk through these basic steps to get you started.

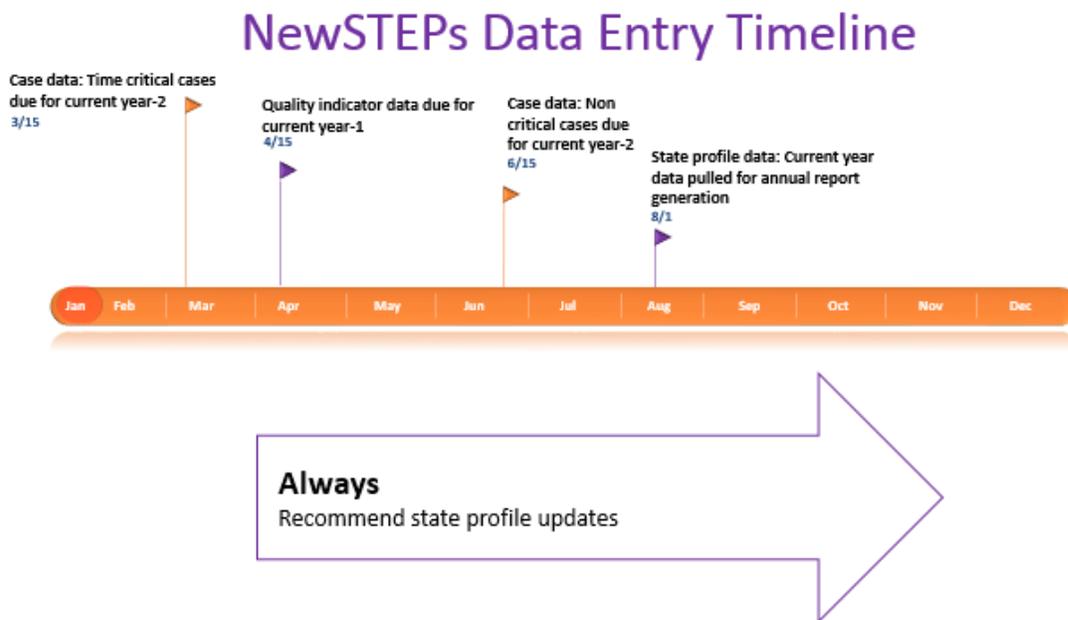


Figure 1: High Level Workflow



## 2 Document and application information

### 2.1 Legend

Within this document, we use two conventions to indicate system controls:

*Italics* - indicates a link

**Bold** - Indicates a button

### 2.2 Browser Compatibility

NewSTEPS makes use of new capabilities available in modern, up-to-date browsers, which also provide improved security and performance. The NewSTEPS Data Repository supports only current versions of Internet Explorer, Chrome, and Firefox.

### 2.3 System Messages

A red asterisk next to the data field name denotes required fields.

Warning messages are shown in red in a light red background.



### 2.4 Getting Help

Although the NewSTEPS Data Repository was designed to be easily understood, we do include help and more detailed information within the system. To access this, click on the question-mark icons throughout the NewSTEPS Data Repository.





### 3 Registering for an Account

You must register for an account to enter information about your Newborn Screening (NBS) program into the NewSTEPS Data Repository. To register for a new account, follow the steps below:

1. On the [home page](#), locate the Login box. Click on the *Register* link in this box.

A screenshot of a purple-themed login page. At the top, the word "Login" is displayed in white. Below it are two white input fields: "Email Address" and "Password". A white "Login" button is positioned below the password field. At the bottom left, there are two links: "Forgot password?" and "Password Expired?". The "Register" link is located to the right of "Forgot password?" and is circled in orange.

2. You will be taken to the Register for an Account page. Enter in the required fields.

Note that the Institution Name field will auto-populate with existing institutions when you begin typing. Take care to ensure you select a pre-populated institution, if one exists. This helps NewSTEPS to link people from the same organization.


HOME STATE PROFILES NEWSTEPS DATA REPOSITORY

## Register for an Account

**Why Register?** Register to browse state newborn screening program information.

Get Started Here (\* indicates required field)

First Name \*

Last Name \*

Country \*

Address \*

City \*

State/Province/Region \*

Zip/Postal Code \*

Phone \*

  
ext.

Institution

Institution Name: \*

(Start typing name or select)

Institution Type \*

Represented State(s) \*

Choose Your Sign In Information

Email Address \*

- Email is used as your Sign In
- Will not accept personal email addresses (gmail, hotmail, yahoo, etc.)
- Will only accept email addresses affiliated with institutions

Re-type Email Address \*

Create Password \*

3. Click the **Submit Registration Now** button to complete your registration.
4. When your account has been approved, you will receive an email at the email address you supplied during registration.
5. State Administrators: One person from each state will be designated as a state administrator and will have the ability to add additional users within the state program. To be designated as a state administrator, please contact Careema Yusuf ([careema.yusuf@aphl.org](mailto:careema.yusuf@aphl.org)) once you receive the approval email. Log into the NewSTEPS Data Repository using the email address and password you created during registration.
6. Other state users: Other individuals that would like to have access to enter, edit, or read data for their state should contact the state administrator. On the user registration form, you will be asked to indicate what state you represent. The state administrator is identified on the NewSTEPS State Profile page for each state. For more information on how state administrators can assign user roles, please see the State Administrator's User Guide on the Data Repository Landing page.



## 4 How to Manage Your Account

If your account information should change over time, you may edit your account details to make changes.

1. Sign in to the NewSTEPS Data Repository and click the *Account* link in the top navigation bar to access your account details.
2. Make the desired account changes to your account details and click the **Save** button to complete the operation.

## 5 Resetting a Forgotten Password

If you should forget your password, you may reset it from within the NewSTEPS Data Repository:

1. On the home page, locate the Sign In box. Click on the *Forgot Password?* link in this box.
2. You will be asked to enter the email address associated with your account. Enter it and click **Submit**.
  - \* You will receive an email with a link to change your password.
3. Once you have successfully changed your password, you may sign in to the NewSTEPS Data Repository with your new password.



## 6 Home Landing Page

Once you are logged in you will see the landing page, below. The landing page will contain important information that NewSTEPS wants to share with the community about the program, events, and deadlines.

### Welcome to the NewSTEPS Data Repository

The repository is now ready for data entry for basic state profiles, cases and quality indicators. We anticipate updates to occur on a quarterly basis, or sooner if needed. Please continue to check this page for announcements of new features. FAQs for the NewSTEPS Data Repository can be found linked [here](#).

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#### Case Definitions

Each state has the ability to review and enter **cases** through one designated state contact.

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#### Quality Indicators

The 8 Quality Indicators that will be used to provide longitudinal comparisons within a program as well as comparisons to aggregate data across programs can be found linked here: [Quality Indicators](#).

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#### Reports

**State Profile** derived **reports/queries** are updated on a real-time basis. Additionally, sample reports depicting fictional data summaries demonstrating the range of responses in quality indicators throughout newborn screening systems in the country while protecting the confidentiality of each state newborn screening program can be found linked here: [Sample Reports](#)

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#### Memorandums of Understanding

**State Profile data** can be entered prior to the ratification of the MOU. NewSTEPS has convened a series of **webinars** detailing the **Memorandums of Understanding (MOUs)** that will be entered into between APHL and newborn screening programs. NewSTEPS has contacted state representatives to help facilitate signatures. We request that all Quality Indicator and Infant level data entry be held until the MOUs are fully ratified.

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#### Historical Data

Currently the historical data entered into the National Newborn Screening Information System (NNSIS) prior to June 1, 2012 has not been provided to NewSTEPS by the Health Resources and Services Administration (HRSA) in a manner that will allow for longitudinal comparisons.

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#### Questions

We welcome feedback from you as we develop the repository and related reports. For any questions or feedback please contact Careema Yusuf at [Careema.Yusuf@aphl.org](mailto:Careema.Yusuf@aphl.org) or at 240-485-2761

Figure 2 - NewSTEPS Data Repository landing page



## 7 Managing Your State’s Newborn Screening Program Information

NewSTEPS asks states to share information because the collection of data at the national level allows for quality improvement in the newborn screening system. When all states share data, each program will be able to compare outcomes and trends from their state or region to the national summary data. These data will also provide the ability to accurately calculate the birth prevalence of the rare disorders as detected by newborn screening.

### 7.1 How Will the Information Be Used?

NBS programs that enter data into the NewSTEPS repository will have access to their own data plus aggregate data from other participating NBS programs. Please see below for Table 1: NewSTEPS Data Repository: How will these elements be used?

| Table 1: NewSTEPS Data Repository Data Elements: How will these elements be used? |  |   |
|---|--|---|
| Data Element  | Publically Available (website and aggregate reports) | Other State Newborn Screening Programs Only (queries and reports) |
| <b>State Profile: Demographics</b>  |  |   |
| State/ Territory Name   | •  |   |
| Region  | •  |   |
| Website URL   | •  |   |
| Racial, Ethnic and Sex Distribution   | •  |   |
| Annual Births   | •  |   |
| Number of Eligible Births   | •  |   |
| <b>State Profile: Disorders</b>   |  |   |
| Disorder Screened (Core, Secondary, Other)  | •  |   |
| Disorder Screened Status (Core, Secondary, Other)                                 | •  |   |
| Disorder Screened (month/ year);(Core, Secondary, Other)                          | •  |   |
| First Screen First Tier Method  | •  |   |
| First Screen Second Method  | •  |   |
| First Tier Target   | •  |   |
| Second Screen First Tier Method   | •  |   |
| Second Screen Second Tier Method  | •  |   |
| Second Tier Target  | •  |   |
| Equipment   | •  |   |



| <b>Table 1: NewSTEPs Data Repository Data Elements: How will these elements be used?</b>  |   |  |
|---|---|--|
| <b>Data Element</b>   | <b>Publicly Available (website and aggregate reports)</b> | <b>Other State Newborn Screening Programs Only (queries and reports)</b> |
| General Info [Screening card image; hearing screening form; Number of required screens; Responsible Laboratory (Name and Type)] | •   |  |
| <b>State Profiles: Policies</b>   |   |  |
| Recommended Initial Screening Age   | •   |  |
| Recommended Second Screening Age  | •   |  |
| Second Screen Policy  | •   |  |
| CLSI Guideline Adoption Status  | •   |  |
| DBS Retention Time and Conditions   | •   |  |
| DBS Specimen Uses; Consent for Research; Sharing Policies   | •   |  |
| Data Retention Policy; Data Storage Period  | •   |  |
| Courier Service Usage Status  | •   |  |
| Consent of Newborn Screening  | •   |  |
| Consent Recording Method  | •   |  |
| Opt-out Policy  | •   |  |
| Opt-out Recording Method  | •   |  |
| Short-Term Follow-up Description; Unique Follow-up Methods; Follow-up Period for Inconclusive Diagnosis                         | •   |  |
| Long-Term Follow-up Participant? Long-Term Follow-up Description  | •   |  |
| Missed Diagnosis Reported   |   | •  |
| Missed Diagnosis Reporting Process  |   | •  |
| Unscreened Babies Matched?  |   | •  |
| Result Matching Databases and Matching Method   |   | •  |
| Unsatisfactory Specimen Testing   |   | •  |
| Program Collaboration Policies around providing help and receiving help during emergencies                                      | •   |  |
| <b>State Profile: Adding to NBS Panel</b>   |   |  |
| New Condition Decision Period; National Recommendations and Implementation Plan; Pilot Study and/or Feasibility Study?          | •   |  |
| Lab Test Addition Challenges  |   | •  |
| Lab Test Implementation Period and Requirements   | •   |  |
| Point of Care (POC) Test Addition Challenges  |   | •  |



| <b>Table 1: NewSTEPs Data Repository Data Elements: How will these elements be used?</b>   |   |  |
|--|---|--|
| <b>Data Element</b>  | <b>Publicly Available (website and aggregate reports)</b> | <b>Other State Newborn Screening Programs Only (queries and reports)</b> |
| POC Test Implementation Period and Requirements  | •   |  |
| <b>State Profiles: Fees</b>  |   |  |
| Newborn Screening Funding Sources; Fee Collection Method; Fee Holding Location; Fees; Fee Notes  | •   |  |
| Fee Use Details  |   | •  |
| <b>State Profiles: Program Structure</b>   |   |  |
| NBS System Organizational Chart; Shared Duties; Follow-up on Unsatisfactory and Borderline Specimens; Performance Evaluation; Formal Communication Structure; NBS Program Staffing Levels; Short-Term Follow-up Responsible Parties; Lab Certification and Proficiency Testing |   | •  |
| Lab and Follow-up Operating Hours and Activities   | •   |  |
| <b>State Profiles: Contacts</b>  |   |  |
| Overall, Director; Program Manager; Lab; Follow-up; EHDI; CCHD; HIT  | •   |  |
| <b>State Profiles: Advisory Committee</b>  |   |  |
| Advisory Committee Present; Committee Structure; Charge/By-Laws; Meeting Frequency; Minutes  | •   |  |
| <b>State Profiles: IT and Labs</b>   |   |  |
| Lab and Follow-up Information System   | •   |  |
| Staffing Levels; Back-up Frequency; Recovery Time; Data Loss Amount-database failure, instrument failure; COOP Plan; Redundant Off-site and On-Site Operations   |   | •  |
| <b>State Profiles: Health Information Technology (HIT)</b>   |   |  |
| HL7 Orders, Messages; HL7 Interfacing Birthing Centers; HL7 Implementation information; NBS Data Sharing and Result Retrieval Portal and Use; CCHD and EHDI Result Integration Details; Health Information Exchange Implementation Status                                      |   | •  |



## 7.2 State Profile

Your state's profile information collects program information and facts such as disorders screened, newborn screening fees, and annual births. This information is shared with the public through the NewSTEPS Data Repository, and should be updated annually.

To enter your state profile information, click on the *State Profile* tab. There are eleven tabs within the state profile. Click on the *Edit* button on the right-hand side of the screen.

If you are certain that the information you have provided is complete for the year, please also check the *Complete* box before saving.

### Program Overview

The Program Overview tab collects general demographic information about your state's program - program details; your program name; website URL; racial, number of required screens, responsible laboratory and other details. Complete all the information and click the *Save* button.

The screenshot shows the 'Program Overview' tab selected in a sidebar menu. The main form area contains the following fields:

- Annual Births for 2015:** 3590
- Name of State NBS Program:** Text input field
- Region:** Dropdown menu with '- Select -'
- Website:** Text input field
- Number of required screens:** Dropdown menu with '- Select -'
- Responsible Laboratory:** Name (text input) and Type (dropdown menu with '- Select -')
- Screening Card Image:** Document upload field with 'Browse...' button and a 'Link' text input field.
- Hearing Screening Form:** Document upload field with 'Browse...' button and a 'Link' text input field.

At the bottom of the form, there is a checkbox labeled 'Complete' with the text: 'Complete - The data for the Program Overview section have been reviewed and is complete for the current calendar year.' Below this is a 'Save' button.



## Disorders

The disorders tab collects information about the disorders for which your state screens. The disorders are organized according to the Recommended Uniform Screening Panel (RUSP), as core, secondary, and other conditions.

Program Overview

**Disorders**

Policies

Adding to NBS Panel

Fees

Program Structure

Contacts

Advisory Committee

IT Support

HIT Elements

**Core** Secondary Other

### Recommended Uniform Screening Panel

#### Core Conditions

The core conditions presented are those listed on the Secretary's Advisory Committee for Heritable Disorders in Newborn and Children Recommended Uniform Screening Panel (RUSP) and are disorders that should be included in every Newborn Screening Program. Current information for each disorder, along with the dates of implementation can be updated by individuals within each state screening program.

For each condition, select the status of screening for the condition in your state. Please also select the year and month in which population based screening began (not pilot or feasibility studies), if known.

#### Organic Acid Disorders

**Propionic acidemia - PROP**  - Select subcategory -

Proposed/Actual Implementation Date for Universal Screening  
Year  Month

---

**Methylmalonic acidemia (methylmalonyl-CoA mutase) - MUT**  - Select subcategory -

Proposed/Actual Implementation Date for Universal Screening  
Year  Month

---

**Methylmalonic acidemia (cobalamin disorders) - Cbl A,B**  - Select subcategory -

Proposed/Actual Implementation Date for Universal Screening  
Year  Month



1. To complete the disorders, select the screening status of the condition in your state. Statuses are shown in the image below.

Program Overview  
**Disorders**  
Policies  
Adding to NBS Panel  
Fees  
Program Structure  
Contacts  
Advisory Committee  
IT Support  
HIT Elements

Core Secondary Other

## Recommended Uniform Screening Panel

### Core Conditions

The core conditions presented are those listed on the Secretary's Advisory Committee for Heritable Disorders in Newborn and Children Recommended Uniform Screening Panel (RUSP) and are disorders that should be included in every Newborn Screening Program. Current information for each disorder, along with the dates of implementation can be updated by individuals within each state screening program.

For each condition, select the status of screening for the condition in your state. Please also select the year and month in which population based screening began (not pilot or feasibility studies), if known.

#### Organic Acid Disorders

**Propionic acidemia - PROP**

Not Screened  
Universally Screened  
Likely to be detected and reported due to universal screening of another disorder  
Offered to select populations

Year Month

**Methylmalonic acidemia (methylmalonyl-CoA mutase) - MUT**

Not Screened - Select subcategory -

Proposed/Actual Implementation Date for Universal Screening  
Year Month

**Methylmalonic acidemia (cobalamin disorders) - Cbl A,B**

Not Screened - Select subcategory -

Proposed/Actual Implementation Date for Universal Screening  
Year Month

**Isovaleric acidemia - IVA**

Not Screened - Select subcategory -

Proposed/Actual Implementation Date for Universal Screening  
Year Month

2. After you select a screening status, select a subcategory and fill additional data elements that ask about screening methodologies, equipment used and the date of implementation (month and year, or year) of the screening population-wide where known.

- Program Overview
- Disorders
- Policies
- Adding to NBS Panel
- Fees
- Program Structure
- Contacts
- Advisory Committee
- IT Support
- HIT Elements

Core
Secondary
Other

## Recommended Uniform Screening Panel

### Core Conditions

The core conditions presented are those listed on the Secretary's Advisory Committee for Heritable Disorders in Newborn and Children Recommended Uniform Screening Panel (RUSP) and are disorders that should be included in every Newborn Screening Program. Current information for each disorder, along with the dates of implementation can be updated by individuals within each state screening program.

For each condition, select the status of screening for the condition in your state. Please also select the year and month in which population based screening began (not pilot or feasibility studies), if known.

#### Organic Acid Disorders

**Propionic acidemia - PROP**

Universally Screened

- Select subcategory -  
 Required by law or rule  
 Not required by law or rule

First Screen

First Tier Method 
 First Tier Method Target 
 Second Tier Method 
 Second Tier Method Tar

Second Screen

First Tier Method 
 First Tier Method Target 
 Second Tier Method 
 Second Tier Method Tar

Equipment

Equipment

Proposed/Actual Implementation Date for Universal Screening

Year  Month

**Methylmalonic acidemia (methylmalonyl-CoA mutase) - MUT**

Not Screened

- Select subcategory -

Proposed/Actual Implementation Date for Universal Screening

Year  Month

**Methylmalonic acidemia (cobalamin disorders) - Cbl A,B**

Not Screened

- Select subcategory -

Proposed/Actual Implementation Date for Universal Screening

3. When you complete the entries for core conditions, click the **Save** button, or click on the tabs to enter information for secondary and other conditions, clicking the **Save** button when completed. (Clicking **Save** will return you to the screen that will list all the selections you have made; click on any tab to return and edit it.)



## Policies

The policies tab collects information about the NBS policies that your state program has. These policies include those around recommended age at initial screening and second screening; consent; follow-up services; missed cases; storage of specimens; storage of data; sharing of specimens; and other details.

|   |  |  |   |
|---|--|--|---|
| <ul style="list-style-type: none"><li>Program Overview</li><li>Disorders</li><li><b>Policies</b></li><li>Adding to NBS Panel</li><li>Fees</li><li>Program Structure</li><li>Contacts</li><li>Advisory Committee</li><li>IT Support</li><li>HIT Elements</li></ul> | <b>Specimen Collection</b><br><b>Recommended Initial Screening Age:</b> <input type="text"/><br><b>Recommended Second Screening Age:</b> <input type="text"/><br><b>Second Screen Policy:</b> <input type="text"/><br><b>NICU CLSI Guideline Adoption Status:</b> <input type="text"/><br><b>NICU CLSI Guideline Adoption Description:</b> <input type="text"/><br>3999 characters remaining.<br><b>Specimen Transport, Receipt, Storage, Courier Service Usage Status:</b> <input type="text"/> | <b>Consent</b><br><b>Consent For Newborn Screening:</b> <input type="text"/><br><b>Opt Out Policy:</b> <input type="text"/><br><b>Opt Out Recording Method:</b> <input type="text"/><br><b>Consent Recording Method:</b> <input type="text"/><br><b>Residual Specimen Uses:</b> <input type="text"/><br><b>Specimens Consented for Research?:</b> <input type="text"/><br><b>Specimen Sharing Policies:</b> <input type="text"/><br><b>Follow-Up</b><br><b>Short Term Follow-Up Definition:</b> <input type="text"/> | <b>Analysis</b><br><b>Process for Reporting Missed Diagnoses?:</b> <input type="text"/><br><b>Missed Diagnosis Reporting Process:</b> <input type="text"/><br>3999 characters remaining.<br><b>Matching NBS Records to find Unscreened Babies:</b> <input type="text"/><br><b>Matching Data System?:</b> <input type="text"/><br><b>Result Matching Method:</b> <input type="text"/><br><b>Unsatisfactory Specimen Testing Policy:</b> <input type="text"/> |
|---|--|--|---|

Complete all the information and click the Save button.



## Adding to the NBS Panel

The adding to the NBS panel tab collects information about the policies and procedures that your state program has with regard to adding conditions to the NSB panel.

1. The General Info section collects for example, the time frame typically seen for adoption of a new condition, once a decision has been made; whether or not a pilot study and/or feasibility study is done before adoption of population wide screening; and other details. Complete all the information and click the Save button.

The screenshot shows the 'Adding to NBS Panel' form with the 'General Info' tab selected. On the left is a navigation menu with 'Adding to NBS Panel' highlighted. The main content area includes:

- General Info** | Lab | POC
- National Recommendations Followed?**
  - Yes
  - No
  - Unknown
- National Recommendation Implementation Time Frame:**
  - No Formal Time Frame
  -
- Complete - The data for the Adding to NBS Panel section have been reviewed and is complete for the current calendar year.
- 
- Pilot Studies Required Before Implementation ?**
  - Yes
  - No
  - Unknown
- Feasibility Study Done?**
  - Yes
  - No
  - Unknown

2. The Lab section collects information about any challenges that the laboratory may have in adding a new DBS condition to the panel. Complete all the information and click the Save button.

The screenshot shows the 'Adding to NBS Panel' form with the 'Lab' tab selected. On the left is a navigation menu with 'Adding to NBS Panel' highlighted. The main content area includes:

- General Info | **Lab** | POC
- If your state does not perform your own testing, leave this section blank.**
- Lab Test Addition Challenges:**
  - Gaining authority to screen: Ranking [v]
  - Training/education: Ranking [v]
  - Staffing (follow-up and lab): Ranking [v]
  - Equipment/instrumentation: Ranking [v]
  - Laboratory space: Ranking [v]
  - Test/method availability: Ranking [v]
  - QC materials availability: Ranking [v]
  - Funding to implement: Ranking [v]
  - Diagnostic testing availability: Ranking [v]
  - Clinical subspecialty availability: Ranking [v]
  - Treatment and follow-up costs: Ranking [v]
  - IT and Data Systems Modification: Ranking [v]
- Lab Test Implementation Period:** [- Select -] [v]
- Lab Test Addition Requirements:** [None selected v]



- The Point Of Care (POC) section collects information about any challenges that the laboratory may have in adding a new POC condition to the panel. Complete all the information and click the Save button. If you are certain that the information you have provided is complete for the year, please also check the **Complete** box before saving.

- Program Overview
- Disorders
- Policies
- Adding to NBS Panel**
- Fees
- Program Structure
- Contacts
- Advisory Committee
- IT Support
- HIT Elements

General Info   Lab   **POC**

**POC Test Addition Challenges:** ⓘ

Gaining authority to screen: Ranking ▼

Training/education: Ranking ▼

Staffing (follow-up and lab): Ranking ▼

Equipment/instrumentation: Ranking ▼

Laboratory space: Ranking ▼

Test/method availability: Ranking ▼

QC materials availability: Ranking ▼

Funding to implement: Ranking ▼

Diagnostic testing availability: Ranking ▼

Clinical subspecialty availability: Ranking ▼

Treatment and follow-up costs: Ranking ▼

IT and Data Systems Modification: Ranking ▼

FDA approved test/method availability: Ranking ▼

**POC Test Implementation Period:** ⓘ

- Select - ▼

**POC Test Addition Requirements:** ⓘ

None selected ▼



## Fees

The fees tab collects information about the state NBS fees and related information. Complete all the information and click the Save button.

- Program Overview
- Disorders
- Policies
- Adding to NBS Panel
- Fees
- Program Structure
- Contacts
- Advisory Committee
- IT Support
- HIT Elements

**Funding**

**Newborn Screening Funding Sources:** ?

None selected ▾

**Fee Collection Method:** ?

- Select - ▾

**Fee Holding Location:** ?

- Select - ▾

**Fees:** ?

Initial Screen Fee

\$

Repeat Screen Fee

Included in initial screen fee

\$

Second Screen Fee

\$

**Fee Use Details:** ?

| Use   | Used?   | % Used                 |
|---|---|------------------------|
| Lab tests (To include salaries of laboratory personnel, supplies, instruments and equipment maintenance): | <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Unknown | <input type="text"/> % |
| Follow-up services (salaries and educational materials):  | <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Unknown | <input type="text"/> % |
| Long term follow-up support (to include physician consultants, Geneticists, Genetic counselors, etc):     | <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Unknown | <input type="text"/> % |
| Critical Congenital Heart Disease (CCHD) services:  | <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Unknown | <input type="text"/> % |
| Early Hearing Detection and Intervention (EHDI) services:   | <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Unknown | <input type="text"/> % |



## Program Structure

The program structure tab collects information about the state NBS program structure. This includes laboratory operating hours; follow-up operating hours; organizational chart; staffing levels (%FTE); and related information. You can also upload and relevant documents. Complete all the information and click the Save button.

- Program Overview
- Disorders
- Policies
- Adding to NBS Panel
- Fees
- Program Structure**
- Contacts
- Advisory Committee
- IT Support
- HIT Elements

**NBS system organizational chart:** ⓘ

Document

Link

**Shared Duties:** ⓘ

**Follow-Up on Unsatisfactory Specimens:** ⓘ

Responsible Party

Description

3999 characters remaining.

**Follow-Up on Borderline Results:** ⓘ

Responsible Party

**NBS Program Staffing Level:** ⓘ

Laboratory Scientists  
 FTE

STFU Personnel  
 FTE

Clerical Support Personnel  
 FTE

EHDI Personnel  
 FTE

CCHD Personnel  
 FTE

**STFU Responsible Parties:** ⓘ

**Certification Program:** ⓘ

**Proficiency Tests:** ⓘ

**Program Information:** ⓘ



## Contacts

The contacts tab collects contact information for the following: the overall NBS program, the Director and/ or Program Manager, the NBS state laboratory, the NBS follow-up program, the Early Hearing Detection and Intervention (EHDI) program, Critical Congenital Heart Disease (CCHD) program, and the Health Information Technology (HIT) person(s) in your state. Complete all the information and click the Save button.

- Program Overview
- Disorders
- Policies
- Adding to NBS Panel
- Fees
- Program Structure
- Contacts**
- Advisory Committee
- IT Support
- HIT Elements

**Program** Director Program Manager Lab Follow-Up EHDI CCHD HIT

### Overall NBS Program: <sup>?</sup>

|                      |                           |
|----------------------|---------------------------|
| <b>Main Contact:</b> | <b>Alternate Contact:</b> |
| First Name           | First Name                |
| <input type="text"/> | <input type="text"/>      |
| Last Name            | Last Name                 |
| <input type="text"/> | <input type="text"/>      |
| Title                | Title                     |
| <input type="text"/> | <input type="text"/>      |
| Credentials          | Credentials               |
| <input type="text"/> | <input type="text"/>      |
| Email                | Email                     |
| <input type="text"/> | <input type="text"/>      |



## Advisory Committee

The advisory committee tab collects information on the details of the NBS advisory committee for your state NBS program. This includes, if applicable, the make-up of the advisory committee; how often the committee meets; and other details. You can also upload and relevant documents. Complete all the information and click the Save button.

- Program Overview
- Disorders
- Policies
- Adding to NBS Panel
- Fees
- Program Structure
- Contacts
- Advisory Committee**
- IT Support
- HIT Elements

**Existing Advisory Committee?:** <sup>?</sup>

Yes  
 No  
 Unknown

**Advisory Committee Voluntary?:** <sup>?</sup>

Yes  
 No  
 Unknown

**Committee Structure:** <sup>?</sup>

Description

3999 characters remaining.

Document

Link

**Charge/Bylaws:** <sup>?</sup>

Document

Link

**Meeting Frequency:** <sup>?</sup>

- Select -

**Meeting Minutes Link:** <sup>?</sup>



## IT Support

The Information Technology (IT) Support tab collects information on the types of information systems your state NBS program uses. This includes the type of information system in the laboratory; the type of information system in the follow-up program; information on Continuity of Operation Plans (COOP); and other details. Complete all the information and click the Save button.

|   |   |  |   |
|---|---|--|---|
| <ul style="list-style-type: none"><li>Program Overview</li><li>Disorders</li><li>Policies</li><li>Adding to NBS Panel</li><li>Fees</li><li>Program Structure</li><li>Contacts</li><li>Advisory Committee</li><li><b>IT Support</b></li><li>HIT Elements</li></ul> | <b>Lab Information System:</b> ⓘ<br><input type="text" value="- Select -"/>       | <b>NBS Data Backup Frequency?:</b> ⓘ<br><input type="text" value="- Select -"/>                                | <b>IT Part of COOP?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown                      |
|   | <b>Follow-up Information System:</b> ⓘ<br><input type="text" value="- Select -"/> | <b>Data Loss Amount from Database Failure:</b> ⓘ<br><input type="checkbox"/> Unknown<br><input type="text"/>   | <b>Redundant Off-site Operations Exists?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown |
|   | <b>Staffing Levels:</b> ⓘ   | <b>Data Loss Amount from Instrument Failure:</b> ⓘ<br><input type="checkbox"/> Unknown<br><input type="text"/> | <b>Redundant On-site Operations Exists?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown  |
|   | LIMS Management<br><input type="text"/> FTE                                       | <b>IT Infrastructure Recovery Time:</b> ⓘ<br><input type="checkbox"/> Unknown<br><input type="text"/>          |   |
|   | Desktop Support<br><input type="text"/> FTE                                       | <b>Disaster Recovery Hardware:</b> ⓘ<br><input type="text" value="None selected"/>                             |   |
|   | Network Support<br><input type="text"/> FTE                                       |  |   |
|   | HL7 Messaging/Terminology Support<br><input type="text"/> FTE                     |  |   |
|   | Follow-Up Support<br><input type="text"/> FTE                                     |  |   |
|   | <b>IT Support Description:</b> ⓘ<br><input type="text"/>                          |  |   |
|   | 3999 characters remaining.  |  |   |



## HIT Elements

The Health Information Technology (HIT) elements tab collects information on the HIT processes and systems (if applicable) your state NBS program is implementing. This includes details on the type of messaging used (e.g., HL7 messaging); any coding used within the information systems (e.g., LOINC, SNOMED, etc.); information on data integration efforts with other NBS systems; and other details. Complete all the information and click the Save button.

|   |  |   |   |
|---|--|---|---|
| <ul style="list-style-type: none"><li>Program Overview</li><li>Disorders</li><li>Policies</li><li>Adding to NBS Panel</li><li>Fees</li><li>Program Structure</li><li>Contacts</li><li>Advisory Committee</li><li>IT Support</li><li><b>HIT Elements</b></li></ul> | <b>HL7 Order Messages Accepted?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown | <b>NBS Data Sharing Portal Exists?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown     | <b>Databases Integrated with NBS Systems:</b> ⓘ<br>None selected ▾  |
|   | <b>HL7 Interfacing Birthing Center Count:</b> ⓘ<br><input type="text"/>  | <b>DBS Data Entry Portal Exists?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown       | <b>Hearing Result Integration Method:</b> ⓘ<br>- Select - ▾   |
|   | <b>Electronically Ordered Sample Count:</b> ⓘ<br><input type="text"/>  | <b>Count of Birthing Centers Using Entry Portal:</b> ⓘ<br><input type="text"/>  | <b>CCHD Result Integration Method:</b> ⓘ<br>- Select - ▾  |
|   | <b>HL7 Result Messages Sent?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown    | <b>Count of Samples Entered Using Entry Portal:</b> ⓘ<br><input type="text"/>   | <b>HIE Implementation Status:</b> ⓘ<br>- Select - ▾   |
|   | <b>HL7 Result Message Recipient Count:</b> ⓘ<br><input type="text"/>   | <b>NBS Result Retrieval Portal Exists?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown | <b>HIE Data Exchange Status:</b> ⓘ<br>- Select - ▾  |
|   | <b>Electronically Reported Sample Count:</b> ⓘ<br><input type="text"/>   | <b>Count of Birthing Centers Using Retrieval Portal:</b> ⓘ<br><input type="text"/>  | <b>HIE Interfacing Funds Received?</b> ⓘ<br><input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Unknown |
|   | <b>Implementation Guide and HL7 Version:</b> ⓘ<br><input type="text"/>   | <b>NBS Activities Feedback Portal?</b> ⓘ<br><input type="text"/>  | <b>NBS Result Accessor:</b> ⓘ<br>- Select - ▾   |
|   |  |   | <b>NBS Result Sending Method:</b> ⓘ<br>- Select - ▾   |
|   |  |   |   |
|   |  |   |   |



## 7.3 Cases identified by newborn screening

The conditions detected by newborn screening are rare, therefore it is only with the combined births across the U.S. that we will be able to identify trends in the true birth prevalence of disorders, and also understand trends over time. Consistent data collected across all programs in the country will provide valuable data for state public health departments, Title V reporting requirements, reports to legislators, and clinical care providers caring for children with these rare disorders.

*\* Please note that your state must have a signed Memorandum of Understanding (MOU) with NewSTEPS/APHL before case information can be entered. For more information about the MOU process, please contact NewSTEPS at [newsteps@aphl.org](mailto:newsteps@aphl.org).*

1. To enter a case, click on the *Cases* tab, then click on the **Add New Case** button.
2. First, select the condition, either by typing it in the text field on the left side, or selecting it on the right side (where conditions are organized by category). Click the **Next** button.

[← Back To List](#) **Case Definition**

**State \***  
- Select -

**Disorder**  
Start typing a condition name

OR

**Select a condition**

Fatty Acid Disorders  
- Select -

Organic Acid Disorders  
- Select -

Amino Acid Disorders  
- Select -

Other Disorders  
- Select -

Endocrine Disorders  
- Select -

Lysosomal Storage Disorders  
- Select -

Hemoglobin Disorders  
- Select -

OR  
[Import Case Demographic and Screening information from csv file](#)

3. After a condition is selected, the form for entering case details will load. The system will require you to input a state unique identifier and the infant's date of birth. Note that the NewSTEPS Data Repository does ask for date of birth and dates and times of service, which are collected only in the browser for the purpose of calculating differences in dates and times (i.e., days elapsed between birth and screening) - other than birth year, NO date or time is stored in the NewSTEPS Data Repository.



Enter as much information as you can with infant detailed information, screening details, and collection information.

Some conditions include diagnostic workup data, including enzymatic test details and molecular genetic testing results. As a public health surveillance program, it is critically important for NewSTEPS to have accurate definitions of each disorder.

NewSTEPS has partnered with HRSA to provide case definitions for use in public health newborn screening. A tool kit that includes the case definition worksheets, a sample letter to a medical provider, etc. are provided for your use on the NewSTEPS website and are [linked here](#) and should be completed in collaboration with the clinical care providers. For those conditions with an attached Diagnostic Workup within the repository, you can find a PDF version of the worksheet on the NewSTEPS website [here](#). You can print out and fill out the worksheet by completing demographic information and any data available from within the newborn screening program. These worksheets are intended to be tools to help in the collection of the data elements within the case definitions. The case definitions are not intended to change the diagnosis from the clinicians, but to allow categorization of the certainty of the public health surveillance reported case. Please use the provided worksheets to collect the appropriate information. When possible, please collect the laboratory results for your internal records. These will never be shared beyond your program, but will help to support the case definition.

Many positive newborn screening results take significant time for resolution. We ask that the case definitions be closed after a year from the child's birth and all relevant data be entered by this point.

### Diagnostic Workup

#### Enzymatic

Final Diagnosis as determined by metabolic geneticist or clinician performing the follow-up

- Select -

Were urine organic acids tested?

Yes  No  Unknown

Were plasma acylcarnitines tested?

Yes  No  Unknown

Was C<sub>3</sub> level:

Elevated  
 Normal  
 Unknown

Was C<sub>5</sub>-OH level:

Elevated  
 Normal  
 Unknown

Were infant chemistries (biotinidase) studies completed?

Yes  No  Unknown

Was enzyme analysis for holocarboxylase synthetase deficiency enzyme activity completed?

Yes  No  Unknown

Complete - The case data entry is complete. All available data related to this diagnosis (obtained through one year of age) has been entered.

#### Molecular Genetics

Was mutation analysis done?

Yes  No  Unknown

What genes were included in the mutation analysis?

HLCS Gene

Check the types of variants found on:

Allele 1:

Variant known to be disease causing  
 Variant of unknown significance  
 Wild Type (Normal)  
 Unknown

Allele 2:

Variant known to be disease causing  
 Variant of unknown significance  
 Wild Type (Normal)  
 Unknown

Other Gene

Save | Cancel



4. After all information has been entered, click the **Save** button. If you are certain that the information you have provided is complete for the year, please also check the **Complete** box before saving.



5. The new case will then be visible in the table of cases on the *Cases* tab.
6. To edit an existing case, click on the edit icon from the cases table, as shown below.

1-3 of 3 Results

20 Per Page

Add New Case

Back 1 Next

| State Unique ID  | Birth year | Condition   | Last Updated | Action  |
|------------------|------------|---|--------------|---|
| trg-10312-1-q104 | 2012       | S,S disease (Sickle cell anemia) - Hb SS            | 09/16/2013   |   |
| trg-8446-1-q81   | 2012       | Cystic fibrosis - CF                                | 09/16/2013   |   |
| trg-9873-1-q76   | 2012       | 3-Methylcrotonyl-CoA carboxylase deficiency - 3-MCC | 09/16/2013   |   |

*view* *edit*



## 7.4 Quality Indicators

The [eight Quality indicators \(QI\)](#) has undergone careful evaluation by stakeholders to assure agreement on definitions and will be used to provide longitudinal comparisons within a program as well as comparisons to aggregate data across programs. QIs are calculated using information from state profiles, cases, and QI-specific information.

*\* Please note that your state must have a signed Memorandum of Understanding (MOU) with NewSTEPS/APHL before QI information can be entered. For more information about the MOU process, please contact NewSTEPS at [newsteps@aphl.org](mailto:newsteps@aphl.org)*

To enter QIs, click on the *Quality Indicators* tab. This will display a list of all quality indicators. Select the year for which you're entering quality information, then select *Demographics* to enter state demographic data.

**State \***

**Year \***

**Section \***

- Quality Indicator 1** - Percent of dried blood spot specimens that were unacceptable due to improper collection and/or transport
- Quality Indicator 2** - Percent of dried blood spot specimens with at least one missing state-defined essential data field upon receipt at the lab
- Quality Indicator 3** - Percent of eligible newborns not receiving a newborn screen, reported by dried blood spot or point-of-care screen(s)
- Quality Indicator 4** - Percent of infants that have no recorded final resolution (confirmed diagnosis or diagnosis ruled out by an appropriate medical professional) with the newborn screening program
- Quality Indicator 5** - Timeliness of newborn screening activities
- Quality Indicator 6** - Percent of infants with an out-of-range newborn screen result requiring clinical diagnostic workup reported by disorder category
- Quality Indicator 7** - Percent of disorders detected by newborn screening with a confirmed diagnosis by an appropriate medical professional
- Quality Indicator 8** - Percent of missed cases, reported by disorder
- Additional Screening Data** - Additional state-level data that provides peripheral annual screening information
- Demographics** - State Demographic Data
- View QI Summary** - A Summary of all QI data for the year and state selected with regional and national data for comparison.
- Year to Year Comparison** - A Summary of all QI data for the state selected compared by year.

The data import tool for the quality indicator data is currently disabled while we implement changes to the quality indicator fields. We anticipate this tool being available again by late summer. Sorry for any inconvenience.

Select a completed Annual Births csv file:

Select the Year and then click on Demographics.

- Quality Indicator 1
- Quality Indicator 2
- Quality Indicator 3
- Quality Indicator 4
- Quality Indicator 5
- Quality Indicator 6
- Quality Indicator 7
- Quality Indicator 8
- Additional Screening Data
- Demographics

## State Demographic Data

Save | Cancel

Demographic information entered below provides details on the racial, ethnic, and gender distributions for your state.

### Demographics Official?

- Yes  
 No

### Racial Distribution

White  %

Black or African American  %

American Indian or Alaska Native  %

Asian  %

Native Hawaiian or other Pacific Islander  %

Not Reported  %

Unknown  %

### Ethnic Distribution

Hispanic, Latino/a, or Spanish origin  %

Not of Hispanic, Latino/a, or Spanish origin  %

Not Reported  %

Unknown  %

### Sex Distribution

Female  %

Male  %

Unspecified  %

Unknown  %

Next, select Additional Screening Data and enter or confirm the information. Remember to click the Save button before moving on the next tab.

- Quality Indicator 1
- Quality Indicator 2
- Quality Indicator 3
- Quality Indicator 4
- Quality Indicator 5
- Quality Indicator 6
- Quality Indicator 7
- Quality Indicator 8
- Additional Screening Data
- Demographics

## Additional Screening Data

Save | Cancel

The information entered below provides additional screening data including the number of birthing hospitals in your state, number of infants transferred to hospitals out of state and screening performed by another NBS program, number of infants who came in from other states for screening and cared for by specialists in your state, etc

### Birth Statistics

How many infants screened were born in your state?

How many birthing centers are in your state?

### Dried Blood Spot Screening Statistics

How many infants born in your state received DBS NBS at an out of state NBS program?

How many infants born out of state received DBS NBS through your NBS program?

### Early Hearing Detection and Intervention Screening Statistics

How many infants born in your state received EHDI screening at an out of state NBS program?

How many infants born out of state received EHDI screening through your NBS program?

### Critical Congenital Heart Disease Screening Statistics

How many infants born in your state received CCHD screening at an out of state NBS program?

How many infants born out of state received CCHD screening through your NBS program?



Then, select each QI and enter or confirm the information for each. For each, click the **Save** button before moving onto the next.

Please note that for each QI, enter the "Number of" the system will calculate the "Percent". Additionally, QIs 5e, 5f, 7 and 8 will be pre-calculated based on the case data entered in the "Cases" tab.



## 7.5 Next Steps

The NewSTEPS Data Repository will continue to be updated with new features. We anticipate that these updates will occur on a quarterly basis, with more frequent updates as needed.

## 7.6 Further Assistance

**Contact information for Assistance:** If you have any questions or feedback on the NewSTEPS Data Repository, please contact Careema Yusuf at 240-485-2761 or at [careema.yusuf@aphl.org](mailto:careema.yusuf@aphl.org) or Joshua Miller at 303-724-4438 or at [joshua.i.miller@ucdenver.edu](mailto:joshua.i.miller@ucdenver.edu).



## Revision History

Changes to this document are reflected in this Revision History table.

| Date       | Version     | Description                                 | Revised by    |
|------------|-------------|---|---------------|
| 09/30/2013 | Version 1.0 | Initial draft                               | Leslie Power  |
| 03/04/2014 | Version 1.1 | Revised draft                               | Careema Yusuf |
| 05/07/14   | Version 2.0 | Updated to reflect new tabs                 | Careema Yusuf |
| 8/09/2016  | Version 3   | Updated to reflect new tabs and revised QIs | Sari Edelman  |