



**NewSTEPS**

A Program of the Association of Public Health Laboratories™

# **User and Informational Guide for the NewSTEPS Repository**

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## INTRODUCTION

Welcome to the Newborn Screening Technical assistance and Evaluation Program (NewSTEPs) Repository. NewSTEPs is a program of the Association of Public Health Laboratories (APHL) that was developed by funding from the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U22MC24078. NewSTEPs is a national newborn screening (NBS) resource center designed to provide data, technical assistance, and training to NBS Programs.

The NewSTEPs Repository is a centralized and secure database that can be accessed by authorized users from anywhere and allows NBS programs to explore resources and data to meet local needs. NBS programs that enter data into the NewSTEPs Repository have access to their own data, plus aggregate data from other participating programs. NewSTEPs provides users with real-time interactive data visualizations for quality improvement purposes. Select [data visualizations](#) are public-facing, while access to quality indicator and case dashboards is based on your NewSTEPs user role.

NewSTEPs collects three types of data from NBS programs:

- Profile and programmatic information (e.g., fees, disorders screened, policies, program structure, etc.). This information is available to the public.
- Case data for infants diagnosed with a newborn screening condition. Confirmed cases should only be entered for disorders that were part of your program's routine screening panel during the year of birth.
  - [Individual cases](#) are confirmed cases providing demographic and screening information (e.g., time to medical intervention, time to diagnosis). Individual case collection plays an integral piece when examining health disparities.
  - [Aggregate cases](#) reflect the total confirmed case counts stratified by disorder. Given the time and resources to enter individual cases, the aggregate case collection serves as a complete condition count detected per year.
- [Quality Indicators](#) to monitor performance across the NBS system on an annual basis.

The NewSTEPs Repository is for [non-human subject research](#) as defined by policies and current regulations and is in accordance with the Office of Human Research Protections (OHRP) and the Food and Drug Administration (FDA) guidelines. Entering data into NewSTEPs is done voluntarily.

## DATA SHARING AND PRIVACY

### Memorandum of Understanding (MOU)

NBS Programs are required to sign a Memorandum of Understanding (MOU) with APHL before entering case and quality indicator data in the NewSTEPs Repository. The MOUs were developed in accordance with guidance provided by a Health Insurance Portability and Accountability Act (HIPAA) attorney, APHL's in-house legal counsel, and state public health laboratories.

The MOU describes aspects of data sharing including data ownership, data reporting, and data security. NewSTEPs provides a [video](#) on the benefits of signing the MOU. An example of the MOU can be found [here](#).

## Data Sharing and Oversight

APHL will not share state/territory-level quality indicator data or case data with investigators. Sharing aggregate, unpublished data with investigators must be approved by the NewSTEPs Steering Committee. For case data, NewSTEPs will follow the “Rule of 5” which prevents data sharing if there are five newborns or fewer for a given category in a given year.

## Parental Consent

Parental consent is **not** needed to enter individual case data into the NewSTEPs Repository. Case-level information is de-identified and no identifiable information is stored. Policies and privacy controls are in place to ensure appropriate and ethical treatment of individual data. Further, the Office of Human Research Protection (OHRP) has determined that NewSTEPs is taking all the necessary proactive measures to safeguard this information.

## Data Security

NewSTEPs works closely with the current vendor selected by a robust Request for Proposals (RFP) process and is subject to privacy and security policies outlined in an annual contract to ensure the security of data. The web application is available through web browsers via 128-bit secure socket layer (SSL) encryption. Information on the website is limited and is role-based. Program profiles are public, and only authorized users can access case and quality indicators data ([Access Matrix by User Role](#)).

Access to data is secured in Amazon Web Services (AWS) using [security groups](#) and [network access control lists](#) (NACLs). Ingress traffic is allowed only from selected application servers. Data traffic utilizes Secure Socket Layer (SSL) encryption and Transport Layer Security (TLS) version 1.2 while in transit. Access to specific case information is restricted by row-level security rules ensuring only authorized users with appropriate institution credentials can retrieve records. Data is backed up to an off-site encrypted storage location multiple times a day.

For individual case reporting, the web application asks programs to provide the infant’s birth date and screening dates, but these dates are solely collected for the purpose of calculating the time elapsed. Aside from birth year, no dates are stored in the database. No parties involved in the project will have access to records that would allow for the re-identification of babies.

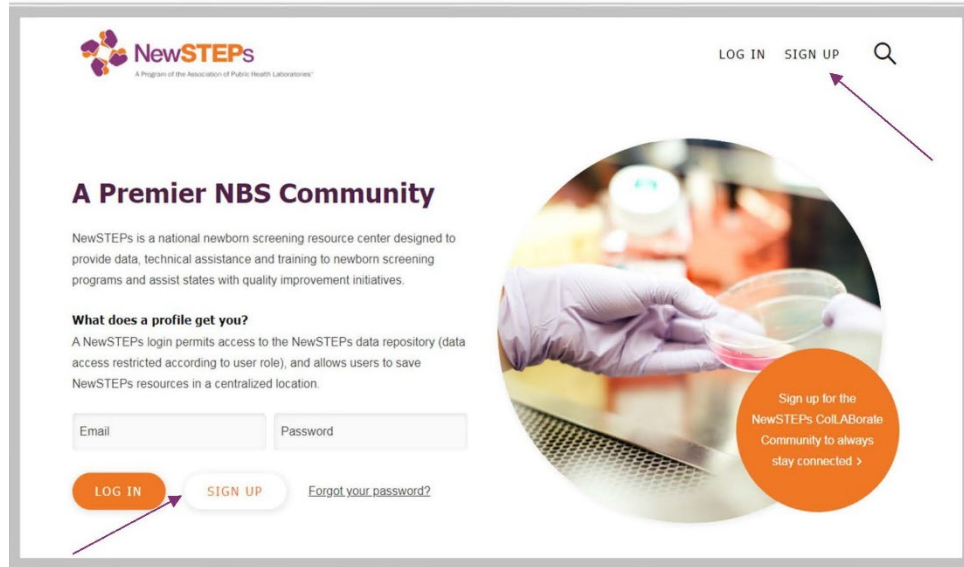
The current vendor is called Insomniac Design, Inc. which serves as an honest broker of the data and does not have the ability to share or identify data, newborns, or family information.

# ACCOUNT MANAGEMENT

## Account Registration

To enter and view data for your NBS Program, you must register for an account. Go to [newsteps.org](https://newsteps.org) and follow these steps:

1. Click **SIGN UP**, which can be found on the [NewSTEPs home page](#).



- The registration fields will appear on your screen next. Enter all required fields which are designated by an asterisk (\*).

Sign up for a NewSTEPs website and data repository account

Account Information

Email \*

Confirm Email \*

Password \*

Confirm Password \*

Password is case sensitive and must be at least 6 characters - one lowercase, one uppercase and one number or symbol.

Personal Information

First Name \*

Last Name \*

Address \*

Country \*

City \*

State

Zip Code \*

- The list of institutions is pre-populated and should be selected by the new user. You can search by institution name. If you do not see your institution name or abbreviation, there is an option to add a new institution. *Note: Before creating a new institution, confirm that it does not already exist by searching for the abbreviated and full name of your organization.*

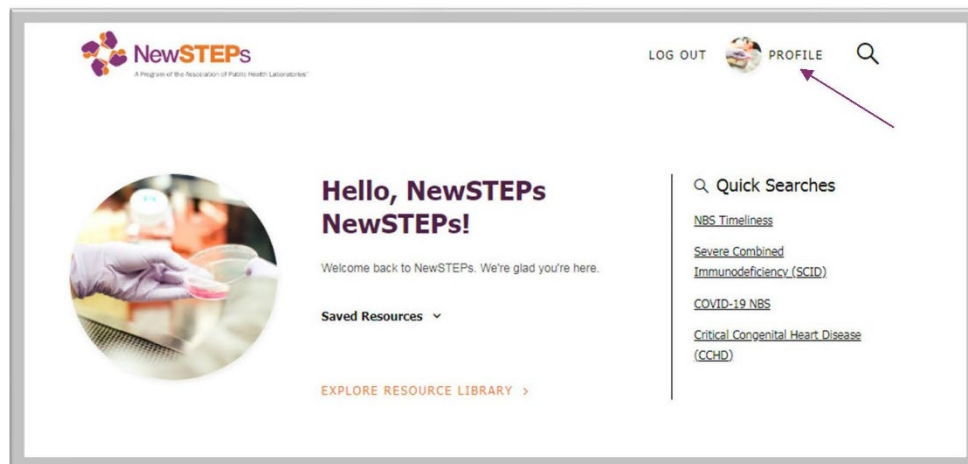
- Only select a state if you are employed by the state/territory newborn screening program. International NBS Programs and other organizations should leave this blank. This field is associated with access to state/territorial data and user roles.

- After all required fields have been entered, click **SIGN UP** to complete your registration.

## Updating Your Account

Your account information may change over time. You can edit your account details, including updating your password, email address, and institution. Users will be prompted to update their password annually.

- LOG IN** to the NewSTEPs Repository.
- Click **PROFILE** in the top right-hand corner.



- Click **EDIT PROFILE** to edit.

4. Make the desired account changes.
5. Click the **SAVE PROFILE** button.

## Resetting a Forgotten Password

If you forgot your password, you may reset it within the NewSTEPs Repository.

1. Go to [NewSTEPs.org](https://NewSTEPs.org).
2. Click on **Forgot your password**.

3. You will be asked to provide the email address associated with your account and then click **SUBMIT**.
4. You will receive an email with a link to change your password.
5. Once you successfully change your password, you will be able to sign in to the NewSTEPs Repository with your new password.

To ensure security, each user should reset their password annually. If you need help resetting



your password, please contact [newsteps@aphl.org](mailto:newsteps@aphl.org).

## ACCESS RIGHTS

### User Roles

To abide by agreements detailed in the Memorandums of Understanding (MOU), NewSTEPS restricts access to quality indicator and confirmed case data in the repository to authorized users with the state/territorial program. Access to the NewSTEPS Repository is structured using well-defined user roles. Each state/territory will have at least one Program Administrator user who will manage all users for their state/territory.

[Program Profiles](#) can be accessed by the public. Only people who are assigned specific data user roles can enter profile data for their state/territory. The [NewSTEPS User Role Descriptions \(Table 1\)](#) and [Access Matrix by User Role \(Table 2\)](#) tables outline the different users, the primary function of the role, and the access rights.

**Table 1:** NewSTEPS User Role Descriptions

| NewSTEPS User Role           | User Role Descriptions   |
|------------------------------|--|
| <b>User</b>                  | Users can manage their own account including, password, photo, and email address. All users have access to the <a href="#">resource library</a> and can view <a href="#">NBS Program Profiles reports/dashboards</a> .   |
| <b>Profile Data Manager</b>  | Ability to view and edit their own state/territorial <a href="#">NBS Program Profile</a> .   |
| <b>Data Viewer</b>           | Data viewers can only <b>view</b> their state/territory data provided to NewSTEPS for: <ul style="list-style-type: none"><li>• <a href="#">NBS Program Profiles</a></li><li>• Individual and aggregate case data</li><li>• <a href="#">Annual</a> and <a href="#">monthly</a> Quality Indicator (QI) data and reports</li></ul> Data viewers are not able to enter or edit data. |
| <b>Case Data Manager</b>     | Enter, edit, delete, and view their program's individual and aggregate cases data using the webform or CSV import file.  |
| <b>QI Data Manager</b>       | Enter, edit, delete, and view any Quality Indicator data, including annual and monthly data, for their assigned state/territory via the webform or CSV import file. Can view QI reports. .   |
| <b>Program Administrator</b> | The Program Administrator has access to all data for their state/territory. Further, they can manage users within their state/territory, including adding or editing users, changing user access, and exporting users for their program. The Program Administrator can view, add, edit, and delete their program's data.   |



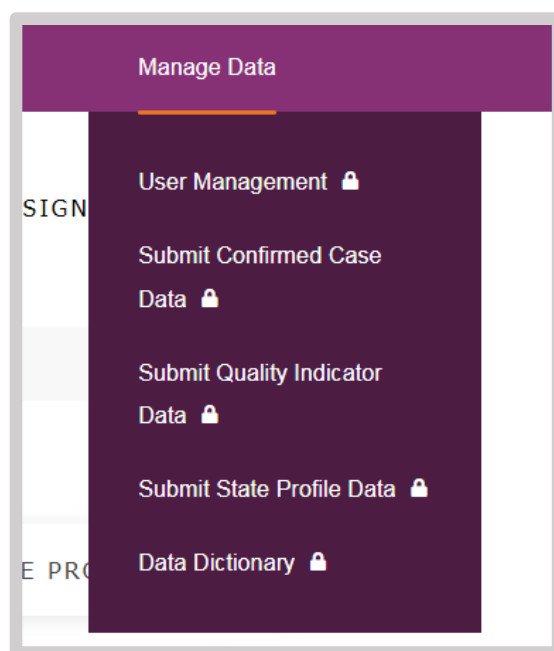
**Table 2: Access Matrix by User Role**

|   | Program Administrator | QI Data Manager | Case Data Manager | Data Viewer | Profile Data Manager | User |
|---|-----------------------|-----------------|-------------------|-------------|----------------------|------|
| <b>Account Profile Management</b>   |                       |                 |                   |             |                      |      |
| Change password   | X                     | X               | X                 | X           | X                    | X    |
| Update account information  | X                     | X               | X                 | X           | X                    | X    |
| Edit photo  | X                     | X               | X                 | X           | X                    | X    |
| Can view profile  | X                     | X               | X                 | X           | X                    | X    |
| Can change email address  | X                     | X               | X                 | X           | X                    | X    |
| <b>User Management</b>  |                       |                 |                   |             |                      |      |
| Manage user roles for all assigned users in own state/territory             | X                     |                 |                   |             |                      |      |
| Email and export assigned users   | X                     |                 |                   |             |                      |      |
| Add/edit new users for the assigned program                                 | X                     |                 |                   |             |                      |      |
| Change active status of users   | X                     |                 |                   |             |                      |      |
| <b>State Profile</b>  |                       |                 |                   |             |                      |      |
| View any program profile  | X                     | X               | X                 | X           | X                    | X    |
| Edit the assigned program profile   | X                     |                 |                   |             | X                    |      |
| <b>Cases</b>  |                       |                 |                   |             |                      |      |
| Can view individual cases from assigned state/territory                     | X                     |                 | X                 | X           |                      |      |
| Add/ edit new individual cases for assigned state/territory via the webform | X                     |                 | X                 |             |                      |      |
| Import individual cases using CSV import file                               | X                     |                 | X                 |             |                      |      |
| Can see/ edit/ delete/ add aggregate cases for assigned state/territory     | X                     |                 | X                 |             |                      |      |
| <b>Quality Indicators (QI)</b>  |                       |                 |                   |             |                      |      |
| View/ download Quality Indicator Guide                                      | X                     | X               | X                 | X           | X                    | X    |
| View submitted QI data via the webform for                                  | X                     | X               |                   | X           |                      |      |

|  | Program Administrator | QI Data Manager | Case Data Manager | Data Viewer | Profile Data Manager | User |
|--|-----------------------|-----------------|-------------------|-------------|----------------------|------|
| assigned state/territory   |                       |                 |                   |             |                      |      |
| Enter QI data via the webform or CSV import file (annual and monthly data) | X                     | X               |                   |             |                      |      |
| View year-to-year comparisons report                                       | X                     | X               |                   | X           |                      |      |
| View QI monthly summaries for assigned program                             | X                     | X               |                   | X           |                      |      |
| <b>Tableau Dashboards</b>  |                       |                 |                   |             |                      |      |
| Quality Indicator dashboards   | X                     | X               |                   | X           |                      |      |
| Confirm Cases dashboard  | X                     |                 | X                 | X           |                      |      |

NBS Programs may assign multiple user roles to a single individual (e.g., Profile Data Manager and QI Data Manager can be assigned to the same individual) and multiple individuals within the organization can have the same user role.

If are seeing locks in the NewSTEPs Repository, you either need to log in or you do not have the user permissions to view certain webpages for data entry and viewing. For questions about your user role permissions, please contact your Program Administrator or [newsteps@aphl.org](mailto:newsteps@aphl.org).



*Note: No external user has access to the Data Dictionary, this is limited to NewSTEPs staff only.*

## Program Administrator User Role



Each state/territory has at least one assigned Program Administrator; this is usually the newborn screening manager but can vary by program. The Program Administrator can make changes to the state/territory users based on their program needs. The Program Administrator may also email [newsteps@aphl.org](mailto:newsteps@aphl.org) if changes need to be made for specific users.

Program Administrators can add, edit, and remove user access for their NBS Program via [User Management](#). The Program Administrator can view users based on status (e.g., active, inactive, and locked) or user role. Additionally, Program Administrators can email and export all users for their state/territory.

## How Program Administrators Can Assign/Edit User Roles

New users need to first create a NewSTEPs account by going to **SIGN UP** following the guidelines in [Account Registration](#).

1. For new users or to edit existing user roles, go to Manage Data→ [User Management](#).
2. Locate the user to be edited. Program Administrators will only see users assigned to their state/territory. Users can be filtered based on **Status** and **Role**. Users can also be found by using the **Search User** option.
3. Once the user has been located, click the **Pen** icon.

| Name       | Email             | State(s) | Last Updated (UTC)     | Last Logged In (UTC)   | Role | Action  |
|------------|-------------------|----------|------------------------|------------------------|------|---|
| Smith, Joe | joesmith@aphl.org | Arizona  | 11/03/2023<br>10:11 AM | 11/03/2023<br>10:24 AM | User |   |

4. Using the dropdown arrows, select the **User Type(s)** and **Status**.

User Type

User

☐ QI Data Manager

☐ Program Administrator

☒ User

☐ Data Viewer

☐ Case Data Manager

☐ Profile Data Manager

User Type

User

Status

Active

Active

Inactive

Locked

*Note: For any user that is no longer employed by your organization, please change their user type to **User** and status to **Inactive***

5. Once the edits have been made, click **SAVE PROFILE**.

## DATA SUBMISSION

## NBS Program Profiles

Program Profiles provide information that is specific to the state/territorial newborn screening program such as, disorders screened, policies, fees, and program structure. This information is shared with the public. NewSTEPS requires that states/territories update their profile data when changes occur and review their profiles for completion every August. [Table 3](#) provides a detailed breakdown of the 10 sections collected within the program profiles.

1. Profile Data Managers can add/edit their profiles by going to Manage Data → [Submit State Profile Data](#).
2. Select your assigned program to add/edit profile data using the dropdown arrow. Profile Data Managers will only see their assigned state/territory.
3. Using the sidebar menu, select the data elements on the side menu bar that you would like to add/edit/update.

View a list of missing profile data to complete

Program Overview

Disorders

Policies

Adding to NBS Panel

Fees

Program Structure

Contacts

Advisory Committee

IT Support

HIT Elements

Specimen Collection

Recommended Initial Screening Age: ?  
24-48 hours

Recommended Second Screening Age: ?

Second Screen Policy: ?  
None

NICU CLSI Guideline Adoption Status: ?  
Not using/ using State protocol

To access additional information about metrics collected within the Program Profiles, click on the question mark icon. An orange box will appear providing more information about the question.

**Opt Out Policy:** ?

Other (please describe below) ▾

Allowed for personal or religious objections

How hospitals record when a parent opts out of newborn screening

**Opt Out Recording Method:** ?

Consent form ▾

4. Once changes and updates have been made, click **SAVE SECTION**.

Program Profile sections should be reviewed and marked **Complete** annually, even if changes were not made. Please ensure the **Complete** checkbox is selected once reviewed for each calendar year.

☒ Complete - The data for the Program Overview section have been reviewed and is complete for the current calendar year

**SAVE SECTION**

**Table 3:** Data Elements Collected in Program Profiles

| Program Profile Sections | Description of Data Collected   |
|--------------------------|---|
| <b>Program Overview</b>  | <p>The program overview section collects general information about your NBS program:</p> <ul style="list-style-type: none"> <li>• Annual Births from the previous calendar year <ul style="list-style-type: none"> <li>◦ <i>Note: This information is not entered by the NBS program, but data is pulled from the <a href="#">CDC Vital Statistics Rapid Release</a></i></li> </ul> </li> <li>• Name of the NBS Program</li> <li>• Region</li> <li>• Website</li> <li>• Number of required screens</li> <li>• Responsible laboratory</li> <li>• Screening card image</li> <li>• Hearing screening form</li> </ul> |
| <b>Disorders</b>         | <p>The disorders section collects information about the disorders for which your state/territory screens. The disorders are organized according to the Recommended Uniform Screening Panel (RUSP) as core, secondary, and other conditions.</p> <ul style="list-style-type: none"> <li>• Screening Status (not screened, universally screened, likely to be detected/reported due to universal screening of another disorder, offered to select populations)</li> </ul>   |

| Program Profile Sections | Description of Data Collected  |
|--------------------------|--|
|                          | <ul style="list-style-type: none"> <li>○ If a program selects <b>Not Screened</b>, they are asked to select if they are pursuing or not currently pursuing implementation.</li> <li>○ If a program selects <b>Universally Screened</b> then they are asked if the condition is or is not required by law or rule.</li> <li>○ <i>Note: Only select the month/year if the disorder is universally screened.</i></li> <li>○ <i>Note: If your program is piloting a disorder that is an <b>all-population pilot</b>, please select <b>Universal Screened</b> and <b>Not required by law/rule</b>.</i></li> </ul> <ul style="list-style-type: none"> <li>● Screening Methodology for first and second screens for two-screen states <ul style="list-style-type: none"> <li>○ Method</li> <li>○ Method's Target</li> </ul> </li> <li>● Equipment</li> <li>● Implementation date for universal screening (month and year)</li> </ul>  |
| Policies                 | <p>The policies section collects information about the newborn screening policies within your state/territory:</p> <ul style="list-style-type: none"> <li>● Recommended initial screening age</li> <li>● Recommended second screening age</li> <li>● Second screen policy</li> <li>● NICU CLSI guideline adoption status and description</li> <li>● Courier service usage status and provider</li> <li>● Definition of specimen receipt at lab and recording of specimen receipt at lab</li> <li>● Dried blood spot retention time</li> <li>● Dried blood spot storage conditions</li> <li>● Data retention policy</li> <li>● Consent for newborn screening and opt out policy</li> <li>● Residual specimen uses, including if specimens are consented for research</li> <li>● Short term follow-up definition, description, and method</li> <li>● Long term follow-up activities and description</li> <li>● Process for reporting missed diagnosis</li> <li>● Process for matching NBS records to find unscreened babies</li> <li>● Unsatisfactory specimen testing policy</li> <li>● Provide emergency/disaster support (agreement in place, testing frequency, support policy description, and continuity of operations plan (COOP))</li> </ul> |
| Adding to the NBS Panel  | <p>This section collects information about the policies and procedures that your NBS program uses for adding conditions to the state/territory panel. There are three sections—general information, lab, and point-of-care (POC). Please make sure that you complete each tab.</p>   |

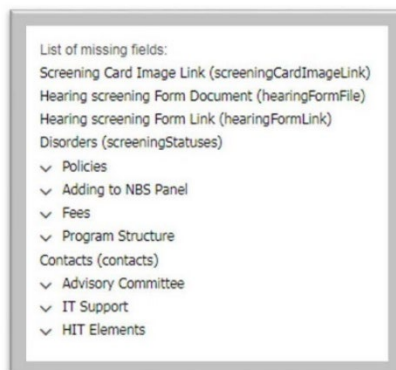
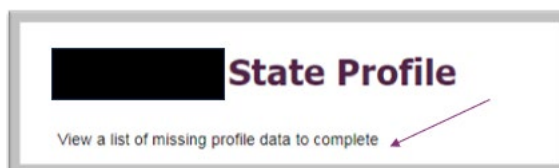
| Program Profile Sections | Description of Data Collected   |
|--------------------------|---|
|                          | <p>General Info</p> <ul style="list-style-type: none"> <li>• National recommendations followed and timeframe</li> <li>• Pilot studies requirement</li> <li>• Feasibility studies</li> </ul> <p>Lab</p> <ul style="list-style-type: none"> <li>• Lab test addition challenges</li> <li>• Lab test implementation period</li> <li>• Lab test addition requirements</li> </ul> <p>POC</p> <ul style="list-style-type: none"> <li>• POC addition challenges</li> <li>• POC test implementation period</li> <li>• POC test addition requirements</li> </ul>  |
| <b>Fees</b>              | <p>The fees tab collects information about NBS fees and related information:</p> <ul style="list-style-type: none"> <li>• Funding sources</li> <li>• Fee collection method</li> <li>• Fee holding location</li> <li>• Initial screen fee, and if repeat screen fee is included in the initial fee</li> <li>• Second screen fee</li> <li>• Fee use details</li> <li>• Fee notes</li> </ul>   |
| <b>Program Structure</b> | <p>This section collects information about the NBS program structure, including operating hours, organizational chart, staffing levels, etc. You can also upload relevant documents.</p> <ul style="list-style-type: none"> <li>• Organizational chart (either upload file or can share a link)</li> <li>• Shared duties</li> <li>• Follow-up on unsatisfactory specimens (responsible party and description)</li> <li>• Follow-up on borderline results (responsible party and description)</li> <li>• Laboratory test performance evaluation (responsible party and description)</li> <li>• Formal communication structure</li> <li>• Staffing levels (% FTE)</li> <li>• Short term follow-up responsible party</li> <li>• Certification program</li> <li>• Proficiency tests</li> <li>• Program information (either upload document or provide link)</li> <li>• NBS educational information languages</li> <li>• Lab operating hours</li> <li>• Follow-up operating hours</li> <li>• Days of the week laboratory and follow-up activities occur</li> <li>• Days of the week tests are run for time-critical and non-time critical disorders</li> </ul> |



| Program Profile Sections  | Description of Data Collected  |
|---------------------------|--|
|                           | <ul style="list-style-type: none"> <li>• Inclement weather work policy</li> </ul>  |
| <b>Contacts</b>           | <p>The contacts tab collects contact information for the overall NBS program, Director, Program Manager, lab, follow-up, EHDI, CCHD, and HIT.</p> <p>For each contact and alternate contact, users are asked to provide the following information:</p> <ul style="list-style-type: none"> <li>• First and last name</li> <li>• Title</li> <li>• Credentials</li> <li>• Email</li> <li>• Country</li> <li>• State/Province/Region</li> <li>• Address</li> <li>• Phone</li> <li>• Fax</li> </ul>             |
| <b>Advisory Committee</b> | <p>This section collects information on the details of the NBS advisory committee for the state/territorial NBS program:</p> <ul style="list-style-type: none"> <li>• Existing advisory committee</li> <li>• Advisory committee voluntary</li> <li>• Committee structure (text field and option to upload document or provide a link)</li> <li>• Charge/Bylaws (option to upload document or provide a link)</li> <li>• Meeting frequency</li> <li>• Link to meeting minutes</li> </ul>                    |
| <b>IT Support</b>         | <p>The Information Technology (IT) section collects information on the types of information systems NBS programs use:</p> <ul style="list-style-type: none"> <li>• Lab information system</li> <li>• Follow-up information system</li> <li>• Staffing levels</li> <li>• IT support description</li> <li>• NBS data backup frequency</li> <li>• Data loss information</li> <li>• IT recovery time</li> <li>• Disaster recovery hardware</li> <li>• COOP information</li> </ul>                              |
| <b>HIT Elements</b>       | <p>The Health Information Technology (HIT) section collects information on HIT processes and systems your NBS program is implementing. Please select “No” if certain processes are not applicable.</p> <ul style="list-style-type: none"> <li>• HL7 order messages accepted (if “yes” the program will be asked about the number of birthing facilities centers submitting and the number of HL7 orders received)</li> <li>• HL7 result messages sent (if “yes” the program will be asked about</li> </ul> |

| Program Profile Sections | Description of Data Collected   |
|--------------------------|---|
|                          | <p>the number of birthing centers receiving results, number of HL7 specimen results sent)</p> <ul style="list-style-type: none"> <li>• HL7 implementation guides used</li> <li>• Terminology standards used</li> <li>• Web portal for sharing NBS data</li> <li>• Web portal for DBS test orders/demographic information</li> <li>• Number of birthing centers using web portal for DBS orders and demographic entry</li> <li>• Number of specimens entered into DBS order and demographic data entry web portal</li> <li>• Web portal for NBS result reporting</li> <li>• Number of birthing centers using NBS retrieval portal</li> <li>• Submitter performance feedback portal present and description</li> <li>• Alternative feedback method</li> <li>• Database integration information</li> <li>• Implementation status of statewide health information exchange (HIE)</li> <li>• Access to HIE and how results are shared</li> </ul> |

Information from the previous year will carry over into the new calendar year. States/territories will only have to enter missing data and data that needs to be revised. A comprehensive list of missing fields can be viewed by selecting **View a list of missing profile data to complete**.



## Quality Indicators

NewSTEPs [Quality Indicators](#) (QIs) consists of eight different performance metrics which have undergone careful evaluation to assure agreement on definitions and are used to provide

longitudinal comparisons within NBS programs as well as comparison to aggregate data across NBS programs. States and territories must have a signed Memorandum of Understanding (MOU) with APHL before QI data can be entered. QI data can only be entered by those assigned the QI Data Manager user role. See [NewSTEPs Quality Indicator Webinar](#) for definitions and a navigation tutorial.

Quality Indicator data may be entered annually or monthly (Table 4). If QI data is entered monthly, the data will be aggregated for the annual data submission (i.e., the program will not need to re-enter the annual data if all 12 months are provided). Quality Indicators are due each April for the previous year (e.g., 2021 quality indicator data is due in April 2022).

**Table 4:** Quality Indicator Submission Details

| Quality Indicator                   | Level             | Submission        |
|-------------------------------------|-------------------|-------------------|
| QI 1- Unacceptable Specimens        | Specimen          | Monthly or Annual |
| QI 2- Missing Essential Information | Specimen          | Monthly or Annual |
| QI 3- Unscreened Newborns           | Baby              | Annual            |
| QI 4- Lost to Follow-Up             | Baby              | Annual            |
| QI 5- Timeliness                    | Specimen and Baby | Monthly or Annual |
| QI 6- Screen Positives              | Baby              | Annual            |
| QI 7- Confirmed Positives           | Baby              | Annual            |
| QI 8- Missed Cases                  | Baby              | Annual            |

The [Quality Indicator Source Document](#) provides definitions and guidelines on how to query your program's data. It is important to follow the NewSTEPs definitions for national reporting. QI data may be entered via the webform or CSV import.

### Quality Indicator Submission via Webform

The [webform](#) allows the user to manually quality indicator information. The annual and monthly QI data entry steps are the same. To enter/edit annual or monthly QI data using the webform follow the steps below:


1. Manage Data → [Submit Quality Indicator Data](#).
2. Click either **Annual** or **Monthly Quality Indicator Data**.


The screenshot shows a webform interface with two main sections separated by an "OR" label. The left section is titled "Annual Quality Indicator Data" and lists "Denominators" followed by Q1, Q2, Q3, Q4, Q5, Q6, Q7, and Q8. The right section is titled "Monthly Quality Indicator Data" and lists Q1, Q2, and Q5. The form is designed to allow users to select between annual and monthly data submission options.

3. Click **ENTER/EDIT DATA USING OUR ONLINE FORM**.
4. Select the state/territory using the dropdown box. You will only see your assigned state/territory.
5. Select the year that data is being entered and click **NEXT**.

**Annual Timeliness Quality Indicator Online Form**


Add quality indicator data via the online form, and follow the prompts to proceed.


State\* 


Year\* 


**NEXT >**


- The sidebar to the right can be used to navigate. Click on the QI language to navigate to the desired quality indicator section.


**Denominators** 


QI 1 | Unsatisfactory Specimens 

QI 2 | Missing Essential Information 

QI 3 | Unscreened Newborns 

QI 4 | Lost to Follow-up 

QI 5 | Timeliness 

QI 6 | Screen Positives 

Last Updated: 3/25/24

- Denominators can be entered for all metrics on the **Denominators** page. Data entered here will carry over to their appropriate QI. If a denominator is edited on the QI page, the denominator page will automatically update to reflect the changed.

## Denominators

2023

[Quality Indicator Source Document](#)

PRIORITY INDICATORS

Completed: 0%

Enter

Number of first dried blood spot specimens received at your designated newborn screening laboratory (QI 1a-b, QI 2a) ⓘ

Enter

Number of requested subsequent dried blood spot specimens received at your designated newborn screening laboratory (QI 1c-d, QI 2b) ⓘ

Enter

Number of infants that had any unacceptable dried blood spot specimen (QI 4a) ⓘ

Enter

Number of infants requested to have a subsequent dried blood spot specimen following a borderline result (QI 4b) ⓘ

Enter

Number of infants with an out-of-range result from a dried blood spot screen requiring clinical diagnostic workup by an appropriate medical professional (QI 4c, QI 5g)

Enter

Number of newborns born in your state/territory that received a dried blood spot screen whose specimen was received at your designated newborn screening laboratory (QI 6) ⓘ

SAVE DENOMINATORS

Denominators

QI 1 | Unsatisfactory Specimens

QI 2 | Missing Essential Information

QI 3 | Unscreened Newborns

QI 4 | Lost to Follow-up

QI 5 | Timeliness

QI 6 | Screen Positives

Last Updated: 3/25/24

8. To enter numerator data, select a QI and enter or change the data. The percent will automatically calculate when both numerator and denominator data is provided. *Note: each Quality Indicator page provides the purpose, definition, and tooltips. Hover over the tooltips ⓘ to see more information related to the QI and use the [Source Document](#) for complete definitions. Priority indicators will be purple, while non-priority indicators are in grey. The accordion may be used to consolidate and expand the QI as data is entered. A progress bar will track the level of completion. A note section is provided for each QI. Please provide any caveats associated with the QI. Quality Indicators 5e, 5f, 7, and 8 are entered via the case data.*

**PRIORITY INDICATORS** Completed: 0%

1a. Percent of first dried blood spot specimens that were unacceptable due to improper collection ⓘ

Enter

Number of first dried blood spot specimens on which laboratories cannot report the complete newborn screening panel due to collection errors ⓘ

**DIVIDED BY**

Enter

Number of first dried blood spot specimens received at your designated newborn screening laboratory ⓘ

**EQUALS**

%

Percent of first dried blood specimens that were unacceptable due to improper collection

**NON-PRIORITY INDICATORS**

1b. Percent of first dried blood spot specimens that were unacceptable due to improper transport ⓘ

Enter

Number of first dried blood spot specimens on which laboratories cannot report the complete newborn screening panel due to transport errors ⓘ

**DIVIDED BY**

Enter

Number of first dried blood spot specimens received at your designated newborn screening laboratory ⓘ

**EQUALS**

%

Percent of first dried blood spot specimens that were unacceptable due to improper transport

1c. Percent of requested subsequent (including routine second) dried blood spot specimens that were unacceptable due to improper collection ⓘ

1d. Percent of requested subsequent (including routine second) dried blood spot specimens that were unacceptable due to improper transport ⓘ

**Denominators**

QI 1 | Unsatisfactory Specimens

QI 2 | Missing Essential Information

QI 3 | Unscreened Newborns

QI 4 | Lost to Follow-up

QI 5 | Timeliness

QI 6 | Screen Positives

Last Updated: 3/26/24

9. Once the information is entered click **SAVE** at the bottom of each page. *Note: you must hit SAVE for each webpage to save data for the specific quality indicator.*

### QI Submission via CSV Import File

The [CSV Import](#) allows the user to enter multiple quality indicators at the same time. The annual and monthly QI CSV import steps are the same. To enter/edit annual/monthly QI data using the CSV import follow the steps below:

1. Manage Data→ [Submit Quality Indicator Data](#).
2. Click either **Annual** or **Monthly Quality Indicator Data**.

|   |    |   |
|---|----|---|
| <p style="text-align: center;">Annual Quality Indicator Data</p> <p style="text-align: center;"> <a href="#">Denominators</a>   <a href="#">Q1</a>   <a href="#">Q2</a>   <a href="#">Q3</a>   <a href="#">Q4</a>   <a href="#">Q5</a>   <a href="#">Q6</a><br/> <a href="#">Q7</a>   <a href="#">Q8</a> </p> | OR | <p style="text-align: center;">Monthly Quality Indicator Data</p> <p style="text-align: center;"> <a href="#">Q1</a>   <a href="#">Q2</a>   <a href="#">Q5</a> </p> |
|---|----|---|

3. Click **IMPORT ANNUAL DATA VIA CSV FILE**.
4. Download and review the appropriate template map.
  - Annual [QI Template Map](#).
  - Monthly [QI Template Map](#). Monthly QI metrics use numerical values for months.
5. Download the appropriate quality indicator import file.
  - Annual
    - [Quality Indicators 1, 2, 3, 4, 5A-D](#)
    - [Quality Indicator 5G](#)
    - [Quality Indicator 6](#)
  - [Monthly Quality Indicators 1, 2, and 5A-D](#)
6. Enter the data into the file that is being reported. Ensure that the required fields are filled out completely and that acceptable values are used (see template maps for more information).
7. Save the import file as a CSV file to your desktop.
8. On the sidebar, select **TEMPLATE TYPE** and **CHOOSE FILE**.

### Import Annual Quality Indicator Data

The eight QIs are requested on an annual basis for those states who have signed a Memorandum of Understanding (MOU) with NewSTEPS. The QI import file below is available to assist with entering QIs into the data repository.

1. Download the following quality indicator import template:
  - [Quality Indicators 1, 2, 3, 4, 5A-D](#)
  - [Quality Indicator 5G](#)
  - [Quality Indicator 6](#)
2. Save the quality indicator import template csv files to your desktop
3. Insert the quality indicator data into the appropriate fields in the appropriate templates. See Supporting Documents link below
4. Select the "Choose File" button under the quality indicator import template to locate the corresponding file on your hard drive
5. Select the "Submit" button
6. Download the following support documents to aid in generating the appropriate data for the template, or go to the link below:
  - [Quality Indicator Source Document](#)
  - [Annual Quality Indicator Definition Template Map](#)

Select Completed Template:

Template type\* ▼

CHOOSE FILE

No file chosen

SUBMIT CSV

9. Using the File Explorer on your desktop, select the desired CSV file.
10. Next, select **SUBMIT CSV**.
11. Do not navigate off the page until the import is successfully completed.

## Individual Case Data

Individual cases are confirmed cases that provide demographic, screening, intervention, follow-up, and diagnosis details. States and territories must have a signed Memorandum of Understanding (MOU) with APHL before case data can be entered. Case data can only be entered by those who are assigned the Case Data Manager user role. Individual case data plays an integral piece in data analysis, particularly when examining health disparities and gaps. Confirmed cases should only be entered for disorders that were part of your program's routine



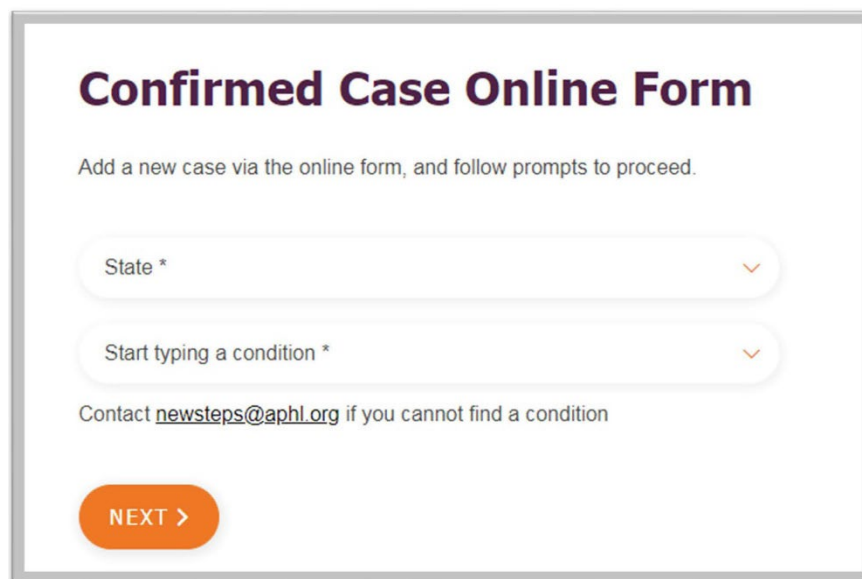
screening panel during the year of birth.

[Public health surveillance case definitions](#) (i.e., case definitions) were developed by the newborn screening community to facilitate common classifications for diagnoses across programs for all core newborn screening conditions. NBS Programs may use these case definitions to allow for consistent categorization and tracking of short and long-term follow-up of identified newborns at the local, regional, and national levels. Note, diagnostic criteria are available on the [case worksheets](#) but diagnostic criteria are no longer collected within the NewSTEPS Data Repository, only the final diagnosis for each case.

### Individual Case Entry via Webform

The case [webform](#) allows the user to enter one case at a time. To enter case data follow the steps below:

1. Manage Data → [Submit Confirmed Case Data](#)
2. Click **ENTER/EDIT DATA USING OUR ONLINE FORM**.
3. Select the state/territory using the dropdown. Case Data Managers will only see their assigned state/territory.
4. Start typing the condition or use the dropdown select the condition and click **NEXT**.  
*Note: Core, secondary, and other RUSP conditions are listed separately*

The image shows a webform titled "Confirmed Case Online Form" in a purple serif font. Below the title is a subtitle: "Add a new case via the online form, and follow prompts to proceed." There are two input fields: the first is labeled "State \*" and the second is labeled "Start typing a condition \*", both with orange dropdown arrows on the right. Below these fields is a line of text: "Contact [newsteps@aphl.org](mailto:newsteps@aphl.org) if you cannot find a condition". At the bottom is an orange rounded button with the text "NEXT >" in white.

5. Enter infant demographic information. State Unique ID and date of birth/year of birth is required. Click **NEXT**.
  - *Note: the state unique identification number is unique to the state/territory meaning that only a single case can have the same identification number.*
  - *If a baby is diagnosed with multiple conditions, the state-unique identification number should contain an **A** and **B** to differentiate between conditions. For example, when a baby is diagnosed with multiple conditions and the state-unique identification number is **APHL123**, the first condition would be entered as **APHL123A**, and the second condition would be entered as **APHL123B**.*
6. Provide screening information, then click **NEXT**.
7. Enter the initial specimen collection information, then click **NEXT**.

- Time elapsed will be calculated when dates are entered; however, time elapsed can be entered manually instead of dates. Dates are not stored in the repository and are only used for calculations.

- Enter the subsequent specimen collection information, then click **NEXT**.
- Enter the intervention, follow-up, and diagnosis information, then click **NEXT**.
- A final diagnosis may be applicable for some conditions and then click **NEXT**.

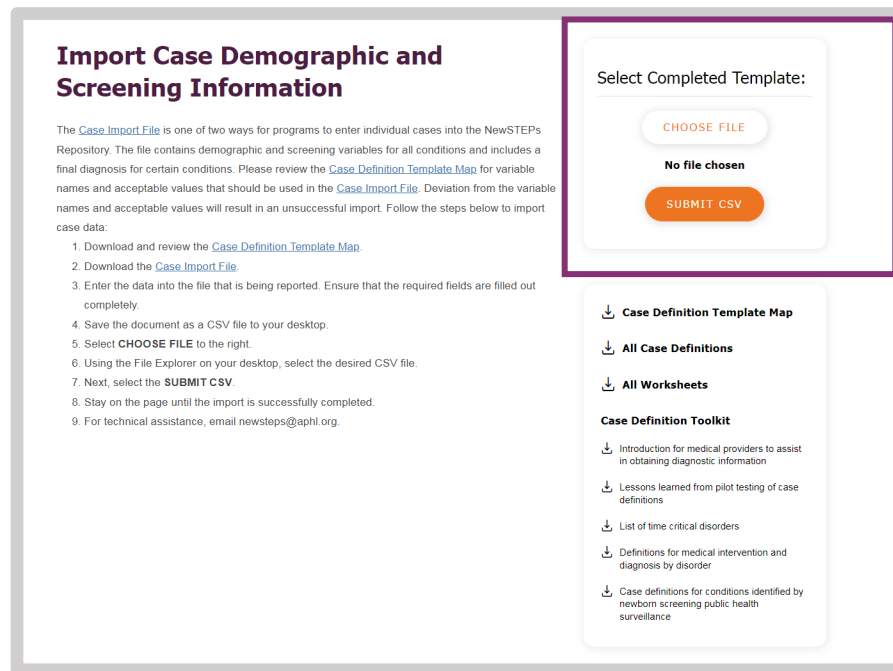
- Additional notes about the case may be entered. Please do not include any personal identifiable information (PII) in the notes.
- Click **COMPLETE FORM**. You will receive an error message if the individual case information was not entered properly.

### Individual Case Entry via CSV Upload

The case data entry [CSV Form](#) allows the user to enter multiple cases at a time. To enter/edit case data follow the steps below:

- Manage Data → [Submit Confirmed Case Data](#)
- Click **IMPORT CASE DATA VIA CSV FILE**.
- Download and review the [Case Definition Template Map](#).
- Download the [Case Import File](#).
- Enter the data into the file that is being reported. Ensure that the required fields are filled out completely.
- Save the document as a CSV file to your desktop.
- On the sidebar, select **CHOOSE FILE**.
- Using the File Explorer on your desktop, select the desired CSV file.
- Next, select **SUBMIT CSV**.

10. Do not navigate off the page until the import is successfully completed.



**Import Case Demographic and Screening Information**

The [Case Import File](#) is one of two ways for programs to enter individual cases into the NewSTEPS Repository. The file contains demographic and screening variables for all conditions and includes a final diagnosis for certain conditions. Please review the [Case Definition Template Map](#) for variable names and acceptable values that should be used in the [Case Import File](#). Deviation from the variable names and acceptable values will result in an unsuccessful import. Follow the steps below to import case data:

1. Download and review the [Case Definition Template Map](#).
2. Download the [Case Import File](#).
3. Enter the data into the file that is being reported. Ensure that the required fields are filled out completely.
4. Save the document as a CSV file to your desktop.
5. Select **CHOOSE FILE** to the right.
6. Using the File Explorer on your desktop, select the desired CSV file.
7. Next, select the **SUBMIT CSV**.
8. Stay on the page until the import is successfully completed.
9. For technical assistance, email [newsteps@aphl.org](mailto:newsteps@aphl.org).

Select Completed Template:

**CHOOSE FILE**

No file chosen

**SUBMIT CSV**

**Case Definition Toolkit**

- ↓ [Case Definition Template Map](#)
- ↓ [All Case Definitions](#)
- ↓ [All Worksheets](#)
- ↓ [Introduction for medical providers to assist in obtaining diagnostic information](#)
- ↓ [Lessons learned from pilot testing of case definitions](#)
- ↓ [List of time critical disorders](#)
- ↓ [Definitions for medical intervention and diagnosis by disorder](#)
- ↓ [Case definitions for conditions identified by newborn screening public health surveillance](#)

## Aggregate Cases

[Aggregate case data](#) reflects the total number of confirmed case counts per disorder, stratified by year. Each state/territory is requested to enter aggregate cases for Core RUSP conditions and optional to enter aggregate cases for Secondary RUSP conditions. Aggregate cases serve as a complete count for conditions detected per year. If your program submits individual cases, this should match the aggregate cases entered for core RUSP conditions.

Given the time and resources to enter individual cases, aggregate cases serve as a complete condition count detected per year. Confirmed cases should only be entered for disorders that were part of your program's routine screening panel during the year of birth.

To enter aggregate case data, follow these steps:

1. Go to Data Center→NBS Cases→ [Aggregate Cases](#)

NewSTEPS | Data Center | Case Definitions | **Aggregate Cases**

View Edit Delete Revisions

Individual Cases **Aggregate Cases**















Aggregate cases reflect the total confirmed case counts per disorder, stratified by year. Each state/territory is requested to enter aggregate cases for Core RUSP conditions and optional to enter aggregate cases for Secondary RUSP conditions. If your program submits individual cases, this should match the aggregate cases entered.


Given the time and resources to enter individual cases, aggregate cases serve as a complete condition count detected per year. All case counts are self-reported by the NBS program; variations may exist depending on the criteria utilized within the program. Confirmed cases should only be entered for disorders that were part of your program's routine screening panel during the year of birth.

A list of aggregated cases entered in the NewSTEPS Repository can be found below. Aggregate cases will only appear if your program contributed aggregate case data and if you have authorized permissions to view case data. For questions about data access please visit the [User Guide](#) or contact [newsteps@aphl.org](mailto:newsteps@aphl.org).

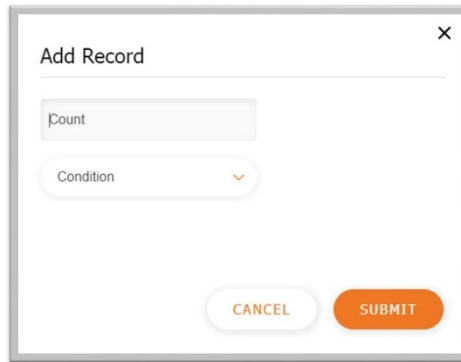
*Note: subtypes of sickle cell disease (SCD) listed as separate disorders on the RUSP are combined into one category of "Presence of Hb S" for the purpose of aggregate case collection. These are collectively referred to as sickling hemoglobinopathies. These do not include cases with an identified hemoglobinopathy trait.*

2. Select the state/territory using the dropdown. Case Data Managers will only see their assigned state/territory.
3. Select the birth year
4. Click **ADD NEW CONDITION**

| Disorder                             | Count |   |
|--------------------------------------|-------|---|
| Biotinidase deficiency - BIOT        | 2     |   |
| Citrullinemia, type I - CIT          | 1     |   |
| Classic galactosemia - GALT          | 1     |   |
| Classic PKU & Hyperphe               | 5     |   |
| Congenital adrenal hyperplasia - CAH | 4     |   |
| Congenital hypothyroidism - CH       | 56    |   |
| Cystic fibrosis - CF                 | 20    |   |

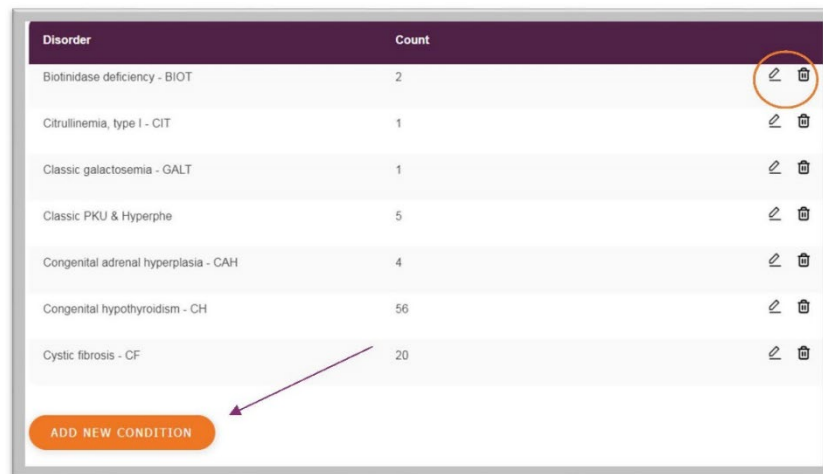

**ADD NEW CONDITION**

5. The user will be prompted to enter the aggregate number of cases reported for the condition selected from the condition dropdown.



A dialog box titled "Add Record" with a close button (X) in the top right corner. It contains a text input field labeled "Count" and a dropdown menu labeled "Condition". At the bottom, there are two buttons: "CANCEL" and "SUBMIT".

6. Repeat steps 3-4 until all aggregate case data has been submitted. All data entered will be visible on the aggregate case tab.
7. NBS Programs can edit or delete aggregate case data as needed by using the icons in the orange circle.



A table showing aggregate case data. The table has two columns: "Disorder" and "Count". There are seven rows of data. To the right of each row, there are two icons: a pencil (edit) and a trash can (delete). These icons are circled in orange in the first row. At the bottom of the table, there is an orange button labeled "ADD NEW CONDITION". A purple arrow points from this button to the "ADD NEW CONDITION" text in the instructions.

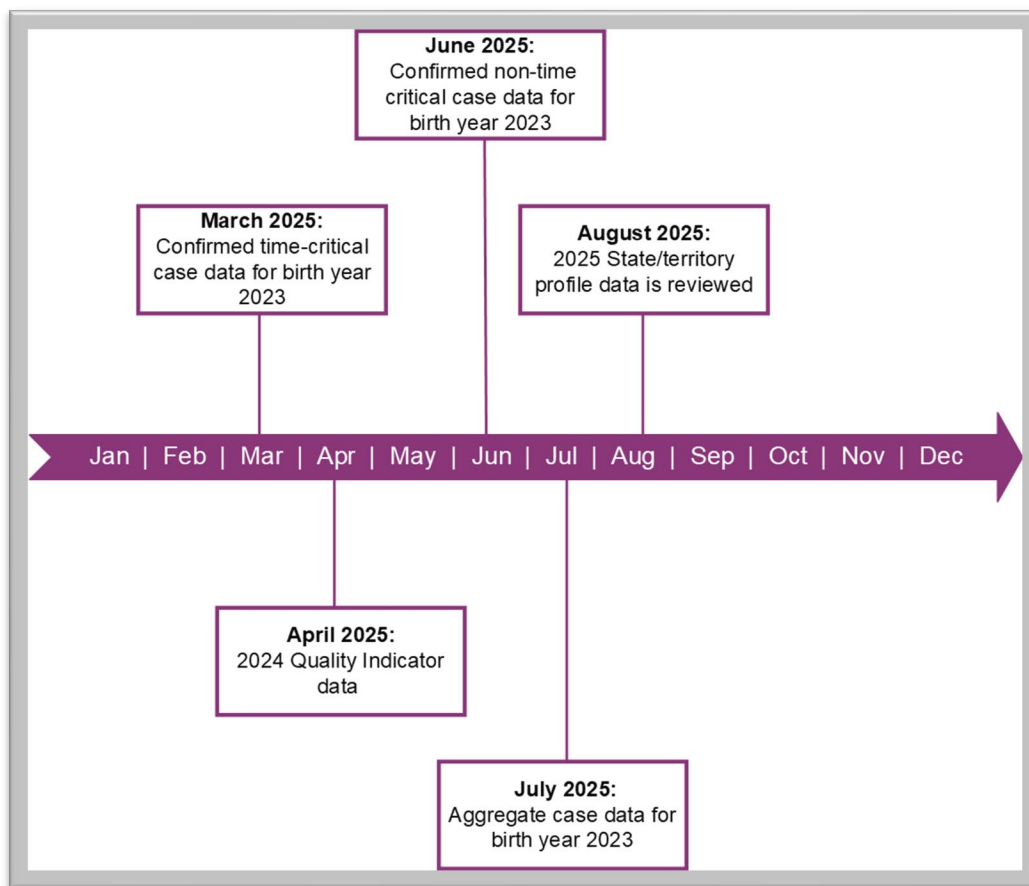
| Disorder                             | Count | Edit | Delete |
|--------------------------------------|-------|------|--------|
| Biotinidase deficiency - BIOT        | 2     |      |        |
| Citrullinemia, type I - CIT          | 1     |      |        |
| Classic galactosemia - GALT          | 1     |      |        |
| Classic PKU & Hyperphe               | 5     |      |        |
| Congenital adrenal hyperplasia - CAH | 4     |      |        |
| Congenital hypothyroidism - CH       | 56    |      |        |
| Cystic fibrosis - CF                 | 20    |      |        |

## Data Submission Deadlines

All data is voluntary. Ideally, data would be entered by the due date; however, it may not be feasible for some programs. When data is entered by the specified due date, it helps with the data review and reporting process.

Quality Indicator data for the **previous** year (current year – 1) is due every April. Reporting for case data is entered **two years** behind (current year – 2). Case data for time-critical cases is due in March, non-time-critical cases in June, and aggregate confirmed cases in July. State/territory program profile data is due for the current calendar year in August. Figure 1 summarizes the due date for each data metric. *Note: due dates may change slightly. For the most up-to-date due dates please see the [Manage Data timeline](#).*

**Figure 1:** Data Submission Timeline



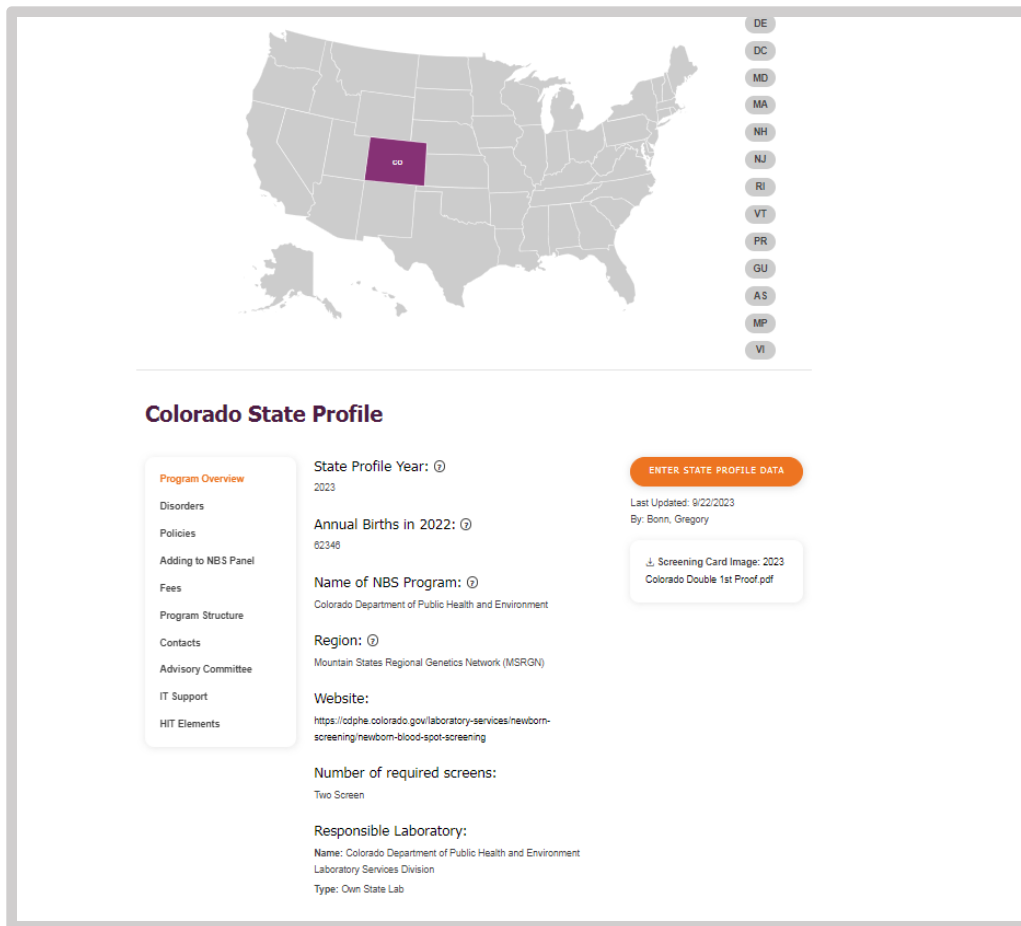
## ACCESSING SUBMITTED DATA

Interactive [dashboards and reports](#) utilize data that has been entered into the NewSTEPS Repository. There are three categories of dashboards and reports: State/Territory Profiles, Quality Indicators, and Confirmed Cases. State profile data dashboards and reports are public-facing, while quality indicator and case dashboards require permission-based user roles.

## Publicly Available Dashboard and Reports

Program Profile data can be viewed by:

1. Go to Data Center → State Profiles
2. Select the state/territory in which you want to see their program profile information
3. On the left-hand side, users can select the different program profile sections (see Table 3 for more information)



Further, the state/territory profile dashboards and reports are public-facing. Reports are automatically refreshed each evening, and dashboards are updated as needed, but at least at the end of every month. See Table 5 for a complete list of the state profile dashboards and reports.

**Table 5:** List of State Profile Dashboards and Reports

| Name of Dashboard/Report   | Description   |
|--|---|
| <a href="#">Newborn Screening Fees</a>                           | Heat maps for initial NBS fee, repeat NBS fee, and fee activity.  |
| <a href="#">Operating Days and Hours</a>                         | Heat map for laboratory and follow-up hours by day of week.   |
| <a href="#">Newborn Screening Information Management Systems</a> | Bar charts display the number of NBS Programs using the different laboratory and follow-up information systems. Hover over the bar chart to see a list of states/territories using each system. |
| <a href="#">Newborn Screening Status for All Disorders</a>       | Provides a heat map of the number of disorders screened, a measles chart of the status of core RUSP conditions, and a map of screening status for each condition status for each condition.     |



| Name of Dashboard/Report                               | Description  |
|--|--|
| <a href="#">Newborn Screening Electronic Messaging</a> | Heat map of HL7 orders accepted, HL7 results sent, and a terminology standard chart.   |
| <a href="#">Newborn Screening Advisory Committees</a>  | A table of newborn screening advisory Committee structure and meeting frequency by NBS Program.  |
| <a href="#">Screened Conditions Report</a>             | Users can access the number of programs universally screening or not screening for each condition. There are tabs for core, secondary and other RUSP conditions.         |
| <a href="#">Screening Methodologies and Targets</a>    | Click on the filters to choose the condition, screening method, target, and equipment. The report will list the states/territories that meet the criteria of the filter. |
| <a href="#">Data Retention Report</a>                  | Provides information on NBS data retention periods for each state/territorial NBS program.   |
| <a href="#">DBS Retention Report</a>                   | Provides information on the dried blood spot specimen storage/retention times, as well as storage conditions for each NBS program.                                       |
| <a href="#">Laboratory Information (LIMS) System</a>   | Provides information on the laboratory information system each NBS program is using.   |
| <a href="#">NBS Fees</a>                               | Provides information on the NBS fees each NBS program is charging as well as fee notes.  |
| <a href="#">Courier System</a>                         | Provides information on the courier system for each NBS program.   |

To access these dashboards and reports:

1. Go to Data Center → [Dashboards and Reports](#)
2. Select the State Profile Tab
3. Select the dashboard or report that you would like to see (see Table 5 for the complete list); for any missing dashboards/reports you have the option to recommend one to NewSTEPS.

## Dashboards and Reports

The interactive dashboards and reports utilize data entered into the NewSTEPs Repository. These reports and queries are updated each evening. Access to the Quality Indicator and Case Dashboards requires a Tableau viewer license; NewSTEPs provides two Tableau licenses to each state/territorial NBS program to review their data. Please contact [newsteps@aphl.org](mailto:newsteps@aphl.org) if you are interested in obtaining an infographic user account, or if you have any questions or suggestions concerning any current or future data dashboards.

[RECOMMEND ANOTHER DATA VISUALIZATION OR REPORT](#)

State Profiles

Quality Indicators

Confirmed Cases

**Newborn Screening Fees**

**Operating Days and Hours**

**Newborn Screening Information Management Systems**

**Newborn Screening Status for All Disorders**

**Newborn Screening Electronic Messaging**

**Newborn Screening Advisory Committees**

Report

**Courier System Report**

Provides information on the Courier system each state NBS program is using

Report

**Screened Conditions Report**

Report of screened condition counts

Report

**Data Retention Report**

Provides information on NBS data retention periods for each state NBS program

Report

**DBS Retention Report**

Provides information on the dried blood spot specimen storage /retention times and storage conditions for each state NBS program

Report

**LIMS System Report**

Provides information on the LIMS system each state NBS program is using

Report

**NBS Fees Report**

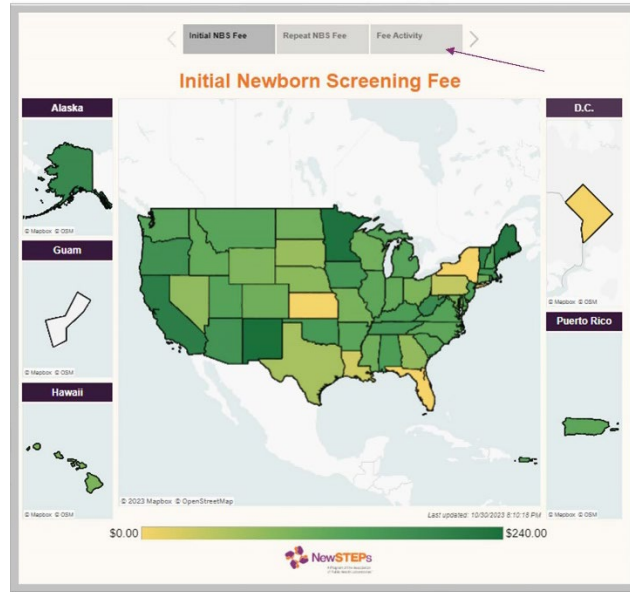
Provides information on the NBS fees each state NBS program is charging

Report

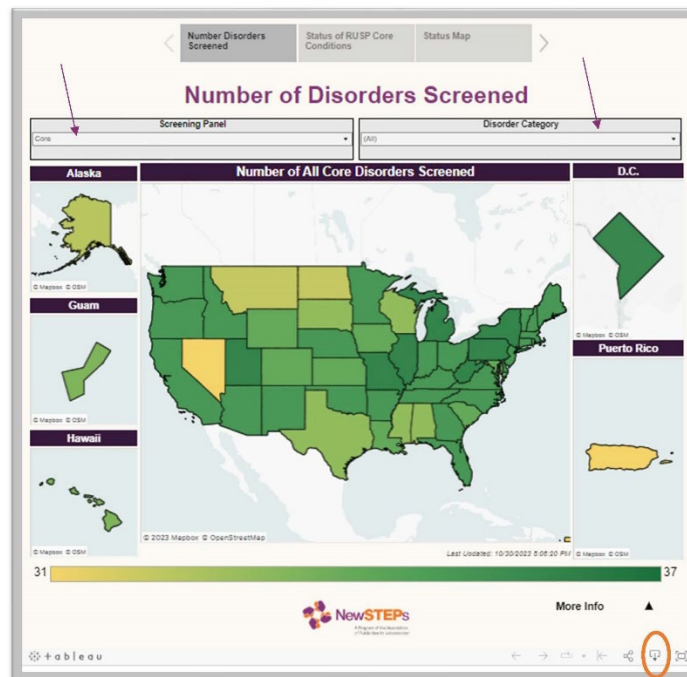
**Screening Methodologies and Targets Report**

Query for screened condition details

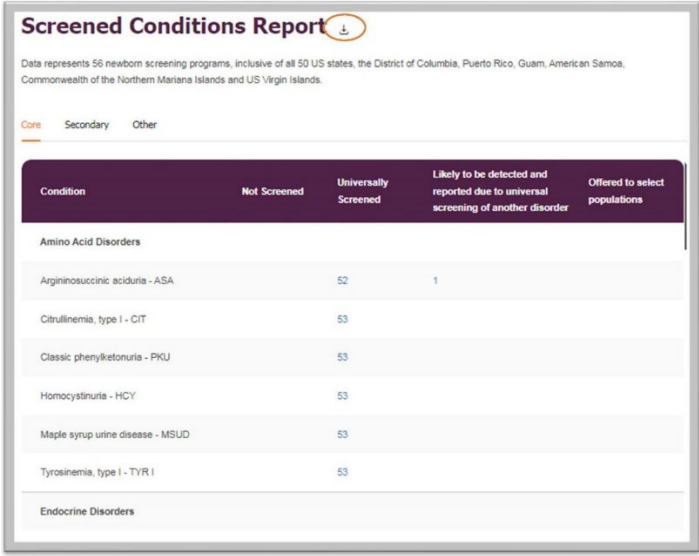
Some dashboards may require the user to click the different tabs to change the visual. For example, on the [Newborn Screening Fee](#) dashboard, the user will need to click **Repeat NBS Fee** or **Fee Activity** as the graphic will default to **Initial NBS Fee**.



In the [Newborn Screening Status for All Disorders](#) dashboard, various filters can be applied that change the information provided. For example, on the **Number of Disorders Screened Map**, the user can filter based on **screening panel** (i.e., core, secondary, and other) and **disorder category** (i.e., all, amino acid, endocrine, fatty acid, hemoglobin, lysosomal storage, organic acid, and other).



The maps can be downloaded by clicking the download icon circled in the bottom right corner in the image above. Further, each of the reports have a download option and will export to Excel.



| Condition                        | Not Screened | Universally Screened | Likely to be detected and reported due to universal screening of another disorder | Offered to select populations |
|----------------------------------|--------------|----------------------|---|-------------------------------|
| <b>Amino Acid Disorders</b>      |              |                      |   |                               |
| Argininosuccinic aciduria - ASA  |              | 52                   | 1   |                               |
| Citrullinemia, type I - CIT      |              | 53                   |   |                               |
| Classic phenylketonuria - PKU    |              | 53                   |   |                               |
| Homocystinuria - HCY             |              | 53                   |   |                               |
| Maple syrup urine disease - MSUD |              | 53                   |   |                               |
| Tyrosinemia, type I - TYR I      |              | 53                   |   |                               |
| <b>Endocrine Disorders</b>       |              |                      |   |                               |

## Non-Publicly Available Dashboards

### Tableau Dashboards

Access to the Tableau dashboards has been integrated with your NewSTEPs user account. The single sign-on feature means that users only need to log into NewSTEPs.org and permission to view the quality indicator and case dashboards is based on your NewSTEPs user role.

### Quality Indicator Reports and Dashboards

Quality Indicator reports are NOT available to the public and only to users assigned Data Viewer, QI Data Manager, or Program Administrator user roles. Please note that some visualizations will have a **Program ID**. If you do not know your program's identification number, please email [newsteps@aphl.org](mailto:newsteps@aphl.org).

Table 6 describes the available QI dashboards and reports. All QI dashboards and reports are automatically updated each night to reflect the most current data in the repository. See [Guide to Spotting Quality Improvement Opportunities Using NewSTEPs Data Visualizations](#) for a tutorial on the functionality of the dashboards.

**Table 6:** Quality Indicator Dashboards and Reports

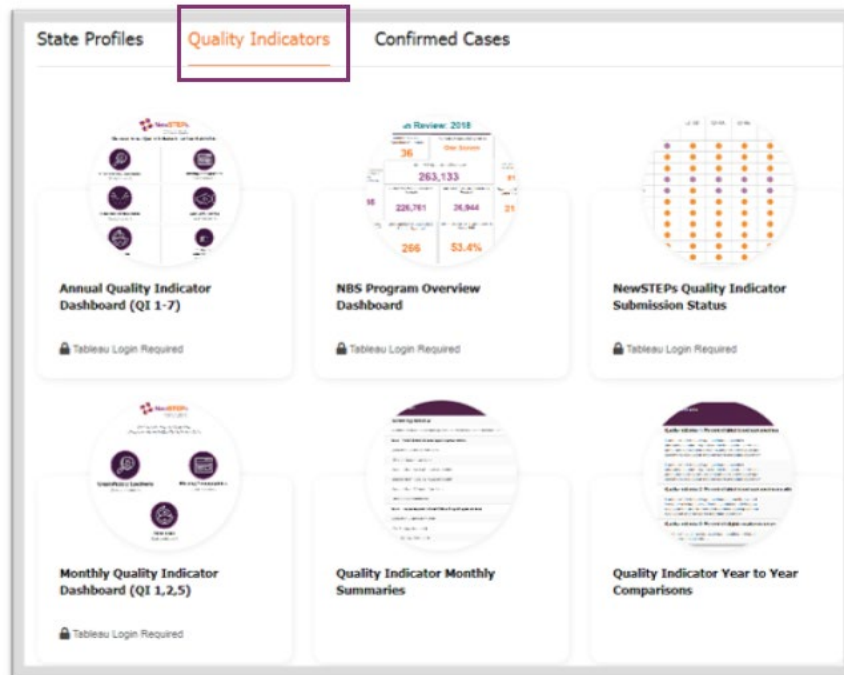
| Name of Dashboard/Report  | Description  |
|---|--|
| <a href="#">Annual Quality Indicators Dashboard (QI 1-7)</a><br><i>NewSTEPs user roles <u>Data Viewer</u>, <u>QI Data Manager</u> or <u>Program Administrator</u></i> | <p>This dashboard features various visualizations (line chart, bar chart, box plots, tables) for annual Quality Indicators 1-7.</p> <p>Dashboards are accessible via state-based permissions, eliminating the need to assign random ID to each viewer.</p> <p>Users can filter data on their preferred</p> |

| Name of Dashboard/Report  | Description   |
|---|---|
|   | indicator and other metrics, including year and number of screens.  |
| <a href="#">NBS Program Overview Dashboard</a><br><i>NewSTEPs user roles Profile Data Manager, QI Data Manager, Case Data Manager and Program Administrator</i> | This dashboard summarizes quality indicator data provided to the NewSTEPs Repository. Programs will need to select their ID and year. Programs can download the dashboard and insert their program logo.  |
| <a href="#">NewSTEPs Quality Indicator Data Submission Status</a><br><i>NewSTEPs user roles Data Viewer, QI Data Manager or Program Administrator</i>           | <p>A measles chart shows the submission status for Quality Indicators 1-5d and 6. There are two views:</p> <ul style="list-style-type: none"> <li>• Status of All Quality Indicators allows users to select the year and can view submission status for each QI</li> <li>• Quality Indicators by Year allows users to select the QI and shows the submission status for each year</li> </ul> <p>For both views, users can filter by Propel Grantee.</p> |
| <a href="#">Monthly Quality Indicator Dashboard QI 1, 2, and 5)</a><br><i>NewSTEPs user roles Data Viewer, QI Data Manager or Program Administrator</i>         | <p>This dashboard features various visualizations (line chart, bar chart, box plots, tables) for monthly Quality Indicators 1,2, and 5a-d.</p> <p>Dashboards are accessible via state-based permissions, eliminating the need to assign random ID to each viewer.</p> <p>Users can filter data on their preferred indicator and other metrics, including year and number of screens.</p>  |
| <a href="#">Quality Indicator Monthly Summary</a><br><i>NewSTEPs user roles Data Viewer, QI Data Manager or Program Administrator</i>                           | <p>This provides monthly quality indicator via table. Users can view tables for their state/territory by month and year.</p> <p>For each QI, the user can view the count (i.e., numerator) and the percentage for each month and year.</p> <p>Users can download these tables at the bottom of the report.</p>  |
| <a href="#">Quality Indicator Year to Year Comparisons</a><br><i>NewSTEPs user roles Data Viewer, QI Data Manager or Program Administrator</i>                  | This table provides cross-year comparison of annual quality indicator data submitted to NewSTEPs. The count and percent is provided for each QI, by year.   |

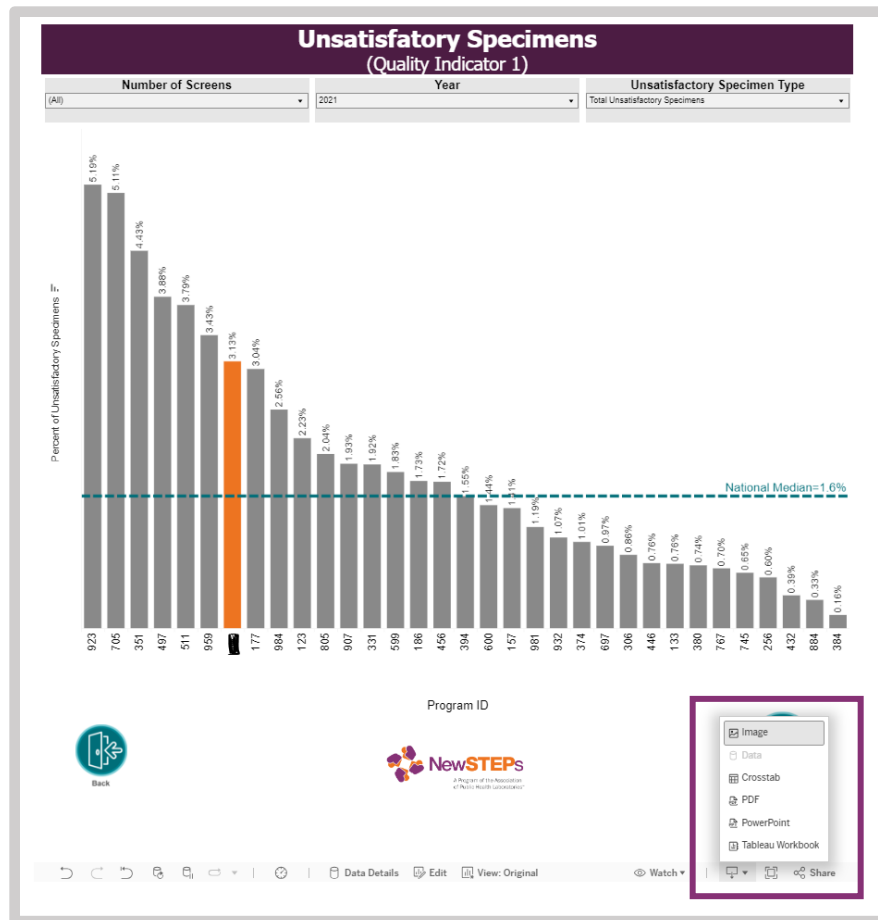
| Name of Dashboard/Report | Description  |
|--------------------------|--|
|                          | Users can download these tables at the bottom of the report. |

To access the Quality Indicator dashboards and reports:

1. Go to Data Center → [Dashboards and Reports](#)
2. Select the Quality Indicator tab
3. Select the dashboard or report that you would like to see (see Table 6 for complete list)



Quality Indicator dashboards and reports are available for download. For the Tableau dashboards, users can download an image of their preferred view.



For the Quality Indicator reports, hit the download button at the bottom of the table.

| Quality Indicator  | 2015 Count / Percent | 2016 Count / Percent | 2017 Count / Percent | 2018 Count / Percent |
|--|----------------------|----------------------|----------------------|----------------------|
| <b>Quality Indicator 1: Percent of dried blood spot specimens that were unacceptable due to improper collection and/or transport</b>   |                      |                      |                      |                      |
| Number of dried blood spot specimens on which laboratories cannot report a complete newborn screening panel due to collection errors / Number of dried blood spot specimens received at state newborn screening laboratory |                      | 468 / 4.26%          | 267 / 2.61%          | 322 / 3.26%          |
| Number of dried blood spot specimens on which laboratories cannot report a complete newborn screening panel due to transport errors / Number of dried blood spot specimens received at state newborn screening laboratory  |                      | 2 / 0.02%            |                      |                      |
| <b>Quality Indicator 2: Percent of dried blood spot specimens with at least one missing state-defined essential data field upon receipt at t</b>   |                      |                      |                      |                      |
| Number of dried blood spot specimens submitted with at least one missing state-defined essential data field upon receipt at the lab / Number of dried blood spot specimens received at state newborn screening laboratory  |                      | 1205 / 10.98%        | 656 / 6.40%          | 375 / 3.79%          |
| <b>Quality Indicator 3: Percent of eligible newborns not receiving a newborn screen, reported by dried blood spot or point-of-care screen</b>  |                      |                      |                      |                      |
| Number of eligible newborns without a valid dried blood spot screen / eligible births  |                      | 20 / 0.18%           |                      |                      |

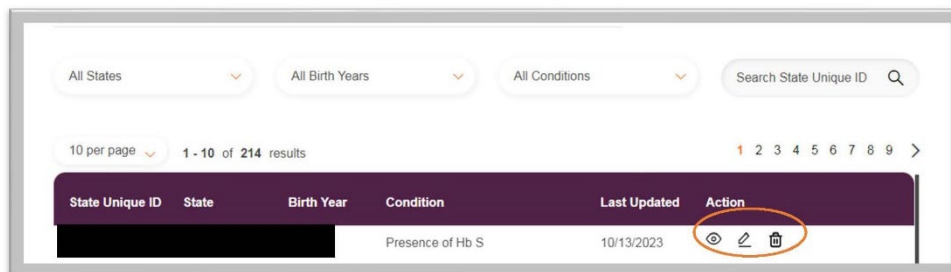
Download



## How to View, Edit, and Delete Individual Cases

If a state/territory has entered individual case data they can access the case details via the [NBS Case](#) webpage. Individual cases will be displayed in a table format. The user may filter individual cases by birth year, condition, or unique identifier. The Case Data Manager and Program Administrator may view, edit, or delete the individual case.

1. Go to Data Center→ [NBS Cases](#)
2. Select the tab for **Individual Cases**
3. A table will display showing each case for the state/territory. Use the filters to select birth years and conditions. Programs can also search for a case by using the state-unique ID.
4. Users can view (👁), edit (✎), and delete (🗑) a case from the table as needed.



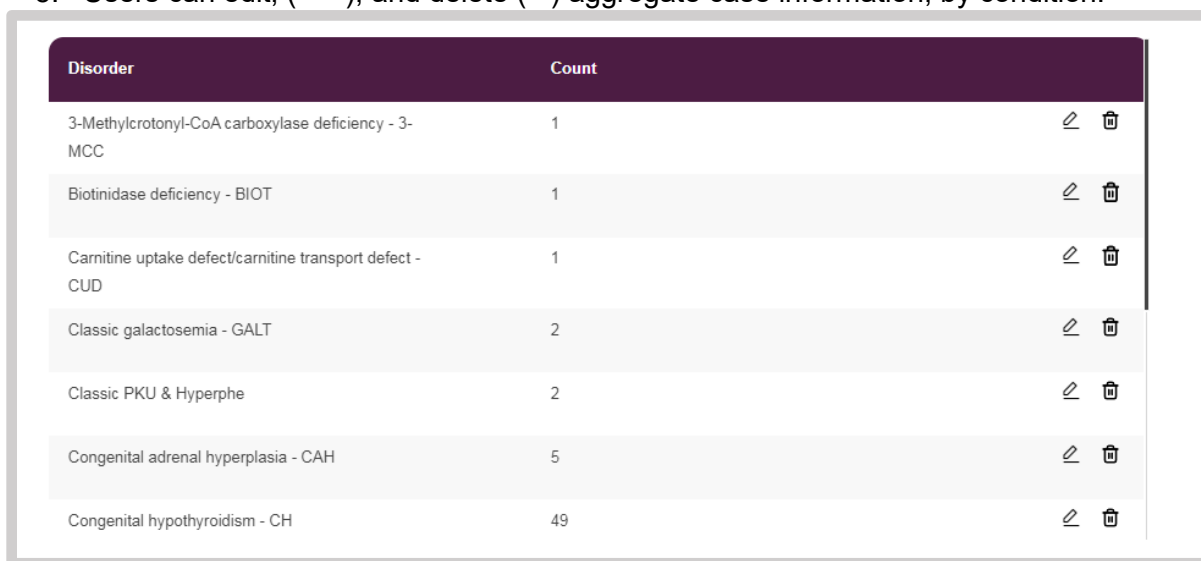
The screenshot shows a web interface for managing NBS cases. At the top, there are three dropdown filters: 'All States', 'All Birth Years', and 'All Conditions'. To the right is a search bar labeled 'Search State Unique ID'. Below the filters, it indicates '10 per page' and '1 - 10 of 214 results'. A table is displayed with the following columns: State Unique ID, State, Birth Year, Condition, Last Updated, and Action. The first row shows a case with the condition 'Presence of Hb S' and a last updated date of '10/13/2023'. The 'Action' column for this row contains three icons: a magnifying glass (view), a pencil (edit), and a trash can (delete), which are circled in red.

| State Unique ID | State | Birth Year | Condition        | Last Updated | Action |
|-----------------|-------|------------|------------------|--------------|--------|
|                 |       |            | Presence of Hb S | 10/13/2023   | 👁 ✎ 🗑  |

## How to View, Edit, and Delete Aggregate Cases

If a state/territory has entered aggregate case data they can access the cases via the [NBS Case](#) webpage. Aggregate cases will be displayed in a table format. The user may filter aggregate cases based on birth year. The Case Data Manager and Program Administrator may view, edit, or delete the aggregate case count.

1. Go to Data Center→ [NBS Cases](#)
2. Select the tab for **Aggregate Cases**
3. Select the birth year
4. A table listing the conditions and associated case count will appear for that specific birth year.
5. Users can edit (✎), and delete (🗑) aggregate case information, by condition.



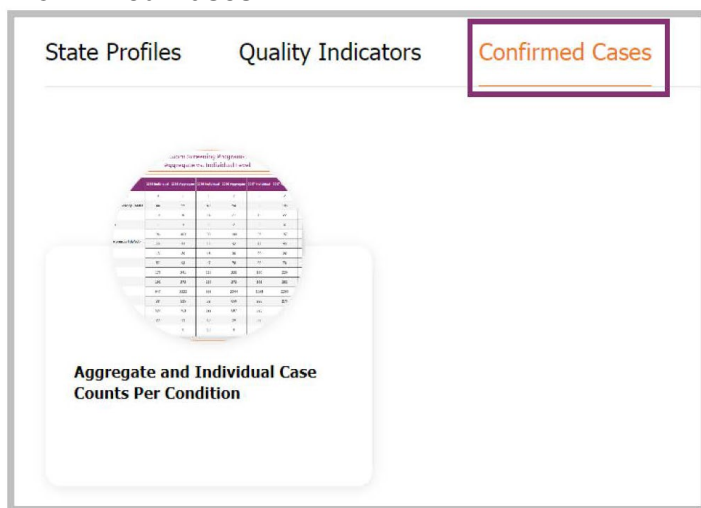
The screenshot shows a table of aggregate cases. The table has two main columns: 'Disorder' and 'Count'. Each row represents a different disorder and its associated case count. To the right of the count, there are two icons: a pencil (edit) and a trash can (delete). The disorders listed are: 3-Methylcrotonyl-CoA carboxylase deficiency - 3-MCC (count 1), Biotinidase deficiency - BIOT (count 1), Carnitine uptake defect/carnitine transport defect - CUD (count 1), Classic galactosemia - GALT (count 2), Classic PKU & Hyperphe (count 2), Congenital adrenal hyperplasia - CAH (count 5), and Congenital hypothyroidism - CH (count 49).

| Disorder   | Count | Action |
|--|-------|--------|
| 3-Methylcrotonyl-CoA carboxylase deficiency - 3-MCC      | 1     | ✎ 🗑    |
| Biotinidase deficiency - BIOT                            | 1     | ✎ 🗑    |
| Carnitine uptake defect/carnitine transport defect - CUD | 1     | ✎ 🗑    |
| Classic galactosemia - GALT                              | 2     | ✎ 🗑    |
| Classic PKU & Hyperphe                                   | 2     | ✎ 🗑    |
| Congenital adrenal hyperplasia - CAH                     | 5     | ✎ 🗑    |
| Congenital hypothyroidism - CH                           | 49    | ✎ 🗑    |

## Case Dashboards

Confirmed cases are NOT available to the public and are only available to users that have been assigned Data Viewer, Case Data Manager, or Program Administrator user roles. The case dashboards are automatically updated each night to reflect current data in the repository.

1. Go to Data Center→ [Dashboards and Reports](#)
2. Select the tab for **Confirmed Cases**



3. Select the dashboard of interest; users can download an image of their preferred view.
  - [Aggregate and Individual Case Counts Per Condition](#) compares case counts entered in the NewSTEPs for both individual and aggregate case counts. Users can filter by their program ID and by the RUSP category. Aggregate and individual case counts should match. This dashboard is updated every night.

**Confirmed Case Counts Reported by Newborn Screening Programs**  
*Aggregate vs. Individual Level*

RUSP Category: (All) Program ID: (All)

|                             | 2021            |                  | 2020            |                  | 2019            |                  | 2018            |                  | 2017            |                  | 2016            |                  | 2015            |                  |
|-----------------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|                             | Aggregate Cases | Individual Cases | Aggregate Cases | Individual Cases | Aggregate Cases | Individual Cases | Aggregate Cases | Individual Cases | Aggregate Cases | Individual Cases | Aggregate Cases | Individual Cases | Aggregate Cases | Individual Cases |
| <b>Grand Total</b>          | <b>2,595</b>    | <b>4,152</b>     | <b>7,957</b>    | <b>4,028</b>     | <b>8,497</b>    | <b>5,133</b>     | <b>8,587</b>    | <b>5,782</b>     | <b>9,857</b>    | <b>5,208</b>     | <b>10,299</b>   | <b>4,500</b>     | <b>10,051</b>   | <b>4,705</b>     |
| ASA                         | 9               | 5                | 15              | 9                | 30              | 15               | 12              | 7                | 22              | 12               | 21              | 14               | 16              | 10               |
| CIT I                       | 10              | 13               | 16              | 10               | 27              | 16               | 26              | 23               | 26              | 21               | 30              | 18               | 20              | 13               |
| PKU & Hyperphe              | 90              | 135              | 260             | 114              | 276             | 169              | 316             | 216              | 244             | 198              | 230             | 155              | 250             | 204              |
| MSUD                        | 13              | 9                | 21              | 11               | 18              | 12               | 17              | 13               | 22              | 17               | 18              | 10               | 25              | 15               |
| TYR I                       | 9               | 6                | 14              | 11               | 4               | 2                | 20              | 12               | 11              | 5                | 5               | 2                | 6               | 4                |
| HCV                         | 0               | 1                | 6               | 3                | 3               |                  | 8               | 7                | 8               | 7                | 5               | 2                | 6               | 2                |
| ARG                         | 4               | 5                | 2               | 1                | 3               | 3                | 3               | 2                | 1               | 2                | 0               | 3                | 0               | 3                |
| BIOPT (BS)                  | 0               |                  | 1               | 1                | 0               |                  | 0               |                  | 0               | 1                | 0               | 1                | 0               | 1                |
| BIOPT (RG)                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  |
| CIT II                      | 1               | 1                | 0               |                  | 2               | 1                | 0               |                  | 0               |                  | 0               | 1                | 1               | 1                |
| <b>Amino Acid Disorders</b> |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |
| CPS                         | 0               |                  | 0               |                  | 0               |                  | 0               | 2                | 1               |                  | 0               |                  | 0               |                  |
| FIGLU                       | 0               |                  | 0               |                  | 0               | 2                | 0               |                  | 0               | 3                | 0               | 3                | 0               | 4                |
| GAMT                        | 0               | 1                | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  |
| HRH                         | 0               |                  | 0               |                  | 0               |                  | 1               | 1                | 0               |                  | 0               |                  | 0               |                  |
| Hyper ORN                   | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  | 0               |                  |
| MET                         | 1               | 3                | 7               | 9                | 4               | 5                | 6               | 7                | 3               | 5                | 0               | 4                | 1               | 7                |
| NKH                         | 1               | 1                | 0               |                  | 0               |                  | 1               | 1                | 0               |                  | 0               |                  | 0               |                  |

Last Updated: 11/9/2023 10:13:57 / Please note that the data presented in this table is based on confirmed cases as entered into the NewSTEPs data repository, and not stratified by final diagnoses. These counts will include conditions that were reported and indicated as being reversed.

**NewSTEPs**

Data Details Edit View: Original Watch Share

## REQUESTING DATA

While NewSTEPs encourages data requests for research and quality improvement purposes, NewSTEPs will in no event share state/territorial-level quality indicator or case data unless explicit permission has been granted by the NBS program. Investigators can submit a [data request](#) for quality indicator or case data via the webform. Each data request will be redirected to the NewSTEPs Steering Committee which is charged with providing recommendations to NewSTEPs regarding sharing data collected within the repository.

Before submitting data requests, please review [NewSTEPs Data Request Policies and Procedures](#).

### Requesting Case Data

For case data, NewSTEPs will follow the “Rule of 5” which prevents data sharing if there are five newborns or fewer for a given category.

1. Go to Data Center→[Request Data](#)
2. Select the tab for **Case Data**
3. Review [Policies and Procedures](#)
4. Select **Request Cases Data**

The screenshot shows the 'Data Requests' webform. At the top, it states: 'The NewSTEPs Data Repository collects state/territory profile data, quality indicator data, and NBS cases from participating NBS programs.' It then explains that profile data is publicly available and can be found [here](#), and that if a different view or export is needed, users should email [newsteps@aphl.org](mailto:newsteps@aphl.org). Below this, it says: 'For quality indicator or case data, please complete the data request forms below.' The main content area has two tabs: 'Cases Data' (selected) and 'Quality Indicator Data'. Under the 'Cases Data' tab, there are two panels. The left panel is titled 'Policies and Procedures' and contains the text: 'Before proceeding with any data request, please thoroughly review the NewSTEPs' policies and procedures document.' Below this text is an orange button labeled 'POLICIES AND PROCEDURES'. The right panel is titled 'Case Data Request' and contains the text: 'Please select all fields in which you are requesting data. Note that it is required to read and agree to all policies and procedures therein contained in the NewSTEPs Repository Data Request Policy and Procedures.' Below this text is an orange button labeled 'REQUEST CASES DATA'.

5. Complete the form; all required fields are indicated with an asterix \*
6. Explain how the project plans to utilize the data and the research questions you plan to answer.
7. Attach mock tables and figures that you plan to use when presenting results.
8. Specify the years and case variables that you are requesting (birth years, HRSA regions, conditions)

## Cases Data

**Information**

Name of State NBS program\*

**Policy and Procedure Confirmation**

☐ I confirm that I have read and agree to all policies and procedures therein contained in the NewSTEPs Repository Data Request Policy and Procedures

Name of Person Requesting Data\*

Title of Person Requesting Data\* Requestor's Organization\*

Contact Phone Number\* Contact Email Address\*

**Date of Request**

Month Day Year

**Desired Request Completion Date**

Month Day Year

Name of Project that will Utilize this Data

Sponsor of the Project

**Funding Y/N**

☐ Yes ☐ No

Describe why you need NewSTEPs Repository data. Please include research questions you hope to answer, hypotheses, objectives, research design, study cohort, and method of analysis.

Please attach any mock tables and figures you may use when presenting results (optional)

CHOOSE FILE No file chosen

Files must be less than 2 MB. Allowed file types: gif jpg jpeg png pdf doc docx odt ppt pptx xls xlsx.

Specify years and data variables: please review and select the data elements you are requesting in the appropriate NewSTEPs Data Repository Data Elements documents. Below are the parameters, please indicate the following:

Year(s)

HRSA region

Number of annual births

9. If you want data on individual cases, select the appropriate demographic and screening information variables needed to answer your research questions.

## Data Request questions

1
2
3

### Infant Demographic Information

- ☐ Gestational age in weeks
- ☐ Birth weight in grams
- ☐ Biological sex
- ☐ Ethnicity
- ☐ Race

### Screening Information

- ☐ Which newborn screen result indicated this infant was at risk for the disorder
- ☐ Was prenatal testing done that indicated that this infant was at risk for this disorder?
- ☐ Was there a family history that indicated that this infant was at risk for this disorder?
- ☐ Was this individual diagnosed later in life (not identified by newborn screening)?

### Initial Specimen Collection Information

- ☐ Time from Birth to Initial Specimen Collection Data
- ☐ Time from Birth to Initial Specimen Receipt by Lab Data
- ☐ Time from Birth to Release of Out-of-Range Results for Initial Specimen Data

### Subsequent Specimen Collection Information

- ☐ Time from Birth to Subsequent Specimen Collection Data
- ☐ Time from Birth to Subsequent Specimen Receipt by Lab Data
- ☐ Time from Birth to Release of Out-of-Range Results for Subsequent Specimen Data

### Intervention, Follow-Up, and Diagnosis

- ☐ Time from Birth to Intervention by Appropriate Medical Provider Data
- ☐ Time from Birth to Confirmation of Diagnosis Data
- ☐ Receipt of Treatment/Care Out of State Data
- ☐ Diagnosis Reversed Data

< BACK
SUBMIT

10. Hit **Submit**.

## Requesting Quality Indicator Data

1. Go to Data Center → [Request Data](#)
2. Select the tab for **Quality Indicator Data**
3. Review [Policies and Procedures](#)
4. Select **Request QI Data**

## Data Requests

The NewSTEPs Data Repository collects state/territory profile data, quality indicator data, and NBS cases from participating NBS programs.

Profile data is publicly available information and can be found [here](#). If you would like a different view or export of this data, please email [newsteps@aphl.org](mailto:newsteps@aphl.org).

For quality indicator or case data, please complete the data request forms below.

While NewSTEPs encourages data requests for research and quality improvement purposes, NewSTEPs will in no event share state/territory-level quality indicator data or case data unless explicit permission has been granted by the NBS program. Each data request will be directed to the NewSTEPs Data Manager, who will review the request and follow up with any additional questions or caveats to keep in mind. Sharing aggregate, unpublished data with investigators must be approved by the NewSTEPs Steering Committee.

### Cases Data

### Quality Indicator Data

#### Policies and Procedures

Before proceeding with any data request, please thoroughly review the NewSTEPs' policies and procedures document.

[POLICIES AND PROCEDURES](#)

#### Case Data Request

Please select all fields in which you are requesting data. Note that it is required to read and agree to all policies and procedures therein contained in the NewSTEPs Repository Data Request Policy and Procedures.

[REQUEST CASES DATA](#)

5. Complete the form; all required fields are indicated with an asterix \*
6. Explain how the project plans to utilize the data and the research questions you plan to answer.
7. Attach mock tables and figures that you plan to use when presenting results.
8. Specify the years and case variables that you are requesting (birth years, HRSA regions, conditions)

## Quality Indicator Data



### Information

Name of State NBS program\*

### Policy and Procedure Confirmation

- ☐ I confirm that I have read and agree to all policies and procedures therein contained in the NewSTEPS Repository Data Request Policy and Procedures

Name of Person Requesting Data\*

Title of Person Requesting Data\*

Requestor's Organization\*

Contact Phone Number\*

Contact Email Address\*

### Date of Request

Month

Day

Year



### Desired Request Completion Date

Month

Day

Year



### Name of Project that will Utilize this Data

Sponsor of the Project

### Funding Y/N

☐ Yes

☐ No

Describe why you need NewSTEPS Repository data. Please include research questions you hope to answer, hypotheses, objectives, research design, study cohort, and method of analysis.

Please attach any mock tables and figures you may use when presenting results (optional)

CHOOSE FILE

No file chosen

Files must be less than 2 MB. Allowed file types: gif jpeg png pdf doc docx odt ppt pptx xls xlsx.

Specify years and data variables: please review and select the data elements you are requesting in the appropriate NewSTEPS Data Repository Data Elements documents. Below are the parameters, please indicate the following:

Year(s)

HRSA region

Number of annual births

Disorder type

Number of required screens

9. Click **Next**.
10. The following pages will have you select which QI data is needed to answer your research questions. Review the [Quality Indicator Source Document](#) for more information. Select **Next** to go through each of the eight QIs.

## QI 4

1

2

3

4

5

6

### Quality Indicator 4a

Percent of infants that have no recorded final resolution (confirmed diagnosis or diagnosis ruled out by an appropriate medical professional), by 12 months of age, with the state newborn screening program following the receipt of an unacceptable dried blood spot specimen

☐

### Quality Indicator 4b

Percent of infants that have no recorded final resolution (confirmed diagnosis or diagnosis ruled out by an appropriate medical professional), by 12 months of age, with the state newborn screening program following a borderline result for which a subsequent dried blood spot specimen was requested for repeat testing

☐

### Quality Indicator 4c

Percent of infants that have no recorded final resolution (confirmed diagnosis or diagnosis ruled out by an appropriate medical professional)1, by 12 months of age, with the state newborn screening program following an out-of-range result from a dried blood spot screen requiring further clinical diagnostic workup by an appropriate medical professional

☐

### Quality Indicator 4d

Percent of infants that have no recorded final resolution (confirmed diagnosis or diagnosis ruled out by an appropriate medical professional)1, by 12 months of age, with the state newborn screening program following an out-of-range result from a critical congenital heart disease (CCHD) screen result requiring further clinical diagnostic workup by an appropriate medical professional

☐

### Quality Indicator 4e

Percent of infants that have no recorded final resolution (confirmed diagnosis or diagnosis ruled out by an appropriate medical professional)1, by 12 months of age, with the state newborn screening program following an out-of-range result from an early hearing detection and intervention (EHDI) screen result requiring further clinical diagnostic workup by an appropriate medical professional

☐

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NEXT >