

Manual

by Team FHIRfighters

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1. General

Information of the project and team that worked on it:

- Team: FHIRfighters
- Team Members: Phillip Birmingham, Enrique Gonzalez, Allan Reyes, Reed Allred
- Project Name: Newborn Screening Data on FHIR
- GitHub link: <https://github.com/CDCgov/GaTech-Fall2017-Newborn-FHIRFighters>.

2. User Manual

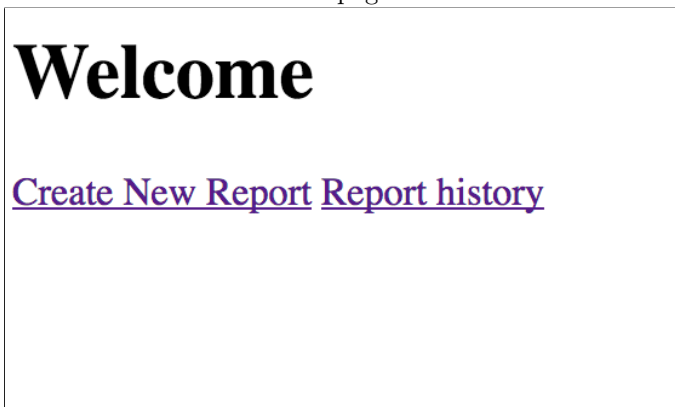
2.1. How To Run The App

1. Clone repository (<https://github.com/CDCgov/GaTech-Fall2017-Newborn-FHIRFighters>)

2. Ensure the correct versions of Docker and Docker Compose are installed per the [dependencies](#).
3. Run `docker-compose up`
4. The application is at <http://localhost:3000>
5. The associated FHIR instance is available at <http://localhost:8080>

2.2. How to use the app to generate a report

1. Go to <http://localhost:3000> in your browser
2. You should see the welcome page:



3. To make a report click "Create Report" link:



4. You will be taken to the report page:

New Report

Upload NBS CSV No file chosen

Upload OVRs CSV No file chosen

[Main Report history](#)


- Click on the choose file for New Born Screening (NBS):

New Report

Upload NBS CSV No file chosen

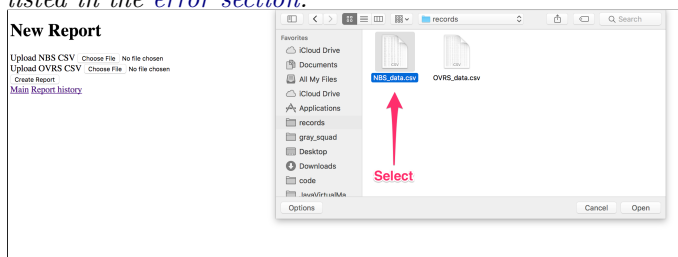
Upload OVRs CSV No file chosen

[Main Report history](#)



- Navigate to the CSV file for NBS:

***Note** The file type must be CSV, and the columns must match the names listed in the [error section](#).*



- Click on the choose file for Office of Vital records and statistics (OVRs):

New Report

Upload NBS CSV No file chosen

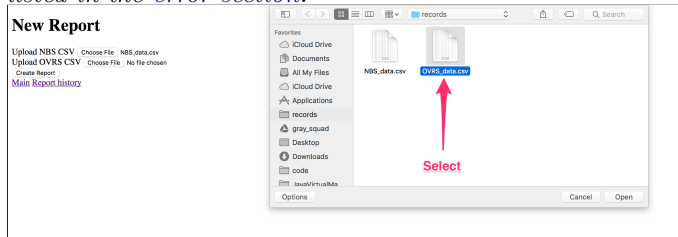
Upload OVRs CSV No file chosen

[Main Report history](#)

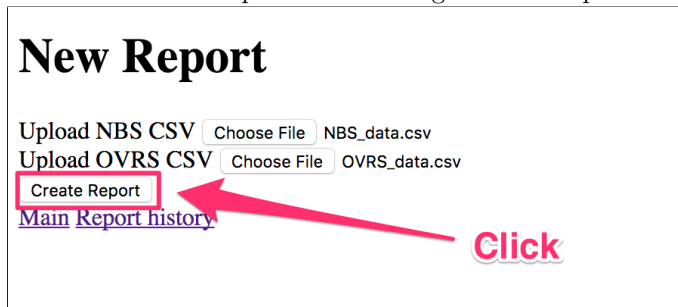


8. Navigate to the CSV file for OVRs:

***Note** The file type must be CSV, and the columns must match the names listed in the [error section](#).*



9. Click on “Create Report” button to generate a report:



10. You will then be taken to the new discrepancy report:

***Note** See [error section](#) for any issues. Also see [how to read a report section](#) to further understand the report.*

Report was successfully created.

Discrepancy Report

Created 2017-12-03 16:08:45 UTC

#	Kit ID	Attribute	NBS	OVRs
1	UT850A001	Birth Length First Name Last Name	[blank] [blank] [blank]	27 James Kirk
2	UT850A020	Mothers Last Name Birth Weight Birth Length	Adams 2807 [blank]	[blank] [blank] 24
3	UT850A010	Mothers Birthdate Birth Length	[blank] [blank]	1989-10-09 19
4	UT850A082	Birth Length	[blank]	24
5	UT850A033	Birth Length	[blank]	26
6	UT850A083	Birth Length	[blank]	25

2.3. Errors when running the app

When creating a new report, if the file is not a CSV file or the file format is not correct, any error will be seen like this:

Failed to load files, csv format was not correct (csv headers may not be correct)

Failed to load files, csv format was not correct (csv headers may not be correct)

New Report

Upload NBS CSV No file chosen

Upload OVRs CSV No file chosen

[Main Report](#)

Message when there was an error

To avoid errors with NBS and OVRs make sure you have these requirements in place:

- The file type is a CSV
- the columns match this list:

NBS csv file columns

- NAME
- BABYS_LAST_NAME
- BABYS_FIRST_NAME
- BIRTHDATE
- BABYS_SEX
- MOTHERS_LAST_NAME
- MOTHERS_BIRTHDATE
- BIRTH_WEIGHT
- MULTIPLE_BIRTH
- BIRTH_LENGTH

OVRs csv file columns

- StateFileNumber
- NewbornScreeningNumber
- ChildLast
- ChildFirst
- BirthCCYY
- BirthMM
- BirthDD
- Gender
- MomLast
- MomBirthCCYY
- MomBirthMM
- MomBirthDD
- BirthWeightGrams
- Plurality
- ChildLengthCm

2.4. How to read a report

The top row consists of the report column labels. Each numbered row below shows an individual record in which the attributes show a discrepancy when compared by NBS and OVRs.

Report was successfully created.

Discrepancy Report

Created 2017-12-03 16:08:45 UTC

#	Kit ID	Attribute	NBS	OVRs
1	UT850A001	Birth Length First Name Last Name	[blank] [blank] [blank]	27 James Kirk
2	UT850A020	Mothers Last Name Birth Weight Birth Length	Adams 2807 [blank]	[blank] [blank] 24
3	UT850A010	Mothers Birthdate Birth Length	[blank] [blank]	1989-10-09 19
4	UT850A082	Birth Length	[blank]	24
5	UT850A033	Birth Length	[blank]	26
6	UT850A083	Birth Length	[blank]	25

Here is a description of what each discrepancy report label means:

- **#**: This column numbers the records in which discrepancies were found.
- **Kit ID**: The kit number linked to the NBS and OVRs records.
- **Attributes**: These are the column labels that can be found in the OVRs csv file.
- **NBS**: The value that is found in the NBS record in the NBS csv file.
- **OVRs**: The value that is found in the OVRs record in the OVRs csv file.

(Looking at the first record found with a discrepancy)

Report was successfully created.

Discrepancy Report

Created 2017-12-03 16:08:45 UTC

#	Kit ID	Attribute	NBS	OVRs
1	UT850A001	Birth Length First Name Last Name	[blank] [blank] [blank]	27 James Kirk

Value Found in OVRs record

Value Found in NBS record

Column label found in OVRs csv file

Kit number found in a record

First Record with an error found in files

The Total number of discrepancy can be found at the bottom of the report:

95	UT850A015	Mothers Last Name Birth Length	Patch [blank]	Garden 25
96	UT850A027	Birth Length	[blank]	25
97	UT850A084	Birth Length	[blank]	25
98	UT850A085	Birth Length	[blank]	26
99	UT850A089	Birth Length	[blank]	22
100	UT850A028	Birth Length	[blank]	25

100 discrepancies detected

[Back Latest Report](#)

Save NBS to FHIR

The total
number of
discrepancies

2.5. Saving the discrepancy report to FHIR

To save a discrepancy report to FHIR, first [create a report](#) or go into an [already created report](#).


Click on the bottom at the bottom of the report called “Save NBS to FHIR”:

95	UT850A015	Mothers Last Name Birth Length	Patch [blank]	Garden 25
96	UT850A027	Birth Length	[blank]	25
97	UT850A084	Birth Length	[blank]	25
98	UT850A085	Birth Length	[blank]	26
99	UT850A089	Birth Length	[blank]	22
100	UT850A028	Birth Length	[blank]	25

100 discrepancies detected

[Back Latest Report](#)

Save NBS to FHIR



Click

You will see this message “Successfully saved to FHIR!” once the data has been successfully saved:

**Message
once data is
save to
FHIR**

Created 2017-12-03 16:08:45 UTC

Note: The local FHIR app can be found at <http://localhost:8080>.

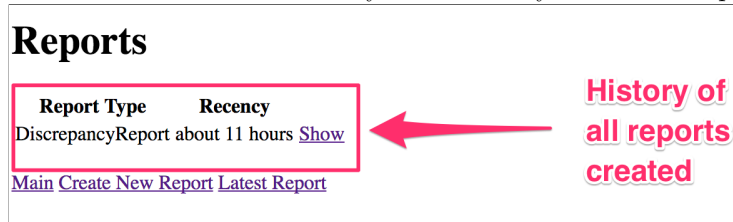
9

2.6. View an already existing discrepancy report

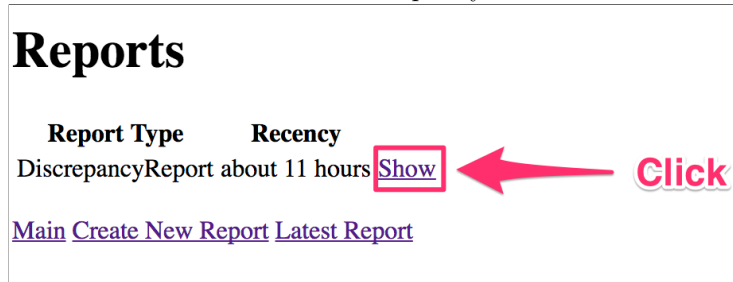
From the welcome page click on the “Report history” link.



You will then see all the history of the already created discrepancy reports.



Click on the “Show” link on the report you want to view.



3. Developer Manual

3.1. How To Deploy

The main Rails application can be deployed as a containerized application. The application can be configured with the following environment variables:

Variable	Description
DATABASE_URL	URL to PostgreSQL database. See: <i>database.yml</i>
FHIR_URL	URL to FHIR server.
RAILS_ENV	Environment. Recommended: production
RAILS_RELATIVE_URL_ROOT	Deploy to a relative root. Example: /app

3.2. How To Set Up For Native (Local) Development

Ensure all the [dependencies](#) are installed. Run bin/setup. Run bin/rails server.

3.3. How To Test

Ensure all the [dependencies](#) are installed. Run bin/test.

4. Informational

4.1. Dependencies

This is a Rails [v5.1.4](#) application that requires:

- [Docker ~> 17.09](#)
- [Docker Compose ~> 1.17](#)
- [Ruby ~> 2.4](#)
- [Bundler -> 1.15](#)
- [Node.js ~> 8.7](#)
- [Yarn ~> 1.2](#)
- [PostgreSQL ~> 9.6](#)

4.2. How to clone the Repository

1. [Install Git](#)
2. Open terminal/command line
3. Navigate to the directory/folder you want to clone the repository to.
4. Enter this Git command: `git clone https://github.com/CDCgov/GaTech-Fall2017-Newborn-FHIRF`

Need to brush up on git, try this [Git tutorial](#).