# Department of Health and Hospitals

# LEEDS

## Business Area - Technical Design Specification v1.0

# Revision History

| Revision Date | Author | Version | Reason for Revision |
|---|---|---|---|
| 2/13/2009 | xxxx | 1.0 | Initial Draft |
| 2/21/2009 | xxxx | 1.0 | Revisions to initial draft |
| 3/2/2009 | xxxx | 1.0 | Revisions to initial draft |
| 3/18/2009 | xxxx | 1.0 | Revisions to initial draft |

# Table of Contents

# 1 Overview

## 1.1 Description

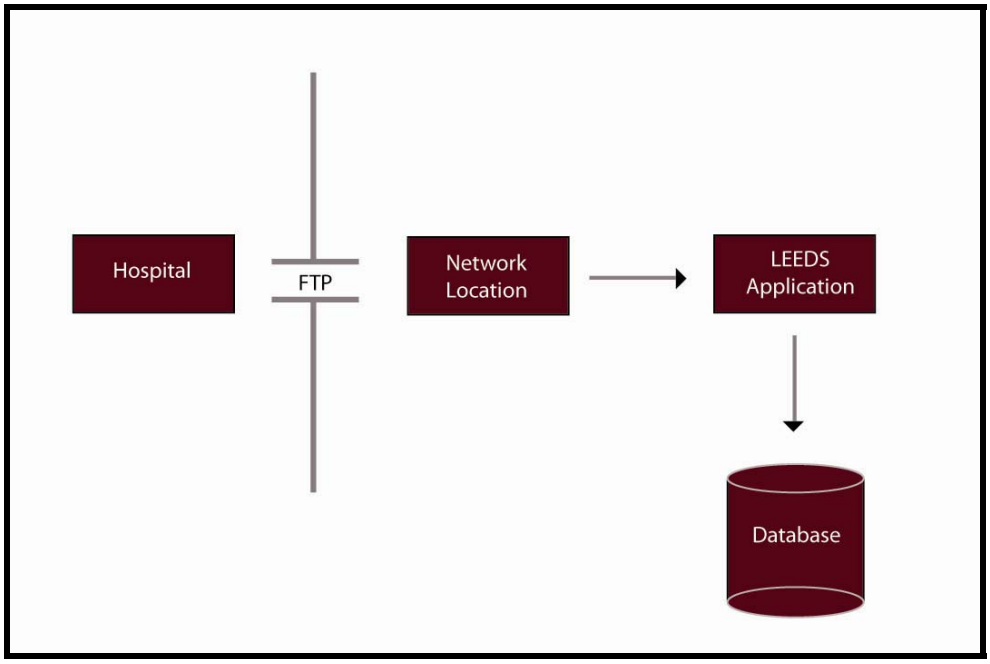
This document outlines the LEEDS application purpose, user functions, database design, and user flow. It also breaks down each LEEDS screen for future maintenance of the application.

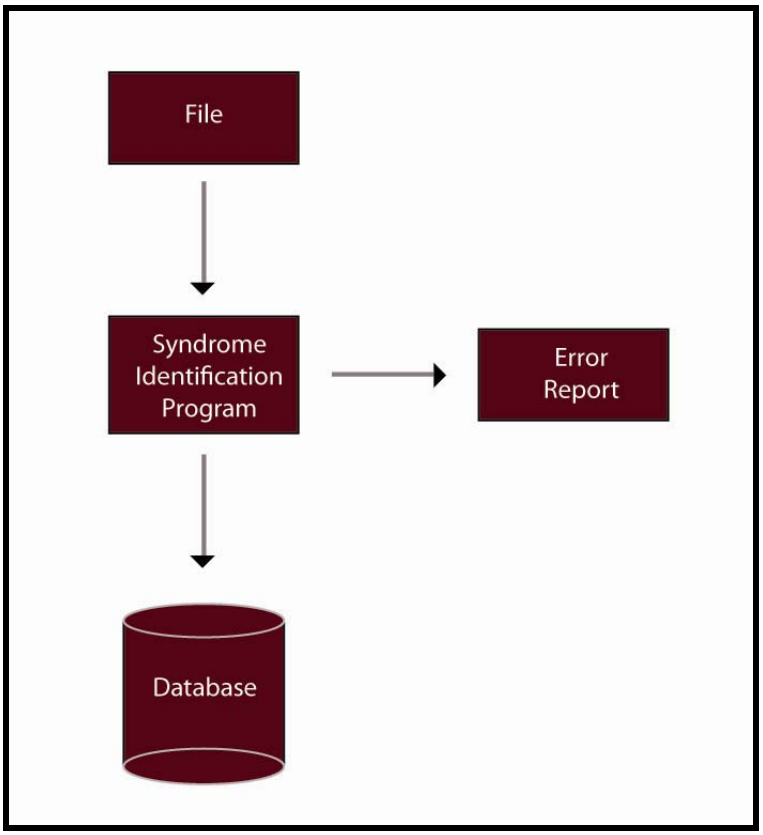
The LEEDS application is a system used internally by OPH staff. The goal of the system is to create one web-based application to replace the current Excel and SAS based syndromic surveillance tools. Syndromic Surveillance is the collection and analysis of pre-diagnostic and non-clinical disease indicators using per-existing electronic data with the purpose of rapidly detecting clusters of symptoms and health complaints that might indicate a disease outbreak or other public health threat, and monitoring trends in syndromes of public health importance.

There are two user types: Administrative Users and Hospital Staff. The system has the following administrative screens: File Processing, Maintenance Screens and Retro Mapping. Hospital staff will be provided a single sign-on account and will have a screen to run reports on data from their facility and on the entire state.

Vendor will create a web-based application using ASP.NET 3.5 and the Oracle 10g database.

The following flowcharts give an overview of the way files will move through the LEEDS system.




File
Syndrome Identification Program
Error Report
Database

# 2 Requirements

## 2.1 Description

- The LEEDS program will need to have a function to import files sent from multiple hospitals.
- Once the files are imported into the system, the program will process the files on the backend and identify Keywords in the chief complaint field. The keywords are associated with symptoms which are then used to identify syndromes based on specified symptoms.
    - DHH has provided excel spreadsheets with definitions of each syndrome they plan to track
- Once the syndromes have been identified, the syndrome will be captured in the database. The database also will store all data sent by submitting hospitals, in order to have these data available for Retro Mapping if syndromes are redefined or if new syndromes are defined.
- There will be a view for Admin users.
- There will be customized reports for Admin users.
- Reports for hospital staff – a report tool will be added to the DHH portal so that hospital staff can run their own reports.
- LEEDS will be accessed through Single Sign-On.
- An Implementation/Hospital guide for individual hospitals will be provided to DHH. The guide will include how to implement the LEEDS program, how to run their reports, and FTP instructions.
- A system administrator user guide will be provided to DHH.

# 3 Interface Specifications

## 3.1 Hospital Files

### 3.1.1 Files Types

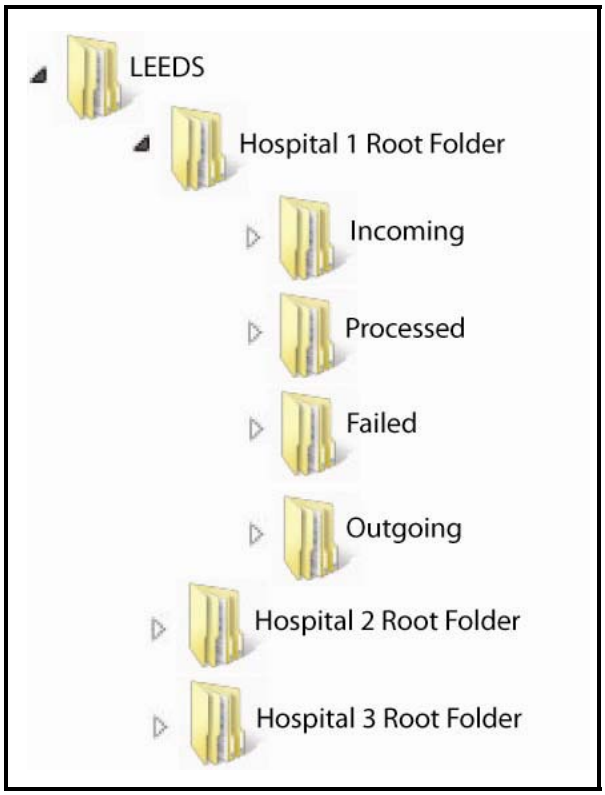
The files will be sent from hospitals as a CSV file. The files will be sent via FTP (site is SSH2). Currently, seven hospitals send files over on a daily basis. A maintenance screen to add or edit hospital data will be included. The files will be read from the FTP directory and will be automatically brought over. A manual processing function will also be included.

#### 3.1.1.1 File Folders

The files will move through the following four folders:

- Incoming – any files from the hospital that are waiting to be processed will be in the incoming folder.
- Processed – any file that the program successfully processes will be in the processed folder.
- Failed – any file that the program cannot process will be placed in the failed folder
- Outgoing – the error reports produced when a record has been moved to the staging area and then is rejected will be placed in the outgoing folder

Each reporting hospital will need all four folders created in their root folder.




#### 3.1.1.2 Standard Record Format

All files will be sent over in a standard format. If the files are not in the correct format, an error file will be produced. All file names will include a date and time stamp of when the file was generated

by the hospital (reject the file if it is not in this format). If the hospital is able to produce header/trailers records, a header and trailer record will be added at the beginning and end of each file to ensure that the file is completely copied over. This will be indicated in the hospital code table.

Patient Records

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Hospital Name** | Text | | Text string that identifies each Emergency Department in the file. The value should be repeated for every record in the file. Each hospital's files are tracked by hospital with this field. **Required Field** |
| **Patient ID** | Number/Text | | A unique identifier for each individual patient who visits the ED on a given day. Any unique record identifier in the facility's local system can be used to populate this field. **Required Field** |
| **Triage Date** | Number | MM-DD-YYYY | Day of ED Visit. Data is 2-digit month (01-12), 2-digit day (01-31) and 4-digit year separated by dashes (-). **Required Field** |
| **Triage Time** | Number | HH:MM | Time of ED Visit. Data is 2-digit hour of day (00-23) and 2-digit minutes of the hour (00-59) in central standard time separated by a colon (:). **Optional Field** |
| **Age** | Number | | Age of patient in years. If child is less than a year old, use 0 as the age. Calculate the age by subtracting the birth date from the triage date. **Required Field** |
| **Birth Date** | Number | MM-DD-YYYY | Date of Birth of patient. Data is 2-digit month (01-12), 2-digit day (01-31) and 4- digit year separated by dashes (-). **Required Field** |
| **Gender** | Text | M or F | Gender of patient. Male or Female. **Optional Field** |
| **Zip Code** | Number | 5 characters | Patient's 5-digit Residence Zip Code (do not include additional four characters). **Optional Field** |
| **Chief Complaint** | Text | | Patient's chief complaint(s). **Either Chief Complaint Code or Chief Complaint Required** |
| **Chief Complaint Code** | Text – no period allowed | | Patient's chief complaint(s), expressed as ICD-9 or ICD-10 code(s). The system must be designed to accommodate multiple Chief Complaint ICD-9/ICD-10 codes for each record. The codes must be sent without the period in the code. The known list will be loaded as a code table to validate on the code in the record. **Either Chief Complaint Code or Chief Complaint Required** |
| **Discharge Disposition** | Text | | Patient's Discharge Disposition at time of ER departure (e.g., admitted, discharged, home, etc.). **Optional Field** |
| **Discharge Diagnosis** | Text | | Patient's diagnosis upon discharge. The system must be designed to accommodate multiple discharge diagnoses. **Optional Field** |
| **Extra Information** | | | Any extra information in the record will be captured one column – must be at the end of the record. **Optional Field** |

Header Record

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Title** | Text | | Value should always be 'Header' |
| **Hospital Name** | Text | | Text string that identifies each Emergency Department |
| **Date Sent** | Number | MM-DD-YYYY | |

Trailer Record

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Title** | Text | | Value should always be Trailer |
| **Record Count** | Number | | The number of records that are in the file. |

### *3.1.1.3 Error Reporting Format & Rules*

When the hospital does not FTP records in the correct format, and the admin chooses to reject the file or individual bad records, an error file will go to the Output folder for the hospital. If only individual records are rejected, only the erroneous records will be in the Output folder, not the entire file. The files in the output folder will carry the date/time stamp originally assigned by the generating hospital for identification. Errors will also be captured in a log screen for the admin.

- If the field is required, validate on the given format and flag as an error if the format deviates from the given format.
- If the field is optional, do not reject strictly on format.
- When running the files, check the database to ensure that a record with the same date and patient ID doesn't already exist.
- If records contain duplicate patient IDs for a single date, reject any record after the first.

Error Record

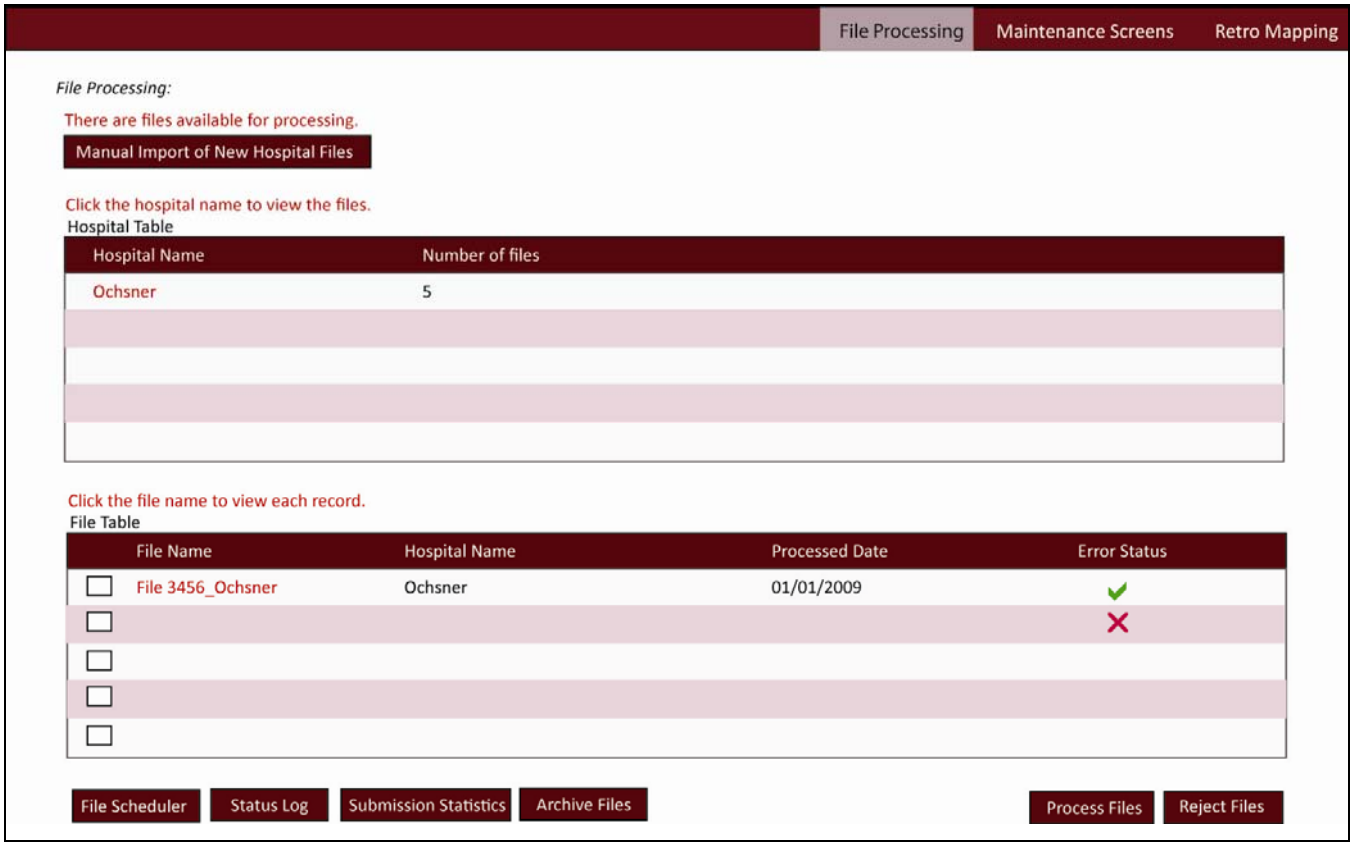
| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Hospital Name** | Text | | Text string that identifies each Emergency Department in the file. The value should be repeated for every record in the file. Each hospital's files are tracked by hospital with this field. **Required Field** |
| **Patient ID** | Number/Text | | A unique identifier for each individual patient who visits the ED on a given day. Any unique record identifier in the facility's local system can be used to populate this field. **Required Field** |
| **Triage Date** | Number | MM-DD-YYYY | Day of ED Visit. Data is 2-digit month (01-12), 2-digit day (01-31) and 4- digit year separated by dashes (-). **Required Field** |
| **Triage Time** | Number | HH:MM | Time of ED Visit. Data is 2-digit hour of day (00-23) and 2-digit minutes of the hour (00-59) in central standard time separated by a colon (:). **Optional Field** |
| **Age** | Number | | Age of patient in years. If child is less than a year old, use 0 as the age. Calculate the age by subtracting the birth date from the triage date. **Age or Birth Date Required** |
| **Birth Date** | Number | MM-DD-YYYY | Date of Birth of patient. Data is 2-digit month (01-12), 2-digit day (01-31) and 4- digit year separated by dashes (-). **Age or Birth Date Required** |
| **Gender** | Text | M or F | Gender of patient. Male or Female. **Optional Field** |
| **Zip Code** | Number | 5 characters | Patient's Residence Zip Code (do not include additional four characters). **Optional Field** |
| **Chief Complaint Text** | Text/Number | | Patient's chief complaint(s). **Either Chief Complaint Code or Chief Complaint Required** |
| **Chief Complaint Code** | Text | | Patient's chief complaint(s), expressed as ICD-9 or ICD-10 code(s). The system must be designed to accommodate multiple Chief Complaint ICD-9/ICD-10 codes for each record. The codes must be sent without the period in the code. The known list will be loaded as a code table to validate on the code in the record. **Either Chief Complaint Code or Chief Complaint Required** |
| **Discharge Disposition** | Text | | Patient's Discharge Disposition at time of ER departure (e.g., admitted, discharged, home, etc.). **Optional Field** |
| **Discharge Diagnosis** | Text | | Patient's diagnosis upon discharge. The system must be designed to accommodate multiple discharge diagnoses. **Optional Field** |
| **Extra Information** | | | Any extra information in the record will be captured one column – must be at the end of the record. **Optional Field** |
| **Error Description** | Text | | Description of error in record. |

## 3.2 Administrative Screens

### *3.2.1 File Processing*

A program will be built to process the DHH hospital files and import the data into the LEEDS system. If the process is run automatically, the system will bring the file into the system, identify and process the good files, and produce errors for the bad files. If a file cannot be read by the system, the file will be moved to the hospital's Failed folder. If the process is run manually, after the manual import is executed, the admin user will be allowed to edit records, and choose to process or reject the files or individual records within a file. LEEDS Administrators will contact the hospital and refer them to the error Output folder for corrections of the problems that caused the files or records to be rejected. The Record Processing screen will allow admin users to edit hospital records during a manual processing. The original file from the hospital will be retained by the system after edits have been made by system administrators. An error file archival tool will be built to archive files in the Processed and Outgoing folder that are six months or older. The Incoming folder will be emptied every time that the file processing system runs. Only the Outgoing folder will be visible to the hospitals.

#### *3.2.1.1 Screenshot – File Processing*

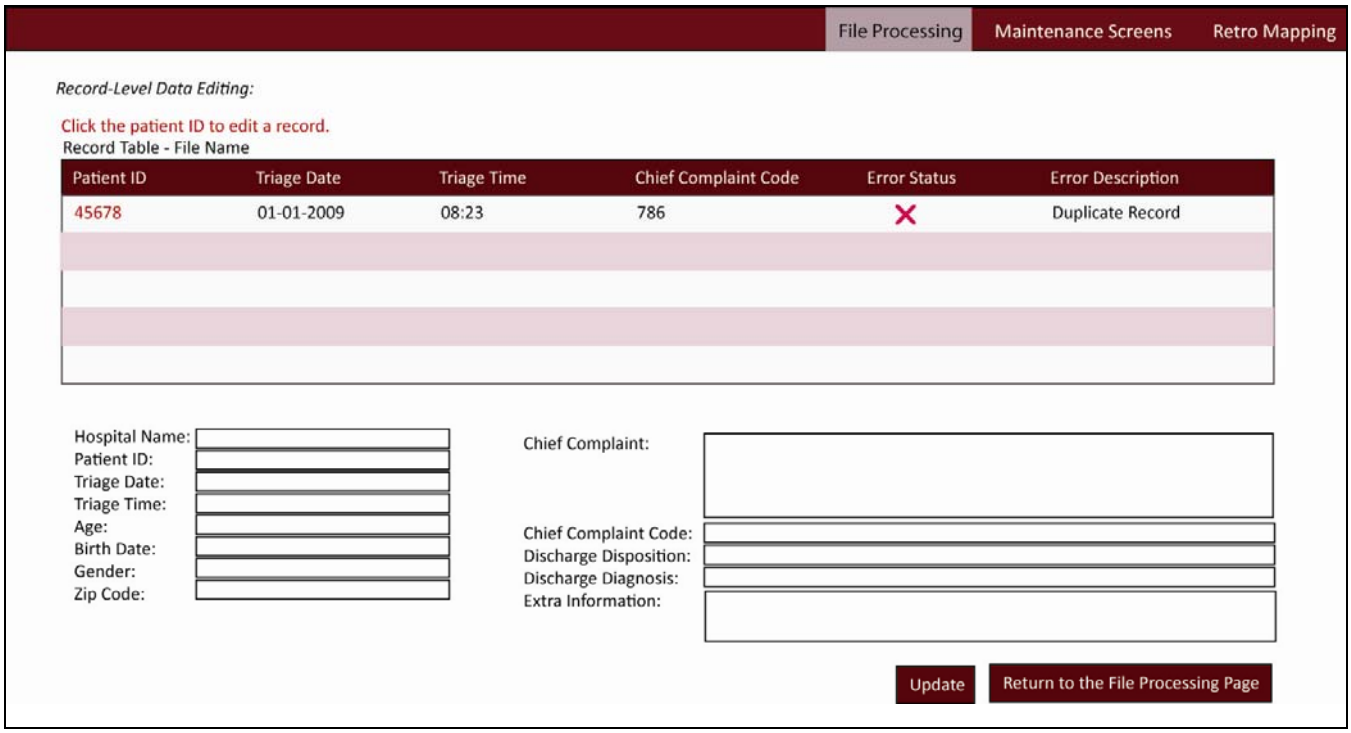



#### *3.2.1.2 Business Rules – File Processing*

| Rule ID | Definition |
|---|---|
| TDS_LDS1 | When there are files are in the specified LEEDS location, the 'there are files available for processing' message will show up |
| TDS_LDS2 | The initial processing button is a manual processing that will be available along with the automatic scheduling. |

| Rule ID | Definition |
|---|---|
| TDS_LDS3 | When a file is processed, two things could happen. The entire file could be processed or the good records could be processed and the bad records will move to an error folder. |
| TDS_LDS4 | Once a user clicks a hospital, show all of the hospital's files. Once the user has clicked a file, bring them to the record processing page and show all the file's records. |
| TDS_LDS5 | When user clicks archive files, any files 6 months or older in the outgoing file will be archived. A message will pop up and let the user know how many files were archived. |

### *3.2.1.3 Screenshot – Record-Level Data Editing*



### 3.2.1.4 Field Description Table – Record-level Data Editing

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Hospital Name** | Text | | Will generate from the hospital record |
| **Patient ID** | Text/number | | Will generate from the hospital record |
| **Triage Date** | Number | | Will generate from the hospital record |
| **Triage Time** | Number | | Will generate from the hospital record |
| **Age** | Number | | Will generate from the hospital record |
| **Birth Date** | Number | | Will generate from the hospital record |
| **Gender** | Text | | Will generate from the hospital record |
| **Zip Code** | Number | 5 digits | Will generate from the hospital record |
| **Chief Complaint Text** | Text/Number | | Will generate from the hospital record |
| **Chief Compliant Code** | Text | | Will generate from the hospital record |
| **Discharge Disposition** | Text | | Will generate from the hospital record |
| **Discharge Diagnosis** | Text | | Will generate from the hospital record |
| **Extra Information** | Text | | Will generate from the hospital record |

### 3.2.1.5 Business Rules – Record-level Data Editing

| Rule ID | Definition |
|---|---|
| TDS_LDS6 | All records with errors will sort to the top |
| TDS_LDS7 | When user clicks on the patient ID, all information from that record will fill into the editable text fields. |

### 3.2.1.6 Screenshot – File Processing Scheduler

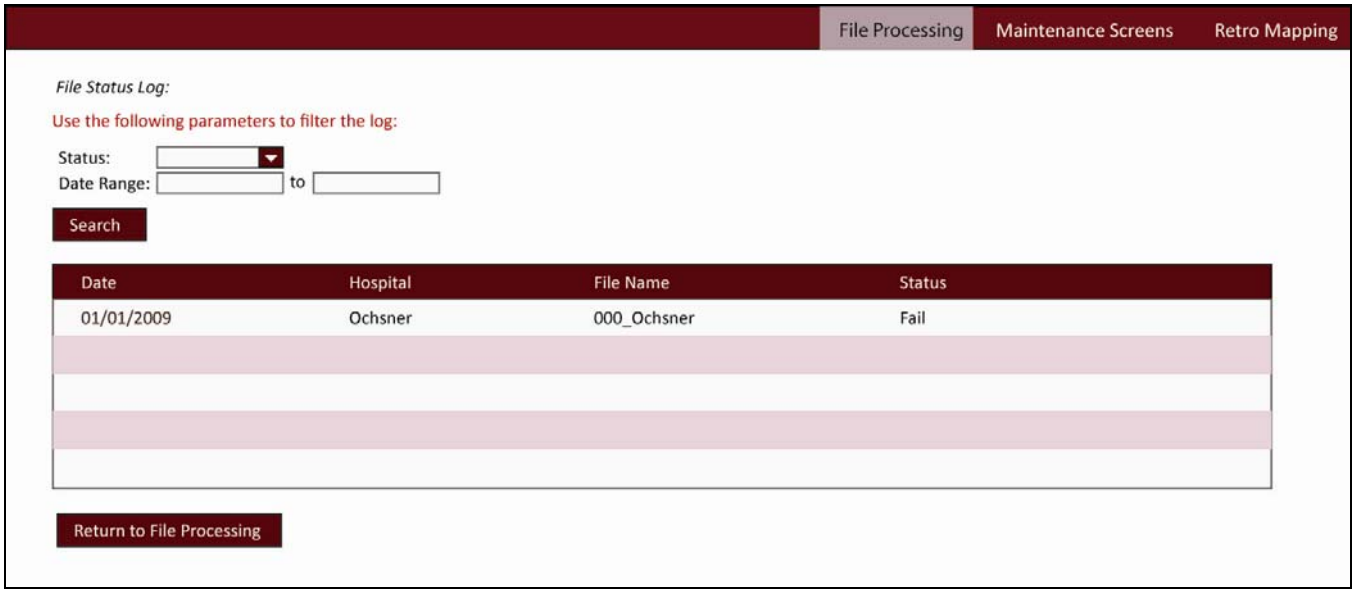
A scheduler will be built to allow customized scheduling of when the files are brought over.

### 3.2.1.7 Business Rules – File Processing Scheduler

| Rule ID | Definition |
|---|---|
| TDS_LDS8 | If user chooses daily, they will have to fill in the time. If the user chooses weekly, they will have to fill in the day and time. |

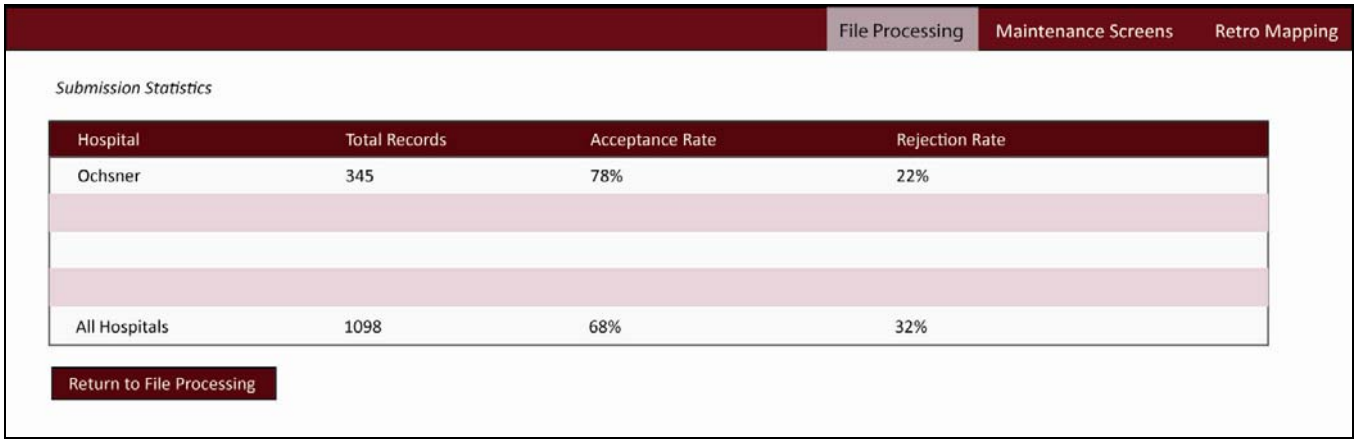
### 3.2.1.8 Screenshot – File Status Log

If something interrupts the file processing or the process cannot be initiated, an email will go out to the system administrators making them aware of the issue. The file status log will keep track of each incoming file and its status (processed or failed).




### 3.2.1.9 Screenshot - Submission Statistics

The acceptance/rejection rate of each submitting hospital will be tracked. A grand total will be calculated. This is a running total of the total records submitted b y each hospital and the acceptance/rejection rate. Acceptance rate = (processed records/total records)*100; Rejection Rate = (rejected records/total records)*100



### *3.2.1.10 Syndrome Identification Program*

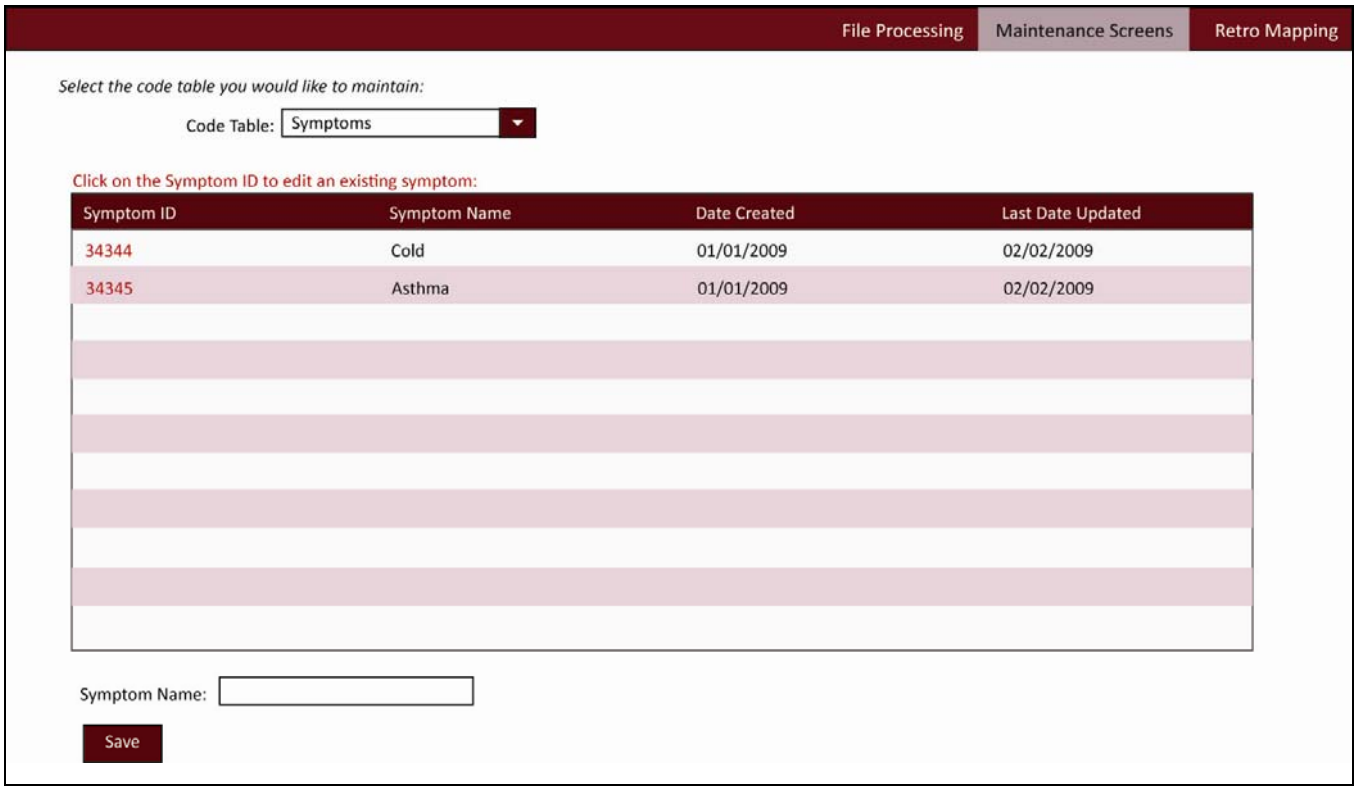
Once the files are imported into the system, the program will run through all the files on the backend and identify text strings in the chief complaint field to identify syndromes based on key symptoms.

- An Excel spreadsheet with all current symptom definitions exists and will be uploaded to the system. NOTE: A symptom exclusion overrides a symptom inclusion.
- If no text string exists in the chief complaint, the record is not counted in an existing syndrome tally.
- Multiple syndromes can be flagged for one hospital record.
- There will be a code table to maintain and add syndromes, symptoms, and text strings.
- Syndromes that are added to or redefined in the system through code tables will run on LEEDS historical data to identify syndromes. See Retro Mapping
- Identified hospital record syndromes will be counted and stored in the database – static mapping.

## *3.2.2 Maintenance Screens*

The Maintenance Screens will allow admin users to add new and maintain existing Syndromes, Symptoms, Text Strings, and ICD Codes, as well as, establish and update syndrome definitions. Additional maintenance screens will be Chief Complaint Codes Upload and Hospital Maintenance. Additional code tables will be added with the reports requirements.

### *3.2.2.1 Screenshot – Symptom Maintenance*




To add a new symptom or edit an existing symptom, the user would select 'Symptom' from the code table drop down menu. The user would click on the Symptom ID to edit an existing symptom. When the user clicks the symptom ID, the corresponding symptom name will fill into the symptom name text field and will be editable. To add a new symptom, the user would simply type a symptom into the symptom name text field and click 'save.'

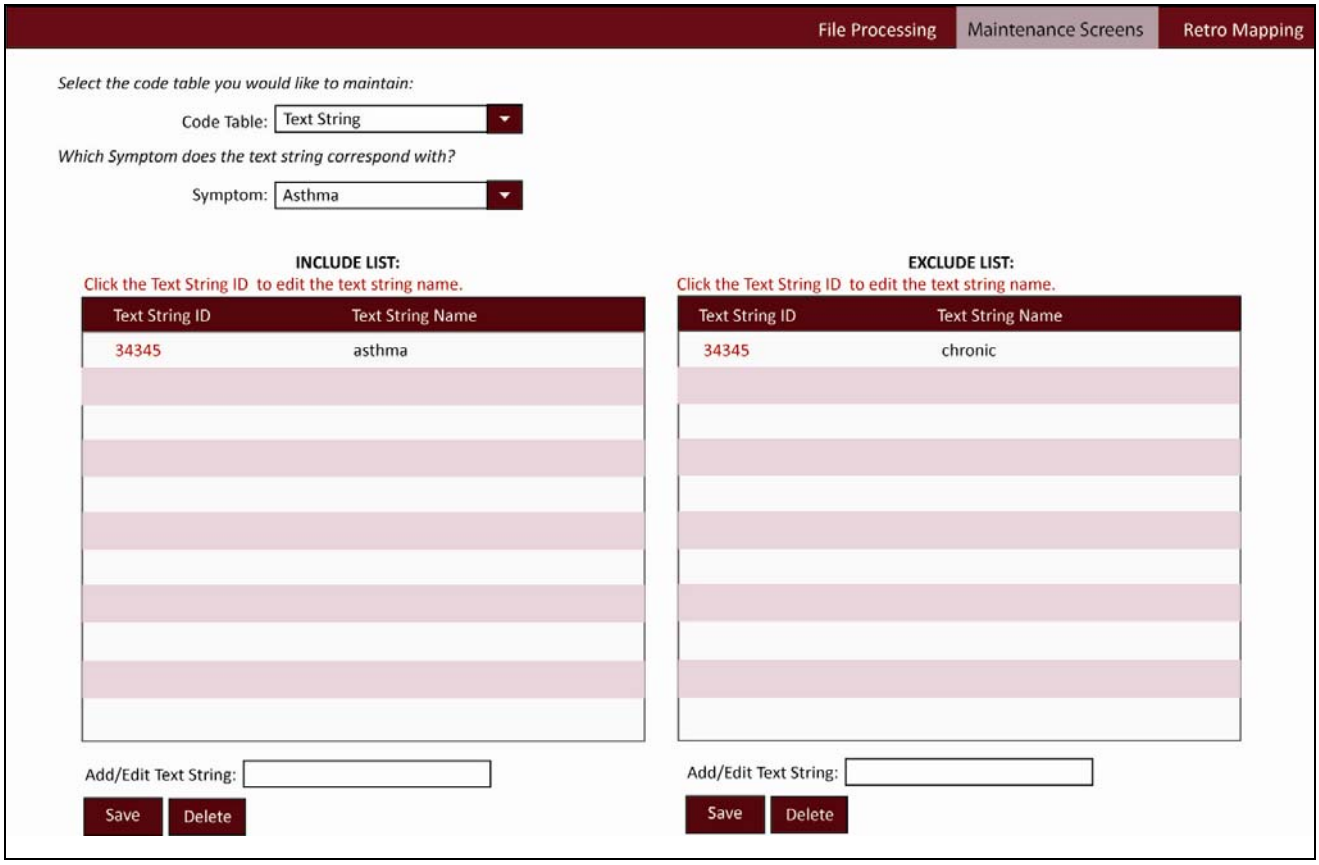
### *3.2.2.2 Field Description Table – Symptom Maintenance*

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Code Table** | Drop Down | | Will include symptom, text string, syndrome, hospital, complaint codes, and complaint code upload. |
| **Symptom Name** | Text | | This field will be blank unless an existing symptom is selected. If an existing symptom is selected, the symptom name will fill in from the database. |

### *3.2.2.2 Business Rules – Record-level Data Editing*

| Rule ID | Definition |
|---|---|
| TDS_LDS9 | A symptom exclusion overrides an inclusion |
| TDS_LDS10 | Symptom information will be historical |

### *3.2.2.3 Screenshot – Text String Maintenance*




To add a new text string or edit an existing text string, the user would select 'text string' from the code table drop down menu. When 'Text String' is selected, an additional drop down menu (Symptom) will appear. After symptom is selected, the include and exclude list will appear and populate with the current text strings. The user would click on the Text String ID to edit or delete an existing text string. When the user clicks the Text String ID, the corresponding text string will fill into the text string text field and will be editable. To add a new text string, the user would simply type a text string into the text string text field and click 'save.'

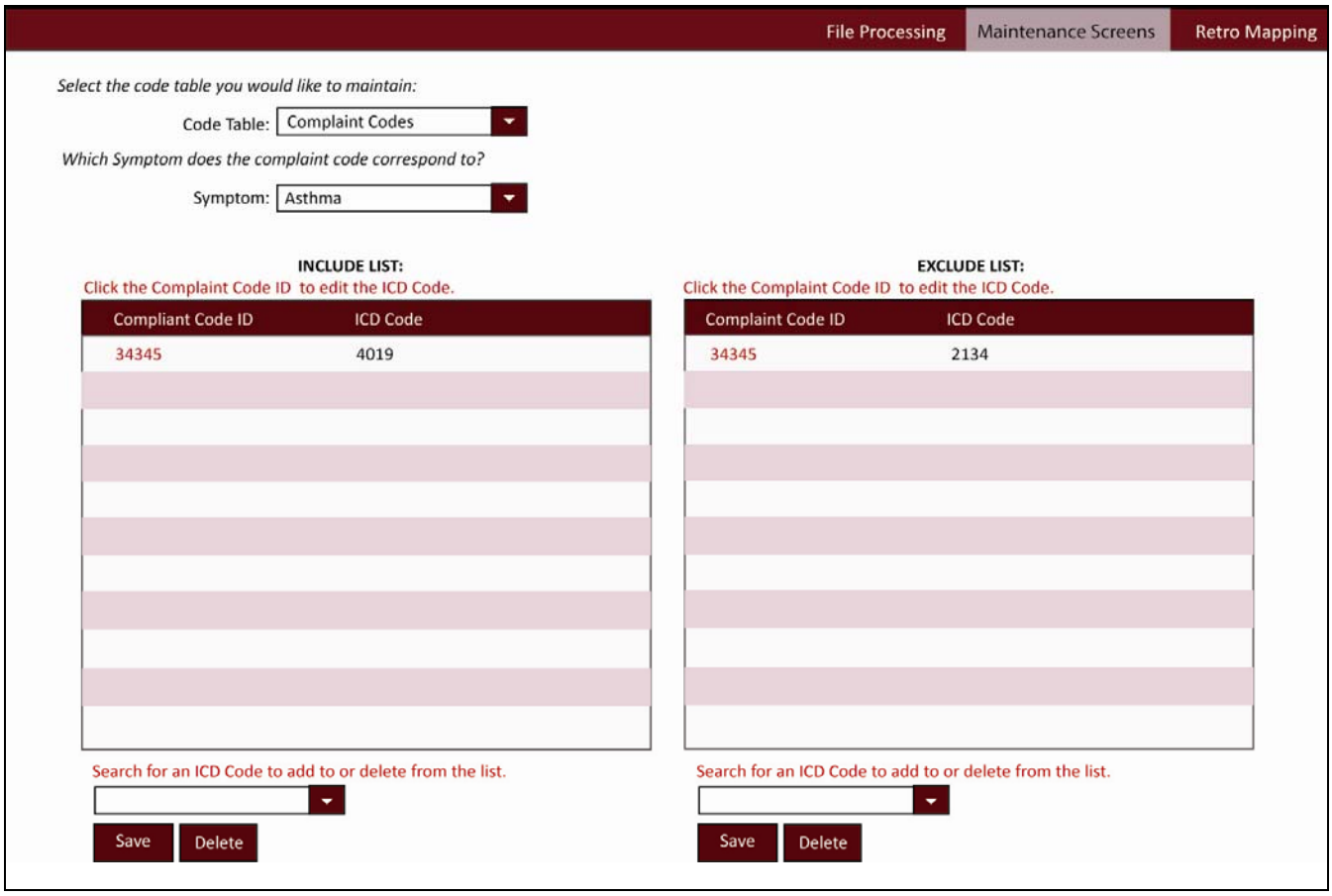
### 3.2.2.4 Field Description Table – Text String Maintenance

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Code Table** | Drop Down | | Will include symptom, text string, syndrome, hospital, complaint codes, and complaint code upload. When text string is selected, show additional drop down with text "Which Symptom does the Text String correspond with?" |
| **Symptom** | Drop Down | | This drop down should include all symptoms in the system. Once a symptom is selected, the current text string list for the symptom should populated the table |
| **Text String** | Text | | This field will be blank unless an existing text string is selected. If an existing text string is selected, the text string name will fill in from the database. This field is also used to add a new text string. |

### 3.2.2.5 Business Rules – Record-level Data Editing

| Rule ID | Definition |
|---|---|
| TDS_LDS11 | Every text string and complaint code will be mapped to a particular symptom; therefore, the user should not be allowed to enter a text string until a corresponding symptom is selected. |
| TDS_LDS12 | Text string information will be historical. |

### 3.2.2.6 Screenshot – Complaint Code Maintenance

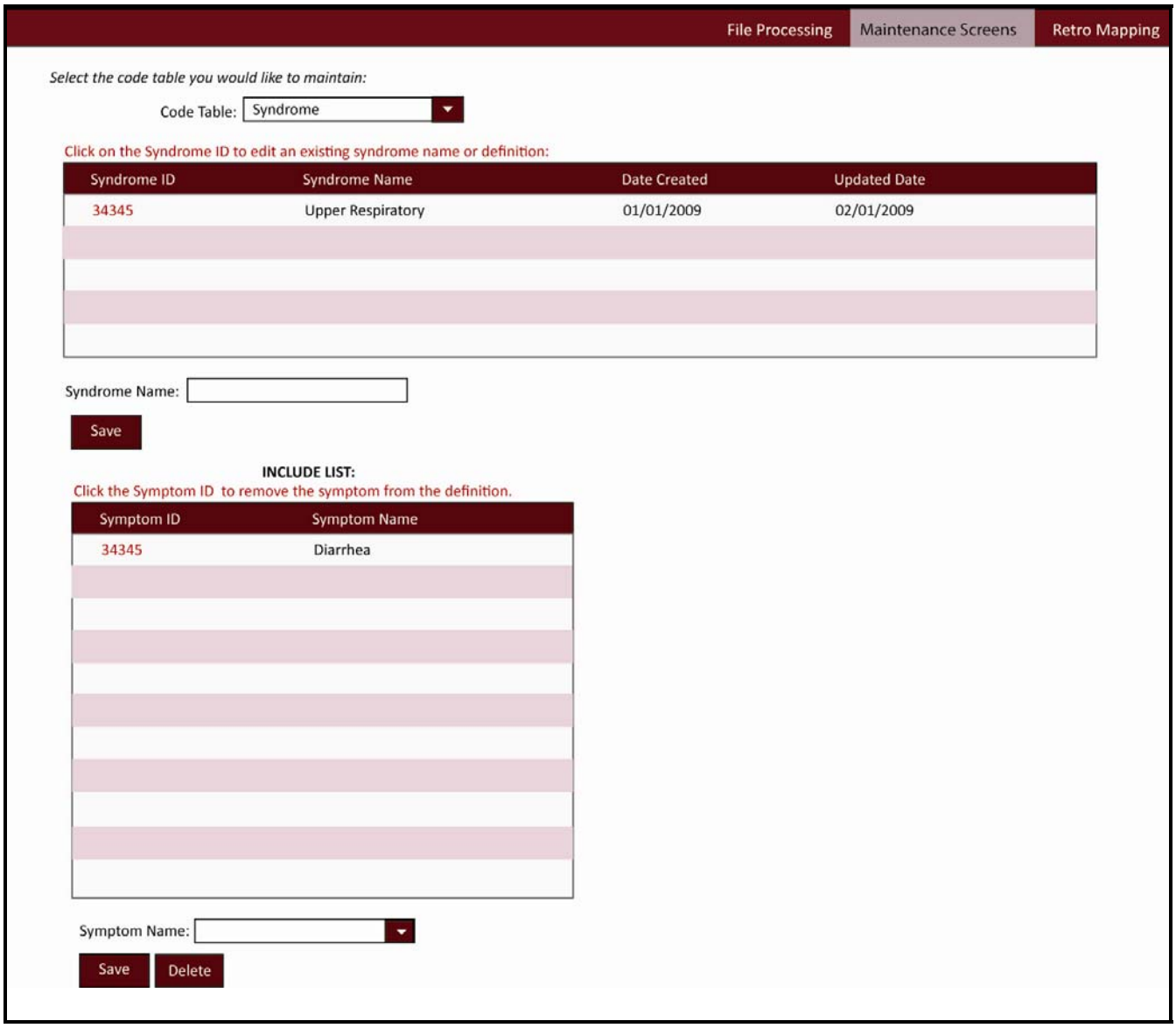


To add an ICD code to a symptom or edit an existing ICD code, the user would select 'Complaint Codes' from the code table drop down menu. When 'Complaint Codes' is selected, an additional drop down menu (Symptom) will appear. After symptom is selected, the include and exclude list will appear and populate with the current complaint codes. The user would click on the Complaint Code ID to edit or delete an existing ICD Code. When the user clicks the Complaint Code ID, the corresponding ICD Code will fill into the text field and will be editable. To add a new ICD code to the symptom, the user would simply type an ICD Code into the text field and click 'save.'

### *3.2.2.7 Field Description Table – Complaint Code Maintenance*

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Code Table** | Drop Down | | Will include symptom, text string, syndrome, hospital, complaint codes, and complaint code upload. When text string is selected, show additional drop down with text "Which Symptom does the Text String correspond to?" |
| **Symptom** | Drop Down | | This drop down should include all symptoms in the system. Once a symptom is selected, the current text string list for the symptom should populated the table |
| **ICD Code** | Text/Number | | This field will be blank unless an existing ICD Code is selected. If an existing ICD code is selected, the ICD Code will fill in from the database. This field only allows the addition and deletion of codes by searching what has been uploaded to the database. Search will be intelligence based. |

### *3.2.2.8 Screenshot – Syndrome Maintenance*




To add a new syndrome or edit an existing syndrome, the user would select 'Syndrome' from the code table drop down menu. The user would click on the Syndrome ID to edit an existing syndrome. When the user clicks the syndrome ID, the corresponding syndrome name will fill into the syndrome name text field and will be editable. The Symptom Include list will also appear and populate – this is the mechanism to create a syndrome definition. The list of available symptoms will be displayed in the drop down fields. Symptoms can be added to the syndrome definition by selecting the symptom from the drop down; this will cause them to be added to the syndrome include list. To add a new syndrome, the user would simply type a syndrome into the syndrome name text field and click 'save.' The user can then click the new syndrome ID and the symptom include list will appear. The list of available symptoms will be displayed in the drop down fields, which can then be added to the syndrome definition by adding them to the include list.

** When a Syndrome ID is clicked, the Syndrome Include list will appear.
** An Syndrome exclusion will override an inclusion.

### 3.2.2.9 Field Description Table – Syndrome Maintenance

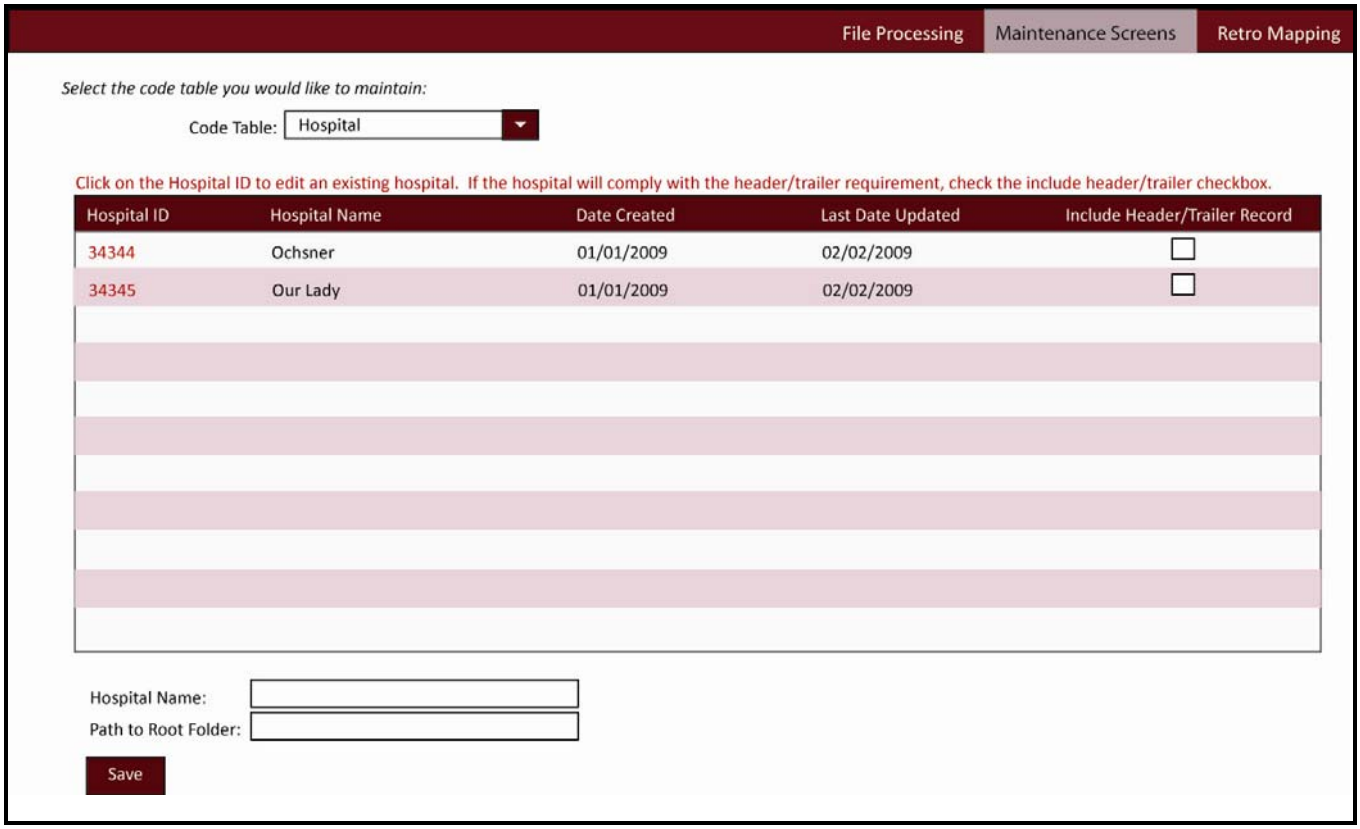
| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Code Table** | Drop Down | | Will include symptom, text string, syndrome, hospital, complaint codes, and complaint code upload. |
| **Syndrome Name** | Text | | This field will be blank unless an existing syndrome is selected. If an existing syndrome is selected, the syndrome name will fill in from the database. A new Syndrome can be added by typing the name in this field and saving. |
| **Symptom Drop Downs** | Drop down | | Pull in all existing symptoms in the database |

### 3.2.2.10 Business Rules – Record-level Data Editing

| Rule ID | Definition |
|---|---|
| TDS_LDS13 | Syndrome updated date should reflect changes to the syndrome itself, its corresponding symptoms, and their corresponding text strings. |
| TDS_LDS14 | Syndrome information will be historical. |

### 3.2.2.11 Screenshot – Hospital Maintenance

This screen will allow users to add a new hospital file path so that the file processing program will know to search for an additional folder.



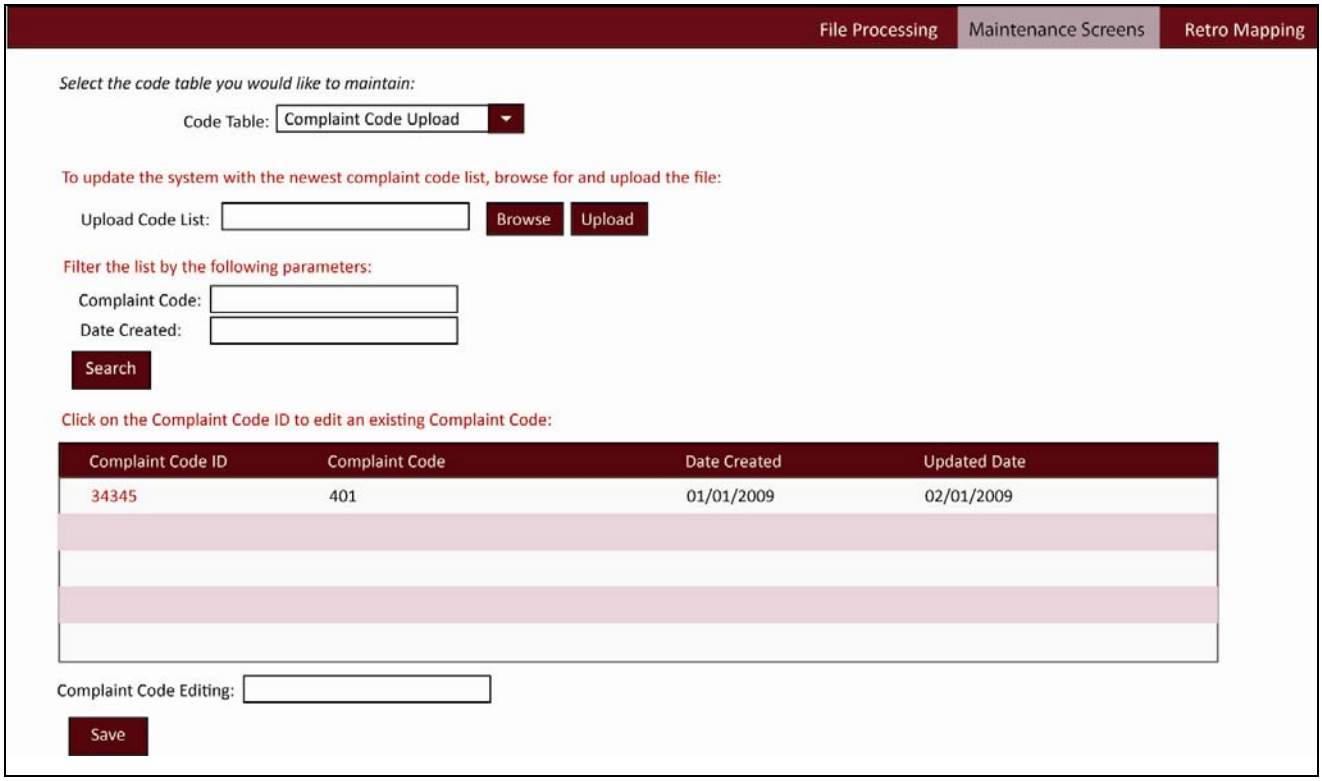

To add a new hospital or edit an existing hospital, the user would select 'hospital' from the code table drop down menu. The user would click on the Hospital ID to edit an existing Hospital. When the user clicks the Hospital ID, the hospital name and root folder path will fill into the corresponding text fields and will be editable. To add a new hospital, the user would simply type a hospital name and path to its root folder in the appropriate text fields and click 'save.' The include header/trailer record checkbox should be clicked if the hospital has agreed to comply with the header/trailer requirement. If the checkbox is

checked, the program will know to validate on the header and trailer record at the beginning and end of each hospital file.

### *3.2.2.12 Field Description Table – Hospital Maintenance*

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Code Table** | Drop Down | | Will include symptom, text string, syndrome, hospital, complaint codes, and complaint code upload. |
| **Include Header/Trailer Record** | Checkbox | | If the checkbox is checked, the program will know to validate on the header and trailer record at the beginning and end of each hospital file. |
| **Hospital Name** | Text | | This field will be blank unless an existing hospital is selected. If an existing hospital is selected, the hospital name will fill in from the database. A new hospital can be added by typing the name in this field and saving (after adding path to root folder information). |
| **Path to Root Folder** | Text | | |

### *3.2.2.13 Screenshot – Complaint Code Upload*




When a new list of complaint codes is available, the user will browse for the file and upload the new list. The function will compare what is currently in the database and only upload new codes. Users can also edit codes (in case an uploaded data element is incorrect).

### 3.2.2.14 Field Description Table – Complaint Code Upload

| Field Name | Data Type | Length | Comments |
|---|---|---|---|
| **Code Table** | Drop Down | | Will include symptom, text string, syndrome, hospital, complaint codes, and complaint code upload. |
| **Upload Code List** | Text | | Ability to browse and bring in a file. |
| **Complaint code** | Text | | Filter parameter |
| **Date Created** | Date | 00/00/0000 | |
| **Complaint Code Editing** | | | For editing only! Only allow changing of current codes – new codes cannot be added through this function (new codes can only be added by uploading a list. – When user clicks complaint code ID, this field should populate complaint code. |

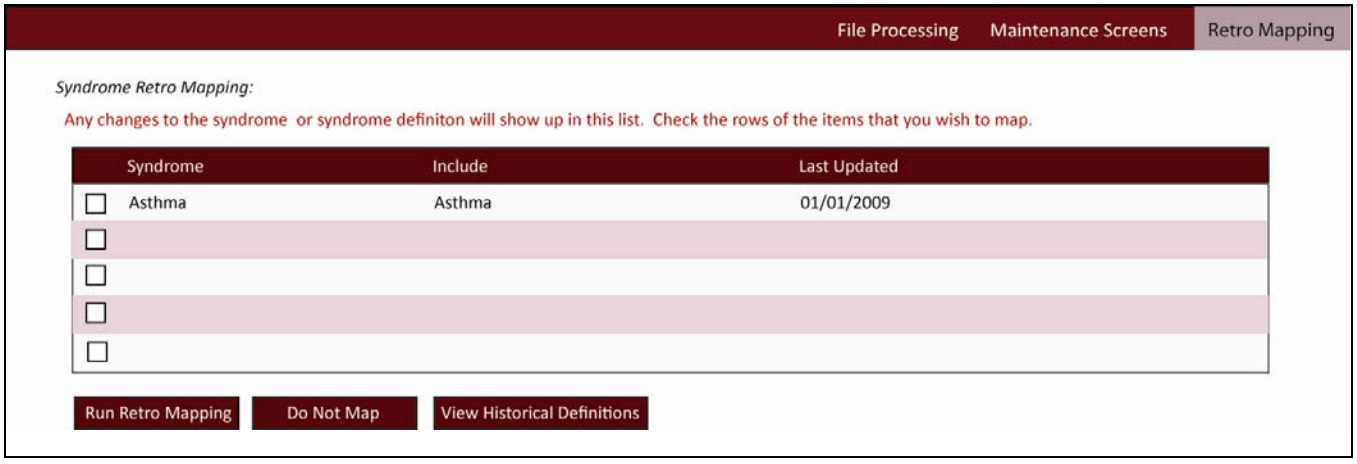
### 3.2.2.15 Business Rules – Complaint Code Upload

| Rule ID | Definition |
|---|---|
| TDS_LDS15 | Every text string and complaint code will be mapped to a particular symptom; therefore, the user should not be allowed to enter a text string until a corresponding symptom is selected. |
| TDS_LDS16 | In a symptom definition an inclusion will override an exclusion |
| TDS_LDS17 | Syndrome updated date should reflect changes to the syndrome itself, its corresponding symptoms, and their corresponding text strings. |
| TDS_LDS18 | Syndromes, Symptoms, and text string information will be historical |
| TDS_LDS19 | The upload function on complaint code table should compare what is currently in the database and only upload new codes. |

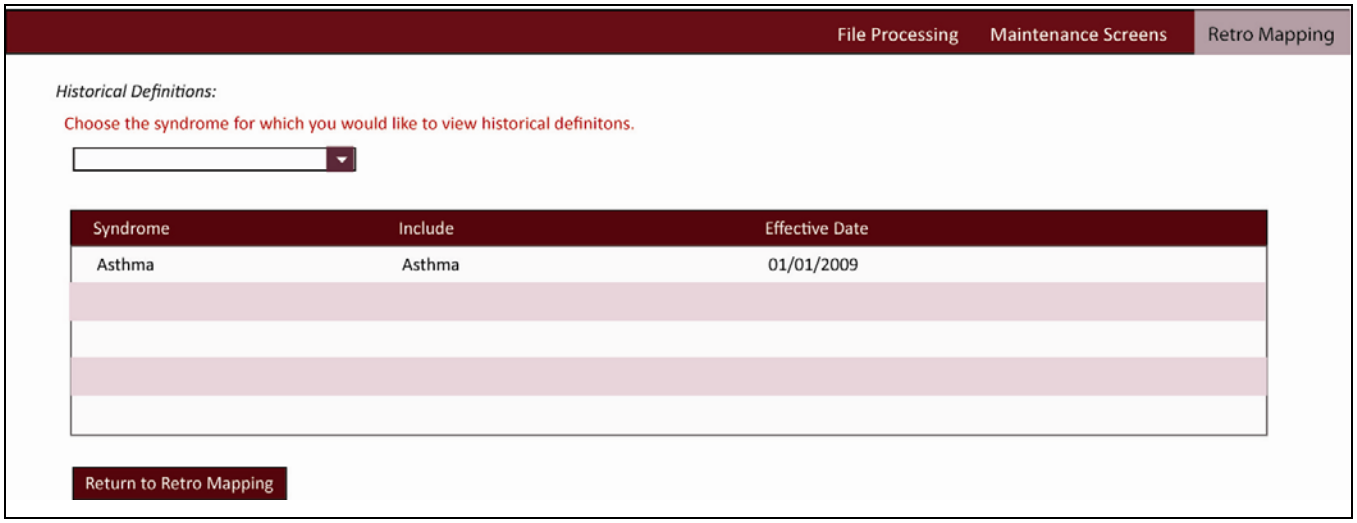
## 3.2.3 Retro Mapping

Once a syndrome is added to or redefined in the LEEDS system, the admin user will have the option to run a retro mapping against all historical hospital files. The Admin user will have the ability to see the old syndrome definitions (historical).

### 3.2.3.1 Screenshot – Retro Mapping



### *3.2.3.2 Screenshot – Historical Definitions*




### *3.2.3.3 Business Rules – Historical Definitions*

| Rule ID | Definition |
|---|---|
| TDS_LDS20 | Any added or edited Syndrome/Syndrome definition should be shown in the retro mapping list |
| TDS_LDS21 | Show a processing bar when running retro mapping. |
| TDS_LDS22 | When the 'View Historical Definitions' button is clicked, bring user to the historical definition page – allow for filtering on syndromes in the database – all historical definitions for this syndrome will populate. Effective date will show when this definition went into effect. |

## 3.3 View

A View into the Oracle database will be built into the LEEDS system. The View will extract files into Excel / Access where DHH can customize the data sets they wish to review.

- The following fields will be available in the view:
  - Hospital Name
  - Patient ID
  - Triage Date
  - Triage Time
  - Age
  - Birth Date
  - Gender
  - Zip code
  - Chief Complaint
  - ICD-9 Code
  - Discharge Disposition
  - Discharge Diagnosis
  - Extra Information
  - Syndrome – Syndrome will be in separate rows; Each syndrome attached to a record will be in a separate row with the rest of the information in the record repeating.

# 4 External Function

## 4.1 Hospital Reports

### 4.1.1 Hospital Login

Hospitals will be given a Single Sign-On login to run reports on syndrome information. Based on the user properties (from single sign-on), a user will only be able to see their hospitals data or the whole state's data.

#### 4.1.1.1 Report Specifications

Hospitals should be able to run reports based on date (to and from), by region and by syndrome.

- DHH to provide what needs to be included in the Hospitals Reports

# 5 Business-Related Questions

| No. | Issue | Status |
|---|---|---|
| 1 | Requirements on Admin and Hospital reports. | Open |
| 2 | Which errors should be tracked? Need business rules for all possible errors on input records.<br><br>Solution: See LEEDS document. | Closed |
| 3 | | |
| 4 | | |