



# **Medication Visualizer**

## **User Manual**

**Team: Apollo**

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## 1.0 Medication Visualizer

The application can be accessed using below link:

<https://apps.hdap.gatech.edu/medviz2-frontend>

The application has three sections-

- The Home page
- The Dashboard page
- The Search Page

## 2.0 Home Page

The home page or the landing page list the basic details about the application. It features the functionalities of Search and Dashboard pages

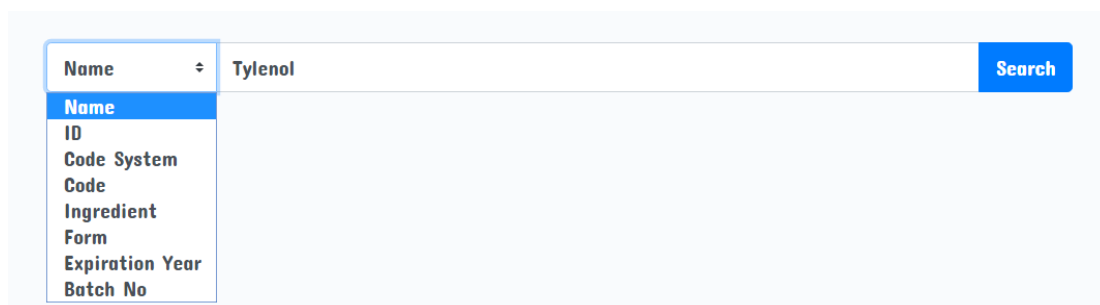
## 3.0 Search Medicine

Search functionalities allow users to search for medications with dropdown options and display results in a table. Various search options are available. Review them in details below

### 3.1 Search by medication name

Search by medication name allows the user to search an Rx with its generic brand name.

On the Search screen, select "Name" from the dropdown and enter the Rx name.



The screenshot shows a search interface with a dropdown menu on the left and a search input field on the right. The dropdown menu is open, showing options: Name, ID, Code System, Code, Ingredient, Form, Expiration Year, and Batch No. The 'Name' option is selected and highlighted in blue. The search input field contains the text 'Tylenol'. To the right of the input field is a blue button labeled 'Search'.

In the above example, the search was performed on "Tylenol." The results are displayed below.

Name

Tylenol

Search

Total Record Count:1

| ID        | Name       | Code              | Form                                    | Ingredient   | Batch No | Expiration Date |
|-----------|------------|-------------------|---|--|----------|-----------------|
| EXmed0309 | Tylenol PM | ndc: 50580-506-02 | Film-coated tablet<br>(qualifier value) | Acetaminophen 500<br>MG Diphenhydramine<br>Hydrochloride 25 mg | 9494788  | 2017-05-22      |

## 3.2 Search by medication ID

Search by medication ID allows users to search an Rx with its ID.

On the Search screen, select "ID" from the dropdown and enter the Rx ID

ID

Exmed0303

Search

ID

Name

ID

Code System

Code

Ingredient

Form

Expiration Year

Batch No

In the above example, the search was performed on "Exmed0303". Results are displayed below

ID

Exmed0303

Search

Total Record Count:1

| ID        | Name                              | Code            | Form                                    | Ingredient              | Batch No | Expiration Date |
|-----------|-----------------------------------|-----------------|---|-------------------------|----------|-----------------|
| EXmed0303 | Alentuzumab 10mg/ml<br>(Lemtrada) | rxnorm: 1594660 | Injection solution (qualifier<br>value) | Alentuzumab (substance) | 9494788  | 2017-05-22      |

## 3.3 Search by medication coding system

Search by the medication coding system allows users to search an Rx with its coding system.

On the Search screen, select "Code System" from the dropdown and enter the Rx Code System

Code System

rxnorm

Search

Name

ID

Code System

Code

Ingredient

Form

Expiration Year

Batch No

In the above example, the search was performed on "rxnorm". Results are displayed below

Code System

⊕

rxnorm

Search

Total Record Count:9

| ID              | Name                                    | Code            | Form                                 | Ingredient              | Batch No | Expiration Date |
|-----------------|---|-----------------|--------------------------------------|-------------------------|----------|-----------------|
| EXmed0303       | Alentuzumab 10mg/ml (Lemtrade)          | rxnorm: 1594660 | Injection solution (qualifier value) | Alentuzumab (substance) | 9494788  | 2017-05-22      |
| EXmed0314       | Alprazolam 0.25mg Oral Tablet           | rxnorm: 308047  | Tablet dose form (qualifier value)   | Alprazolam (substance)  | Unknown  | Unknown         |
| EXmed0315       | Mometasone Furoate 0.05mg/Actuast       | rxnorm: 358793  | Nasal Spray                          | Unknown                 | Unknown  | Unknown         |
| EXmedexample015 | Capecitabine 500mg oral tablet (Xeloda) | rxnorm: 213293  | Tablet dose form (qualifier value)   |                         | 9494788  | 2017-05-22      |

### 3.4 Search by medication code

Search by medication code allows users to search an Rx with its code in the coding system.

On the Search screen, select "code" from the dropdown and enter the Rx Code

|                 |              |
|-----------------|--------------|
| Code            | 0169-7501-11 |
| Name            |              |
| ID              |              |
| Code System     |              |
| Code            |              |
| Ingredient      |              |
| Form            |              |
| Expiration Year |              |
| Batch No        |              |

In the above example, the search was performed on "0169-7501-11". Results are displayed below

Code

=

0169-7501-11

Search

Total Record Count:1

| ID        | Name            | Code              | Form                                 | Ingredient                 | Batch No | Expiration Date |
|-----------|-----------------|-------------------|--------------------------------------|----------------------------|----------|-----------------|
| EXmed0307 | Novolog 100u/ml | ndc: 0169-7501-11 | Injection solution (qualifier value) | Insulin Aspart (substance) | 12345    | 2019-10-31      |

### 3.5 Search by medication ingredient

Search by medication ingredient allows users to search an Rx with its medication ingredient.

On the Search screen, select "Ingredient" from the dropdown and enter the Rx Ingredient

Ingredient
Acetaminophen

Name  
ID  
Code System  
Code  
**Ingredient**  
Form  
Expiration Year  
Batch No

In the above example, the search was performed on "Acetaminophen." The results are displayed below.

Ingredient
Acetaminophen
Search

Total Record Count:2

| ID        | Name            | Code              | Form                                 | Ingredient   | Batch No | Expiration Date |
|-----------|-----------------|-------------------|--------------------------------------|--|----------|-----------------|
| EXmed0308 | Percocet tablet | ndc: 15590-619-30 | Tablet dose form (qualifier value)   | Oxycodone HCl Acetaminophen                              | 655484   | 2020-07-31      |
| EXmed0309 | Tylenol PM      | ndc: 50580-506-02 | Film-coated tablet (qualifier value) | Acetaminophen 500 MG Diphenhydramine Hydrochloride 25 mg | 9494788  | 2017-05-22      |

## 3.6 Search by medication form

Search by medication form allows users to search an Rx with its medication form.

On the Search screen, select "Form" from the dropdown and enter the Rx form

Form
tablet

Name  
ID  
Code System  
Code  
Ingredient  
**Form**  
Expiration Year  
Batch No

In the above example, the search was performed on a "tablet." Results are displayed below

| Form                  | =                                       | tablet            | <div>Search</div>                    |  |          |                 |
|-----------------------|---|-------------------|--------------------------------------|--|----------|-----------------|
| Total Record Count:10 |   |                   |                                      |  |          |                 |
| ID                    | Name                                    | Code              | Form                                 | Ingredient   | Batch No | Expiration Date |
| EXmed0316             | Chlorthalidone 50mg tablet (product)    | ndc: 317935006    | Tablet dose form (qualifier value)   |  | Unknown  | Unknown         |
| EXmed0304             | Myleran 2mg tablet, film coated         | ndc: 76368-713-25 | Film-coated tablet (qualifier value) | Busulfan (substance)                                     | 9494788  | 2017-05-22      |
| EXmed0308             | Percoacet tablet                        | ndc: 16590-619-30 | Tablet dose form (qualifier value)   | Oxycodone HCl Acetaminophen                              | 658484   | 2020-07-31      |
| EXmed0309             | Tylenol PM                              | ndc: 50580-506-02 | Film-coated tablet (qualifier value) | Acetaminophen 500 MG Diphenhydramine Hydrochloride 25 mg | 9494788  | 2017-05-22      |
| EXmed0310             | Oral Form Oxycodone (product)           | ndc: 430127000    | Tablet dose form (qualifier value)   |  | Unknown  | Unknown         |
| EXmed0311             | Prednisone 5mg tablet (Product)         | ndc: 372944007    | Tablet dose form (qualifier value)   |  | Unknown  | Unknown         |
| EXmed0316             | Alprazolam 0.25mg Oral Tablet           | rxnorm: 388047    | Tablet dose form (qualifier value)   | Alprazolam (substance)                                   | Unknown  | Unknown         |
| EXmed0320             | Azithromycin 250mg capsule (product)    | ndc: 324252006    | Tablet dose form (qualifier value)   |  | Unknown  | Unknown         |
| EXmed0321             | Capecitabine (product)                  | ndc: 100761006    | Tablet dose form (qualifier value)   |  | Unknown  | Unknown         |
| EXmedexample015       | Capecitabine 500mg oral tablet (Xeloda) | rxnorm: 213293    | Tablet dose form (qualifier value)   |  | 9494788  | 2017-05-22      |

### 3.7 Search by medication expiration year

Search by medication expiration year allows users to search Rx with an expiry date.

On the Search screen, select "Expiration Year" from the dropdown and enter the year

Expiration Year

2017

Name

ID

Code System

Code

Ingredient

Form

Expiration Year

Batch No

In the above example, the search was performed on the expiry year "2017". Results are displayed below

Expiration Year

=

2017

Search

Total Record Count:6

| ID              | Name  | Code              | Form                                  | Ingredient   | Batch No | Expiration Date |
|-----------------|---|-------------------|---------------------------------------|--|----------|-----------------|
| EXmed0301       | Vancomycin Hydrochloride (VANCOMYCIN HYDROCHLORIDE) | ndc: 0069-2587-10 | Injection Solution (qualifier value)  | Vancomycin Hydrochloride                                 | 9494788  | 2017-05-22      |
| EXmed0303       | Alemtuzumab 10mg/ml (Lemtrada)                      | rxnorm: 1594660   | Injection solution (qualifier value)  | Alemtuzumab (substance)                                  | 9494788  | 2017-05-22      |
| EXmed0304       | Myleran 2mg tablet, film coated                     | ndc: 76368-713-25 | Film-coated tablet (qualifier value)  | Busulfan (substance)                                     | 9494788  | 2017-05-22      |
| EXmed0305       | Timoptic 5mg/ml solution                            | ndc: 2501-613-16  | Ophthalmic Solution (qualifier value) | Timolol Maleate (substance)                              | 9494788  | 2017-05-22      |
| EXmed0309       | Tylenol PM  | ndc: 50580-506-02 | Film-coated tablet (qualifier value)  | Acetaminophen 500 MG Diphenhydramine Hydrochloride 25 mg | 9494788  | 2017-05-22      |
| EXmedexample015 | Capecitabine 500mg oral tablet (Xeloda)             | rxnorm: 213293    | Tablet dose form (qualifier value)    |  | 9494788  | 2017-05-22      |

### 3.8 Search by medication batch number

Search by medication batch number allows users to search an Rx with the batch number.

On the Search screen, select "Batch No" from the dropdown and enter the batch number

The screenshot shows a search interface. At the top, there is a dropdown menu labeled 'Batch No' with a downward arrow. To its right, the value '9494788' is entered. Below the dropdown, a list of search criteria is displayed: Name, ID, Code System, Code, Ingredient, Form, Expiration Year, and Batch No. The 'Batch No' option is highlighted in blue.

In the above example, the search was performed on the batch number "9494788". The results are displayed below.

| Batch No             |   | 9494788           |                                       |                             | <div>Search</div> |                 |
|----------------------|---|-------------------|---------------------------------------|-----------------------------|-------------------|-----------------|
| Total Record Count:6 |   |                   |                                       |                             |                   |                 |
| ID                   | Name  | Code              | Form                                  | Ingredient                  | Batch No          | Expiration Date |
| EXmed0301            | Vancomycin Hydrochloride (VANCOMYCIN HYDROCHLORIDE) | ndc: 0069-2587-10 | Injection Solution (qualifier value)  | Vancomycin Hydrochloride    | 9494788           | 2017-05-22      |
| EXmed0303            | Alemtuzumab 10mg/ml (Lemtrada)                      | rxnorm: 1594660   | Injection solution (qualifier value)  | Alemtuzumab (substance)     | 9494788           | 2017-05-22      |
| EXmed0304            | Myleran 2mg tablet, film coated                     | ndc: 76388-713-25 | Film-coated tablet (qualifier value)  | Busulfan (substance)        | 9494788           | 2017-05-22      |
| EXmed0305            | Timoptic 5mg/ml solution                            | ndc: 2501-813-16  | Ophthalmic Solution (qualifier value) | Timolol Maleate (substance) | 9494788           | 2017-05-22      |

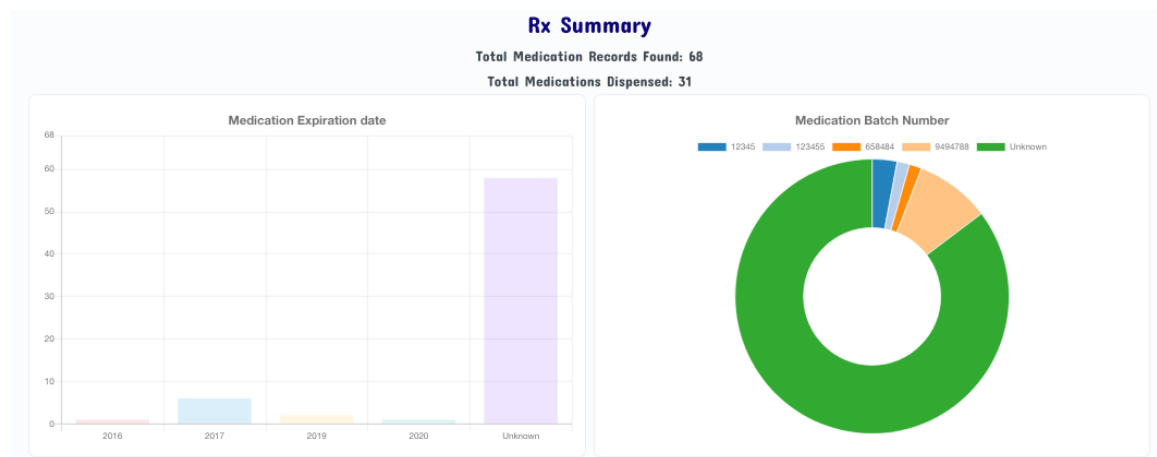
## 4.0 Dashboard

The dashboard is a single page display of all the important aspect of medications visualization as charts



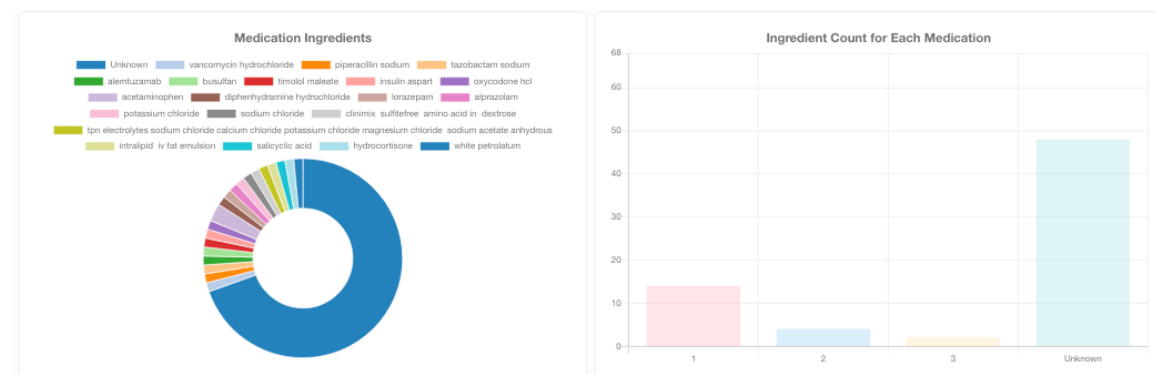
Bar graph displaying the number of medications expiring for a certain year

Doughnut graph displaying the quantity of medications that belong to a particular batch



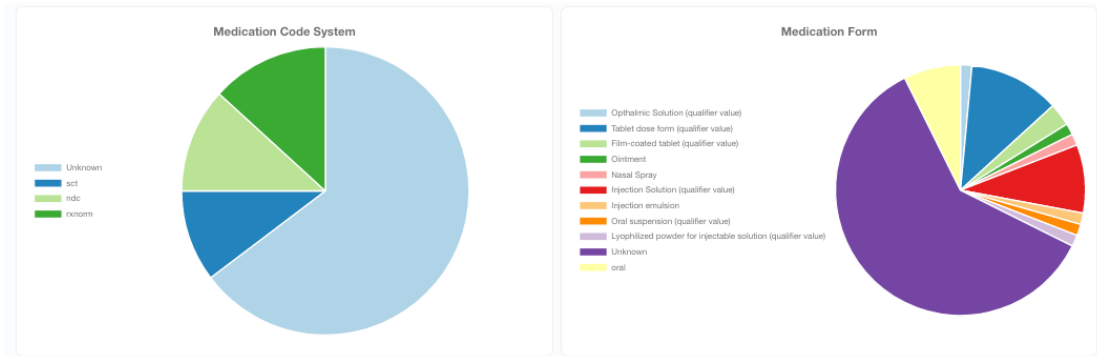
Doughnut graph of the ingredients of all medications

Bar graph of the number of ingredients that make up a medication



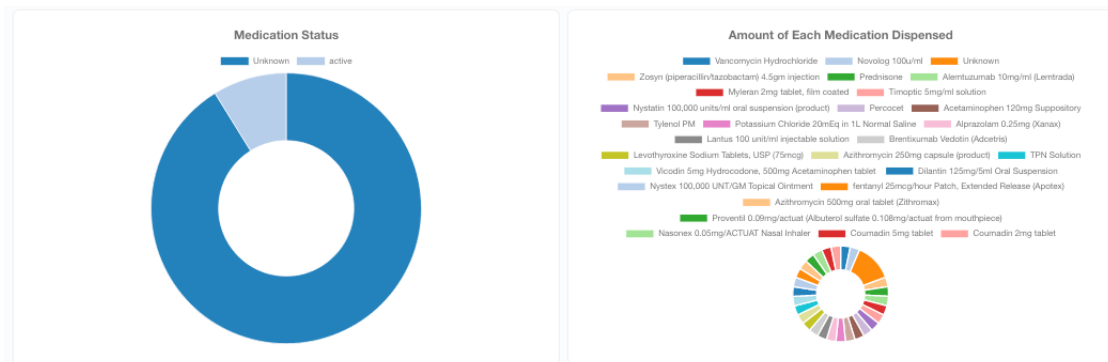
Pie chart of the number of medications to belong to each medication code system

Pie chart of the quantity of medications for each medication form



Doughnut chart of the status for active medications

Doughnut chart of the medications that were dispensed and the quantities in which dispensed



## 5.0 Contact Information

For any additional feedback and suggestion, please reach out to the Medication Visualization team.