

User Guide

HINcontext

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Welcome to the HINcontext Application

HealthInfoNet's HINcontext application allows providers to receive specific information concerning a patient's medical history from the statewide Health Information Exchange (HIE) while working in context of their electronic health record (EHR) system.

The application has been flexibly designed to allow EHR systems to query HealthInfoNet's HIE database from within existing provider workflows and to return and display the HIE data in a fashion most convenient for both the EHR technology and the provider viewing the information.

HealthInfoNet's HINcontext application was designed and developed in partnership with the Chesapeake Regional Information System for our Patients (CRISP), a regional HIE serving Maryland, the District of Columbia, and West Virginia, intended to provide a solution that adapts and advances as clinical workflows and needs change across the care continuum.



Obtaining Access to the Application

The HINcontext application has been designed to be readily available to authorized users within context of their native EHR technologies. For that reason, each individual organization's Help Desk or IT team controls the application's access and authorization permissions for its users.

1. **New Users** – If you are interested in obtaining access to the HINcontext application, ask your local Help Desk or IT team for assistance in extending the appropriate permissions to your Epic account.
2. **Help Desk/IT Teams** –
 - a. For questions about how to extend permissions for new users to access the HINcontext application, please reach out to your organization's Epic Technical Services for assistance.
 - b. Once you have successfully extended permissions, please contact HealthInfoNet's Customer Support team at customercare@hinfonet.org to provide us with the new users' **Epic IDs** and **Affiliated Facility Names** to ensure that auditing and compliance reporting is configured appropriately within our system.
 - i. In the event that HealthInfoNet cannot identify certain users' Epic IDs in our review of the HINcontext audit logs, our Customer Support team will reach out directly to the organization's Help Desk or IT teams for confirmation.



Finding the Application in EHR Workstations

Upon obtaining access to the HINcontext application, users should find the application pinned to a portion of their EHR's workstation screen (per configuration decisions by an organization's Help Desk/IT team) within their Epic EHR workstations (Figure 1).

Figure 1. HINcontext Embedded Configuration Within Epic EHR Workstation


The screenshot displays the Epic EHR workstation interface. The main window shows the patient record for **Anthem Resolute**, a 26-year-old male, with MRN: E2597818. The patient's primary care provider is **Amann, Peter G. MD**. The patient's address is **234 SPRING ST, AUBURN ME 04210**. The patient's recent visits are listed in the **Recent Visits in this Dept** section. The patient's problem list includes **Heart block, congenital**. The patient's preferred labs are listed as **None**. The patient's last 3yr visits are listed as **None**. The patient's emergency department visits are listed as **None**. The patient's allergies are listed as **No Known Allergies**. The patient's medications are listed as **Outpatient Medications: None** and **Clinic-Administered Medications: None**. The patient's health maintenance is listed as **None**. The patient's EKG results are listed as **None**. The patient's cardiology studies are listed as **None**. The patient's echo results are listed as **None**. The patient's lipids are listed as **None**. The patient's chemistry labs are listed as **None**. The patient's hematology labs are listed as **None**. The patient's vitals from encounters over the past 360 days are listed as **No data recorded**.

The right-hand pane shows the **HIE InContext** application configuration. The application is titled **HIE InContext** and displays the patient's information: **ANTHEM RESOLUTE**, Male, May 15, 1994, Probable, 234 SPRING ST, AUBURN, ME 04210. An arrow points from a text box labeled **HINcontext Application Configuration** to the HINcontext application window.

Knowing What's Included in a Patient's Record

To learn more about the data included in the HINcontext application, visit HealthInfoNet's "Data Coverage" report [here](#) to review our current provider connections and the data types those providers are sending to the HIE ([Figure 3](#)).

Figure 3. Data Coverage Report

		Available Data		✓	Not Applicable		—	Recent Additions		✓	Revised 2/11/2020																												
Data Coverage		Hospital Inpatient & Emergency		Hospital Outpatient		Ambulatory		Office Visit Notes		Common Data Categories		Laboratory																											
		Discharge Summaries	Emergency Reports	History & Physicals	Consultations	OP Visit Documents	Office Visit Notes	Allergies	Anatomical Pathology	Care Plans	CCDs	Chief Complaint	Demographics	Diagnostic Codes ¹	EKG	Encounters	Immunization	Medications (SureScripts/MaineCare)	Operative, Diagnostic, Procedure Documents	Payer Category	PCP	Procedure Codes ¹	Problem List	Radiology Reports	Other Documents	Vitals	Internal Laboratory ²	Microbiology (Cultures)	Affiliated Lab (ALI)	Dahl Chase	NorDx	Quest							
Hospitals & Health Systems																																							
Calais Regional Hospital																																							
Calais Regional Hospital - Ambulatory		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Calais Regional Hospital - Inpatient & Outpatient		✓	✓	✓	✓	✓	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Cary Medical Center																																							
Cary Medical Center - Ambulatory		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

IMPORTANT: To avoid duplication of the patient information displayed between an EHR system and the HINcontext application, the application does not display any information about the patient's health care activities at the user's organization. Instead, the application only displays information about the patient included in the HIE that the user's EHR system may not contain.

Knowing What's Included in a Patient's Record (cont.)

Additionally, since the HINcontext application handles the HIE's patient consent requirements differently than HealthInfoNet's Clinical Portal, it is worth highlighting a few key considerations:

1. **Patients who are included in the HIE** – Upon selecting an individual patient record from the "Patient Match Screen," users are not required to "break the privacy seal" in order to view that patient's HIE information.
2. **Patients who have sensitive information in the HIE** – Regardless of whether patients have opted-in to sharing their sensitive information (i.e., mental health information) with HealthInfoNet or providers require access to it in the case of an emergency, the HINcontext application does not currently contain any sensitive information for patients. If this information is needed by users in their clinical workflows, HealthInfoNet recommends logging in to the Clinical Portal to obtain more information about the wanted patient.



Knowing What's Included in a Patient's Record (cont.)

Additionally, since the HINcontext application handles the HIE's patient consent requirements differently than HealthInfoNet's Clinical Portal, it is worth highlighting a few key considerations:

1. Patients who have opted-out of the HIE –
 - a. Should the user's desired search criteria for the wanted patient correspond with an exact match within HealthInfoNet for a patient who has previously opted-out of the HIE, the HINcontext application will not display the "Patient Match Screen" but instead will provide an error message indicating that the patient could not be found in the system ([Figure 4](#)).

Figure 4. Opt-Out Patient Match Screen Error



- b. Should the user's desired search criteria for the wanted patient correspond with multiple patient matches, mixed of both patients who are included in the HIE and patients who have previously opted-out of the HIE, the HINcontext application will display the "Patient Match Screen" but will not show the individual records for those patients who have opted-out.

Searching for & Matching Patient Records

From within their EHR, users can conduct a demographics-based search of an individual patient. Doing so initiates a query within HealthInfoNet to identify all patient records in the HIE that meet the desired criteria. HealthInfoNet will then send back to the HINcontext application all possible patient matches to display in the application's "Patient Match Screen" ([Figure 2](#)).

Figure 2. Patient Match Screen

The screenshot displays the 'HIE InContext' application interface. It features two patient match cards. The top card, titled 'Demo Hintest', shows a patient with the following details: Male, Sep 11, 1952, Probable match score, and address 125 PRESUMPCOT ST, Portland, ME 04103. The bottom card, titled 'DEMO HINTEST', shows a patient with the following details: Male, Sep 11, 1952, Likely match score, and address Unknown. Each card includes a house icon next to the address field.

Match Score	Sex	Date of Birth	Physical Address
Probable	Male	Sep 11, 1952	125 PRESUMPCOT ST, Portland, ME 04103
Likely	Male	Sep 11, 1952	Unknown

Within the "Patient Match Screen," individual records for each possible patient match are provided for users to review to assist in making an accurate identification of the wanted patient.

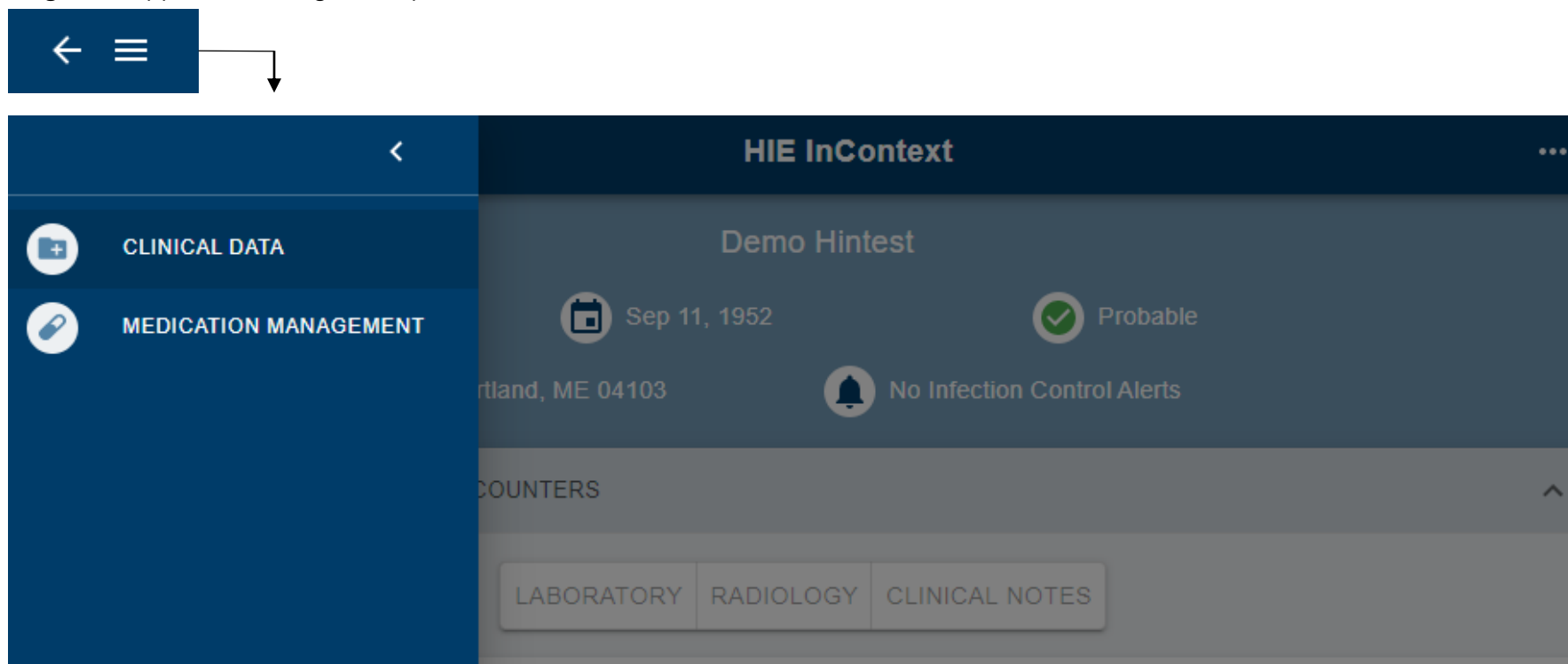
These records contain the following patient information:

1. First Name
2. Last Name
3. Sex
4. Date of Birth
5. Physical Address
6. Match Score (i.e., indication of how closely the original search criteria matches the information returned by HealthInfoNet)

Navigating the Application's User Interface

Upon selecting an individual patient record from the "Patient Match Screen," users will arrive to the user interface's default landing page – the selected patient's "Health Records" view. Access to the application's navigation can be found by selecting the tri-bar icon located in the upper-left hand corner of the screen, with options for "Clinical Data" or "Medication Management" modules ([Figure 5](#)).

Figure 5. Application Navigation Options



Viewing Demographic Information

In the upper portion of every screen within the user interface, the selected patient's demographic information is provided, including their Full Name, Sex, Date of Birth, Physical Address, and Match Score (i.e., indication of how closely the user's original search criteria matched the information returned by HealthInfoNet) ([Figure 6](#)).

Figure 6. Demographic Information



Viewing Clinical Data – Health Records

Within the "Clinical Data" module, the "Health Records" component contains information on the selected patient's Laboratory Results, Radiology Reports, and Clinical Notes ([Figure 7](#)). By selecting the type of health record of interest, the view will filter accordingly to display only those documents.

Figure 7. Health Records Component

The figure illustrates the Health Records component in the HINcontext Application. It shows two views of the component, one for the 'LABORATORY' tab and one for the 'RADIOLOGY' tab. Both views display a table of health records with columns for Date, Source, and Description. The 'LABORATORY' tab shows records from Central Maine Medical Center and Eastern Maine Medical Center. The 'RADIOLOGY' tab shows records from Eastern Maine Medical Center and Eastern Maine Healthcare Systems.

HEALTH RECORDS ENCOUNTERS

LABORATORY RADIOLOGY CLINICAL NOTES

Health Records

Date ↓	Source	Description
2018-09-14	Central Maine Medical Center	Colonoscopy St...
2018-09-14	Central Maine Medical Center	Colonoscopy St...
2018-09-13	Central Maine Medical Center	procedure note
2016-03-12	Eastern Maine Medical Center	Discharge sum...
2016-01-22	Eastern Maine Medical Center	Nutrition and die...
2015-12-11	St Joseph Hospital	Spine Lumbar M...

HEALTH RECORDS ENCOUNTERS

LABORATORY RADIOLOGY CLINICAL NOTES

Health Records

Date ↓	Source	Description
2012-04-21	Eastern Maine Medical Center	Potassium [Moles/volume] in Serum or Plasma
2012-04-20	Eastern Maine Medical Center	Potassium [Moles/volume] in Serum or Plasma
2011-07-11	Eastern Maine Healthcare Systems	Renal Function Panel

Viewing Clinical Data – Health Records (cont.)

By selecting an individual record within the "Health Records" view, a pop-up window will appear with additional information about the document in the format it was received by HealthInfoNet ([Figure 8](#)).

Figure 8. Individual Health Records Views

Prealbumin [Mass/volume] in Serum or Plasma
2011-02-18

Notes

Performed at Affiliated Laboratories Inc.
417 State Street, Suite 240, Bangor, ME 04401
(207)973-6900

Observations

Name
Prealbumin [Mass/volume] in Serum or Plasma

Specimens

Name

HC_Care Plan
2013-04-02

Patient's HI Claim No.: 0201A
Start Of Care Date: 3/31/2013
Certification Period: 3/31/2013 7/31/2013 11:59:59 PM
Medical Record No.: HIN1234-99999999
Provider Number: 101740000
Patient's Name and Address: HINTEST, DEMO 125 PRESUMPCOT ST
Provider's Name, Address and Telephone Number: BANGOR AREA VISITING NURSES 8 UNION STREET
Date of Birth: 9/11/1952
Sex: M
Medications: LISINOPRIL 5 mg TABLET (N) 1 ORAL Daily
Medications: SPIRIVA 18 mcg CAP W/DEV (N) 1 INHALATION Daily
Medications: TRAMADOL HCL 100 mg TAB.SR 24H (N) 2 ORAL 4 times daily as needed
Medications: ATIVAN 1 mg TABLET (N) 1 ORAL 3 times daily as needed
Medications: WELLBUTRIN 75 mg TABLET (N) 2 ORAL Daily
Medications: OMEPRAZOLE 20 mg CAPSULE DR (N) 1 ORAL 2 times daily
Medications: POTASSIUM CHLORIDE 10 mEq TABLET SA (N) 1 ORAL Daily
Medications: LASIX 20 mg TABLET (N) 1 ORAL Daily
Medications: METOPROLOL TARTRATE 25 mg TABLET (N) 1/2 ORAL
Medications: ASPIRIN 81 mg TABLET (N) 1 ORAL Daily

Chest X-ray 2 views
2013-02-06

St. Joseph Hospital
Medical Imaging Department
360 Broadway
Bangor, Maine 04401

MR#: HINSJH
Patient Name: HINTEST, DEMO
DOB: 09/11/1952
Sex: M
Account #: 0012
Sequence #: 00001

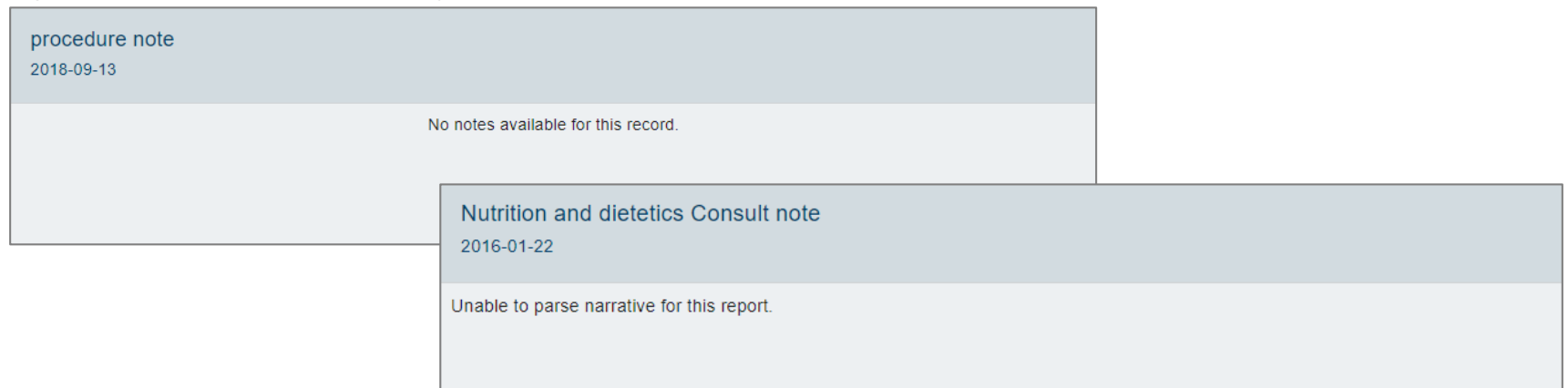
Report Status: VALIDATED REPORT
Exam: XR Chest Two Views
Reason: pneumonia due to other specified bacteria
Chest two views

Viewing Clinical Data – Health Records (cont.)

Upon selecting an individual record within the "Health Records" view, users may encounter two kinds of application error messages ([Figure 9](#)):

1. **"No notes available for this record"** – Indicates that there is no additional information for the selected record that HealthInfoNet was able to receive/process from the provider and therefore display to users in the HINcontext application.
2. **"Unable to parse narrative for this report"** – Indicates that there may be additional information for the selected record but the HINcontext application is unable to display the content due to formatting constraints (e.g., PDF and non-XML documents). In these cases, HealthInfoNet recommends logging in to the Clinical Portal to obtain more information about the wanted record.

Figure 9. Health Records Error Messages



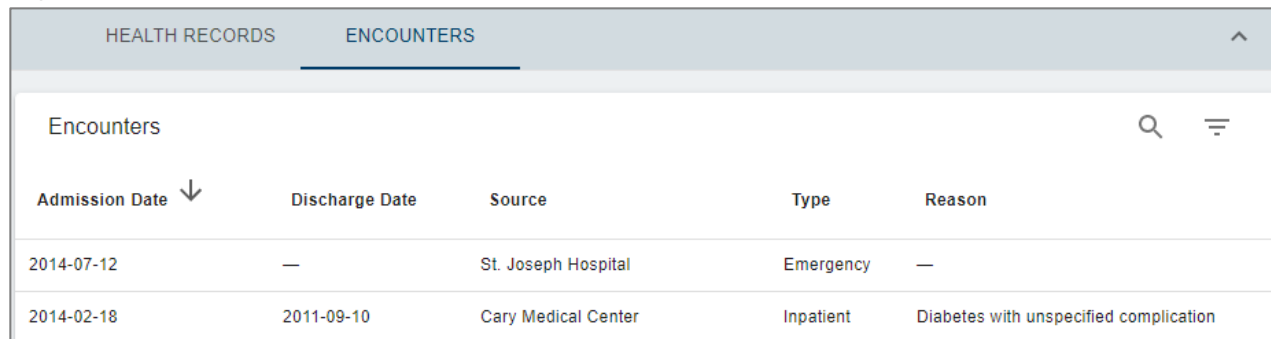
Viewing Clinical Data – Encounters

Also within the "Clinical Data" module is the "Encounters" component, which provides a list containing all of the selected patient's encounters/visits over time ([Figure 10](#)).

Fields included in the "Encounters" component include the following:

1. **Admission Date** – The date when the patient was admitted for the encounter
2. **Discharge Date** – The date when the patient was discharged for the encounter
3. **Source** – The facility of the provider who saw the patient for the encounter
4. **Service Type** – The type of visit (e.g., IP, OP, ED) for the encounter
5. **Primary Diagnosis Description** – The description of the patient's primary diagnosis recorded for the encounter

Figure 10. Encounters Component



The screenshot shows a web application interface for viewing patient encounters. At the top, there are two tabs: "HEALTH RECORDS" and "ENCOUNTERS", with "ENCOUNTERS" being the active tab. Below the tabs is a header bar with the word "Encounters" on the left, a magnifying glass icon for search, and a filter icon on the right. The main content area contains a table with five columns: "Admission Date" (with a downward arrow indicating sorting), "Discharge Date", "Source", "Type", and "Reason". There are two rows of data in the table.

Admission Date ↓	Discharge Date	Source	Type	Reason
2014-07-12	—	St. Joseph Hospital	Emergency	—
2014-02-18	2011-09-10	Cary Medical Center	Inpatient	Diabetes with unspecified complication

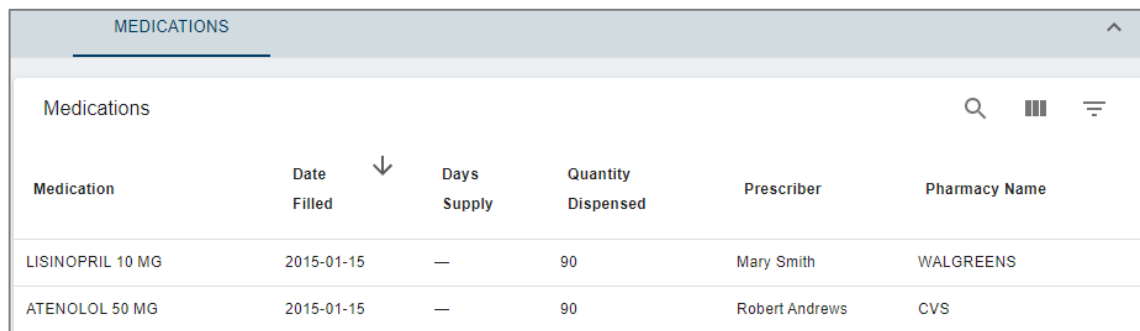
Viewing Medication Management – Medications

Within the "Medication Management" module, the "Medications" component provides a list containing all of the selected patient's prescription medications dispensed within the last 120 days ([Figure 11](#)).

Fields included in the "Medications" component include the following:

1. **Medication** – The name/description of the patient's prescription
2. **Date Filled** – The date when the patient's prescription was dispensed
3. **Days Supply** – *This field is not currently supported by HealthInfoNet's medication data*
4. **Quantity Dispensed** – The quantity amounts for the patient's prescription
5. **Prescriber** – The provider who prescribed the patient's prescription
6. **Pharmacy Name** – The pharmacy where the prescription was dispensed to the patient

Figure 11. Medications Component



The screenshot shows a web application interface for viewing medications. At the top, there is a header bar with the word "MEDICATIONS" in blue. Below this is a sub-header "Medications" with a search icon, a bar chart icon, and a list icon. The main content is a table with the following columns: Medication, Date Filled, Days Supply, Quantity Dispensed, Prescriber, and Pharmacy Name. The table contains two rows of data.

Medication	Date Filled	Days Supply	Quantity Dispensed	Prescriber	Pharmacy Name
LISINOPRIL 10 MG	2015-01-15	—	90	Mary Smith	WALGREENS
ATENOLOL 50 MG	2015-01-15	—	90	Robert Andrews	CVS

Using Additional Functionality

In many of the data components available throughout the application, there are additional ways to optimize user experience and space within the user interface, including:



Allows users to search a view based on keywords and phrases



Gives users the option to add/remove columns from a view



Provides users with the ability to filter a view based on a number of criteria

Additionally, in the banner of each component title there is an **up-arrow** that allows users to collapse the Demographics Information portion of the screen. When collapsed, users can alternatively select the **down-arrow** to expand the Demographics Information portion of the screen again ([Figure 12](#)).

Figure 12. Demographic Collapse/Expand Functionality





Clinical Education & Training Opportunities

- In-person and online trainings available for all services; contact clienteducation@hinfonet.org for more information
- Public resources available at <https://hinfonet.org/resources/clinical-education/>
- HealthInfoNet's online training site also provides courses and CNE credits to better understand and effectively use the HIE; visit <http://hinfonetacademy.org/> for more information



Change Log

The following change log provides information about updates and revisions made to the HINcontext application and this version of its user guide (for Epic EHR user roles) ([Table 1](#)).

Table 1. User Guide Change Log (Epic EHR user roles)

Version	Description	Effective Date
1.0	Released the “HINcontext User Guide” for Epic user roles.	June 25, 2020



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