GE Healthcare

Centricity™ Practice Solution v12.3

Release summary

January 2018

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U.S. English
Revision 5
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Contents

1. Introduction

This document is intended for system administrators and clinic managers installing Centricity™ Practice Solution version 12.3. The sections in this guide describe the changes made for this release, including new features, enhancements, product fixes, and known issues.

In this release

A focus of this release is Meaningful Use 2015 Certification compliance; for certification feature highlights and quick links, see MU 2015 Certification updates.

Changes reported for this release are grouped by functional area:

- **Billing:** View fixes and known issues for bulk payment processing, payment entries, and billing transactions.
- **Chart:** Access updates to Patient Education and Clinical Decision Support; review the new Implantable Device feature to track patient devices within the system.
- **CCDA:** Access CCDA advancements with CCDA version 2.1; this feature has been upgraded to support HL7® FHIR® for secure data transactions.
- **Medications, prescriptions, and EPCS:** Provide cost savings to patients and receive government and manufacturer safety notifications with Medication Discounts and Alerts; review Permissions-based signing options and EPCS fixes. Use the Bulk Update option in Rx Refills to reassign multiple prescriptions to authorized providers at a time.
- **Miscellaneous:** View fixes for interactions with third-party systems and additional corrections.
- **Orders:** Access fixes related to orders workflows.
- **Registration:** Review updates to the patient registration workflow, including enhancements to capture patient sexual orientation/gender identity (SOGI), preferred languages, and patient race and ethnicity information.
- **Reports:** Review the newly available Prescription Drug Monitoring Program feature (installation assistance required); run a Controlled Drug Report from this feature to identify potential instances of prescription drug abuse.
- **System:** View system backup enhancements; access fixes specific to installation and performance.
- **Install the release:** Access links to install and upgrade documentation for this release.
- **Contact Centricity Services:** Access links and contact numbers for additional support.
- **APPENDIX A: CCDA document structures:** View supported XML structures for inbound CCDA files (applies to CCDA v1.1 and 2.1).

MU 2015 Certification updates

The following enhancements in this release support Meaningful Use measures for ONC 2015 certification.

Chart

Context-specific patient education, measure 170.315 a13; *see page 18.*

Clinical decision support, measure 170.315.a.9; *see page 25.*

Implantable device lookup, measure 170.315 a14; *see page 28.*

CCDA

CDA Generator, measure 170.315 b4, e1, g9; *see page 41.*

CDA Generator and document maps, measure 170.315 b4, e1, g9; *see page 43.*

CDA Validator, measure 170.315 b1; *see page 47.*

TOC Viewer, measure 170.315 b1; *see page 49.*

GE Healthcare API portal, measure 170.315 g7, g8, g9; *see page 50.*

Reconcile, link, or request CCDAs, measure 170.315.g.2; *see page 37.*

CCDA document structures, measure 170.315 b2

Medications, prescriptions, and EPCS

Prescription change, fill, and cancel, measure 170315(b)(3); *see page 83.*

Registration

Multiple race and ethnicity entries, measure 170.315.a.5; *see page 101.*

Sexual orientation and gender identity, measure 170.315.a.5; *see page 108.*

Preferred language options, measure 170.315.a.5; *see page 109.*

Document conventions

The following conventions are used in this guide.

	Recommended audience
	Helpful links to documents and external sites
	Workflow path
	Technical note
MU	Supports ONC Certification Meaningful Use certification

Requirements and recommendations

Azure Active Directory tenant required for CCDA 2.1

AUDIENCE: System administrators and clinic managers

A Microsoft Azure portal subscription and an Azure Active Directory tenant is required to access the CCDA version 2.1 functionality in this release; it is also required to support future Centricity system development to meet ONC certification standards. See the Centricity Azure AD Onboarding Guide for step-by-step installation instructions to enable system access. (see https://engage.gehealthcare.com/community/en/cps/documentation to access this guide).

Single -factor authentication methods in e-prescribing

AUDIENCE: System administrators and clinic managers

Depending on your clinic location, the user authentication method required to prescribe medications may vary. If your organization has a need for installing single-factor e-prescribing for non-controlled substances, see Single-factor authentication in e-prescribing.

RxMedAdherence.ckt and IMPORT_IMPLANTABLEDEVICE_HTML_FORM.ckt

AUDIENCE: System administrators

Two text files, RXMedAdherence.ckt and IMPORT_IMPLANTABLEDEVICE_HTML_FORM.ckt are required to support Medication Discount and Implantable Device features. These files are automatically included with this software version but require installation. See Medication Discounts and Alerts and Implantable Device features for guidelines.

Installer version format

AUDIENCE: System administrators

The installer included with the software now has a version number format that differs from that of the release build. For the installer, the build number appears prior to the release number. This difference is intentional (binary or database versions are not affected by this change).

Example: Build format: 1.2.44.3333 / Installer format: 1.2.3333.44

.NET versioning for 12.3

When you install this release, the installer checks the version of .NET running on the target server or client machine. If the version installed is equal or greater than 4.5.2, then no update occurs. If the currently installed version is earlier than 4.5.2, the installer notifies you that an upgrade will occur and prompts you for permission to continue. If granted, then 4.5.2 is installed and full product installation resumes. IMPORTANT: .NET 4.5.2 installation requires a system restart. Ensure that 12.3 installation occurs during a maintenance window when the server or client machine may be restarted; if the need for .NET 4.5.2 is detected and you confirm the installation, the installer will automatically begin the installation and will restart the target machine. IMPORTANT: Carefully consider the implications of upgrading to .NET 4.5.2 on

a given server or client machine; if the machine is running other software with a dependency on a .NET version that is earlier than 4.5.2, consult that software vendor or vendor documentation for guidance.

Transparent Data Encryption (TDE) feature for SQL Server

Centricity Practice Solutions version 12.3 and above now can be used with Microsoft's Transparent Data Encryption (TDE) feature for SQL Server. This feature encrypts your data as it is stored in the database to provide enhanced 'data at rest' security. TDE is turned off by default in Centricity and must be activated by an experienced, professional database administrator at your site. During the activation process, certain keys and other encryption information may be generated which must be safely stored by your administrator to access the database for service, upgrades, troubleshooting or other maintenance work. GE does not recommend TDE be activated unless the organization has an experienced database administrator. If you request services from General Electric, assistance from your database administrator will be required for GE to provide these services. If database keys or other encryption codes are lost, it may be impossible to move, upgrade, troubleshoot or do other maintenance work on your database. General Electric cannot recover lost keys or codes.

In addition, database encryption will require modifications to your database backup methods to ensure that both data and required certificates, keys or other encryption information is properly backed up alongside core data. General Electric does not provide support services for TDE or encryption related functions. Please see detailed documentation provided by Microsoft on the TDE feature for more information or contact Microsoft for technical support.

Backing up customized CCDA docmap files

If you use the CDA Designer to customize CCDA documents, you must save customized CDA Generator files to a secure location to reinstall after upgrades or for disaster recovery. IMPORTANT: Now, if you customize CCDA docmaps or transformations and do not save customized versions to a secure location and an upgrade or disaster event occurs, file customizations will be lost.

CCDA 2.1 required for 2018 quality reporting

This release includes new CCDA 2.1 features that qualify as 2015 Certified EHR Technology. Existing CCDA 1.1 features remain available for 2017 quality reporting and may be used in 2018 but are not considered 2014 CEHRT for the purposes of quality reporting in 2018. Prior to your 2018 Advancing Care Information (ACI) performance period, plan to either migrate to CCDA 2.1 or upgrade to a subsequent 12.3 service pack that qualifies CCDA 1.1 as 2014 CEHRT.

CCC Basic 1.5 upgrade

IMPORTANT: The recommended CCC Basic version for use with CPS v12.3 is 1.5; while you can install this release without having upgraded from CCC Basic 1.4 to 1.5, ensure that you upgrade to version 1.5 shortly after installing.

Resolving locked and corrupted patient documents

AUDIENCE: System administrators

Access the Document Admin Toolkit to unlock files or fix corrupted patient documents as needed. Use the following to unlock or fix corrupted files.

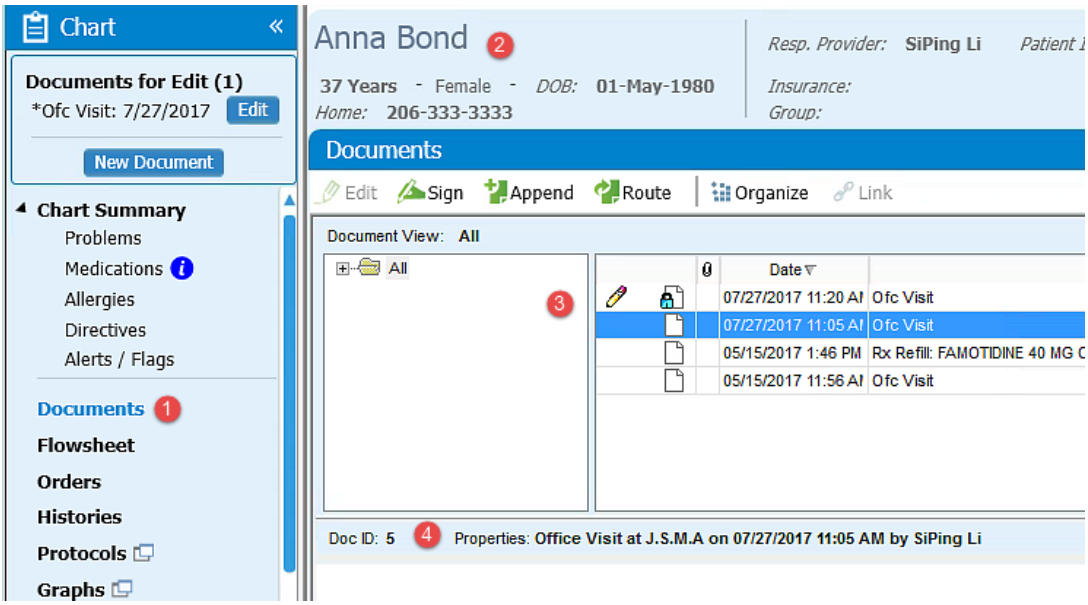
IMPORTANT: After using the Document Admin Toolkit to unlock or repair a patient document, a confirmation message displays. Open the document to ensure that the file is unlocked or repaired. If you are still unable to access the locked file after using the toolkit, contact Centricity Support at 888.436.8491 for assistance.

Before you begin

Toolkit prerequisites: Ensure that the .NET 4.5.2 framework is installed.

Gather document data: Gather the information required to unlock or repair a document.

- **Gather database access information.** When you access the Centricity Admin Toolbox, you are prompted to enter the Host IP for the database where the document resides, the database name, a system admin user name with access to the database, and the database admin password. Have these values ready prior to accessing the tool.
- **Gather patient and document information.** In a patient chart, select **Documents** (left menu); in the patient banner, confirm the patient's first and last name. In the document table, select the document to unlock or repair; in the viewing pane below, the Doc ID displays (upper left). Record the patient's first name, last name, and the document ID.

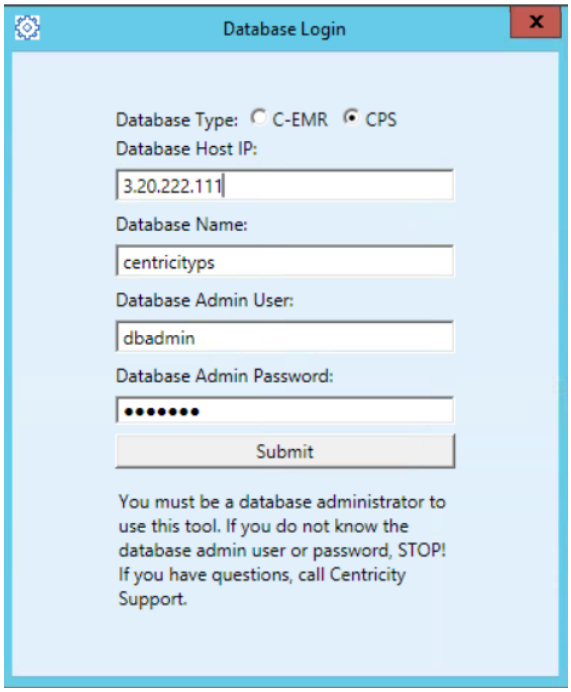


(1) Select Documents, (2) Confirm the patient's first and last name, (3) select the document, (4) record the Doc ID

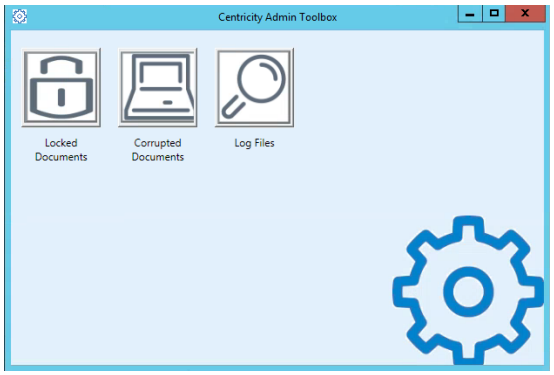
Unlock or fix a corrupted document

1. In the main Centricity Practice Solution menu, select **Support**.
2. Select **Document Admin Toolkit**.

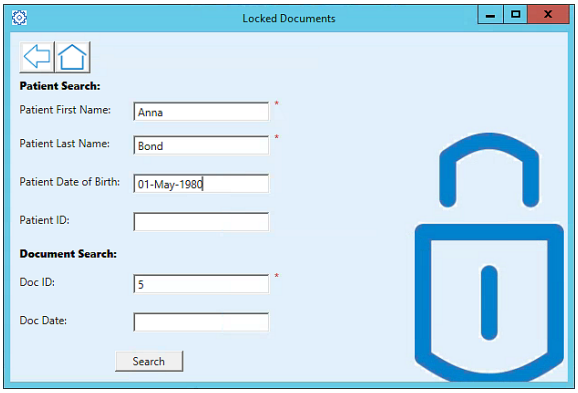
3. In Database Login; select **CPS** as the database type; enter Host IP, the database name, a system admin user name with access to the database, and the system admin password; click **Submit**.



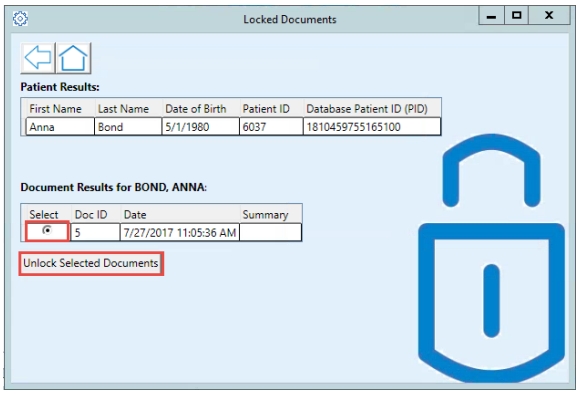
4. In the Home View, select **Locked Documents** or **Corrupted Documents** to unlock a file or fix a corrupted document.



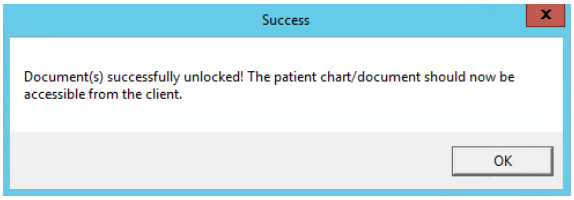
- Locked Documents: Select **Locked documents;** Enter the patient's first and last name, and the locked document ID (required).



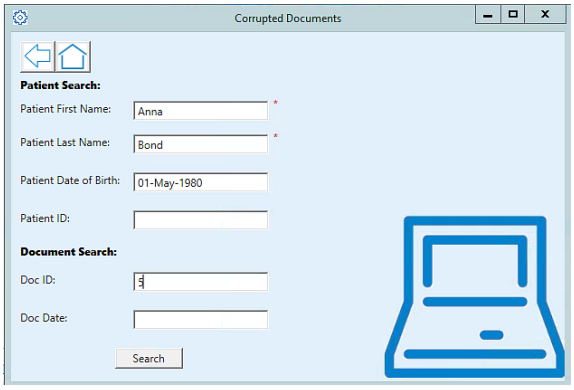
Click **Search**; a list of documents displays, which are selected by default for unlocking. Deselect documents you prefer not to unlock; ensure that the documents to unlock are selected. Click **Unlock Selected Documents**.



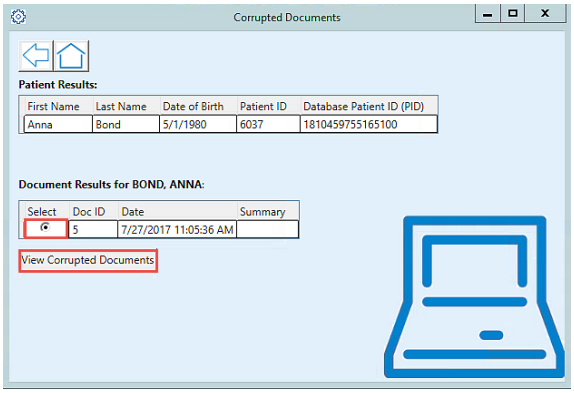
IMPORTANT: After unlocking a patient document, a confirmation message displays. Open the document to ensure that the file is unlocked. If you are still unable to access the locked file after using Toolbox 1.1, contact Centricity Support at 888.436.8491 for assistance.



- Corrupted documents: From the main menu, select **Corrupted Documents**. Enter the patient's first and last name (required). Click **Search**.



A list of documents displays, which are selected by default. Deselect documents you prefer not to repair; ensure that the documents to repair are selected. Click **View Corrupted Documents.**



A listing of the text that must be overwritten to correct the file displays. Review carefully; click **Continue**. Click **Clean Document** to overwrite the text issues and repair the document

IMPORTANT: After repairing a patient document, a confirmation message displays. Open the document to ensure that the file is repaired. If the document is not repaired, Contact Centricity Support at 888.436.8491 for assistance.

Supported software versions

Client platforms

Windows client

Client OS: Windows 10 Professional, 32-bit and 64-bit
Windows 8.1/RT Professional, 32-bit and 64-bit
Windows 7 Professional, 32-bit and 64-bit (SP1)

Embedded Browser: Internet Explorer 11, 32-bit

Web client

Desktop Browser/Embedded Browser:
Internet Explorer 9, 10
Internet Explorer 11, 32-bit
Firefox 50.0
Safari 10.0 (Mac OS)

Office applications: Use of Microsoft Word or Excel with CPS

Microsoft Office suite: Office 2016, Office 2013, and Office 2010

Client virtualization

Citrix client: Citrix Receiver 4.3.100 and 4.6 for Windows Desktop
Citrix Receiver 1.4.5 for Windows 8/RT

Citrix server: XenApp 7.6 64-bit on Windows Server 2012 R2 Standard/Datacenter 64-bit

Windows Terminal Services client: RDP 6.1 at minimum

Windows Terminal Services server: Windows Server 2012 R2 Standard/Datacenter 64-bit

VMWare server: Not applicable

Server platforms

SQL Database Server

SQL versions: SQL Server 2016 SP1 at minimum
SQL Server 2014 SP1 at minimum
SQL Server 2012 SP1 at minimum
SQL Server 2008 R2 SP2 at minimum

Windows OS: Windows Server 2008 R2 Standard SP1 at minimum
Windows Server 2008 R2 Enterprise SP1 at minimum
Windows Server 2008 R2 Data Center SP1 at minimum
Windows Server 2012 Standard
Windows Server 2012 Datacenter
Windows Server 2012 R2 Standard
Windows Server 2012 R2 Datacenter

Unix OS: Not applicable

Application Server

Server software: Jboss 6.4 with 64-bit JVM

OS: Windows Server 2008 R2 Standard SP1 at minimum
- Windows Server 2008 R2 Enterprise SP1 at minimum
- Windows Server 2008 R2 Datacenter SP1 at minimum
- Windows Server 2012 Standard
- Windows Server 2012 Datacenter
- Windows Server 2012 R2 Standard
- Windows Server 2012 R2 Datacenter

Data Exchange Server

MIK, DTS, FTS, and CCG (used with CPS 9.0 at minimum)

OS: Windows 10 Professional, 32 or 64-bit
- Windows 8.1/RT Professional, 32 or 64-bit
- Windows 7 Professional, 32 or 64-bit (SP1)
- Windows Server 2008 R2
- Windows Server 2012, 64-bit
- Windows Server 2012 R2, 64-bit

Server Virtualization

Hyper-V or Server: Not applicable

Centricity Analytics

Server software: SQL Server 2016 SP1 at minimum
- SQL Server 2014 SP1 at minimum
- SQL Server 2012 SP1 at minimum
- SQL Server 2008 R2 SP2 at minimum

Key technology platforms

.NET

.NET framework: .NET 4.5.2

Health Information Exchange

IHE Document Registry/Repository (DRR): Not applicable

CCC

CCC software: CCC Basic 1.5

Crystal Reporting

Crystal Reporting software: Not applicable

Centricity ePrescribing

Centricity Clinical Messenger (SM): 8.0.x: 7.0.9, CCDA 1.1 and 8.0.1, CCDA 2.1

Centricity ePrescribing: Centricity ePrescribing (eSM) 4.2.2

Centricity Bridge: Centricity Bridge 4.5.9

Electronic Medication Prior Authorization: Electronic Medication Prior Authorization (EMPA) 4.2.2

Surescripts Automated Clinical Messaging: Automated Clinical Messaging (ACM) 3.2.3 at minimum

Patient portals

Centricity Patient Portal (PP): 7.0.9, CCDA 1.1 and 8.0.1, CCDA 2.1

EZ Access: 4.0.291

MedFusion: 17.2.1

Firewall

Imprivata: 2.1. SP1

Message broker

QIE: 2.0.43

System administration notice

Review this document carefully prior to installing or upgrading to this release; select from the following links to review areas that may require an install or configuration at your supported sites.

- Technical requirements and recommendations
- Supported software versions
- CCDA 2.1 upgrade: CCDA Feature Switch; customize and back up document maps; view and back up validation files Enable firewall access and perform setup for Medications Discounts and Alerts
- Configure user rights for permissions-based prescription signing
- Assign rights and roles for single-feature authentication (PDMP/OARRS)
- Configure new system backup settings

For installation and upgrade guides, see:

LINK: https://engage.gehealthcare.com/community/en/cps/documentation

Clinical management notice

Carefully review how changes in this release might affect your practice setup and workflows. For questions about how these changes may affect your practice, contact Centricity Services at 888.436.8491 or your value added reseller (VAR). The following are features in this release that may impact current user workflows:

- MU 2015 Certification updates
- Context-specific Patient Education materials
- Clinical decision support based on patient gender and age
- Streamlined workflow to view problem descriptions
- CCDA version 2.1
- Workflow enhancement for Medications Discounts and Alerts
- Single-factor authentication for e-prescribing option
- Permissions-based signing and prescribing workflows
- PDMP reporting and your practice
- Registration workflow updates

Access clinical content requirements here:

LINK: https://engage.gehealthcare.com/community/en/cps/documentation

2. Billing

The Billing module in v12.3 includes fixes within a patient's visit status, ICD codes, batch processing, and search capabilities. See:

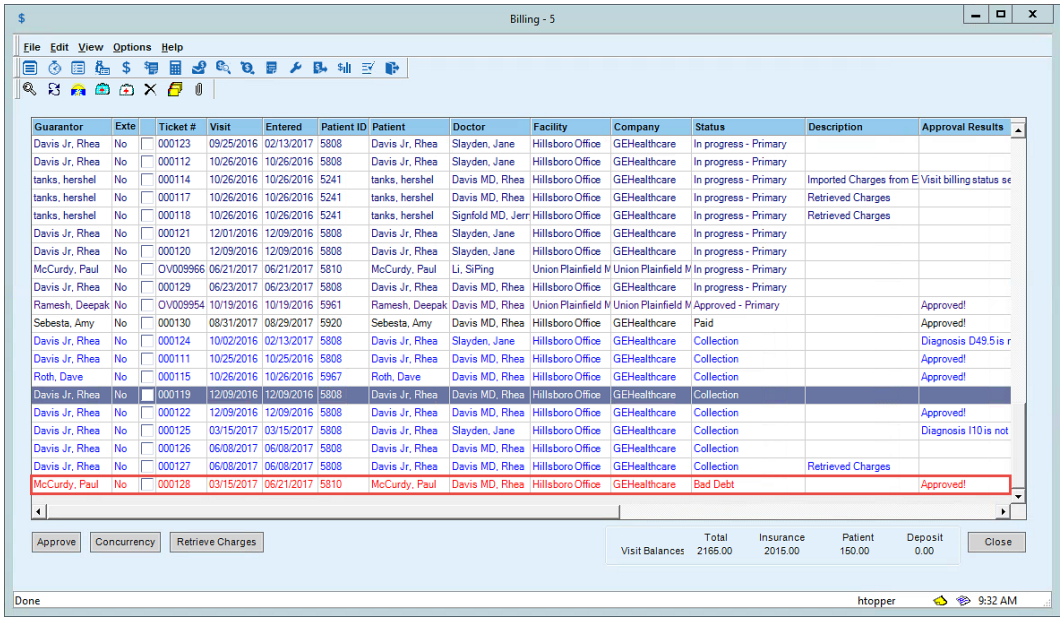
- Billing fixes
- Billing known issues

BILLING FIXES

Bad debt visit status incorrectly updating to PAID

PATH: *Billing > Billing Criteria (search) > Billing (results)*

Issue: In Transaction Distribution, reviewing any transaction for a bad debt visit and then closing by selecting OK caused the visit status to change from BAD DEBT to PAID. Resolution: The status for a bad debt visit no longer automatically updates to PAID when users select OK to exit the Transaction Distribution form. SPR 29810



A Bad Debt transaction status for a visit

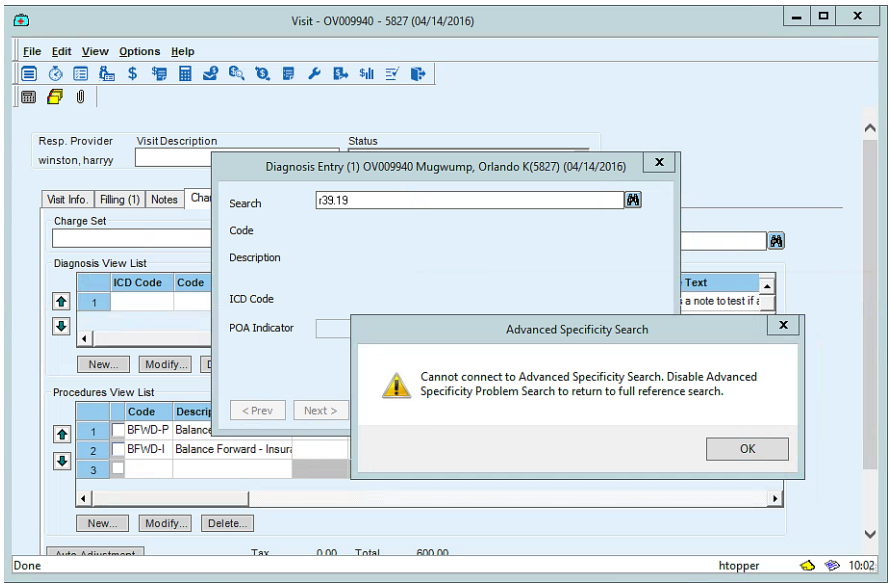
837p files and ticket duplication

Issue: When a 837p file was generated, tickets were being duplicated in the file. When these duplications occurred within the billing grid, tickets were also created twice within the EDI batch. Resolution: Now when 837p files are generated, tickets are no longer duplicated. SPR 63746

Entering inactive ICD-10 codes

PATH: *Billing > Billing Criteria (search) > Billing (results) > Visit > Charges tab > Diagnosis View List > New*

Issue: When Advanced Specificity Search options in Specify Problem were used to locate ICD-10 codes, users were unable to enter codes that became inactive as of October 1, 2016. Resolution: Turn off Advanced Specificity Search (Administration > System > Advanced Features); deselect the Advanced Specificity Search option and use a full reference search to locate a code. SPR 68587



An Advanced Specify Search error in Billing

User batches returned when batch name is entered

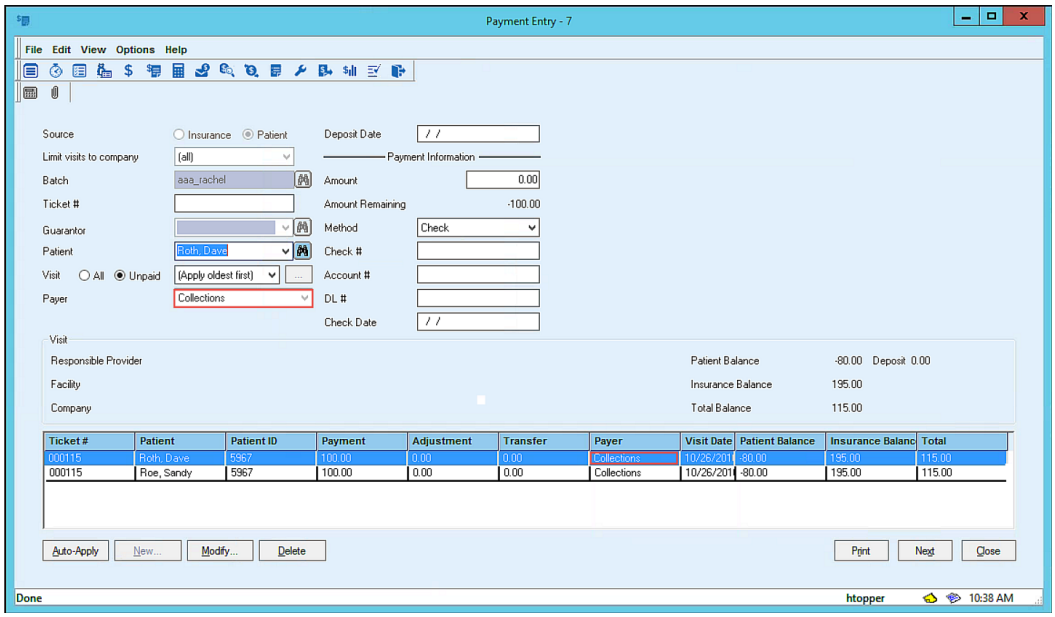
PATH: *Administration > Batches or Transaction Management*

Issue: When users copied a batch name and then pasted it in the Default Batch field to perform searches in Administration or Transaction Management, the system would retrieve all batch files for the user instead of batch files matching the search criteria entered. Resolution: Now searches using copied batch names in Administration (Administration > Batches) or Transaction Management only retrieve batches that match the name entered. SPR 69414

Payer field disabled in Payment Entry

PATH: *Payment Entry > Payer field/Payer column*

Issue: When posting a bulk payment from a collection agency for multiple patients, the Payer field in Payment Entry became disabled (grayed out) after the first entry was added and could not be changed for subsequent entries. Resolution: The Payer field no longer becomes disabled after an initial entry is made. SPR 69553



The Payer field remains enabled for multiple entries; the Payer column reflects the payer entered above

SQL service issue and payment postings

Issue: The FixAggPrep task within the SQL service used for payment postings was failing and causing the service not to index posting data properly. This is a part of FixAggregates SQL Server Agent job and the job name = [FixAggregates - <DB Name>]. Resolution: This issue has been resolved as follows:

The [FixAggregates - <DB Name>} job is now configured in the system to run on Saturdays @ 5:00 AM and is enabled by default.

This job creates a Staging table to hold the data from the Fact tractional tables. It then merges the data with the main line schema. This fix does not require any Indexes, Constraints, or Triggers to be disabled.

The tables affected are:

- ARAggregates
- PatientProfileAgg
- PatientVisitAgg
- PatientVisitProcsAgg
- PatientVisitAggClosing

The Fix Aggregate job takes 24 minutes when run on a 500 GB database. For a 1 terabyte database, it takes approximately 45 minutes. If the job fails, a desktop notification is sent to the CPS Admin user group. SPR 69679

Additional Billing fixes

The following issues have been corrected.

- **Hosted Claims Manager (CPSHCM) plug-in:** Transactions with filing methods other than HCFA were incorrectly being sent to HCM and were run through the Centricity Practice Solution approval process; only transactions with a filing method of HCFA should be processed. This is now corrected. SPR 69045
- **Error message when adding ICD codes:** When ICD codes were added for Billing *(Administration> Charge Maintenance > Diagnosis)*, an error message unexpectedly displayed: “SQL Error (102): Incorrect syntax near '.' " This message no longer displays when ICD codes are added. SPR 69563
- **Search dialogs were not listing Other Providers:** Provider search results in Billing were not retrieving ‘Other’ providers; now all providers matching search criteria are retrieved. SPR 70292
- **Other payer name for posted refunds:** When users posted a refund in Payment Entry and then selected the down arrow to enter another payer, the ticket number that followed was not associated with the new payer entered. Now the ticket entries that follow include the payer defined unless otherwise updated. SPR 69216
- **Bulk payment posting issue:** When a bulk payment was posted either manually or electronically and the patient had a deposit, the corresponding posting had the wrong patient name associated with the posting. This issue has been corrected. SPR 70019

BILLING KNOWN ISSSUES

Error occurs when setting a default batch with an apostrophe (Billing Administration)

PATH: *Administration > Batches > Default Batches*

Issue: In Default Batches, when a user selects a batch that includes an apostrophe and then selects Find (the binoculars icon), the following system error displays:

Error occurred in class CConnection::ExecuteReadOnlyWithCursorCacheSize, method CDlgSelectEx::GetList - class CDlgBatchSelectEx

SQL Query=Microsoft SQL Server Native Client 10.0 (CConnection::Open) in file C:\P\CPS123\IP-CPS\main\cpo\CPO\Etc\DBAccess\MBCADOConnection.cpp on line 1572 with connection CConnection::OpenFile=C:\P\CPS123\IP-CPS\main\cpo\CPO\Etc\DBAccess\Connect.cpp Line=1015Number=102 State=42000 Source=Microsoft SQL Server Native Client 10.0 Description=Incorrect syntax near 's'. Number=105 State=42000 Source=Microsoft SQL Server Native Client 10.0Description=Unclosed quotation mark after the character string ' END FROM Batch AS B

WHERE Name LIKE @vcBatchName AND Status IN (@nStatusOpened) ORDER BY b.Name OPTION (MAXDOP 1)'."
Workaround: Avoid using apostrophes in batch names; remove existing apostrophes until this issue is resolved. SPR 69835

3. Chart

The Chart module includes new features for MU 2015 Certification. In the Chart module, retrieve patient education based on a patient's problems, medications, gender, and age. Access enhanced clinical decision support within chart workflows. Use the new implantable device form to retrieve device information from the Global UDI database and track devices within patient charts. Review chart fixes for this release.

Areas:

- Chart features: Context-specific patient education, clinical decision support, reduced clicks to view problem information, and implantable device
- Chart fixes

CHART FEATURES

Context-specific patient education

AUDIENCE: Clinic managers and providers

MU: 170.315 a13

Summary: Patient education content now includes content based on a patient's problems, medications, gender, and age; providers can give patients more targeted information and attach patient-specific education resources as PDFs to the patient's chart for distribution.

IMPORTANT: Truven® Patient Education is an add-on feature that requires activation by GE Inside Sales or a value added reseller (VAR) representative. Contact your sales or VAR representative for assistance.

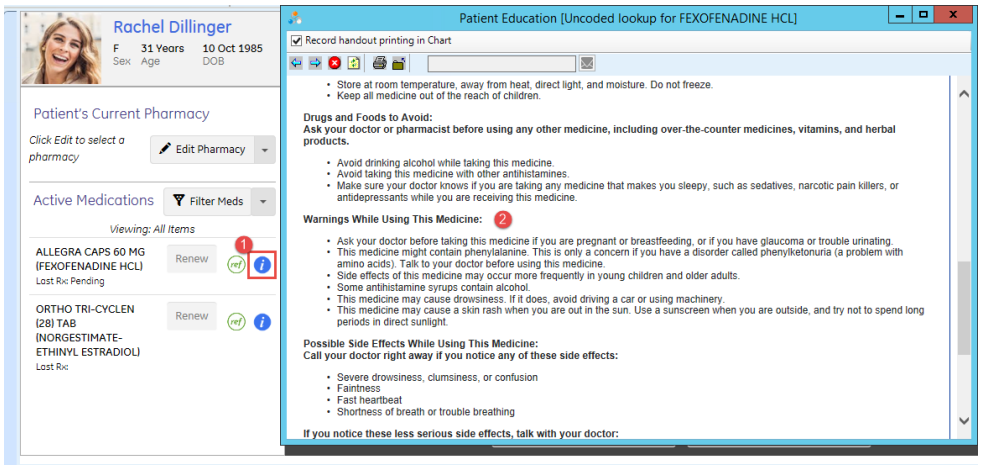
IMPORTANT: Contact your portal vender to determine how patient education and other patient documents are posted to patient portals.

Areas include:

- Centricity patient education and Truven educational resources
- Setup: Site access
- Setup: Context-specific patient education prerequisites
- Setup: Establish a shared folder location for patient education PDFs
- Setup: Enable user permissions to save patient education as a PDF
- Workflow update: Access patient education based on medications, problems, gender, and age
- Patient education and gender
- Patient education and age
- Workflow update: Save patient education as a PDF
- Workflow update: Email or print a patient handout

Centricity Patient Education and Truven educational resources

With the Truven Health Analytics® ad-on is enabled, the Centricity system now retrieves patient-specific education from a library of Truven Health Analytics resources. When a patient problem, medication, or prescription is added, system parameters retrieve information for the problem or medication that include age and gender specific data.



Patient Education accessed from the prescriptions workflow with gender and age-specific warnings

Enriched educational materials can also include interaction information if applicable.

Setup: Site access

AUDIENCE: System administrators

To retrieve educational resources from the Truven library, the system must be able to access and receive information from it. Prior to use, make sure that your organization's firewall is configured to allow HTTP traffic to the domain **micromedexsolutions.com.**

Setup: Context-specific patient education prerequisites

AUDIENCE: Clinic managers and system administrators

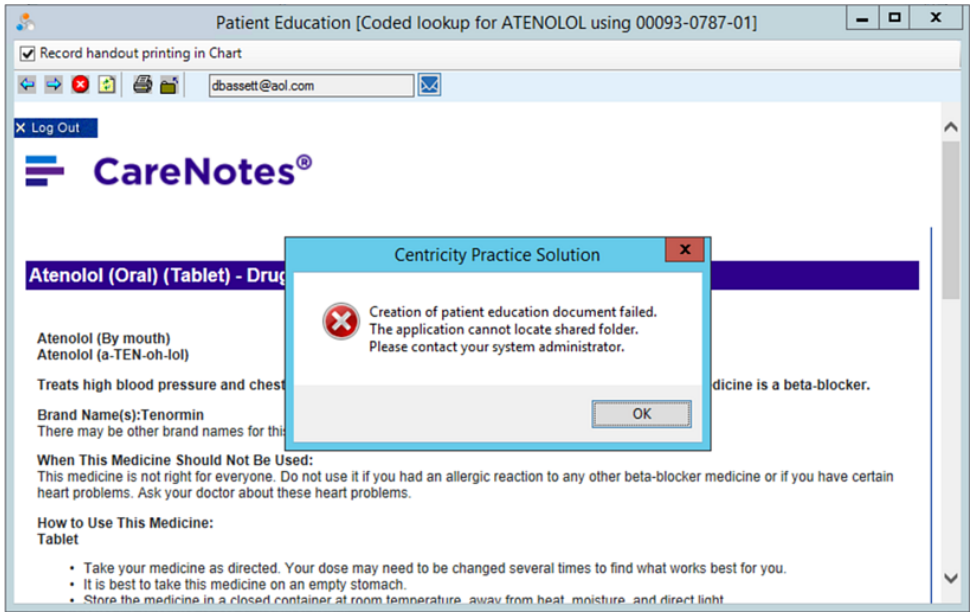
The following is required to enable Centricity patient education with Truven educational resources.

- **Identify a storage share.** Use the Hardware Calculator available with Centricity products to estimate storage needs. For Hardware Calculator information, see https://engage.gehealthcare.com/community/en/cps/documentation
- **Activation assistance required.** Truven Patient Education is an add-on feature that requires activation by GE Inside Sales or a value added reseller (VAR) representative. Contact your sales or VAR representative for assistance. The GE representative contacted will coordinate with Truven representatives to ensure that your organization's installation needs are met, including a review of required storage space, any URLs that require whitelisting, and system or storage configurations.

Setup: Establish a shared folder location for patient education PDFs

AUDIENCE: System administrators

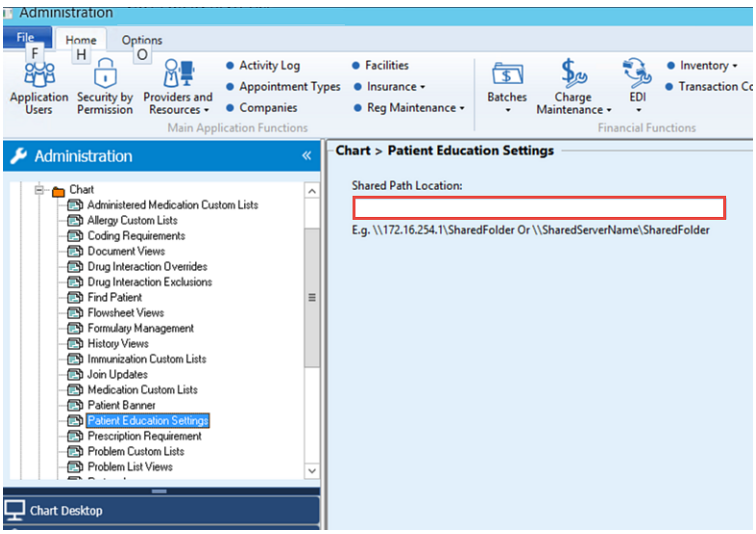
The Centricity application uses a shared folder to store generated PDF copies of patient education files for patient distribution. If a shared folder is not established, users receive the following error message when attempting to generate PDF files and the file will not generate.



An error message displays when generating a patient education .PDF without a shared folder

Establish a shared folder location for patient education PDFs

1. In Centricity CPS, select **Administration** > **Charts** > **Chart** > **Patient Education Settings**.
2. In Patient Education Settings, enter the shared path location to use for generated .PDF files.

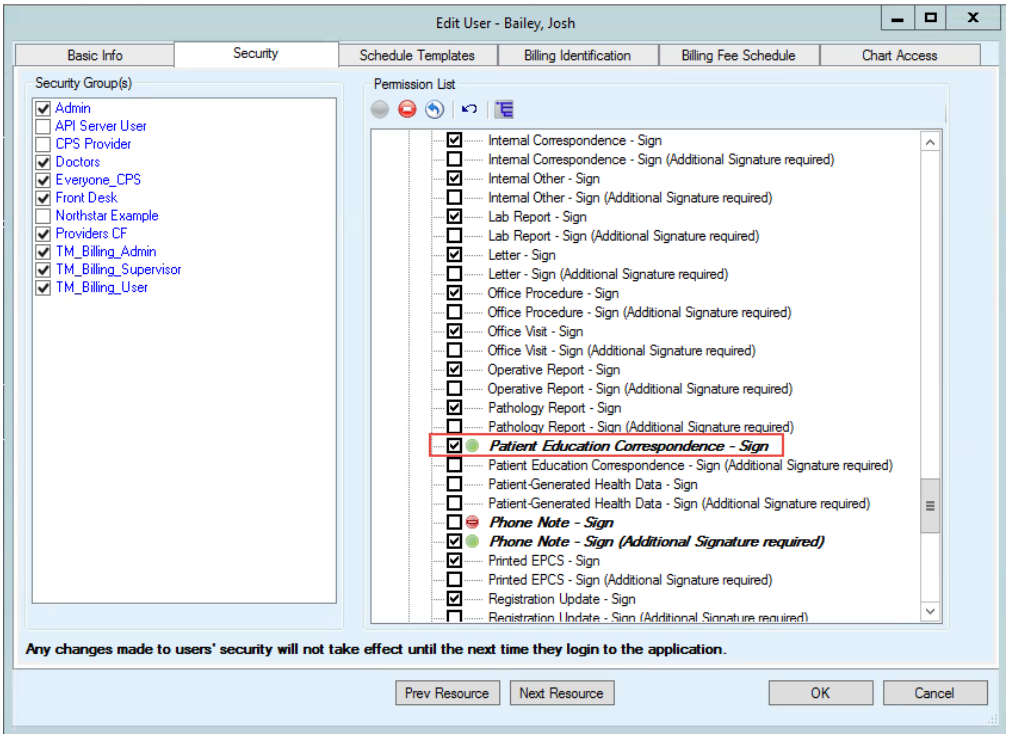


Setup: Enable user permissions to save patient education as a PDF

IMPORTANT: User permissions to generate patient education PDFs are not automatically enabled upon installing this Centricity version. After receiving assistance to activate the Truven Patient Education add-on from a GE Inside Sales or VAR representative, update user permissions to allow providers to generate patient education PDF files.

Enable user privileges to save patient education as a .PDF

1. In Centricity CPS, select **Administration > System > User and Resource Management > Users > User Management**.
2. In User Management, select the user account to update; click **Edit.**
3. In Edit User, select the **Security** tab; expand Document Signature. Ensure that **Patient Education Correspondence – Sign** is enabled.

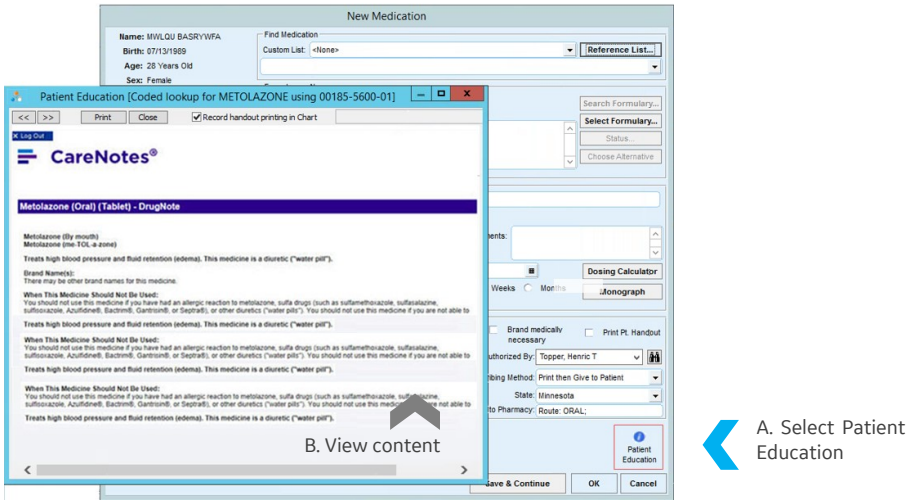


4. Click **OK.** Repeat steps 2 through 4 for each provider requiring the ability to generate patient education .PDF files.

Workflow update: Access patient education

Providers select Patient Education buttons available from the following workflows:

- New/Edit Medication or New/Edit Problem
- Update Medication or Update Problem
- Prescriptions form
- Flowsheet view



Patient Education option in New Medication

Patient education based on gender

Education information is now based on Male or Female designations; if the gender identified is other than these, the system retrieves information for all genders. Gender-specific content is only included if relevant.

Example: A 22-year-old female patient is prescribed a medication that may result in birth defects in pregnant patients. Patient Education includes warnings for patients who are pregnant or who may become pregnant.

Patient education based on age

Educational content displayed by age is derived from the following designations:

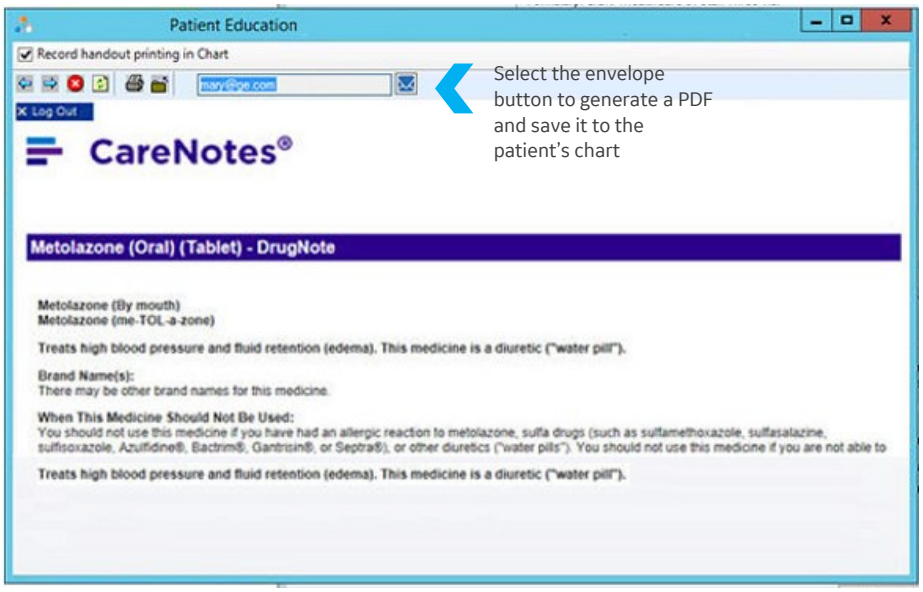
- Infant, newborn; birth to 1 month
- Infant; 1 to 23 months
- Child, preschool; 2 to 5 years
- Child; 6 to 12 years
- Adolescent; 13-18 years
- Young adult; 19-24 years
- Adult; 19-44 years

- Middle aged; 45-64 years
- Aged; 56-79 years
- Aged, 80 and older

Example: An 18-year-old male patient is diagnosed with acne and is prescribed a medication; problem and drug information relevant to the patient's age range (Adolescent: 13-18) may be included in educational materials if relevant.

Workflow update: Save patient education as a PDF

When providers select the Patient Education button, this information now opens with the patient's email address added from registration (upper toolbar). Select the envelope button to generate a PDF of this content and append it to the patient's chart as a document.

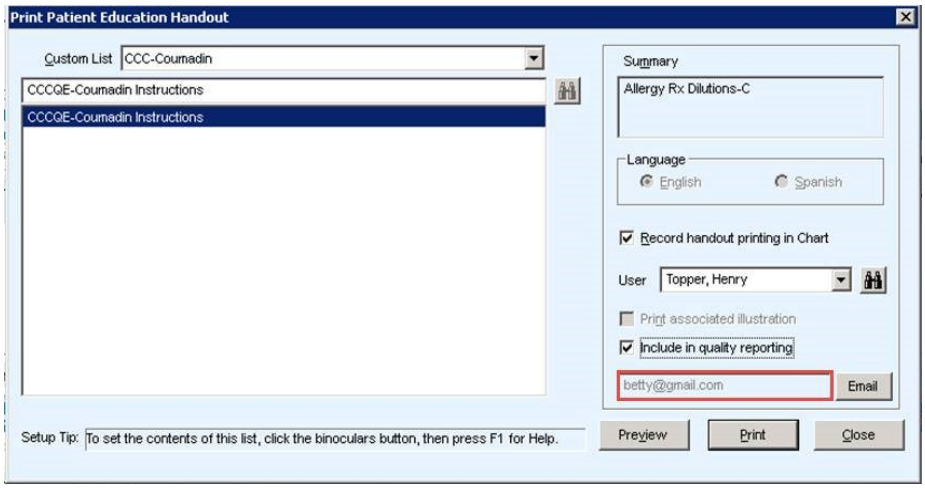


Saving Patient Education as a PDF and appending it to the patient's chart

IMPORTANT: If your system is not configured to use a shared location to save the PDF, an error message displays when you attempt to generate the PDF and the file is not saved to the patient chart.

Workflow update: Email or print a patient education handout

When provider select the Patient Education icon and then selects Print in the opened handout, the Print Patient Education Handout form opens with the patient's email address displayed in the lower right.



Print Patient Education Handout with email and print options

Email a patient education handout

To email the handout, select **Include in quality reporting** and then click **Email**. The document is saved to a shared location as an .RTF document and the MU Activity Log is updated to reflect that the patient education has been sent electronically.

IMPORTANT: If you do not select the **Include in quality reporting** option and then click **Email**, the MU Activity Log will not be updated with this event.

Print a patient education handout

From the Print Patient Education Handout, select **Include in quality reporting** and then click **Print** to send the file to a handout printer. The MU Activity Log is updated to reflect that the patient education has been printed and distributed to the patient.

IMPORTANT: If you do not select the **Include in quality reporting** option and then click **Print**, the MU Activity Log will not be updated with this event.

Clinical decision support

AUDIENCE: Clinic managers and providers

MU: 170.315.a.9

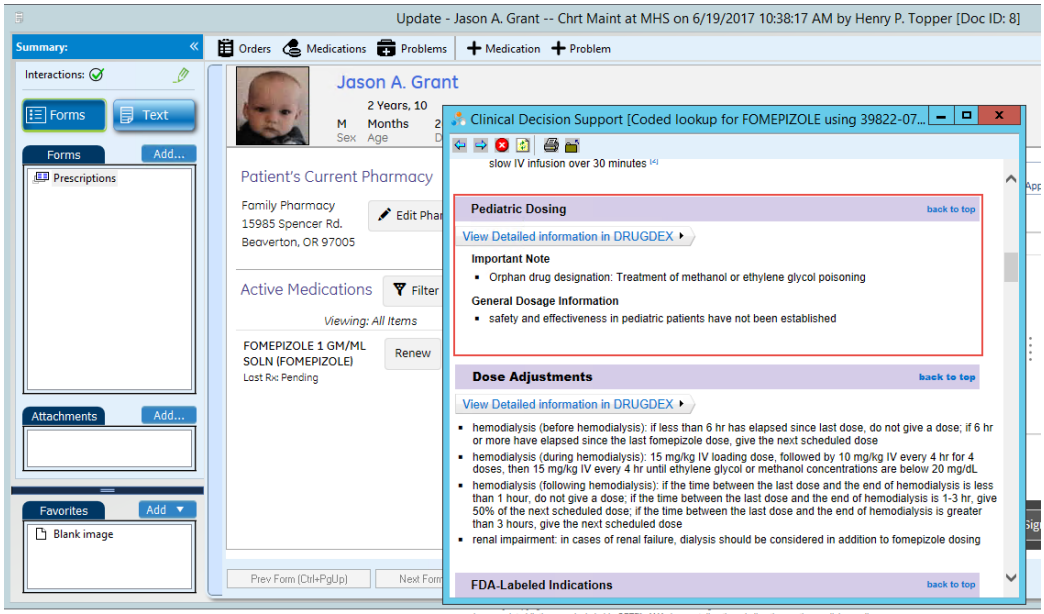
Summary: Clinical decision support (CDS) information is now enhanced to include content based on a patient's gender or age. When updating problems, prescriptions, and medications for a patient, select the reference buttons within your workflows to view supplemented clinical decision support data.

Areas include:

- CDS content and Truven educational resources
- Workflow update: Access enhanced CDS content

CDS and Truven educational resources

The Centricity system is enhanced to retrieve age and gender-specific CDS information from a library of Truven Health Analytics® data.



CDS for a pediatric patient

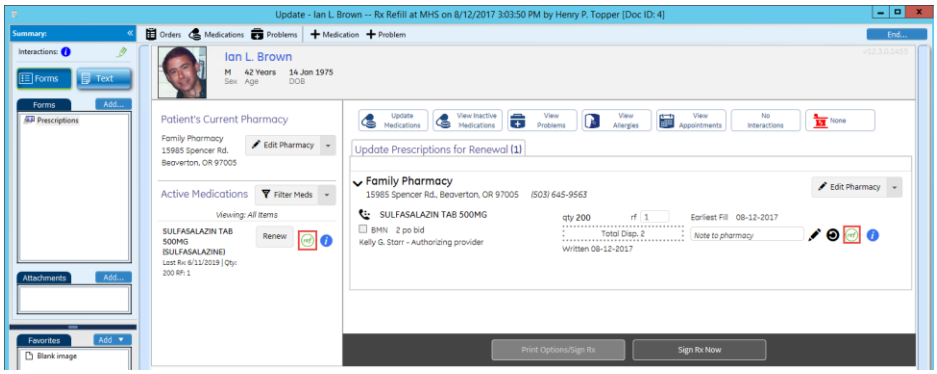
In this example, a provider selects a reference button within a prescription renewal. The notification content includes pediatric dosing to accommodate the patient's age range.

Workflow update: Access enhanced CDS content

View CDS content from the following workflows:

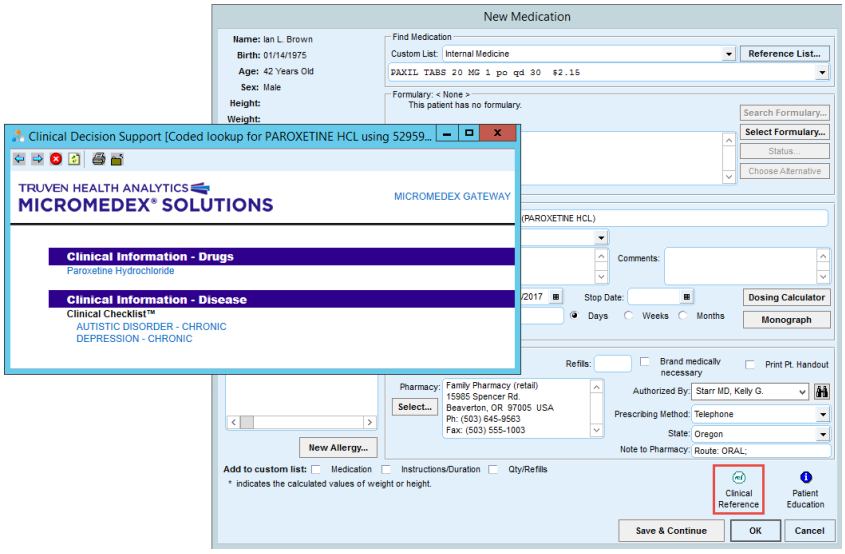
- New/Edit Medication or New/Edit Problem
- Update Medication or Update Problem
- Prescriptions form
- Flowsheet view

Reference buttons (ref) in the workflow provide access to enhanced CDS information.



Clinical decision support buttons in Rx Refill

Select the reference button in a workflow to access this content.



A Clinical Reference option selected in New Medication

Reduced clicks to view problem information

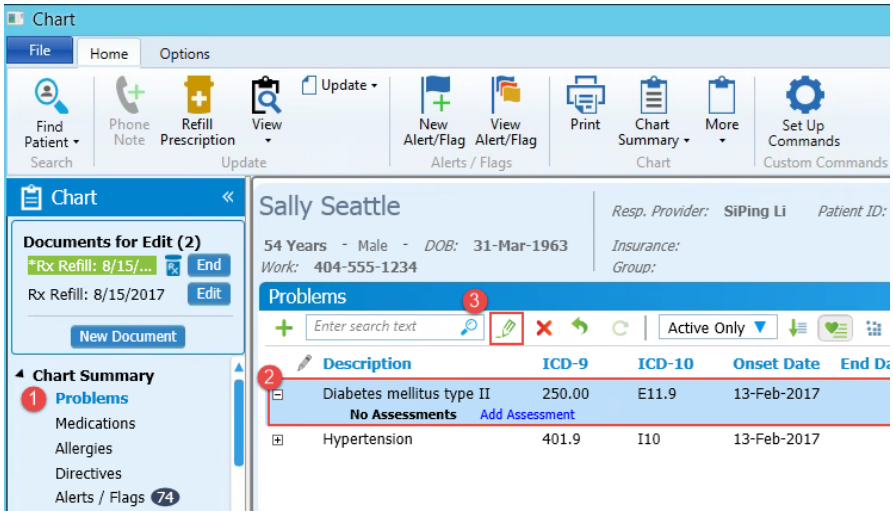
AUDIENCE: Clinic managers and IT administrators

Summary: Previously, when updating an existing problem, the Edit Problem dialog box opened with no data displayed. This caused the user to search for the problem again to retrieve and subsequently update this information. Now current problem information displays in the Description field without your having to perform a search to retrieve it; this has reduced the number of clicks required to view and update problem information.

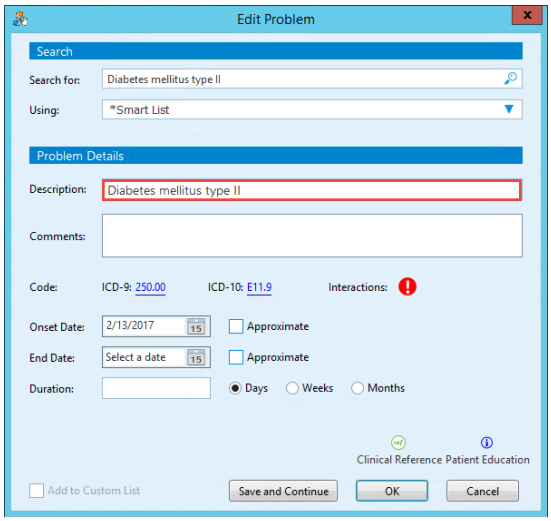
Workflow update: View problem information

PATH: *Chart > Chart Summary > Problems > Edit Problem*

In a patient chart, Chart Summary, select **Problems**; select a problem and then click **Edit** .



The **Edit Problem** form opens with the problem and the previously entered problem description displayed; you are no longer required to perform a search for this information.



View the problem description without searching

Implantable device lookup

AUDIENCE: Clinic managers, providers, and system administrators

MU: 170.315 a14

Summary: The Implantable Device feature allows providers who are performing an implant to enter a unique identifier (UDI) for a device, retrieve part and manufacture information from the Global UDI database, add clinic-side implant information, and save the device data as a record within a patient chart. If a patient has an existing implant and has an implanted device ID card, providers may also use the following to record the device in a chart.

Areas include:

Prerequisites

AUDIENCE: System administrators

- **Client installation:** Centricity Practice Solution v12.3 is installed on the workstation.
- **Firewall configuration:** Configure your firewall to accept information from the Global Unique Device ID database. See Setup: Firewall configuration.
- **IMPORT_IMPLANTABLEDEVICE_HTML_FORM.ckt:** Import the Implantable Device clinical kit that supports this feature; see IMPORT_IMPLANTABLEDEVICE_HTML_FORM.ckt.

Setup: Firewall configuration

AUDIENCE: System administrators

The Implantable Device form retrieves device information from the Global Unique Device ID database (GUDID). Prior to use, make sure that your organization's firewall is configured to allow HTTPS traffic to the domain **accessgudid.nlm.nih.gov**.

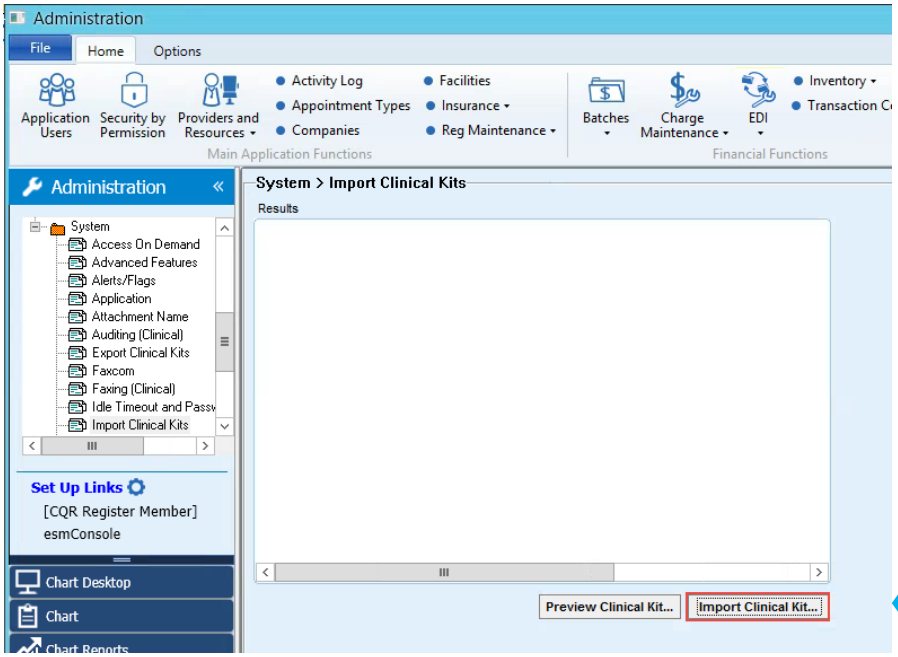
Setup: IMPORT_IMPLANTABLEDEVICE_HTML_FORM.ckt

AUDIENCE: System administrators

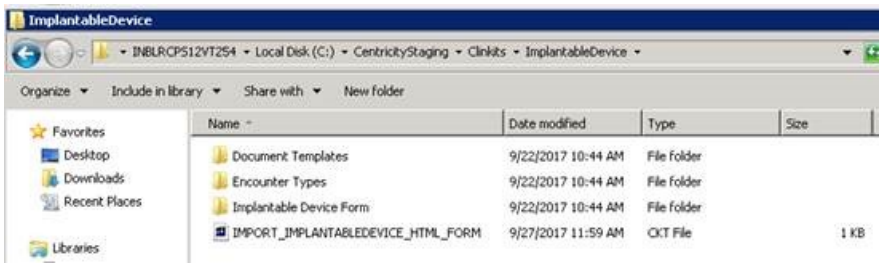
Prior to using, you must first import the Implantable Device clinical kit (CKT file); this file contains an HTML form that supports this feature.

Install IMPORT_IMPLANTABLEDEVICE_HTML_FORM.ckt

1. In the main menu, select **Administration**; expand **System** and then select **Import Clinical Kits**.
2. In Import Clinical Kits, select **Import Clinical Kit**.



3. In Import Clinical Kit, browse to the Centricity staging folder (typically C:/CentricityStaging/Clinkits). Double-click the **ImplantableDevice** folder to open it. In the folder, select **IMPORT_IMPLANTABLEDEVICE_HTML_FORM.ckt**; click **Open** to import the file. When you import the file, the import includes the following:
   - Implantable Device (form)
   - Implantable Device (document template)
   - Implantable Device Update (encounter type)



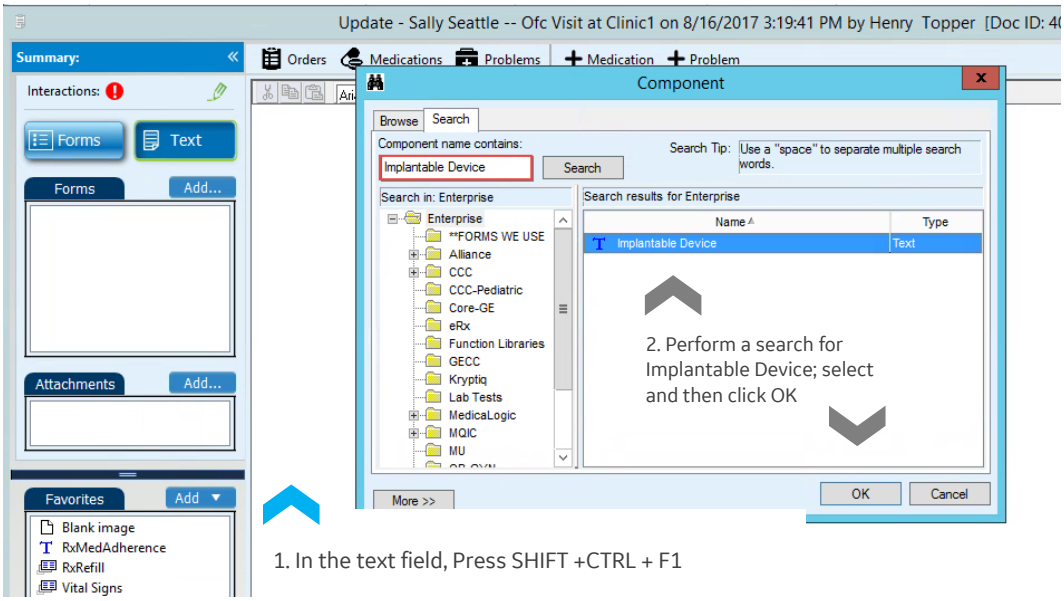
Workflow update: Add an implantable device

AUDIENCE: Clinic managers and providers

The following is for providers who will be performing a device implant in future and require a record of the device to be added to the patient's chart. The form can also be used by providers to record a previously implanted device if the patient presents a medical device ID card with a UDI and barcode that the provider can enter. Supported methods include importing a barcode image (.JPG or .PNG) or manual entry of UDI values.

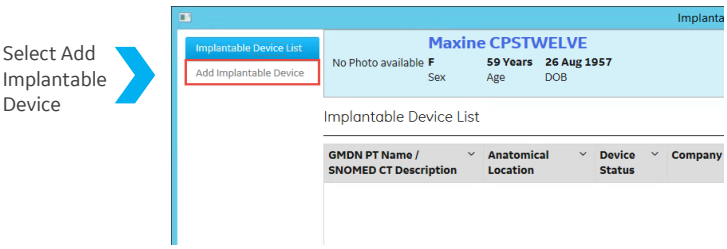
Add an implantable device for a patient

1. In a patient chart, click **New Document**.
2. In Update Chart, select update options; click **OK**.
3. In the text view, select **Insert Form > Component** or press **Shift +Ctrl + F1**. In Components select the **Search** tab. In Component Name Contains, enter **Implantable Device**; click **Search**.



1. In the text field, Press SHIFT +CTRL + F1

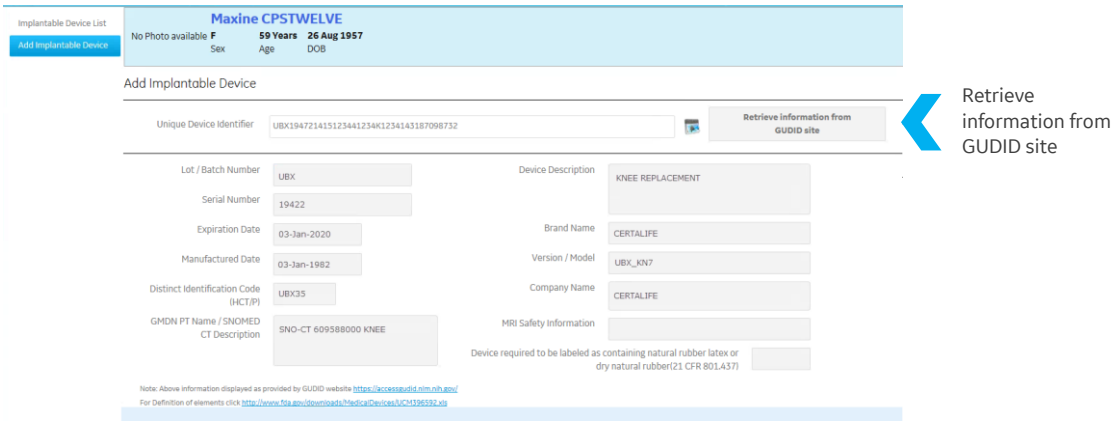
4. In Components select the **Search** tab. In Component Name Contains, enter **Implantable Device**; click **Search**.
5. In the search results, select **Implantable Device**; click **Add Implantable Device**.
6. In Implantable Device (left menu), select **Add Implantable Device**.



7. In Unique Device Identifier, perform one of the following:
   - Manually enter the unique device ID.

     -OR -
   - Import a barcode image (.JPG or .PNG). Select the **Browse** button in the Unique Device Identifier field and navigate to the barcode image. Select and open the file to enter the barcode value.

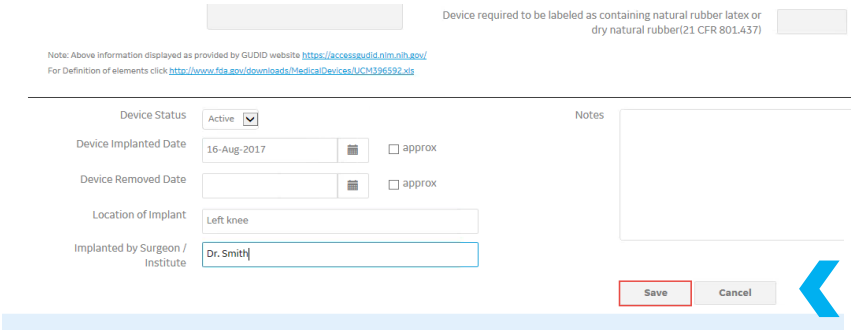
8. With the UID entered, click **Retrieve Information from GUDID Site**. Once the information displays, verify that the information is correct; scroll to enter additional data.



NOTE: At times, the GUDID website may be down for maintenance; if this occurs, an error message displays indicating that you should try again later.

9. Specify whether the device status is **Active** or **Inactive**.
10. Enter the **Device Implanted Date** in *dd-MM-yyyy* format (03-FEB-2018) or by selecting it from the calendar wizard. If you are unsure of the date, select the **Approx** box.
11. Enter the location of the implant with as much detail as possible.
12. Enter the name of the surgeon or institute that will implant the device.
13. Enter any notes about the device or the patient as necessary.

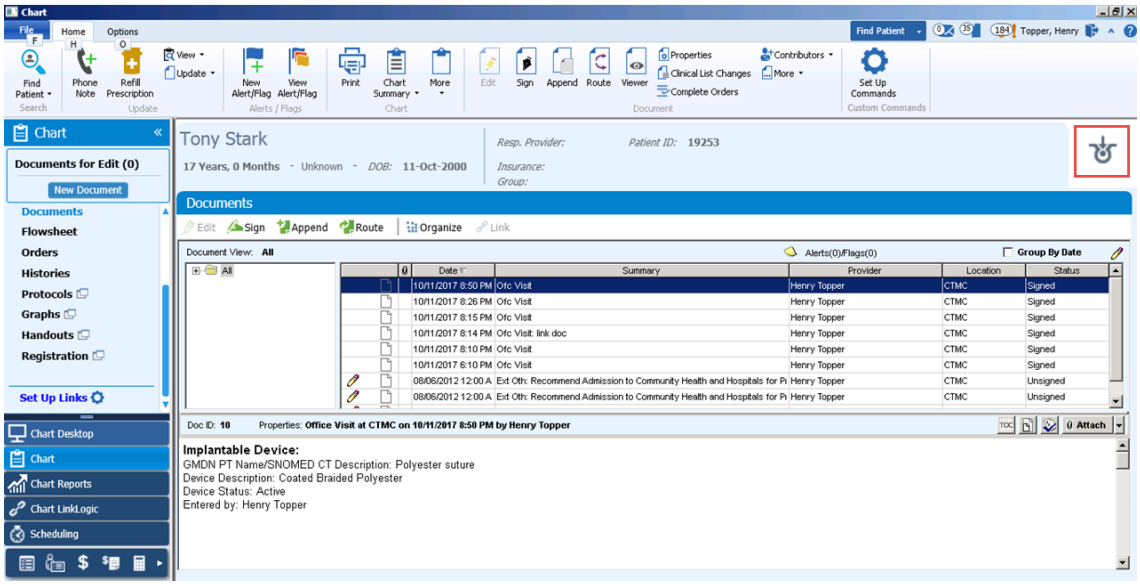
15. Click **Save**; the device is added to the **Implantable Device** list.



Workflow update: Quick access to implantable device information

AUDIENCE: Clinic managers and providers

After adding an implantable device, an implantable device icon displays in the patient banner; select this icon to quickly access implantable device records for the patient.



The Implantable Device icon in a patient chart

CHART FIXES

Document signing security nodes

PATH: *Chart > Find Patient (Search/select result/OK) > Documents*

Issue: The security nodes that support document signing were not being added to imported documents or to documents with updated document types; this prevented users from signing imported documents or from signing a document that was changed from one document type to another. This included Clinical Visit Summary documents, History and Physical notes, and Progress notes. Resolution: Restrict the user from selecting any of the below mentioned system internal doc types while performing Chart update workflows. Also, if these system internal doc types are used to import HL7 MDM messages in the TXA - 2 segment, then it will throw an error, restrict the import of the HL7 message, and create an exception file upon stating the error.

DocTypeId = DTID = 35 Clinical Visit Summary (CVS)

DocTypeId = DTID = 36 History and Physical Note - Imp (HnP Imp)

DocTypeId = DTID = 37 Progress Note - Exp (Prog Exp)

DocTypeId = DTID = 38 Progress Note - Imp (Prog Imp)

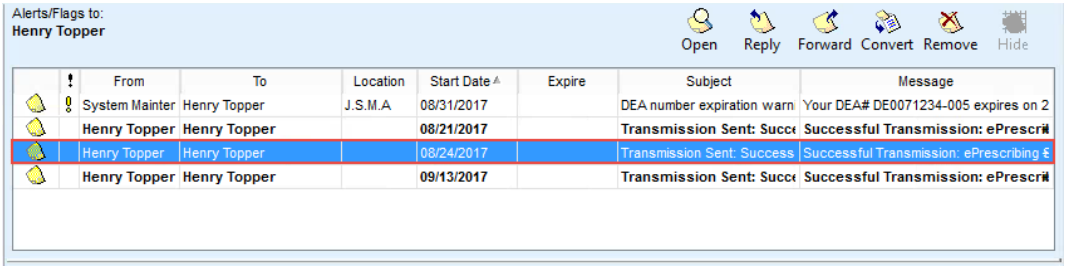
DocTypeId = DTID = 41 Patient Education Correspondence

SPR 58049

Selecting an alert/flag in Desktop Summary failed to open the patient chart

PATH: *Chart > Find Patient (Search/select result/OK) > Chart Desktop > Alerts/Flags*

Issue: Users were unable to launch a patient chart from an alert or flag in the Desktop Summary. Resolution: Selecting an alert or flag in the Desktop Summary launches the patient chart as intended.
SPR 58153 / 61347

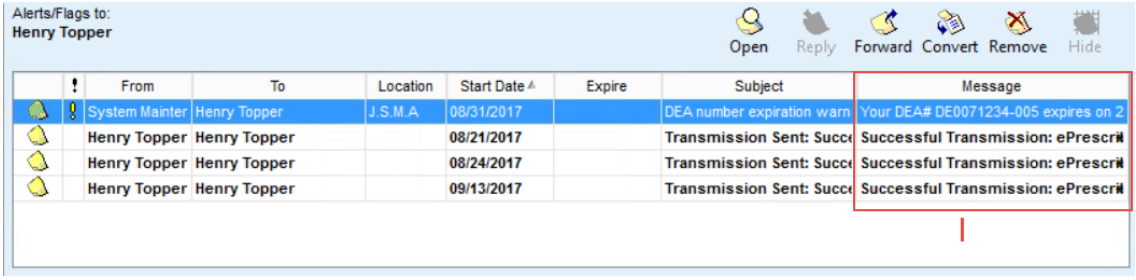


Selecting an Alert or Flag in Chart Desktop now opens the associated patient chart as expected

Messages column in chart desktop

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Summary > Alerts/Flags*

Issue: In the Chart Desktop, the Messages column under Alerts and Flags was too narrow to effectively view message text. Previously, users were manually expanding the column width to view messages.
Resolution: The Messages column width has been increased so that message text is easily viewed. SPR 68547

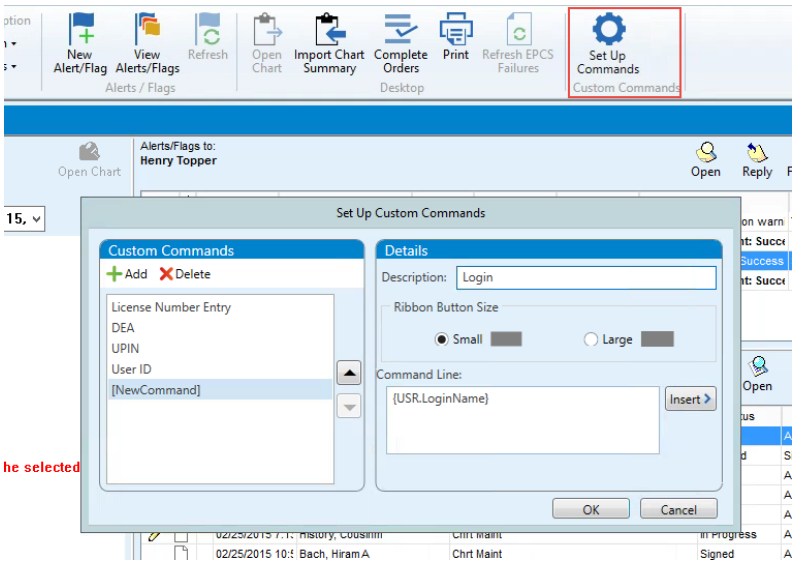


The Message column in Alerts/Flags (Chart Summary)

Multiple Set Up Commands cause chart to crash

PATH: *Chart > Find Patient (Search/select result/OK) > Chart (module ribbon) > Set Up Commands*

Issue: When users added more than 20 setup commands to the Setup Command ribbons within Chart Desktop, Chart, or Chart Reports, the chart would crash when users navigated between modules.
Resolution: Crashing issues no longer occur when more than 20 Setup Commands are added and users navigate between modules. SPR 68905

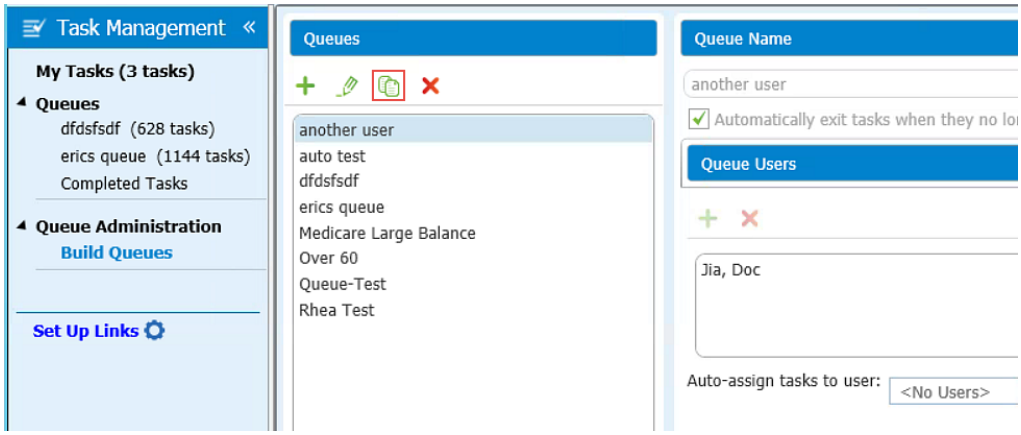


Multiple setup commands added to a chart

Copy queue functionality in Task Management

PATH: *Chart > Chart Desktop > Task Management > Queue Administration > (select queue) Copy Queue*

Issue: When using the Copy Queue feature in Task Management to assign tasks to another user, the copied tasks were not appearing in the assigned user's Queue List. Resolution: Tasks assigned using Copy Queue now display in the assigned users Queue List. SPR 69303

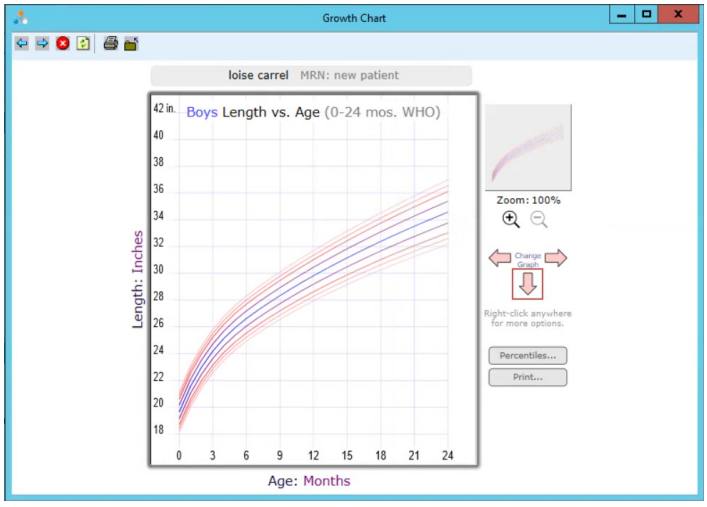


The Copy Queue feature in Task Management (Queue Administration)

Unable to access earlier growth charts for patients

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Graphs > Growth Chart*

Issue: Selecting the down arrow in the Growth Chart no longer displayed previous growth for a patient aged 24 months or older; only the 2-20 years growth chart displayed. Resolution: Now pressing the down arrow in the growth chart displays the 24 month or younger chart for the patient. SPR 69354



The down arrow in Growth Chart that accesses additional charts

Patient Handout Posting

Issue: Patient Education materials posted only to patient portals when users expected these to be sent to personal email accounts. Resolution: This solution performs as designed; Patient Education materials are only emailed to patient portal sites as personal email accounts are not secure enough to receive sensitive patient information (or the security level is unknown). SPR 69919

Additional Chart fixes

The following issues have been corrected.

- **Removed clinical items included in Meaningful Use functional measure calculations:** Information entered in error within a patient chart was still being included in the patient information sent to CQR; this resulted in inflated Meaningful Use compliance counts. SPR 64230
- **DLL errors in chart:** After upgrading, some users were encountering multiple DLL error messages a day when navigating between Chart Desktop and a patient's chart. SPR 70055
- **Problem assessments:** Assessments added to a Problem and then filed in error still displayed as associated with the Problem in Problem view. Now when users file an error document for an assessment, the assessment is no longer associated with the problem. SPR 70291
- **Implantable Device Clinkits folder contains additional unexpected files:** Unexpected files were reported within the Implantable device Clinkits folder. Unlike previously released clinical kits, the Implantable Device Clinkits folder contains the form, text files, and components necessary to support the Implantable Device feature. These files are intentionally included. SPR 70737

4. CCDA

Functionality to generate, send, or receive continuity of care documents (CCDA) is now enhanced; CCDA version 2.1 includes interfaces that support the HL7® FHIR® standard to safely exchange patient data. This section provides an overview of this enhancement followed by CCDA fixes and known issues in this release.

IMPORTANT: This change impacts document generation as well as interfaces, which includes CCDAs exported from the interface, Clinical Visit Summary documents handed to patients, CCDAs generated during a visit and transmitted via clinical messaging, and CCDAs imported from other care providers.

IMPORTANT: See the Centricity Azure AD Onboarding Guide bundled with this release for the setup required to support this updated feature.

Areas include:

- CCDA features: CCDA version 2.1
- CCDA fixes
- CCDA known issues

CCDA FEATURES

CCDA version 2.1

AUDIENCE: System administrators and clinic managers

MU: CDA GENERATOR: 170.315 B4, E1, G9; CDA VALIDATOR: 170.315 B1; TOC VIEWER: 170.315 B1; GE HEALTHCARE API PORTAL: 170.315 G7, G8, G9

Summary: Continuity of care documents (CCDA) provide a portable snapshot of the most current relevant administrative, demographic, and clinical information for a patient. These documents are easily exchanged between providers and facilities using different EMR systems. Included in this release are new interfaces that support the generation, transmission, receipt, and reconciliation of patient data using the HL7® FHIR® standard for health information exchange.

Solutions within this feature are divided into outbound and inbound document enhancements.

OUTBOUND

CDA Generator

Generates outbound CCDA files

CDA Designer

View and customize generated CCDA content

INBOUND

CDA Validator

Validates inbound CCDA files

TOC Viewer

View inbound documents in a patient chart

Areas include:

- Setup: CCDA 2.1 installation
- Workflow update: CDA Generator
- Workflow update: CDA Designer
- Workflow update: CDA Validator
- Workflow update: TOC Viewer
- Additional resources

Setup: CCDA 2.1 installation

AUDIENCE: System administrators

A Microsoft Azure Portal subscription with an Azure Active Directory tenant is required to support the generation of CCDAs in 2.1 format. Once your subscription is established, a link to an install script is provided to automatically configure your system to access GE APIs. This release also includes a CCDA Feature Switch that enables user control of CCDA formats; by default, this switch is set to version 1.1 to enable user control in implementing CCDA 2.1.

Setup areas:

- Azure portal subscription and AAD configuration
- The CCDA Feature Switch

Azure portal subscription and AAD configuration

CCDA version 2.1 operation is dependent upon GE APIs accessed from a Centricity server; requests to access APIs from this server are authenticated by Microsoft Azure AD. See the Centricity Azure AD Onboarding guide for step-by-step instructions to enable access. Go to https://engage.gehealthcare.com/community/en /cps/documentation to view this copy.

The CCDA Feature Switch

The CCDA Feature Switch included in this release enables the API access required to support CCDA 2.1 generation as well as subsequent product enhancements. Upon software version installation or upgrade, this switch is set to 1.1 by default to enable user control in implementing CCDA 2.1. Areas of note:

- **Disabled by default:** The CCDA Feature Switch is automatically included with this software version and is disabled upon installation; see Enable privileges to modify API settings when your organization is ready to transition from 1.1 to 1.2.
- **CQR transition:** The CQR reporting tool will not change in function from prior releases.
- **Azure AD required for 2.1:** Microsoft Azure Active Directory (Azure AD) is only required for use with CCDA 2.1; for CCDA 1.1, Azure AD is not required.
- **Configure CCDA to use a specific version:** In system settings, select options to enable CCDA version 1.1 or CCDA version 2.1. By default, the system is set to use CCDA 1.1 to avoid impacting existing integrations or interfaces until your organization is ready to switch.
- **CCDA file exports:** When the system is set to use CCDA 1.1 (default) and users generate and send outbound CCDA files, the system uses the CDA Builder from previous releases. When configured for 2.1, the system uses the new CDA Generator to generate outbound CCDA files, which supports the following output types: Ambulatory Summary (VDT), Clinical Visit Summary (CVS), Transition of Care, and chart exports. The provider's workflow to generate files for export remains the same regardless of whether 1.1 or 2.1 is used.

- **Inbound CCDA validation:** When the CCDA feature switch is enabled for 1.1 (default), the system uses 1.1 validation. When configured for CCDA 2.1, the new CCDA Validator verifies inbound CCDA files for system acceptance.

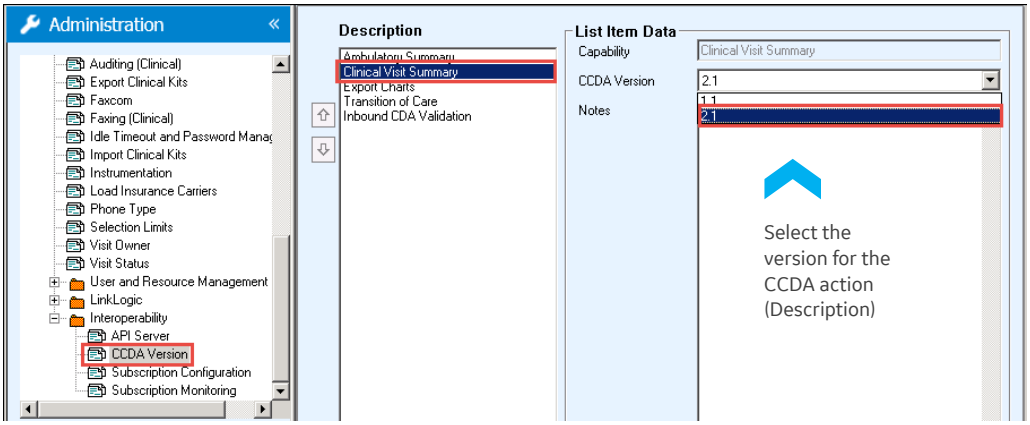
Enable privileges to modify CCDA and API settings

Before modifying API settings, ensure that the CHANGE list editor settings privilege is enabled for you or other users configuring this option. In Centricity CPS, select **Administration > System > User and Resource Management > Users > Security > Security by User.**

In Security by User, perform a search for the user account to configure; select the user and then click **OK.** In the Permissions List, select **Change system settings** to enable this privilege.

Configure the CCDA version

1. In Centricity CPS, select **Administration > System > Interoperability > CCDA Version**.
2. In CCDA Version, select a CCDA action (description). In CCDA Version, select **2.1** or **1.1.**



3. Click **Save.** Repeat step 2 for each CCDA action to modify the CCDA version used; the default CCDA version is 1.1.

Workflow update: CDA Generator

AUDIENCE: System administrators and clinic managers

MU: 170.315 b4, e1, g9

The CDA Generator is an internal tool that generates CCDA document files for export. The tool uses document maps and XSLT transformations to define the data to include; it calls GE APIs to retrieve information using the HL7 FHIR format and applies XSLT stylesheets to generate standard CDA documents.

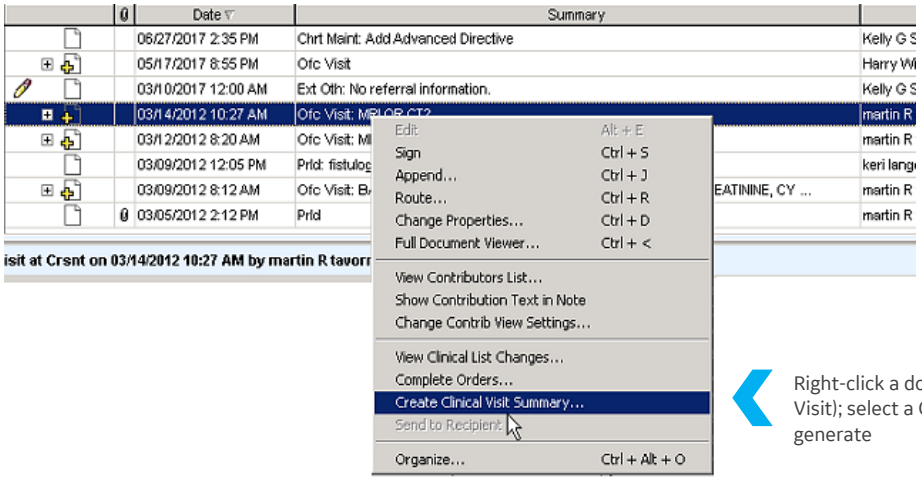
CDA Generator areas include:

- Workflow update: Generating CCDA document files with version 2.1
- Workflows supported by CDA Generator 2.1
- The CDA Generator and document maps
- Basic map structure
- Redaction and customization

Generating CCDA document files with version 2.1

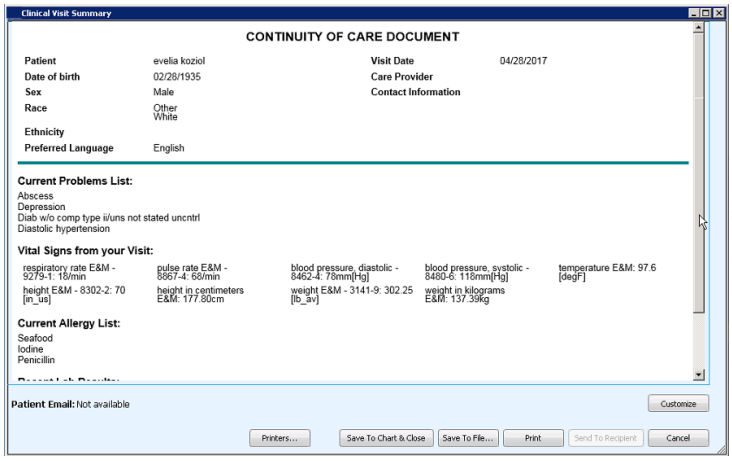
To use CCDA Generator version 2.1, ensure that you have Centricity Practice Solution 12.3 installed and have completed CDA 2.1 installation steps. Once these steps are completed, the workflow required to generate CCDA document files is the same as in version 1.1; no additional steps are required.

Generate a CCDA: The workflow to generate a CCDA from supported areas in the application remains the same. For example, to generate a CCDA from the **Documents** table within a patient chart; right-click a document with a document type of 'Office Visit' and then select the CCDA option required (such as 'Create Clinical Visit Summary').



A provider selecting a CCDA option from the right-click menu in chart documents

Once generated, the document opens in the workspace.



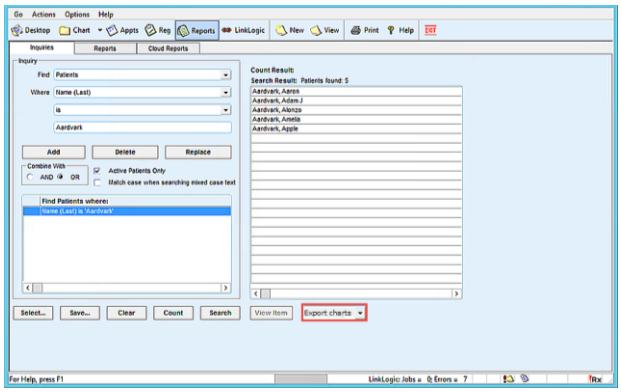
A generated CCDA document

In the generated document, select from the following options:

- **Save to Chart & Close:** Appends the document to the patient's chart (Documents table) and closes the document view.
- **Save to File:** Launches a Save As window to save the document locally.
- **Print:** Prints the document to the printer specified.
- **Send to Recipient:** Posts the document to a patient or clinic portal page; check with your portal provider for best practices to post files to portal locations.

The CDA Builder from version 1.1 and the new CDA Generator both support the same four workflows: Ambulatory Summary (VDT), Export Charts, Clinical Visit Summary (CVS), Transition of Care (TOC). When a workflow is configured for 2.1, requests previously sent to the CDA Builder (1.1) are redirected to the new 2.1 Generator. This means that the same actions used to generate or receive a CCDA document file in version 1.1 are also supported in version 2.1.

In this example, a user generates and exports a set of transfer of care documents from the Inquiries tab in reports.



A user performs a search in Reports (Inquiries tab) and exports charts as transfer of care documents (versions 1.1 and 2.1)

Exporting charts as CDAs from Reports

Workflows supported by CDA Generator 2.1

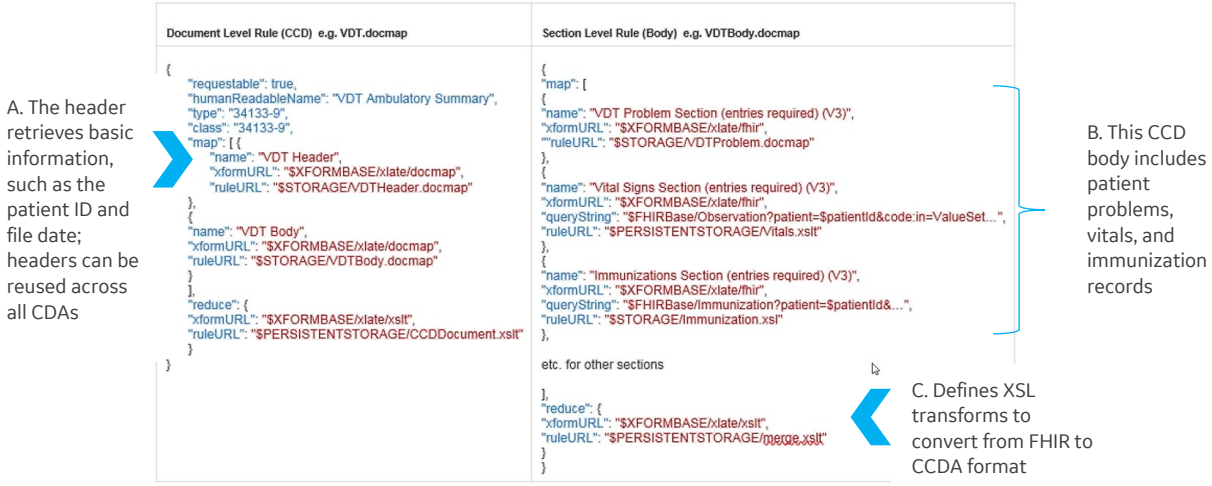
On upgrade, CCDA workflows will be set to 1.1 by default to avoid impacts to existing interfaces or integration components. This will provide more time to make necessary adjustments to new CCDA content and allow control over when the switch is made to the new version. For new installs, CCDA workflows will be set to 2.1. At that time, the CDA Generator will support the following workflows previously supported in 1.1:

- Transition of care
- Clinical visit summaries
- Chart exports (also known as data portability)
- Ambulatory summaries (VDT)
- Redirects from the previous CCDA solution (SOAP web services) to the new generator

The CDA Generator and document maps

Document maps are central to the CDA Generator solution as they define the data that will be compiled within the generated document. CCDA file content is divided into header and body sections. In this example, a document map determines the API calls required to extract data for the header and footer elements defined.

IMPORTANT: The following illustrates a typical CCDA map structure; a new form, the CDA Designer is included in version 2.1 to easily configure sections within a document map. For more information, see CDA Designer.



A document map in the CDA Generator

The document header is populated with basic patient data, such as the patient name and record date, to send with the file. Body sections include data specific to the document or report. For this document, the patient's problems, vital signs, and immunizations are extracted.

Basic map structure

CCDA version 2.1 includes a library of document maps and data elements required by most clinics to support CCDA document file transmissions. The basic structure for each map is a header, a body, and the stylesheet to apply (CCDADocument.xslt). The core map structure is as follows:

```
{
  "map": {
    "header": {
      "xformURL": "$BASE/xlate/docmap",
      "configURL": "$STORAGE/CCDAHeader.docmap"
    },
    "body": {
      "xformURL": "$BASE/xlate/docmap",
      "configURL": "$STORAGE/CCDABody.docmap"
    }
  },
  "reduce": {
    "xformURL": "$BASE/xlate/xslt",
    "configURL": "$STORAGE/CCDADocument.xslt"
  }
}
```

Specifications

- **Header parameters:** At generation, $BASE and $STORAGE parameters in the header are replaced by configured values that correspond to data required for the header, such as the patient's ID (patientid) and last updated date (fromDate),
- **Authorization:** Bearer *token*. Calls an instance of the document mapper service using the configuration identified by *URL*, with a bearer token of *token* in the authorization header, and named parameters *param1* and *param2* with values *value1* and *value2* respectively.
- **Returns:**

  201: Successful generation with the header set to the generated file location.

  400: Indicates a bad request if the input parameters are not valid.

  403: Forbidden if one of the called transformations responds with an access control error.

  408: Times out if one of the called transformations does not complete within a reasonable timeframe.

  Note: Other errors may also be returned; all errors related to CDA generation are logged in CDA.log, CentricityFHIR.log, and server.log in the JBoss server log folder ...\jboss\standalone\log. If errors occur, check all three log files to view error information.

Redaction and customization

Redaction (data compilation) and other customizations are still supported. For more information about viewing and customizing maps, see CDA Designer.

Workflow update: CDA Designer

AUDIENCE: System administrators and clinic managers

The CDA Designer provides a user-friendly interface to view and modify document maps and XSLT transformations for continuation of care documents.

CDA Designer areas include:

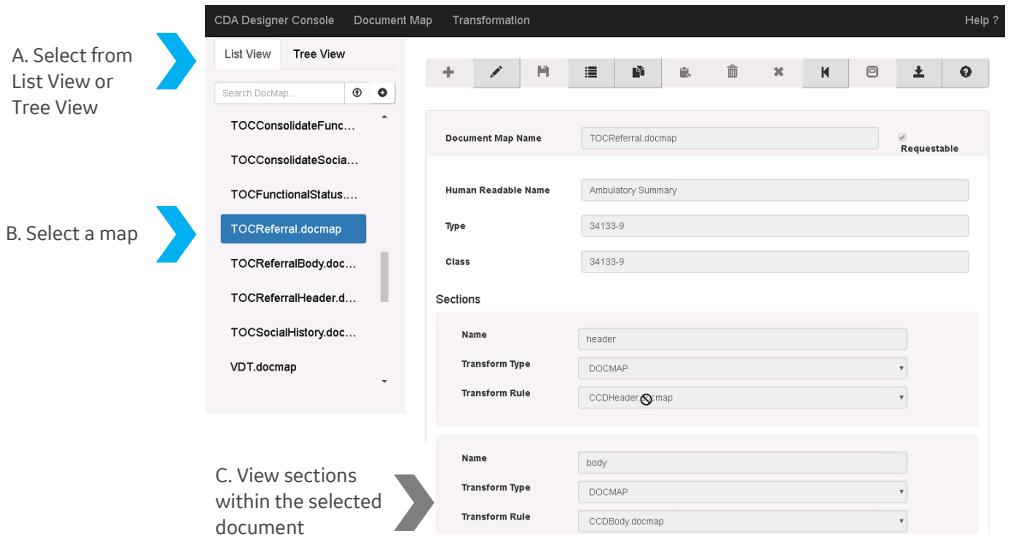
- Workflow update: View and customize document maps
- Workflow update: Back up customized document maps
- Workflow update: Access CDA Designer Help

View and customize document maps

Access the CDA Designer to view the factory set of CCDA document maps bundled with this release.

PATH: https://server:9443/DBNAMEdocmap (The server location depends on your deployment; use hostname or IP address of either the Single Server application server or the hostname or IP Address of the Interoperability server)

In the CDA Designer, select from **List View** or **Tree View** options to view available maps.



With a map selected, use dropdown options to modify the map.

Note: The tool pulls map information from the install or upgrade files Typically, this is C://Program Files/Centricity Practice Solution/jboss/standalone/deployments/cda-generator-master.war/WEB INF/docmap, which may vary depending on whether this is a Single Server or interop server environment. For Single Application server deployments, this is the single JBoss server machine. For multiple application server deployments, use the Interop server machine.

Note: If JBoss is restarted, you may be required to restart the application.

Sections within the map include the name of the section within the map, the transform type, the FHIR query (or queries) used to retrieve specific clinical data, and the rule set used to transform the data.

Back up custom document map files

When you redeploy JBoss or upgrade the system, you will lose any customized CCDA document maps; only factory maps are restored. Ensure that you back up customized maps before upgrading or redeploying JBoss. To back up files, navigate to the JBoss server instance; access the drive designated for CDA Generator and Designer storage. In the drive, access the C:/Program Files/Centricity Practice Solution/jboss/standalone/data/cda-generator-master folder.

Note: The folder location may vary depending on your deployment setup; for Single Application server deployments, this is the single JBoss server machine; for multiple application server deployments, use the Interop server machine.

Back up the cda-generator-master folder and its subfolders to reinstall custom files after the upgrade or JBoss redeployment.

CDA Designer Help

Select the Help option in the CDA Designer menu for map configuration details. For information on individual GE API resources and extensions (the information building blocks within a map), see Additional resources: Access the GE Healthcare API Developer Portal.

Workflow update: CDA Validator

AUDIENCE: System administrators and clinic managers

MU: 170.315 b1

The CDA Validator ensures that only valid inbound CCDA files are added to the system; all inbound CCDAs pass through the CDA Validator. Inbound files are determined to be reconcilable, viewable but not reconcilable, or neither (not imported).

- Reconcilable: inbound files that have enough validity to be added to the system.
- Viewable: inbound files that can be viewed but not reconciled.
- Neither: invalid inbound files.

Supported workflows

Supported workflows include importing a Chart Summary; the CDA Validator also validates external documents added by message brokers, such as Secure Messaging or QIE. The CDA Validator automatically validates inbound CCDA files, user action is required.

IMPORTANT: Medication reconciliation can be completed only for imported CCDA documents.

View validation results

Access a log of validation results; use HTML and XML files in the CDAValidation folder to identify file errors.

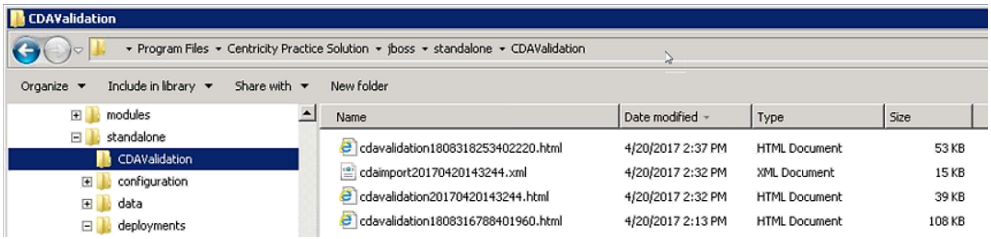
- Valid CCDAs display as **cdavalidationSDID.html**
- Invalid CCDAs display as cdavalidationYYYYMMDDHHMMSS.html with cdaimport YYYYMMDDHHMMSS.xml

Open the HTML files in results for details. In this example, a series of errors for an imported file display.

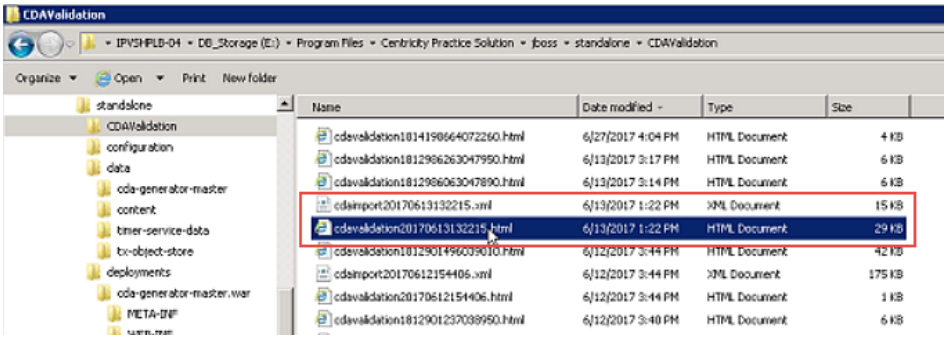
View CDA Validator results

1. Navigate to the database storage drive on the JBoss server; access .../Program Files/Centricity Practice Solution/jboss/standalone/CDAValidation.

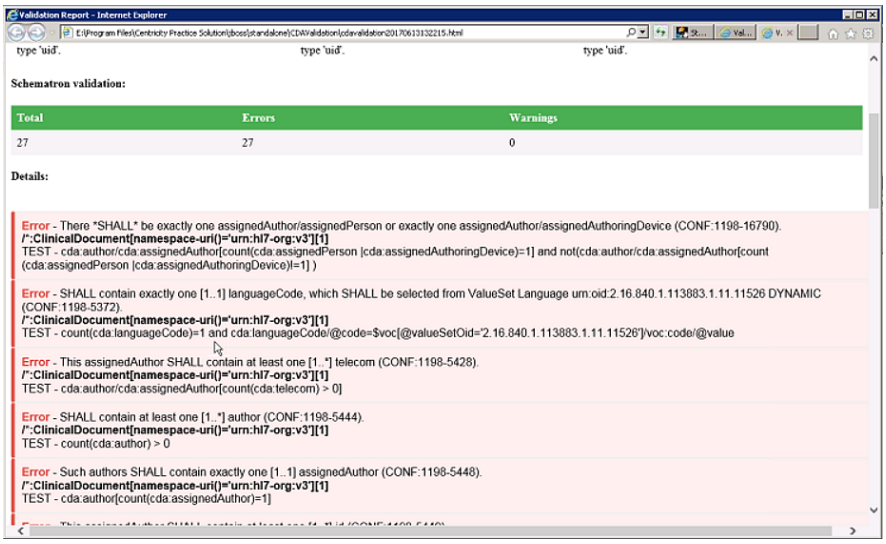
   Note: The folder location may vary depending on your deployment setup; for Single Application server deployments, this is the single JBoss server machine; for multiple application server deployments, use the Interop server machine.



2. In CDAValidation, locate an HTML file for an imported CCDA; failed inbound CCDA files appear with both HTML and XML files.



3. Open the HTML file in a browser to view validation issues.



4. For failed CCDA imports, access HTML import results to identify issues in the adjoining XML file. Contact the file sender to share the issues found and request that they send a corrected file.

Back up validation files

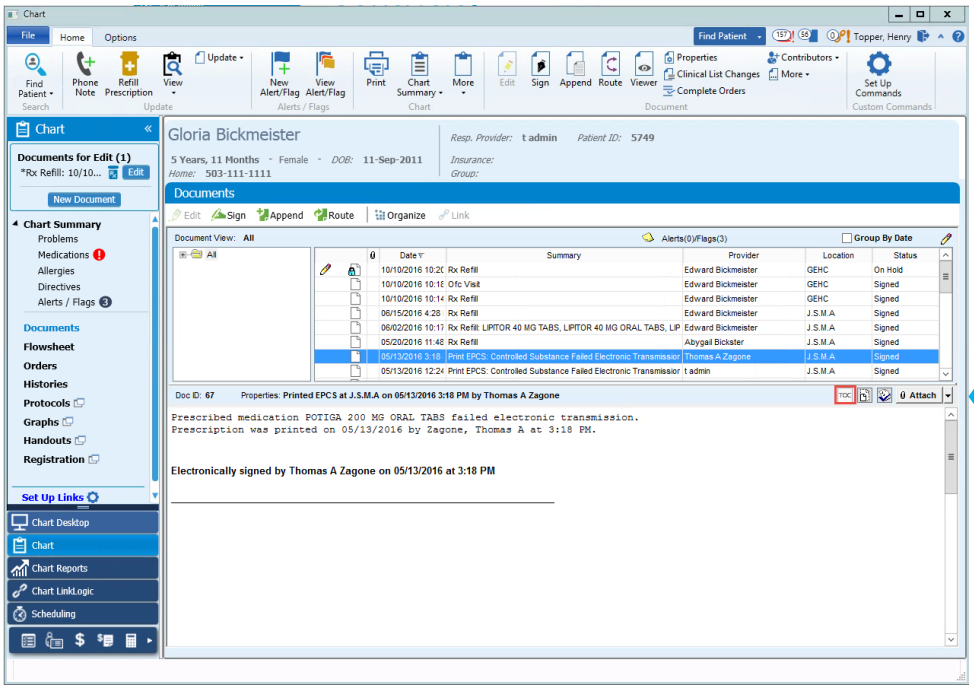
When you redeploy JBoss or upgrade the system, you will lose validation files and customized CDA document maps (factory maps are restored). Ensure that you back up validation files or customized maps before upgrading or redeploying JBoss. To back up files, navigate to the JBoss server instance; access the drive designated for database storage. In the drive, access .../Program Files/Centricity Practice Solution/jboss/standalone/CDAValidation; back up the CDAValidation folder and its full content to preserve copies of validation results for previously imported CCDAs or previous attempts to import invalid CCDAs.

Workflow update: TOC Viewer

AUDIENCE: System administrators and clinic managers

MU: 170.315 b1

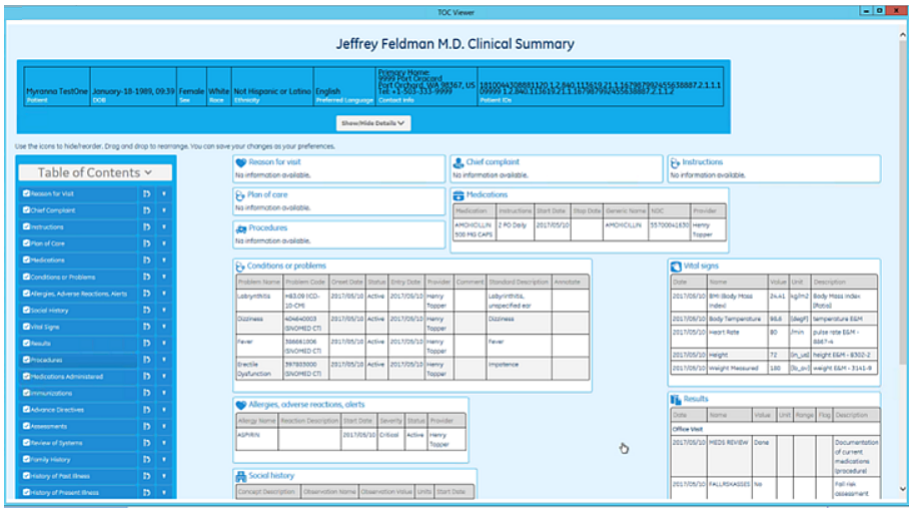
The TOC Viewer provides you with a preview window into transfer of care CCDAs received for a patient. Start an update in a patient's chart; select the **Documents** tab. In the patient's documents, select a transfer of care file. In the viewing pane toolbar below, select **TOC.**



Select an inbound transfer of care document; select TOC

A selected transfer of care document in a patient chart

A preview pane opens with the transfer of care document displayed.



A transfer of care document in the TOC Viewer

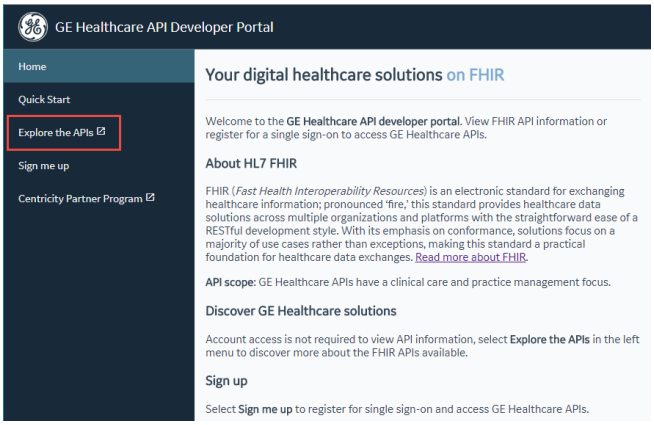
Additional Resources: Access the GE Healthcare API Portal

MU: 170.315 b1

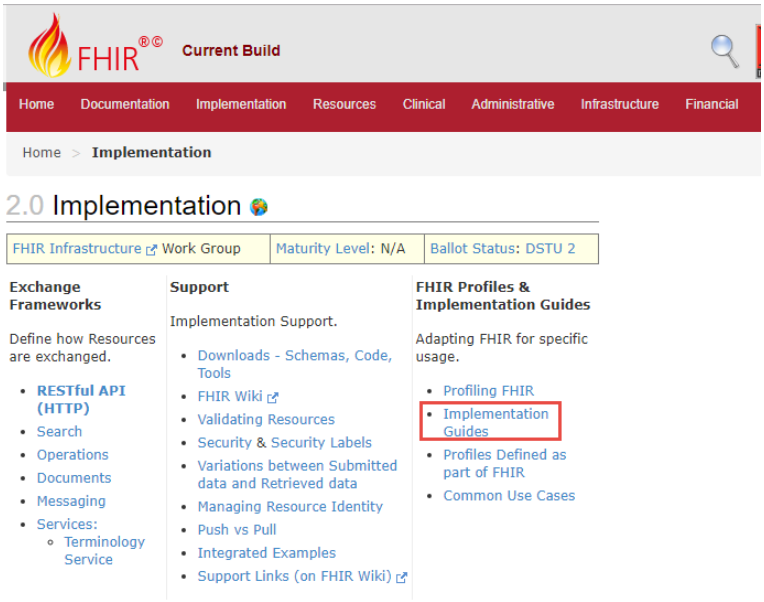
Access the GE Healthcare API Developer Portal to view GE API information, including extensions for GE FHIR resources and mappings between the Centricity system and FHIR data elements.

View GE API resources

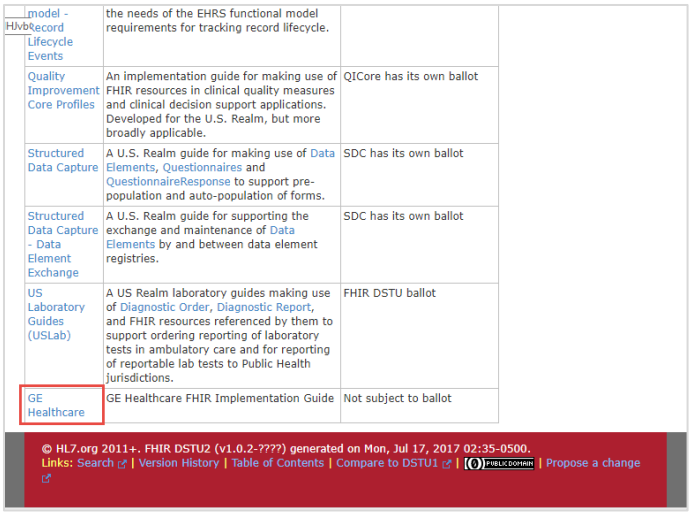
1. Navigate to the GE Healthcare API Developer Portal at https://mydata.gehealthcare.com
2. In the portal, select **Explore the APIs** for information specific to GE Healthcare FHIR APIs.



3. In the FHIR site that displays, select **Implementation**; in Implementation, select **Implementation Guides.**



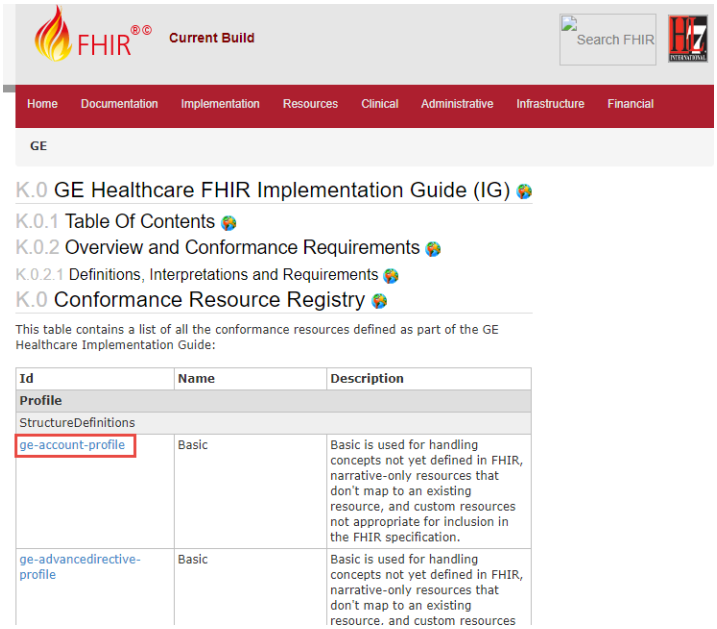
4. In **Implementation Guides**, scroll to the foot of the page; select the **GE Healthcare** option to view APIs.



model - Record Lifecycle Events	the needs of the EHRS functional model requirements for tracking record lifecycle.	
Quality Improvement Core Profiles	An implementation guide for making use of FHIR resources in clinical quality measures and clinical decision support applications. Developed for the U.S. Realm, but more broadly applicable.	QICore has its own ballot
Structured Data Capture	A U.S. Realm guide for making use of Data Elements, Questionnaires and QuestionnaireResponse to support pre-population and auto-population of forms.	SDC has its own ballot
Structured Data Capture - Data Element Exchange	A U.S. Realm guide for supporting the exchange and maintenance of Data Elements by and between data element registries.	SDC has its own ballot
US Laboratory Guides (USLab)	A US Realm laboratory guides making use of Diagnostic Order, Diagnostic Report, and FHIR resources referenced by them to support ordering reporting of laboratory tests in ambulatory care and for reporting of reportable lab tests to Public Health jurisdictions.	FHIR DSTU ballot
GE Healthcare	GE Healthcare FHIR Implementation Guide	Not subject to ballot

© HL7.org 2011+. FHIR DSTU2 (v1.0.2-????) generated on Mon, Jul 17, 2017 02:35-0500.
Links: Search | Version History | Table of Contents | Compare to DSTU1 | PUBLIC DOMAIN | Propose a change

5. In **Conformance Resource Registry**, select resource links to view extensions (the patient or provider information called for that resource).



FHIR Current Build — Search FHIR

Home | Documentation | Implementation | Resources | Clinical | Administrative | Infrastructure | Financial

GE

K.0 GE Healthcare FHIR Implementation Guide (IG)

K.0.1 Table Of Contents

K.0.2 Overview and Conformance Requirements

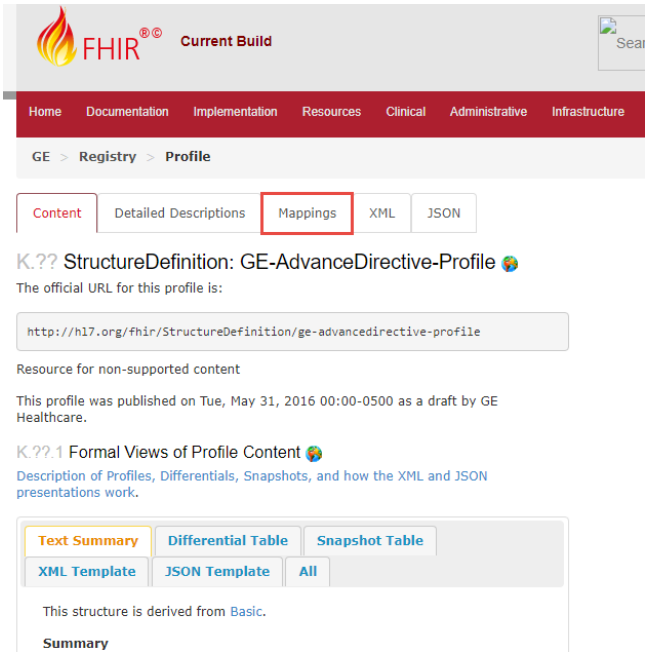
K.0.2.1 Definitions, Interpretations and Requirements

K.0 Conformance Resource Registry

This table contains a list of all the conformance resources defined as part of the GE Healthcare Implementation Guide:

Id	Name	Description
Profile		
StructureDefinitions		
ge-account-profile	Basic	Basic is used for handling concepts not yet defined in FHIR, narrative-only resources that don't map to an existing resource, and custom resources not appropriate for inclusion in the FHIR specification.
ge-advancedirective-profile	Basic	Basic is used for handling concepts not yet defined in FHIR, narrative-only resources that don't map to an existing resource, and custom resources

6. Select the **Mappings** tab within a resource page to view mappings between the Centricity system and FHIR data elements.



View GE API parameters

1. Navigate to the GE Healthcare API Developer Portal at https://mydata.gehealthcare.com.
2. In the portal, select **Explore the APIs**.
3. In the FHIR site that displays, select **Implementation.**
4. Select **Operations** to view operations supported by the API Server.
5. Under FHIR defined Operations, select **Generate Document** to view the API call and parameters used to request a CCDA document.

Workflow update: Reconcile, link, or request CCDAs

AUDIENCE: System administrators and clinic managers

MU: 170.315.g.2

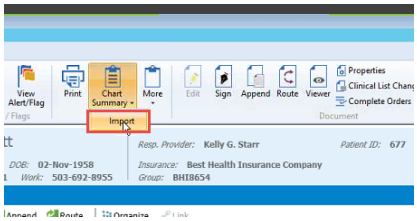
Summary: If a Transition of Care CCDA is received for a patient and then a new Transition of Care is received or imported, providers may be required to reconcile data from the new Transition of Care against existing patient data. In some cases, you may receive CCDA documents that you want to associate with another within a patient chart. You may also need to request a CCDA from a given organization (record a Care Request). The following sections describe how to reconcile, link, and request CCDAs.

Areas include:

- Workflow update: Reconcile CCDA data with patient problems
- Workflow update: Link CCDA documents in a patient chart
- Workflow update: Record a Care Request

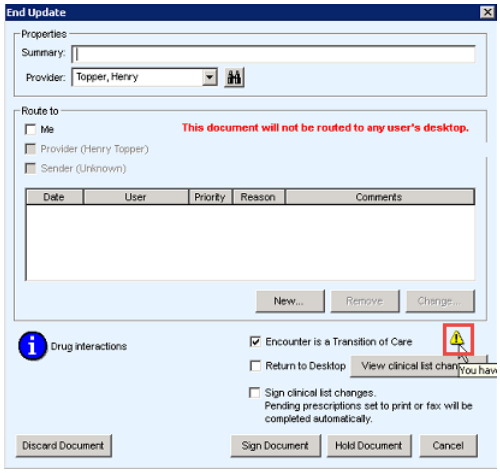
Reconcile CCDA data with existing patient data

Transition of Care and other CCDAs are either automatically imported into the system using a message broker (such as QIE) or are manually imported.



A provider manually importing a CCDA

A provider begins a chart update for a transition of care visit. At chart signing, if the provider selects the **Encounter is a Transition of Care** option and a Transition of Care CCDA exists for a patient that must be reconciled, a warning displays.



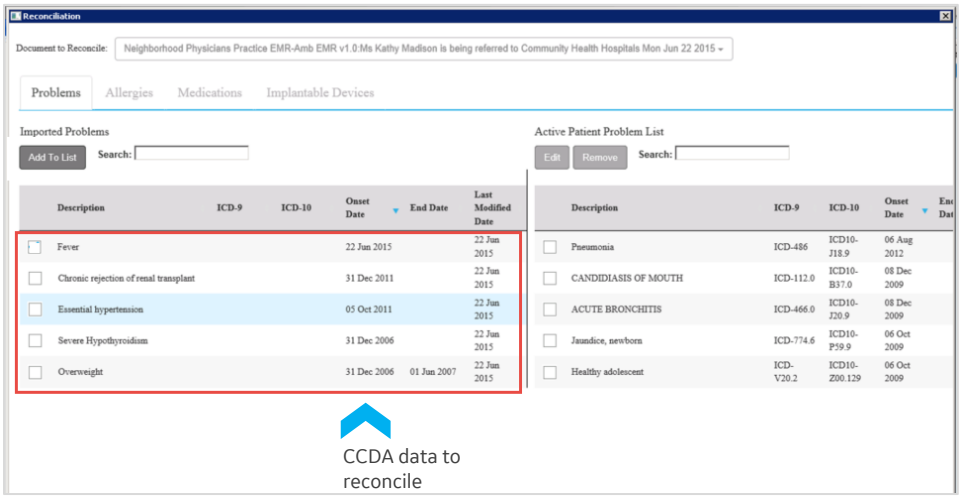
CCDA data to reconcile

A Transfer of Care reconciliation warning

To reconcile, access a form with reconciliation functionality, such as **CPOE ABP-CCC**, and then select **Reconciliation** within the form.

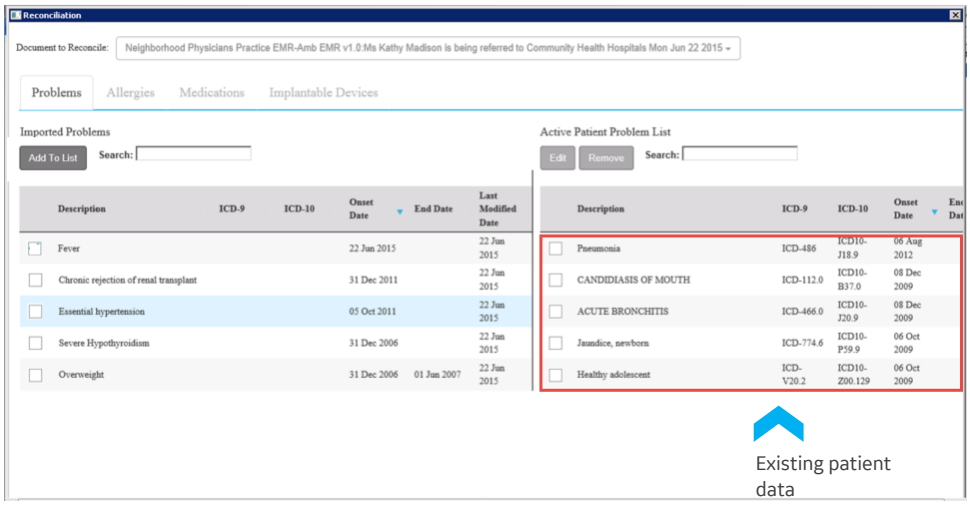
Reconciliation button within a form

In the Reconciliation form, providers select from **Problems, Allergies, Medications,** or **Implantable Devices** tabs to view data that requires reconciliation within a patient chart. In the left table, view the data to be reconciled. In the example below, a provider reviews imported problems for reconciliation.



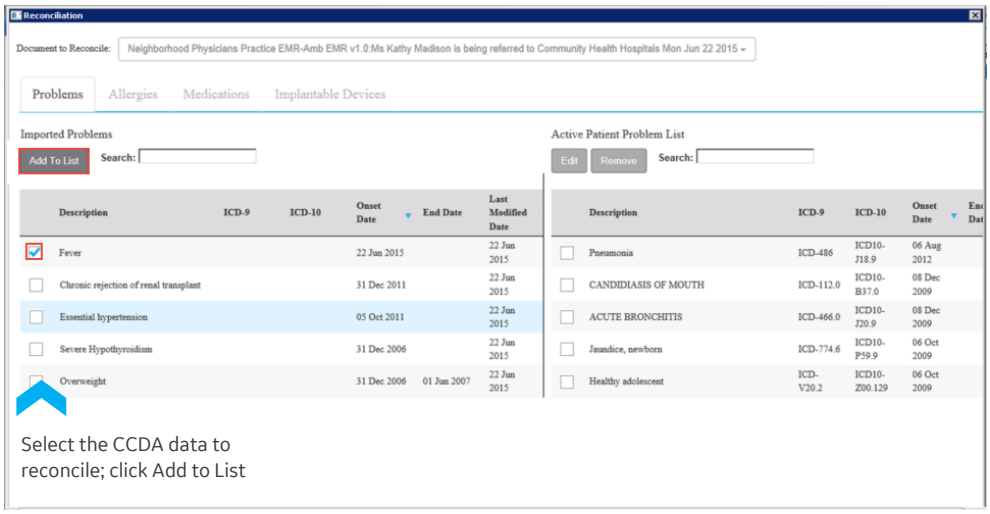
Problems from an imported CCDA that require reconciliation

In the table to the right, review existing data within the patient chart. In this example, a provider reviews existing active problems for a patient.



Active problems in the patient's chart

After reviewing the data to reconcile against existing data (in this case, inbound problems from a CCDA against a patient's active problems), select the data to reconcile in the left list and then click **Add to List**. This adds the item to the patient's chart.

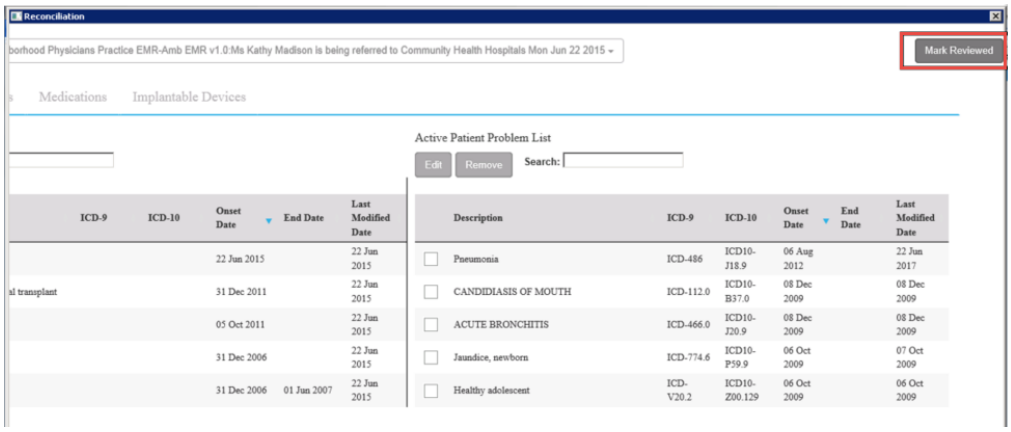


A provider selects the data to add (reconcile) and then clicks Add to List

IMPORTANT: When you select data to reconcile and then select **Add to List**, the MUActivityLog increments the Reconcile TOC Referral Summary value by one for Meaningful Use reporting (MUActivity type 16).

Select additional tabs in the Reconciliation form (**Problems, Medications, Allergies,** or **Implantable Device** tabs) to check for outstanding data to be reconciled; select these items and then click **Add to List** to include them in the patient chart. To disregard items for reconciliation, select **Mark Reviewed**.

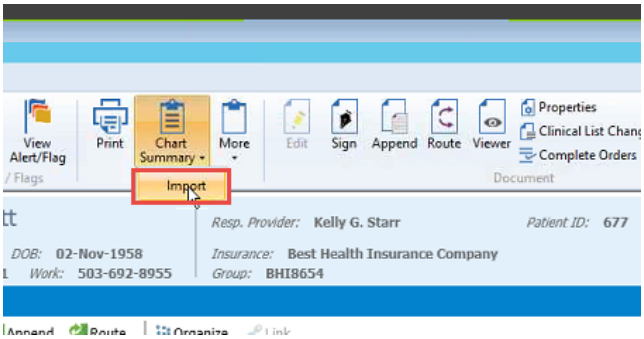
IMPORTANT: When **Mark Reviewed** is selected, no additional items (problems, medications, allergies, or implantable devices can be reconciled from that CCDA and the document no longer appears in the Reconcile drop-down. Ensure that data from all tabs—Problems, Medications, Allergies, and Implantable Devices—are reconciled before selecting this option. When you select data to reconcile and then select **Mark Reviewed**, the MUActivityLog increments the Reconcile TOC Referral Summary value by one for Meaningful Use reporting (MUActivity type 16).



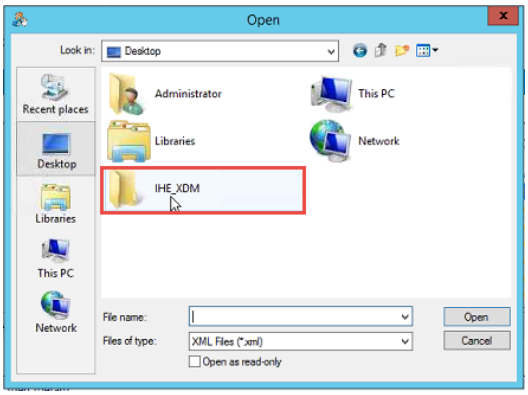
A provider selects remaining items and then clicks Mark Reviewed to remove them without adding them to the chart

Reconcile CCDA data with existing chart data

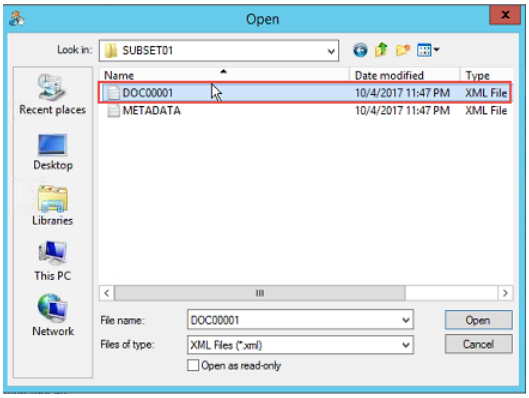
1. In a patient chart, select **New Document** to update a chart for a transition of care visit.
2. In Update Chart, select update options; ensure that the **Encounter is a transition of care checkbox** is selected. Click **OK**.
3. Update the chart for the visit; if you need to manually import a transition of care document for the visit, click **Documents** (left menu) and then select **Chart Summary > Import** in the toolbar.



4. In **Open**, navigate to the **IHE_XDM** folder, select it, and then click **Open**.

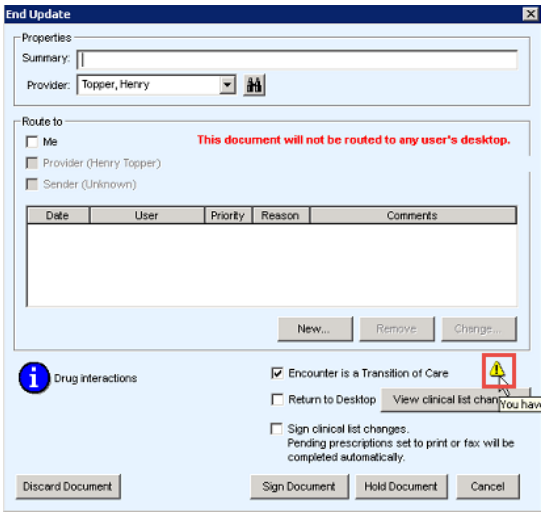


Select the Transfer of Care document to import; click **Open** to import the document.



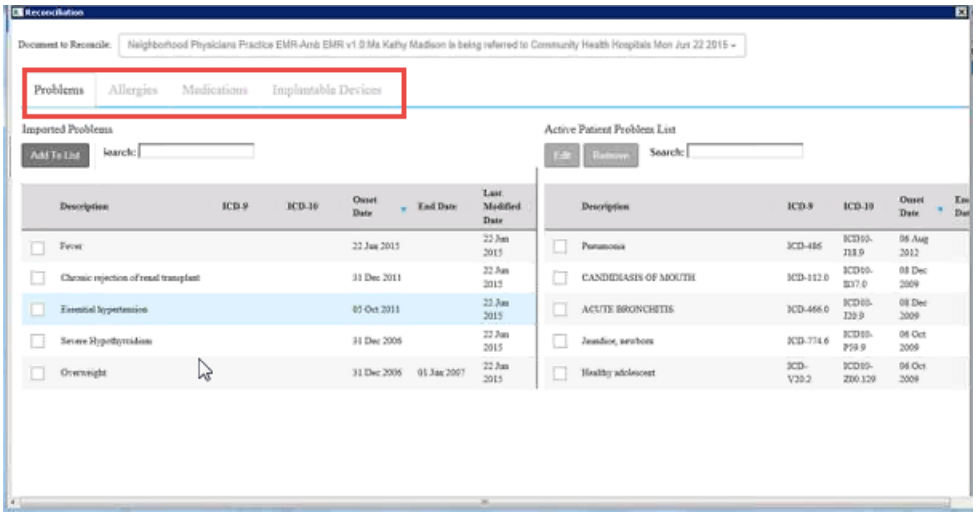
5. After updating the chart for the visit, click **End**.

6. In End Update, verify that the **Encounter is a Transition of Care** option is selected; if there is Transition of Care CCDA data to reconcile a warning displays “You have not reconciled or requested a CCDA.” This indicates that there is a CCDA for the patient to be reconciled.

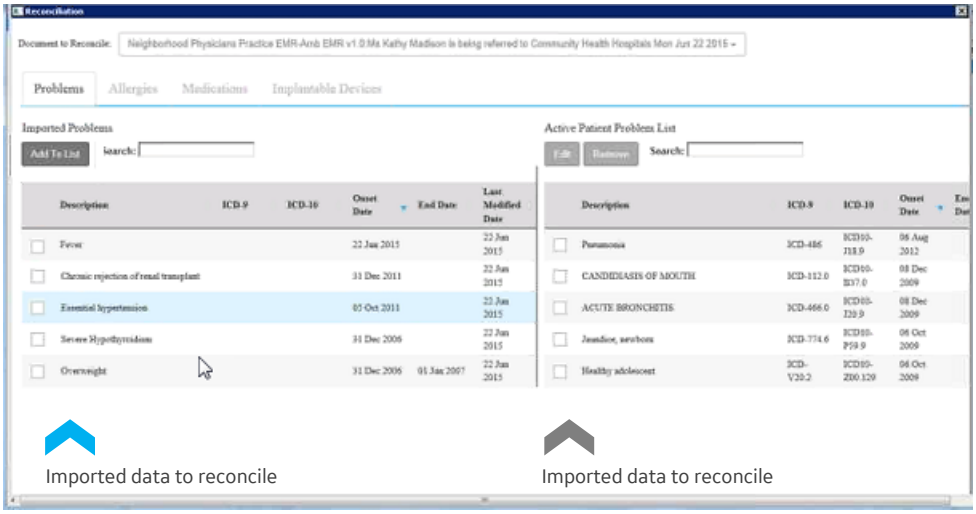


7. To reconcile, click **Cancel** in End Update. Navigate to a form with access to reconciliation functionality, such as **CPOE A&P-CCC** and then select **Reconciliation** within the form.

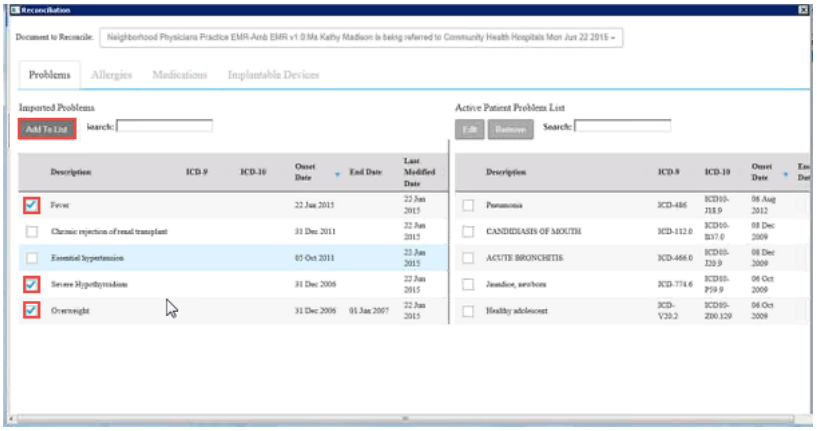
8. In Reconciliation, select **Problems, Allergies, Medications,** and **Implantable Devices** to view information that requires reconciliation.



9. In a tab with data to reconcile, review the imported data (left column); compare this against existing active data for the patient (right column).



10. In the Imported Data column, select the items to add to the patient's chart; click **Add to List**.



11. Select the remaining tabs (**Problems, Allergies, Medications,** and **Implantable Device** tabs) to reconcile any remaining data; in the Imported Data column within each tab, select data to reconcile and then select **Add to List**.

12. Once you have finished reconciling all wanted data from all tabs, click **Mark Reviewed.**

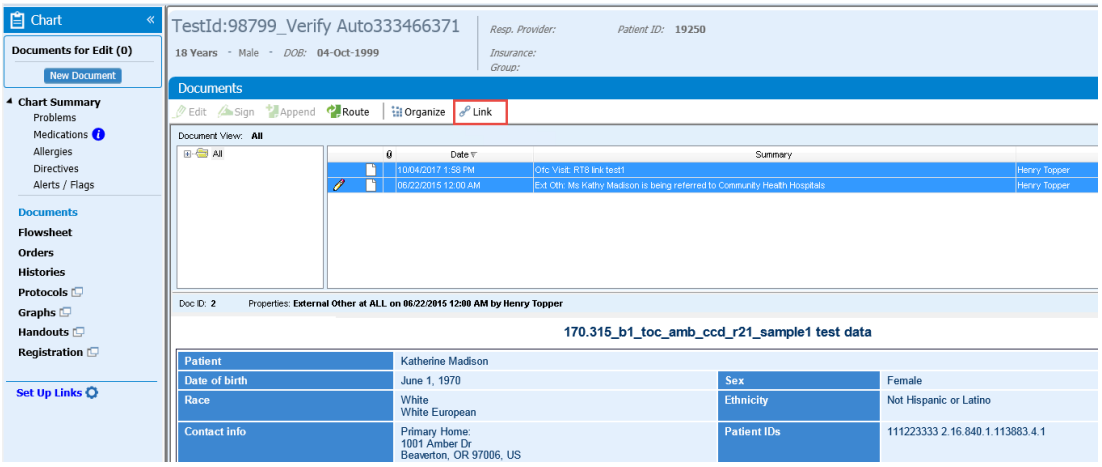
    IMPORTANT: When **Mark Reviewed** is selected, no additional items (problems, medications, allergies, or implantable devices can be reconciled from that CCDA and the document no longer appears in the Reconcile drop-down. Ensure that data from all tabs—Problems, Medications, Allergies, and Implantable Devices—are reconciled before selecting this option. When you select data to reconcile and then select **Mark Reviewed,** the MUActivityLog increments the Reconcile TOC Referral Summary value by one for Meaningful Use reporting (MUActivity type 16).

13. In the patient chart, click **End;** in End Update, verify that **Encounter is a Transition of Care is** selected. If the Transition of Care document has been fully reconciled, no warning message displays.

Link CCDA documents in a patient chart

Providers may receive CCDA files from organizations that send separate, smaller files with patient information, such as separate Transition of Care and Summary of Care documents for the same patient. When this occurs, providers can link associated documents.

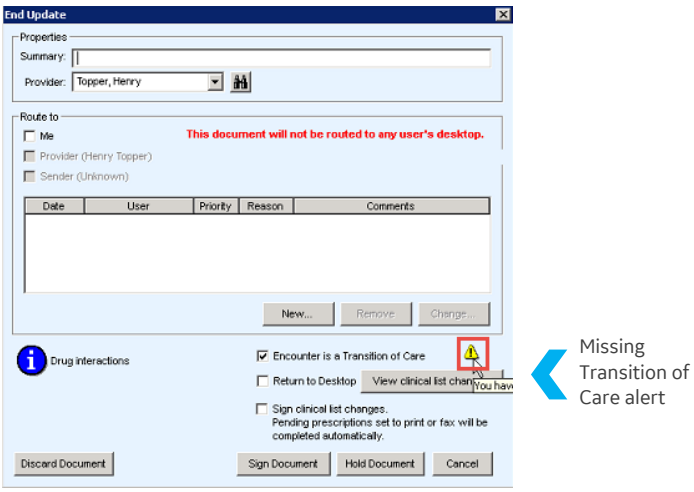
In an opened patient chart, select **Documents** (left menu); in the Documents list, select two or more documents; in the Documents toolbar, select **Link**.



The Link option in chart documents

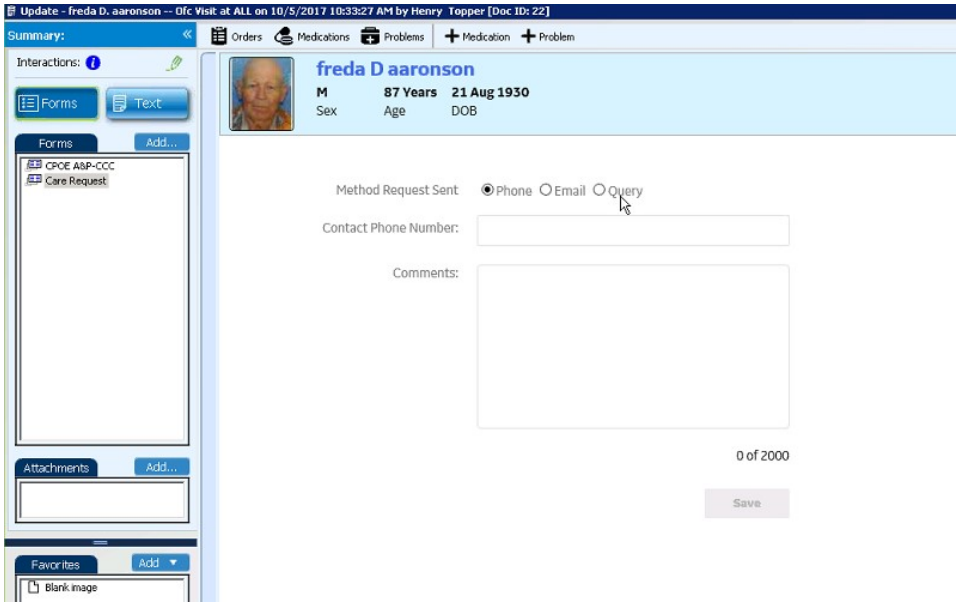
Record a Care Request

A provider begins a chart update for a transition of care visit. At chart signing, if the provider selects the **Encounter is a Transition of Care** option and no Transition of Care document exists for the patient, the provider must request the missing file from the referring provider.



A missing Transition of Care alert

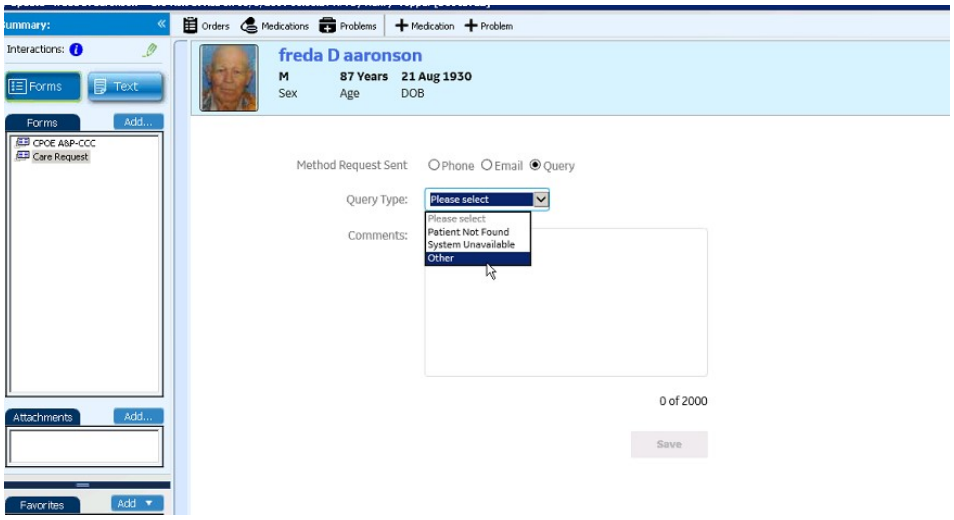
Once the referring provider is contacted, enter a Care Request to track that a request has been made. In the patient chart, access the Care Request form.



The Care Request form

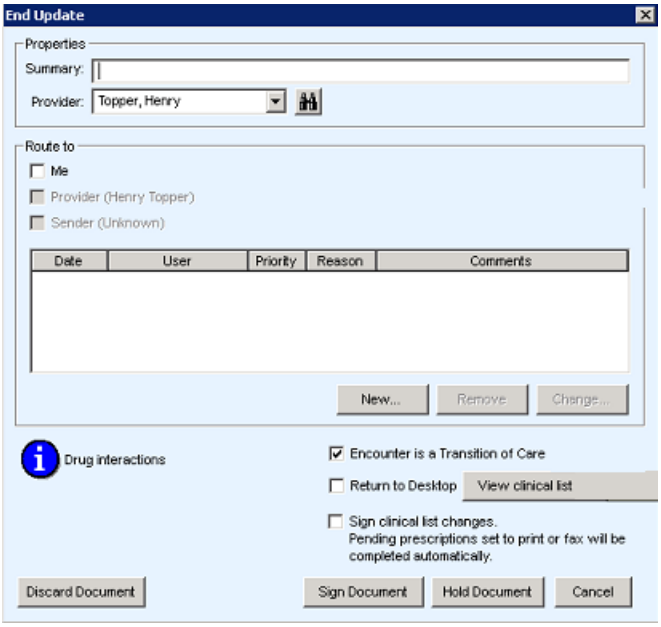
In Care Request, select the method used to request the missing Transition of Care document (Phone, Email, or Query). If **Phone** or **Email** is selected, enter the contact number or email address and comments and then saves the record to the chart.

If the Query option is selected, enter a reason why the Transition of Care document is not available, including **Patient Not Found, System Unavailable** (not in system), or **Other.**



Query options in the Care Request form

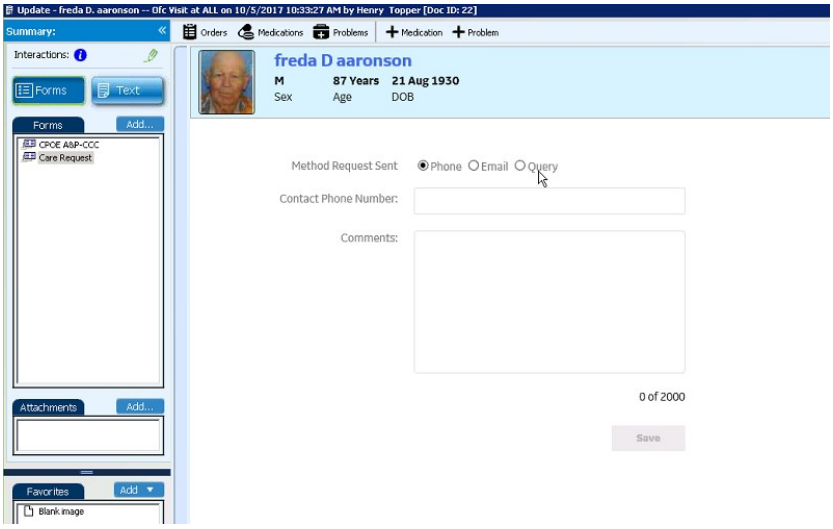
Once a request has been logged, the missing Transition of Care alert no longer displays at chart signing when the **Encounter is a Transition of Care** option is selected.



No CCDA warning in End Update

Enter a Care Request record

1. In a patient chart, select **New Document** to update a chart for a transition of care visit.
2. In Update Chart, select **Office Visit** as the encounter type; click **OK**.
3. In the Chart Summary, select **Forms**; perform a search for **Care Request;** select the form and then click **OK.**
4. In Care Request, select the request method (**Phone**, **Email**, or **Query**).



- If **Phone** or **Email** is selected, enter the contact phone number or email address and comments.
- If **Query** is selected, select **Patient Not Found, System Unavailable** (not in system), or **Other** and then enter comments.

5. Click **Save**. Once a Care Request is logged for a patient, the missing Transition of Care warning no longer displays at chart signing.

CCDA document structures

AUDIENCE: System administrators and clinic managers

When receiving CCDA documents from external organizations or other systems, XML structures within those files may vary which may cause file validation to fail upon import. For information on the accepted XML structure for CCDA documents, see Appendix A: CCDA document structures on page 134.

CCDA FIXES

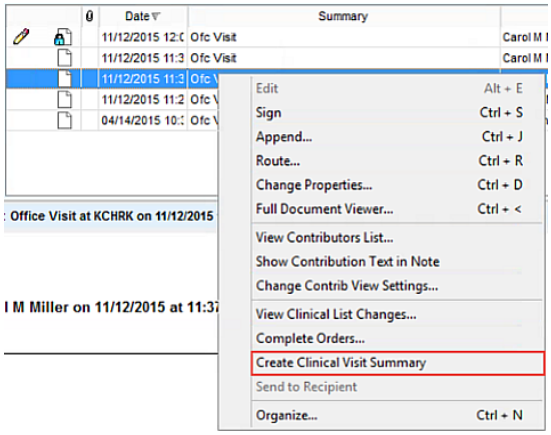
Confidentiality code in CCDA v1.1

Issue: The confidentiality code within CCDA report building was indicating chart status as 'N' (normal) in cases where charts were 'C' (confidential). Resolution: Resolved; confidential charts display with a 'C,' indicating their actual status. SPR 68452

CCDAs failed to generate when requested by the Centricity Patient Portal

PATH: *Chart > Find Patient (Search/select result/OK) > Chart Summary > Documents (right-click Office Visit document) > Create Clinical Visit Summary*

Issue: When a CCDA document, such as a chart summary, was requested by a patient using the Centricity Patient Portal and CCDA v1.1 was in use, CCDAs failed to generate for some patients and an unexpected error message displayed. Resolution: Now CCDA documents requested from CCDA v1.1 generates for all patients when using the Centricity Patient Portal. SPR 69243



The Create Clinical Visit Summary option in the Documents context menu

QIE CCDA export issue

Issue: After upgrading to CPS 12.2 SP1, the GetClinicalDocument call to JBoss would fail and cause QIE interface issues; this call is used in Qvera channels to export CCDA files to third-party systems. Resolution: Now the supporting JBoss call occurs as expected and QIE no longer displays these errors. SPR 70485

Reconciling CCDAs from earlier Centricity versions

Issue: CCDAs that could be partially reconciled in earlier versions of CPS could not be reconciled in 12.3. Resolution: Now CCDAs from earlier versions that could be partially reconciled can also be reconciled or partially reconciled in 12.3. SPR 70563

Timeouts were observed for DocumentReference API use

Issue: During load testing for CPS v12.3, a series of runtime errors were detected when accessing the DocumentReference API. DocumentReference API tasks would time out after 120 seconds. Resolution: Runtime issues that occurred during load testing no longer occur when accessing DocumentReference. SPR 2772

Status was incorrect for allergies with end dates in CCDAs

Issue: Giving an allergy an end date in Centricity changed the status of the allergy in a CCDA to something other than "Active". If the reason for removing the allergy was "Other," the status incorrectly remained "Active." If the reason was "Patient Corrected," the status was incorrectly listed as blank (no value). Workaround: Adding an end date for an allergy no longer causes the status to appear incorrectly in a CCDA. SPR 70953

CCDA KNOWN ISSUES

Transition of Care CCDA fails to generate when order authorizing providers and providers differ

Issue: When generating a transition of care (TOC) document, if the authorizing provider for the order and the provider creating the TOC are not the same, the CCDA for the transition of care fails to generate. Workaround: Until this issue is resolved, the authorizing provider for the order must log in and generate the CCDA for the transition of care. SPR 3398

RXNORM negation trigger and NULL values for result codes

Issue: The RXNORM Negation trigger for default mapping is not working in instances where NULL values are encountered for result codes within CQM maps. When a default mapping value encounters a NULL value in the result code, the negation code for a medical or patient reason does not generate in the CCDA. Workaround: Add a custom map in addition to the default map to support negation code reporting. SPR 70707

CCDA 1.1 features in CPS v12.3 are not 2014 Certified EHR Technology for 2018 quality reporting

Issue: CCDA 1.1 features in this release qualify as 2014 CEHRT for 2017 quality reporting but will not qualify in 2018. Workaround: Option 1: This release includes new CCDA 2.1 features that qualify as 2015 Certified EHR Technology. Migrate to CCDA 2.1 prior to your 2018 Advancing Care Information (ACI) performance period. Option 2: Upgrade to a subsequent CEMR 9.12 service pack that includes a 2014 CEHRT compliant version of CCDA 1.1 prior to your 2018 ACI performance period. Option 3: Wait to upgrade until a 2014 CEHRT compliant version of CCDA 1.1 is available.

5. Medications, prescriptions, and EPCS

The new Medications Discounts and Alerts feature allows providers to pass prescriptions savings on to patients or view FDA, DEA, or manufacturer drug alerts within their workflows. This release also supports single-factor authentication (OARRS/PDMP) for organizations that wish to include biometric finger scanning for non-controlled substance e-prescribing (installation consultation and assistance required).

Areas include:

- Medications features: Medication discounts and alerts, Single-factor authentication for e-prescribing, and permissions-based prescription signing.
- Medications fixes
- Medications known issues

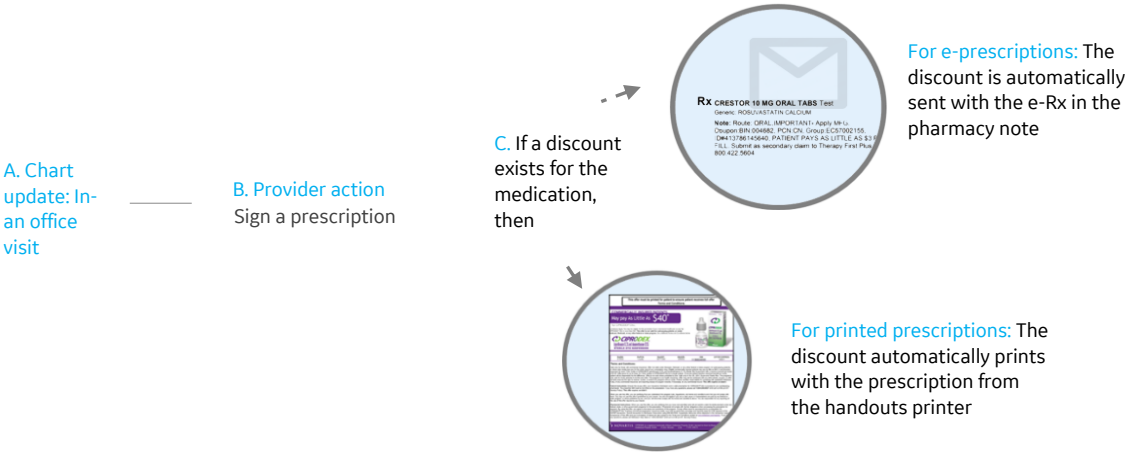
MEDICATIONS FEATURES

Medications discounts and alerts

AUDIENCE: Clinic managers, providers, and system administrators (prerequisites)

Summary: Medication discount information and alerts are now available for printed and electronic prescriptions. When a medication is prescribed during an in-office visit (has a document type of Office Visit) and has an available alert or discount, that information is automatically printed with the prescription or is sent electronically to the patient's pharmacy.

- **Financial savings (discounts):** A provider updates a patient chart for an in-office visit; during the visit, the provider adds or updates a medication or a prescription. If a discount exists for the medication, it automatically prints from the handouts printer when the prescription prints or is sent electronically in the pharmacy note within an e-prescription.



- **Clinical decision support (alerts):** If an FDA, DEA, or manufacturer alert exists for a prescribed medication (such as a safety advisory), it displays as an alert within medications and prescriptions forms. Providers select the alert to access this communication.

A. Chart update: In-office visit —— B. Provider action: Add medication /update Rx — C. If an alert exists for a medication then ⇢

Medication alert: An alert displays in medications or prescriptions forms

Areas include:

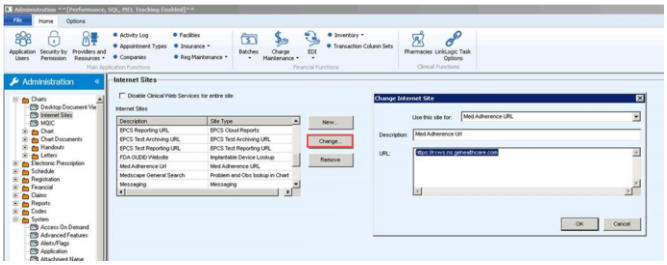
- Prerequisites: Enable firewall access
- Setup: Install RxMedAdherence.ckt
- Workflow update: Medications discounts
- Workflow update: Medications alerts
- Workflow update: Reprinting or emailing discounts and alerts
- Disabling medications discounts and alerts

Prerequisites: Enable firewall access

AUDIENCE: System administrators

Before using, ensure that port 443 is enabled as it secures the web browser communications required to support this feature. Ensure that the following staging URL is whitelisted on test and production instances to support this feature:

- **Firewall Access:** Ensure that https://rxwp.ns.gehealthcare.com is whitelisted. Also ensure that this is updated as an allowed site in the Centricity System. Navigate to **Administration > Charts > Internet Sites. In** Internet Sites, select the URL entered for medication adherence; click **Change.** Enter the URL and then click **OK**.



Add the URL to the system for production

Note: If the system does not have a medication adherence site; select **New,** enter the URL, and then click **OK.**

IMPORTANT: The process for enabling ports and whitelisting sites is dependent on your organization's network setup; if your organization uses proxy servers, you must set up your proxy in the browser in accordance with your organizational guidelines.

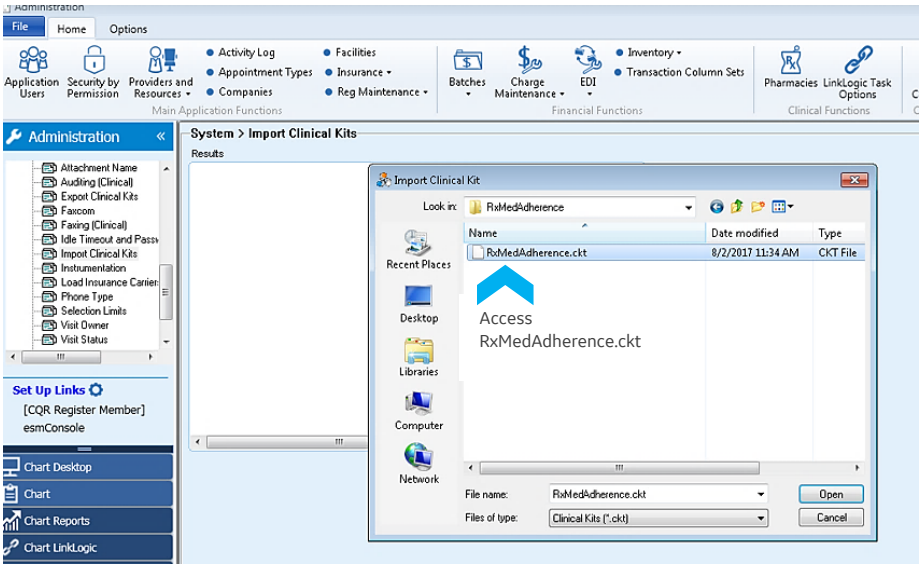
Setup: Install RxMedAdherence.ckt

AUDIENCE: System administrators

A text file, RxMedAdherence.ckt, is required to save links to medication discount and alerts within the patient's chart. Use the following to import the kit. Optionally, add the RxMedAdherence.ckt file to the Office Visit document type to always install this component each time you start an encounter with a document type of Office Visit.

Import RxMedAdherence.ckt

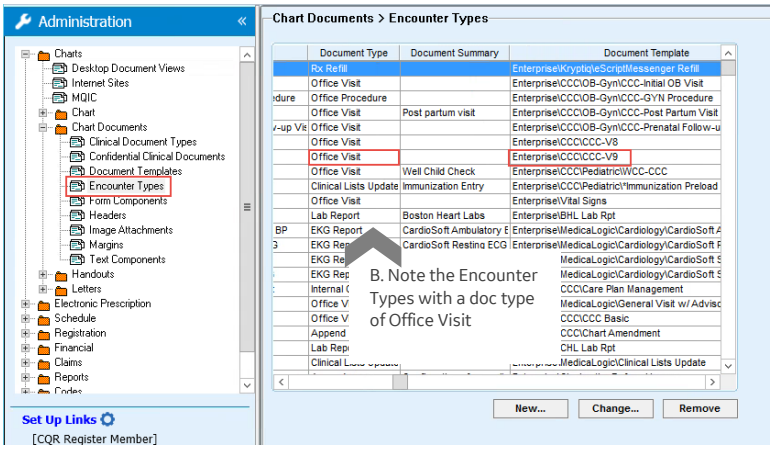
1. In the main menu, select **Administration**; click **System > Import Clinical Kits**.
2. In Clinical Kits, select **Import Clinical Kit**.
3. Click Browse; navigate to the Centricity Staging folder (this is typically C://CentricityStaging/Clinkits).
4. Double-click the **RxMedAdherence** folder; in the folder, select **RxMedAdherence.ckt**; click **Open**.



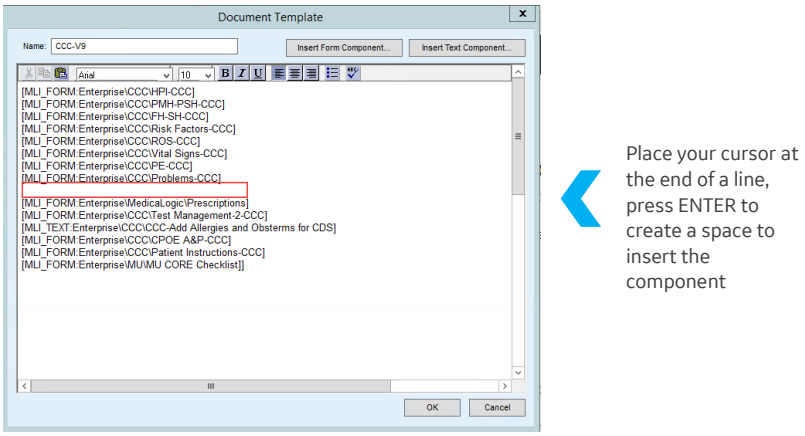
5. Click **OK t**o import the **RxMedAdherence.ckt** file.

Add RxMedAdherence.ckt to the Office Visit document type

1. In the main menu, select **Administration** > **Chart Documents** > **Encounter Types**.
2. In Chart Documents, locate encounter types with a Document Type of **Office Visit**. In Document Template, take note of the file paths for each.



3. In the Chart Documents folder (left menu), select **Document Templates**. In Document Templates, browse for the document template associated with the document type **Office Visit** (use the file path from the Document Template column in the previous step to locate the template).
4. Select the template; click **Change**. In Document Template, place your cursor at the end of one of the form listings; press ENTER to create a space for an entry.



5. Select **Insert Text Component**; in Text Component, perform a search for **RxMedAdherence**; select the component and then click **OK**.
6. In Document Template, click **OK** to save the text component to the template. Repeat this procedure for each template associated with a document type of Office Visit. Each time you start a new document with document type of Office Visit, the RxMedAdherence component will be automatically added to the document.

Workflow update: Medication discounts

AUDIENCE: Clinic administrators and providers

The provider starts a new document for an in-office visit (the document type must be Office Visit). During the visit, the provider enters or renews a prescription. Upon ending the update and signing, if a discount exists for the medication, it automatically prints from the handouts printer or is sent electronically with an e-prescription to the patient's pharmacy.

IMPORTANT: For medications with no physical coupons, discounts will only be included in pharmacy notes.

IMPORTANT: If there is no discount available, there is no indication.

Add medication discounts for an in-office visit

1. In a patient chart, select **New Document**; in Update Chart, select an encounter type; in **Document Type**, select **Office Visit**. Click **OK**.

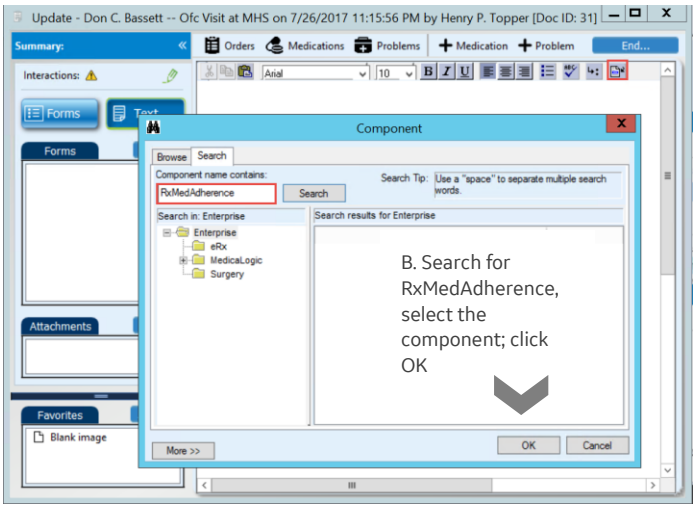
   IMPORTANT: The document type must be Office Visit for discounts to print.

2. In Update, select **Component**  .

   IMPORTANT: If you have added the RxMedAdherence.ckt component to the Office Visit document type, then the component is added automatically; skip to step 5. See Add RxMedAdherence.ckt to the Office Visit document type.

3. In Component, select the **Search** tab; in the search field, enter **RxMedAdherence**; click **Search**.

4. Select the **RxMedAdherence** text component; click **OK**.



5. In the patient chart, enter or renew a prescription. Click **End** and then sign for the prescription.

6. At signing, any discounts for the medication automatically print with the prescription or are sent with an electronic prescription to the patient's pharmacy.

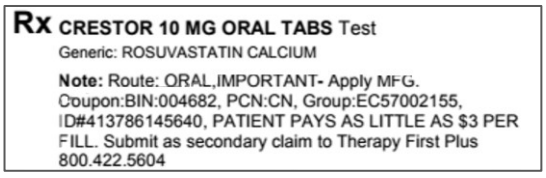
   - **Printed discounts:** If the prescription is printed and if the discount has a printout associated with it, discounts print to handouts printer.

     IMPORTANT: Printed discounts do not include the patient's name or patient ID; if your practice uses a centralized printer (such as at a nurse's station or at reception), these materials will not include an identifier for a specific patient.

A printed discount for a medication

   - **Discounts and e-prescriptions:** If the prescription is electronic, discount information is added to the Note to Pharmacy field within the e-prescription.

     IMPORTANT: The Note to Pharmacy field has a text limit of 210 characters; if there is already text in this field that does not allow for alert or discount information, this information will not be included in the transmission to the patient's pharmacy.



A Note to Pharmacy in an e-prescription

Workflow update: Medications alerts

The provider starts a new document for an in-office visit and adds a medication. If an alert exists for a prescribed medication, this displays in New Medication as a Medication Alert. The provider selects the alert to view this communication.

Add medication discounts for an in-office visit

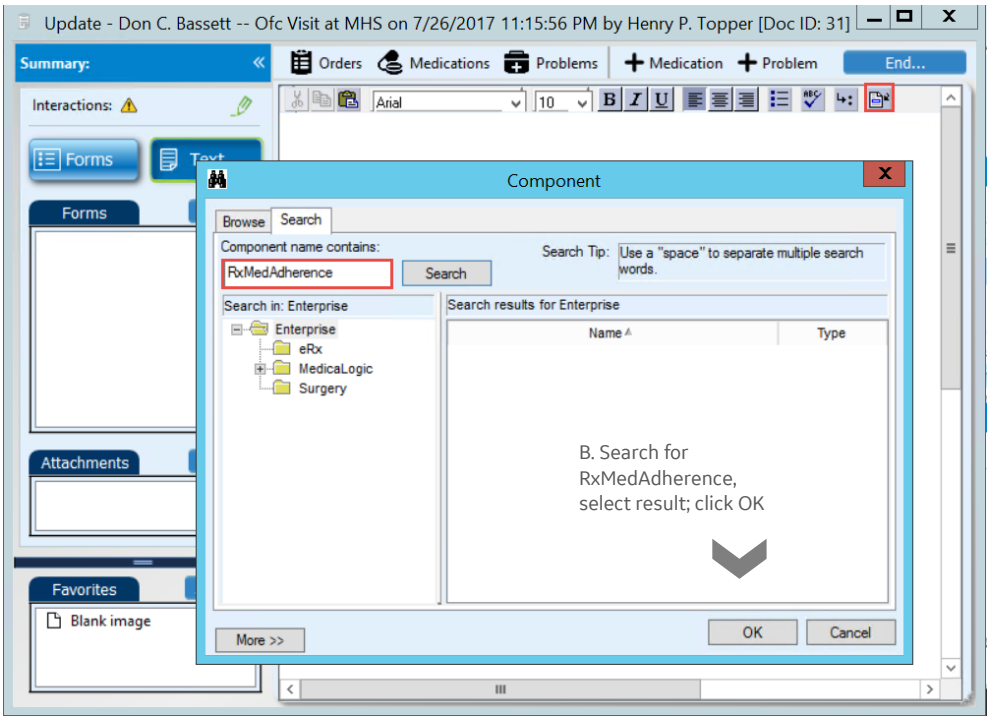
1. In a patient chart, select **New Document**; in Update Chart, select an encounter type; in Document Type, select **Office Visit.** Click **OK**.

   IMPORTANT: The document type must be Office Visit for discounts to print.

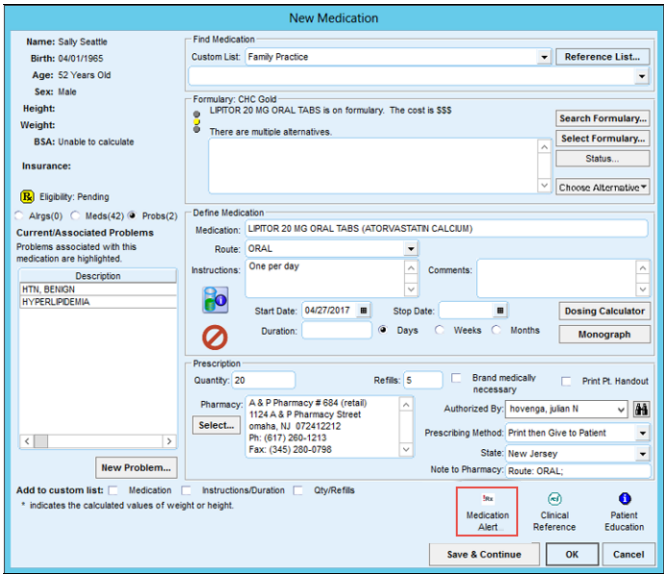
2. In Update, select the **Component** .

3. In Component, select the **Search** tab; perform a keyword search for RxMedAdherence; click **Search**.

4. Select the **RxMedAdherence** component; click **OK**.



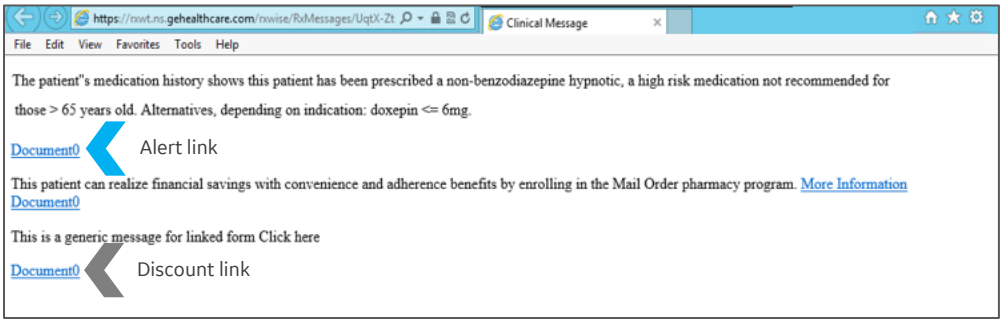
5. In the chart, select **+Medication**, in New Medication, enter the medication information. If an alert exists for the medication, the Medication Alert displays in the lower right. Select the alert to view details.



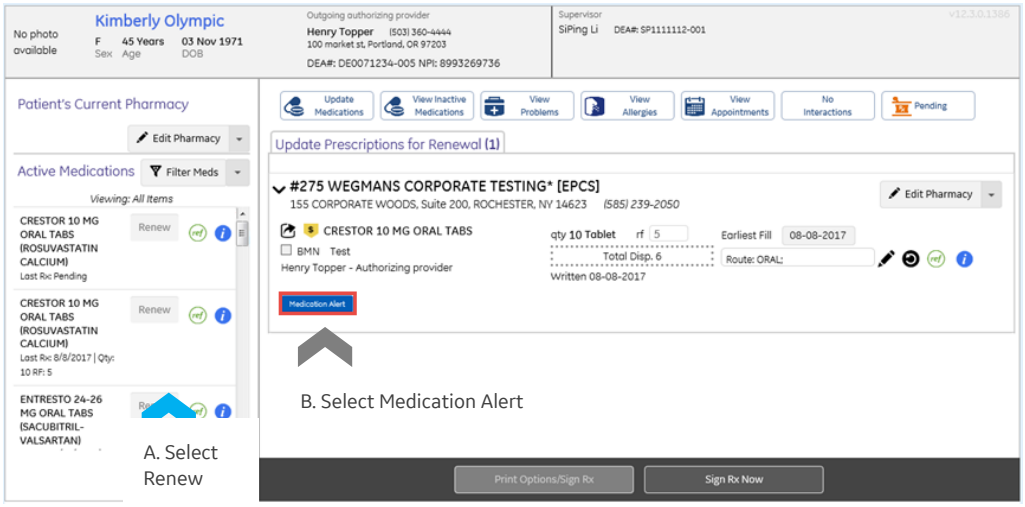
Select the alert

The alert window opens with an update from the FDA, DEA or drug manufacturer displayed and links to additional information included.

Note: If a discount is also available for the medication, a link to that discount is also available from this window.

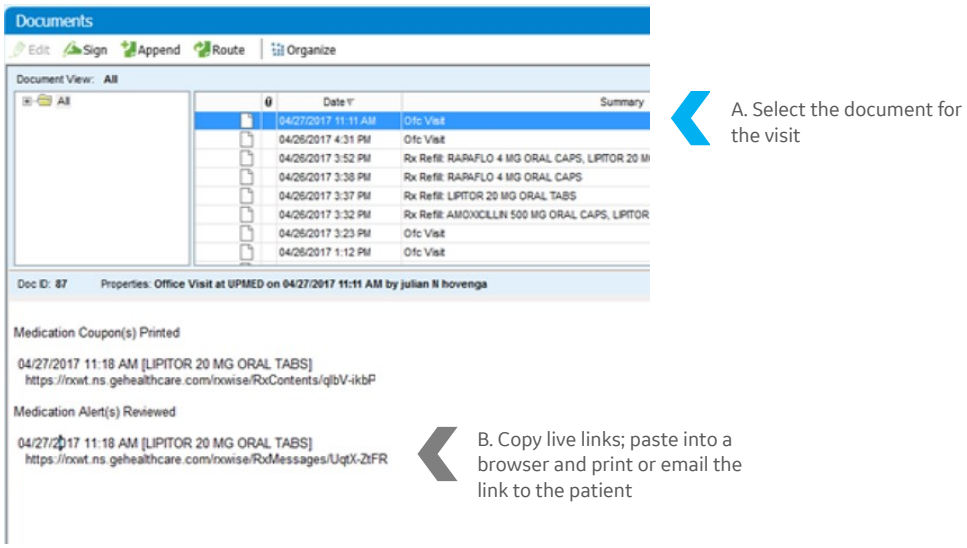


Note: You can also view medication alerts while renewing prescriptions. Select **Rx Renewals**; in Active Medications, select **Renew**. If a medication alert exists for the prescription, it displays in the update form. Select **Medication Alert** to view.



Workflow update: Reprinting or emailing discounts and alerts

If a patient requests a copy of a discount or an alert, select Documents within the patient's chart. Select the document for the visit; in the text view below, copy the discount or alert links and paste them into a browser to reprint. You can also paste links in the body of an email message and send them to a patient.



Alert and discount links in Documents

IMPORTANT: The RxMedAdherence clinical kit is required to save medication and alert links to a patient chart. See Install RxMedAdherence.ckt.

Disabling medications discounts and alerts

After signing, discounts print or are automatically transmitted with e-prescriptions to the patient's pharmacy. If your clinic prefers not to participate in medications discounts and alerts, contact Centricity Services at 888.436.8491 to disable this feature.

IMPORTANT: Requests to disable this feature must be made by clinics or healthcare organizations, not by individual providers.

Single factor authentication for e-prescribing

AUDIENCE: Clinic managers and IT administrators

Summary: Depending on your clinic location, the user authentication method required to prescribe medications may vary. For single-factor authorization, providers utilize biometric authentication through a fingerprint reader each time they electronically prescribe a non-controlled substance. For controlled substances, configure user account settings and system settings. The following sections describe how to setup your Centricity solution for single factor authentication.

Areas include:

Setup: Implement the Imprivada Confirm ID

AUDIENCE: IT administrators

If your site is planning to implement single factor authentication, GE will work with you to configure your Imprivata software and devices. GE Clinical Consulting & Integrated Solutions Consulting will train the organization on the settings that need to be configured from pre- and post-upgrade and will review workflows enabled by the new Prescriptions form. This process includes the following tasks:

- **Sign and send all pending ePrescribing prescriptions prior to upgrading to this release.** Upon upgrade, pending Rx Refill documents that do not have additional unsigned clinical list changes are Filed in Error. Surescripts resends all open renewal requests after the upgrade to put them in the new format. Even if the documents were filed in error, you can respond to them in the new format. Renewal responses for documents with unsigned clinical list changes cannot be completed post-upgrade.
- **Upgrade the Centricity ePrescribing server to Centricity ePrescribing eSM v4.2.2.** Ensure that you have upgraded to Centricity ePrescribing eSM v4.2.2.
- **Contract & Implement Confirm ID.** To implement single factor authentication with Imprivata, you must purchase and implement Confirm IDTM appliances per licensed Centricity Practice Solution database to provide required biometric authentication. There can only be one Imprivata Issuer ID per License ID (licensed database). Contact your GE Sales Representative for details.

- **Implement Microsoft Active Directory on your Windows GUI server and select Active directory as the security method.** Select Active Directory as the security model for Centricity Practice Solution. Active Directory must be configured in conjunction with Imprivata Confirm ID setup to implement single factor authentication. Documentation is available through Microsoft and in Imprivata online help. See also “Configure security” in the install/upgrade guide for your system.

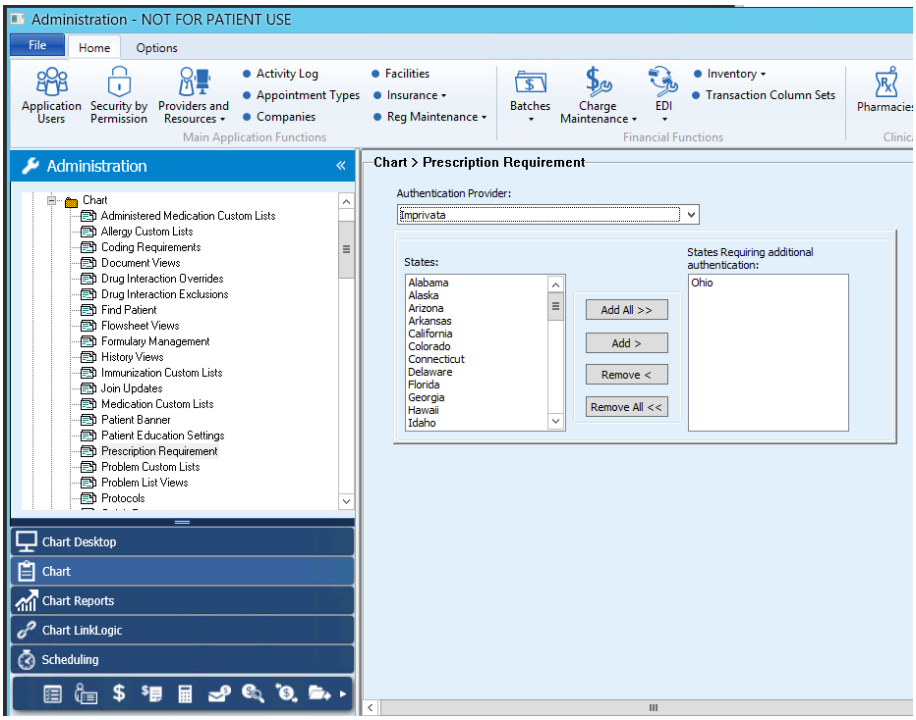
Setup: Enable single factor authentication for e-prescribing

AUDIENCE: IT administrators

Single-factor authentication requirements for prescribing are determined by state. To enable single factor authentication, add the state with this requirement (such as Ohio) in system settings.

Enable single factor authentication

1. In the main menu, select **Administration.**
2. In the **Administration** folder view (left navigation), expand **Charts** > **Chart** and then select **Prescription Requirement.**
3. In **Prescription Requirement**, select the **Authentication Provider** (for most users this is Imprivata).
4. In **States**, select a state with single feature authentication requirements (such as Ohio); click **Add** > to move it to **States Requiring additional authentication**.



5. Repeat step four until all states with additional prescription requirements are added.

Permissions-based signing

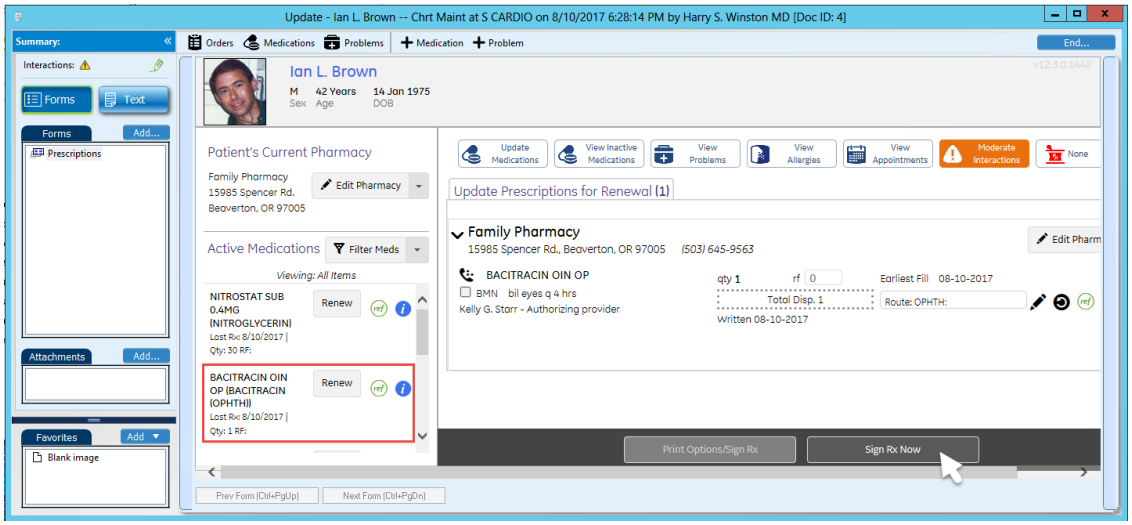
AUDIENCE: Clinic managers and providers

Summary: Providers can now sign some but not all prescriptions for a patient based on assigned permissions. When multiple prescriptions are on hold for a patient, a provider can sign just the prescriptions for which they have signing permissions. The prescriptions they cannot sign remain unsigned.

Example: A patient has three prescriptions on hold:

- Coumadin 4mg – Prescribing Method: Print and then give to patient
- Acetaminophen 325mg – Prescribing Method: Electronic
- Morphine – Prescribing Method: Electronic

The nurse is authorized to sign and print non-controlled substances but is not authorized to sign controlled substances. Previously, the nurse could sign only if authorized for all prescriptions. Now the nurse can sign only for the prescriptions they are authorized to sign.



A provider refills a prescription for an antibacterial ointment only

Configuration: Modify signing permissions

AUDIENCE: System administrators

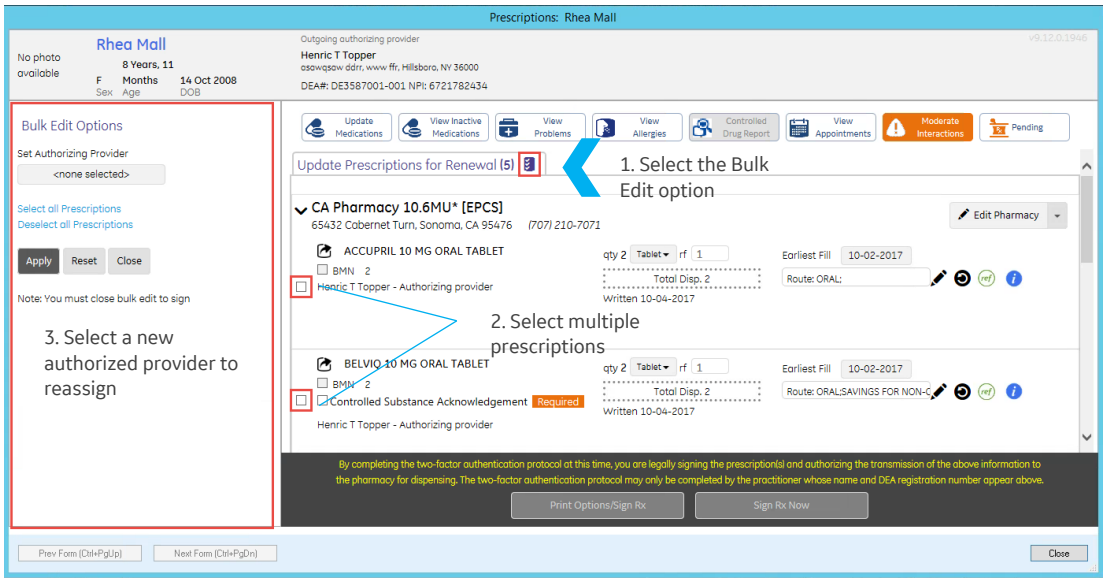
Add or remove privileges from user accounts or roles to modify signing privileges. Permission settings remain the same; this feature now enforces prescription-related user privileges on a per prescription basis. Related privileges include:

- Print chart
- Access electronic prescribing
- RxRefill sign
- Document signing

Bulk provider reassignment

AUDIENCE: Clinic managers and providers

Summary: In Prescriptions, providers can now reassign multiple unsigned prescriptions from one authorizing provider to another or to themselves. In the Update Prescriptions for Renewal tab, select the Bulk Edit option; select multiple prescriptions to reassign. In the Bulk Edit Options panel, select a provider with prescribing authority that is also DEA enrolled; click Apply to reassign.



The Bulk Edit option in Rx Refill

Only one authorized provider may be assigned to multiple prescriptions at a time. Assigned providers must also have prescribing authority and must be DEA enrolled for bulk prescription reassignments.

Areas include:

- Workflow update: Reassign multiple prescriptions to a provider
- Workflow update: Bulk reassignment warnings

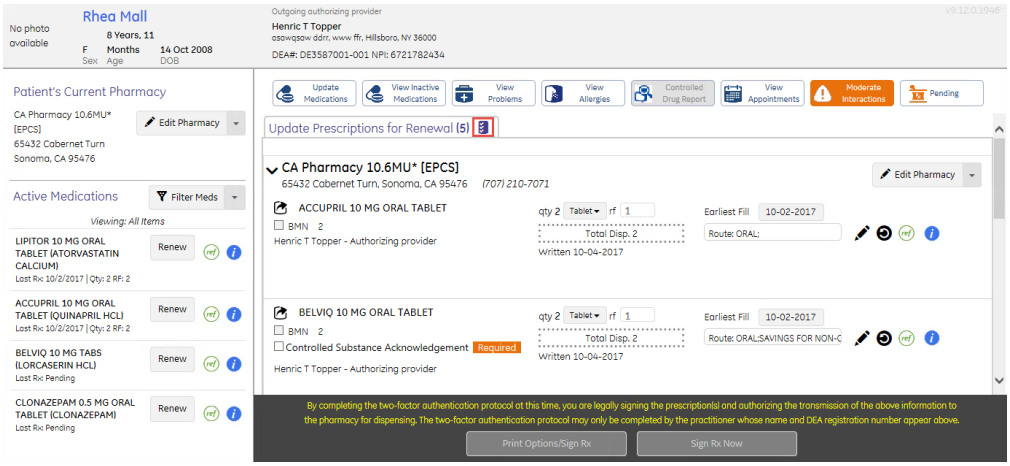
Workflow update: Reassign multiple prescriptions to an authorized provider

Use the new Bulk Edit feature to quickly reassign multiple unsigned prescriptions to an authorized provider.

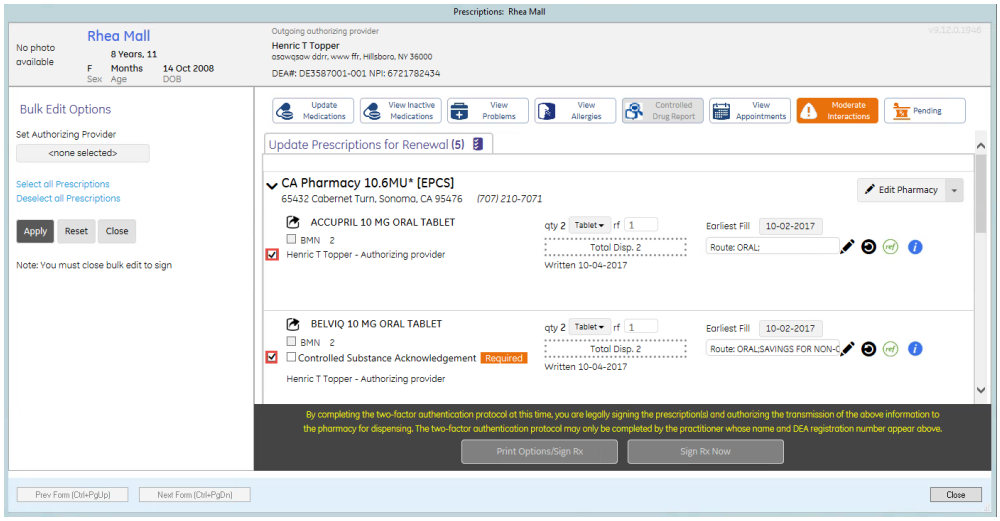
Reassign multiple prescriptions to a provider

1. In a patient chart, select **New Document** to update a chart for a transition of care visit.
2. In Update Chart, select update options; click **OK.**
3. In the patient chart, select **Refill Prescriptions** and then **Rx Refill.**

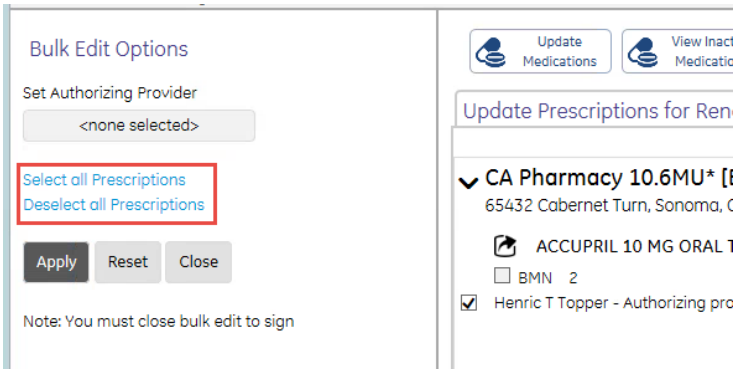
4. In the Update Prescriptions tab, select **Bulk Edit** .



5. In the prescriptions listed, select the prescriptions to reassign.

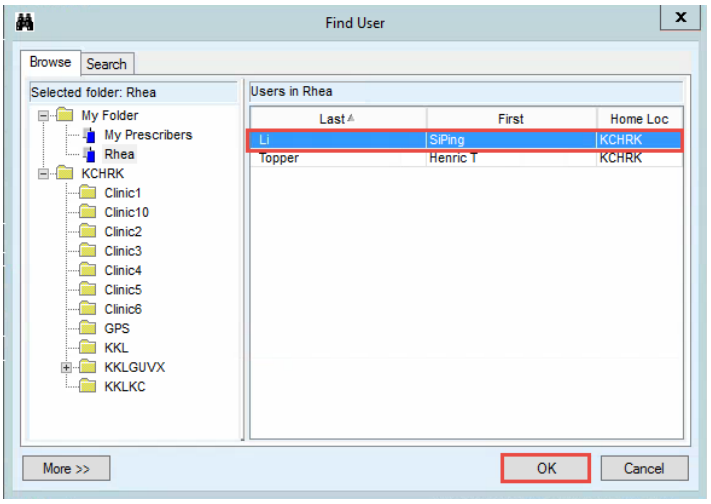


Note: Click **Select All Prescriptions** in the Bulk Edit Options panel to select all. Select **Deselect all Prescriptions** to remove all selections.

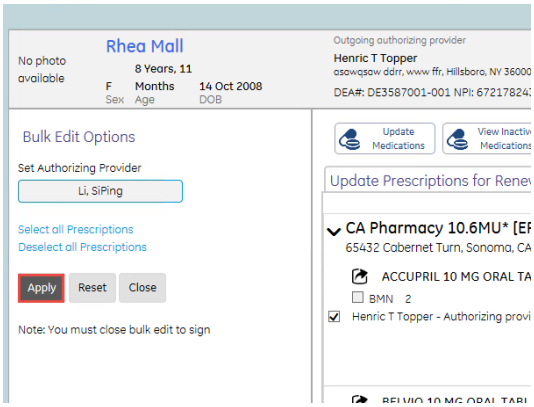


6. In the Bulk Edit Options panel, select the **Set Authorizing Provider** field.

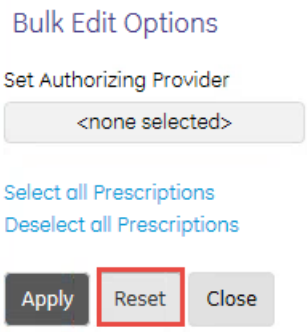
7. In Find User, select the provider to apply; click **OK**.



8. In the Bulk Edit Options panel, click **Apply** to reassign the prescriptions to the selected provider.



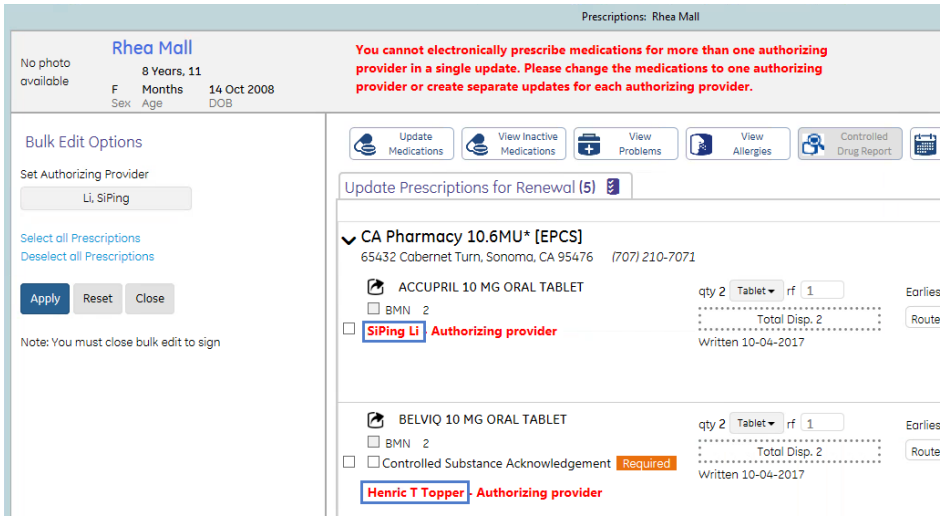
Note: The Reset option in Bulk Edit option only returns the authorized provider to <none selected>; it does not remove selections from prescriptions for bulk reassignment.



Workflow update: Bulk reassignment warnings

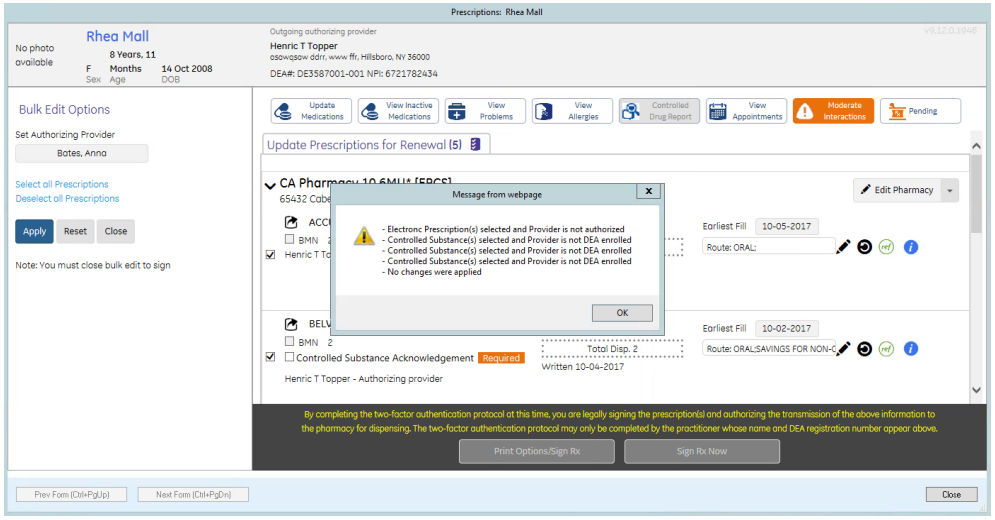
The following are errors that providers may encounter when bulk reassigning prescriptions.

Mismatched providers: For bulk reassignment, only one provider may be assigned to selected prescriptions. If providers attempt to bulk reassign prescriptions to more than one provider, an error message displays. To correct, ensure that all selected prescriptions are assigned to the same provider. Select all prescriptions to reassign; in Bulk Edit Options, select one provider. Click **Apply**.



Mismatched providers for a Bulk Edit reassignment

Providers with prescribing authority and DEA enrolled only: If the provider assigned is not authorized to sign for prescriptions or is not DEA enrolled, error messages will display. To correct, select a provider with prescribing authority in Bulk Edit Options; click **Apply.**



Not authorized for prescribing / non-DEA enrolled errors in a bulk prescription reassignment

Prescription change, fill, and cancel notifications

AUDIENCE: Clinic managers and IT administrators

Summary: This release introduces change, cancel, and fill notifications for electronic prescribing. This enhancement complies with Meaningful Use requirement 170.31(b)(3), which supports prescription-related electronic transactions.

Areas include:

- Workflow update: Change Prescription notifications
- Workflow update: Cancel Prescription notifications
- Workflow update: Prescription Fill notifications

Workflow update: Change Prescription notifications

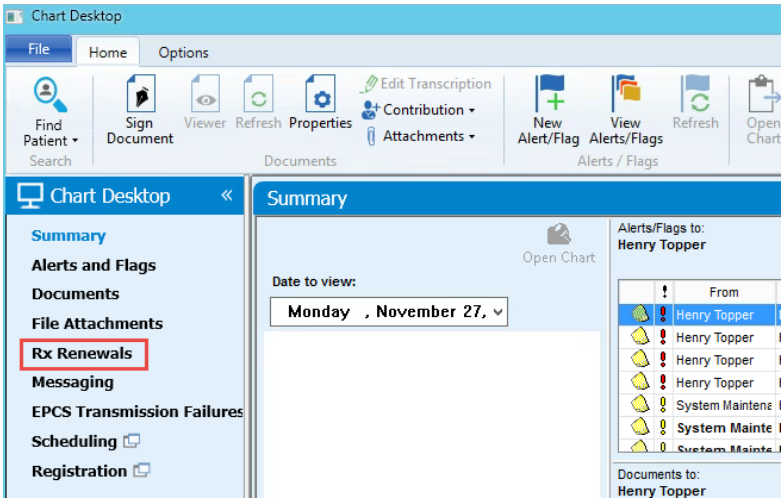
When a provider electronically prescribes a medication, pharmacists receiving fill requests determine whether there are drug utilization issues, formulary compliance issues, supply requirements (such as the quantity prescribed), whether further clarification is needed, or whether a therapy change is required. If a pharmacy needs to make a change based on any of these findings, they submit an Rx Change Request.

Providers receive these notifications in Chart Desktop > Rx Renewals and can then submit an Rx Change Response to approve or deny the request.

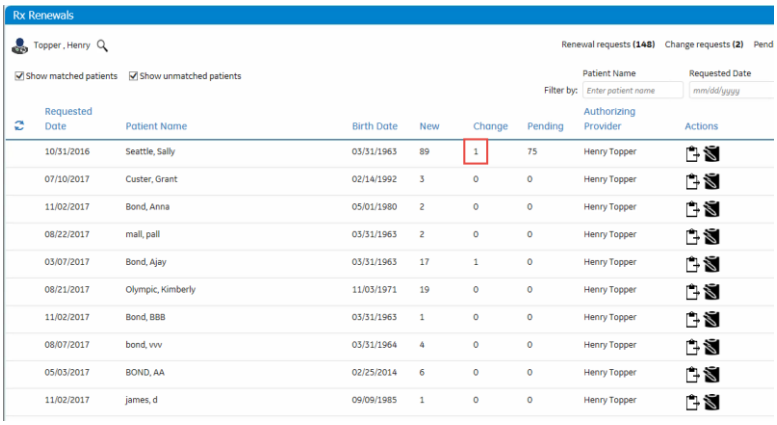
PATH: *Chart > Chart Desktop > Rx Renewals*

To view and respond to change notifications

1. From the main menu, select **Chart > Chart Desktop.** Chart Desktop displays.
2. In Chart Desktop, select **Rx Renewals** from the left menu.

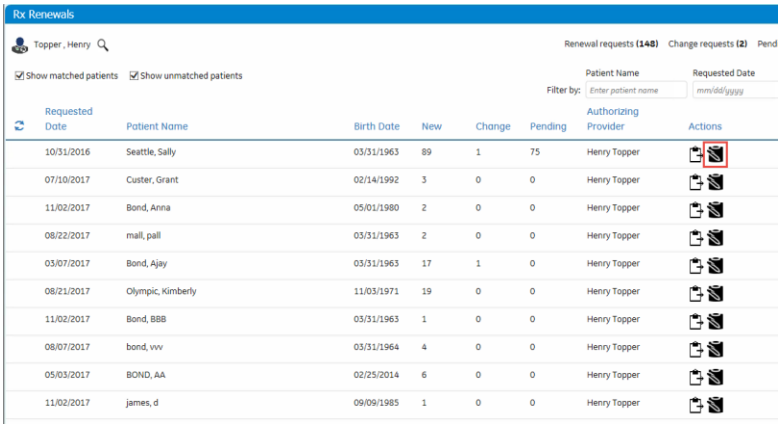


3. Rx Renewals, view the **Change** column to locate prescriptions with notifications.

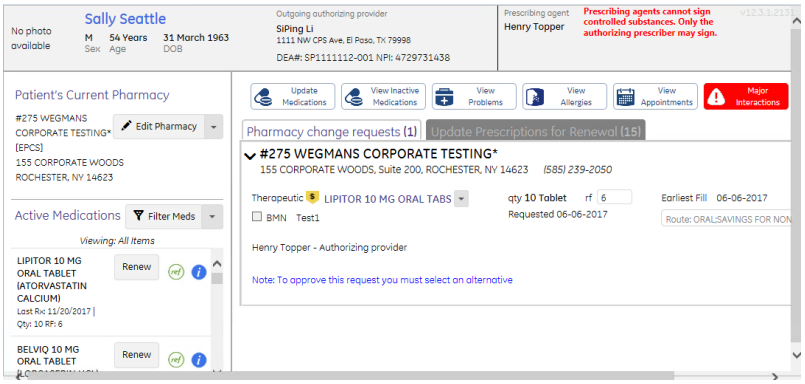


View notification counts

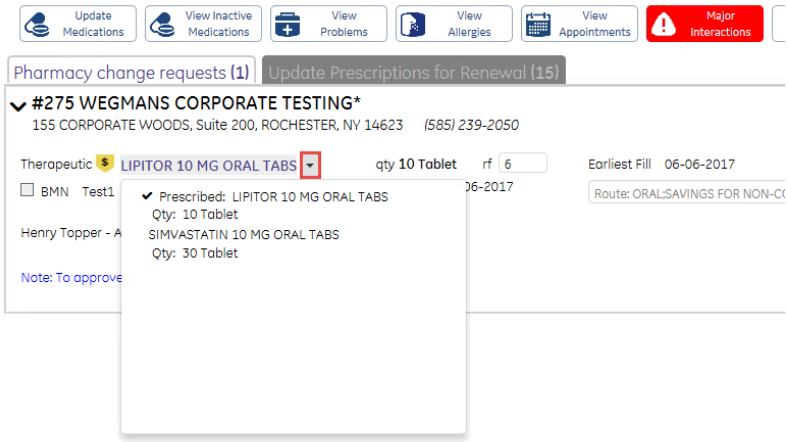
4. To view and respond to the requested change, select **Start Renewal Document** .



5. In Rx Refill, the **Pharmacy Change Request** tab displays first by default.

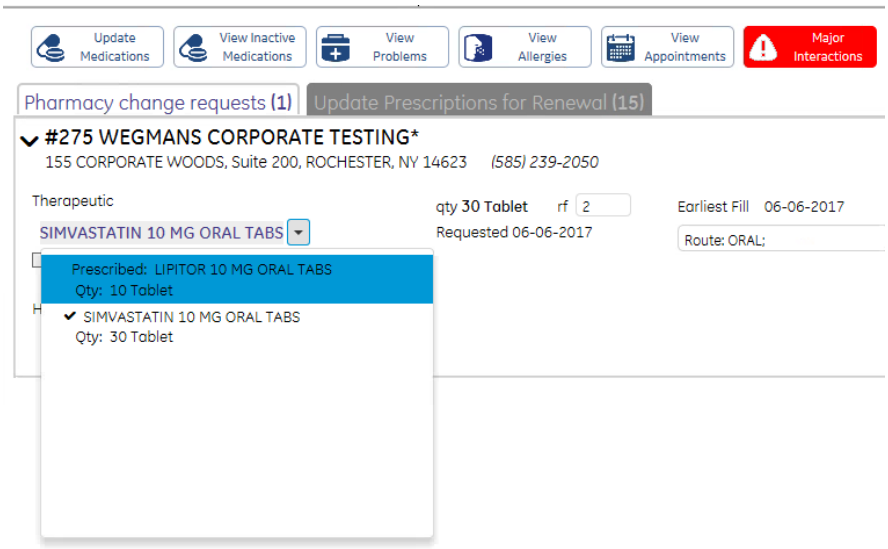


6. If the change is therapeutic (as stated to the left of the medication name), select the down arrow in the medication name to view the request.

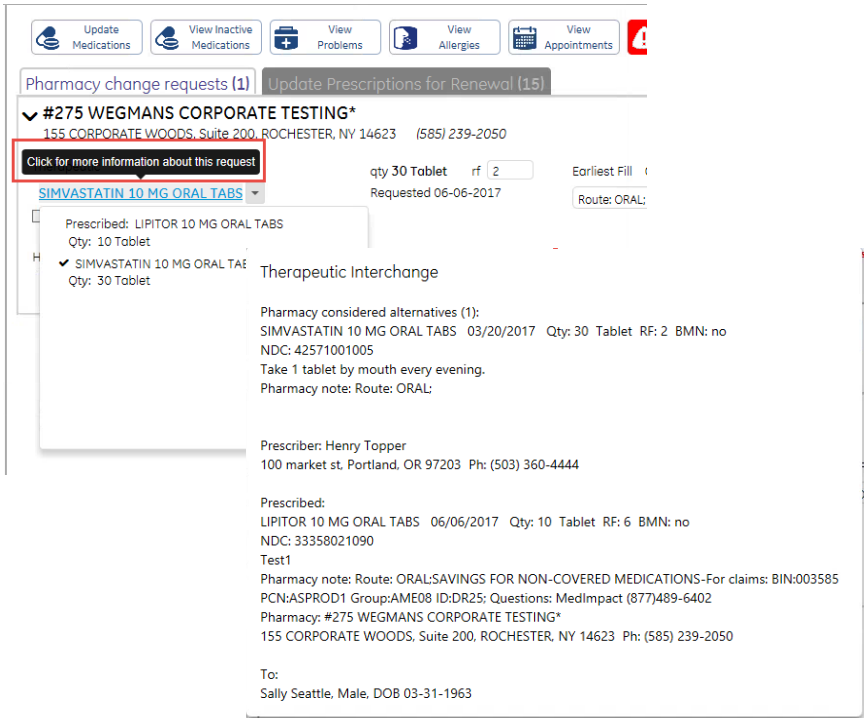


IMPORTANT: Pharmacy change requests and Update Prescriptions tabs only display if change requests or updates exist for the prescription.

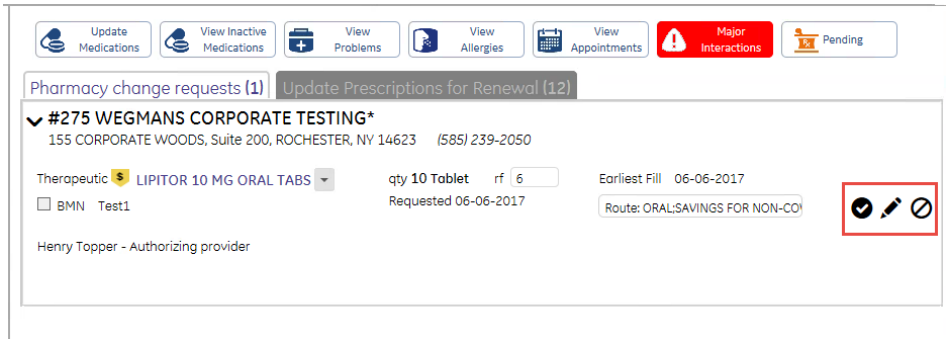
7. Up to eight therapeutic changes display. Choose the option which is most clinically appropriate for the patient.



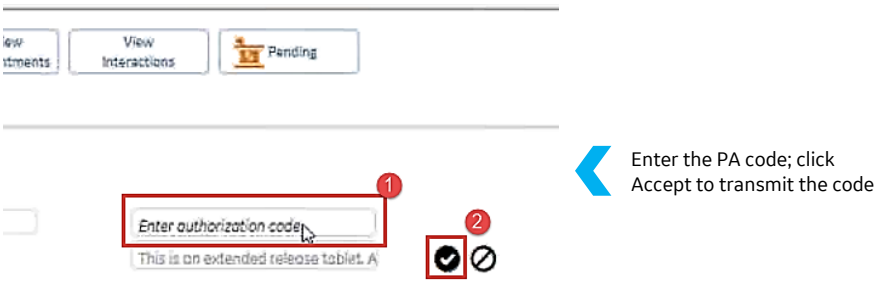
Note: After selection is made, you may optionally select the medication name in the request to view additional information.



8. Select options to **Accept** , **Accept with updates** , or **Deny** the request. After an action is taken, the medication is moved from the change request tab to the update tab. Upon document signature, your response is transmitted to the pharmacy.



9. If the request is for a prior authorization, to the left of the drug name will read “Prior Authorization”. The provider enters their PA code in the **Enter authorization code** field and then selects **Accept** to transmit the code (the provider may also select **Deny**).



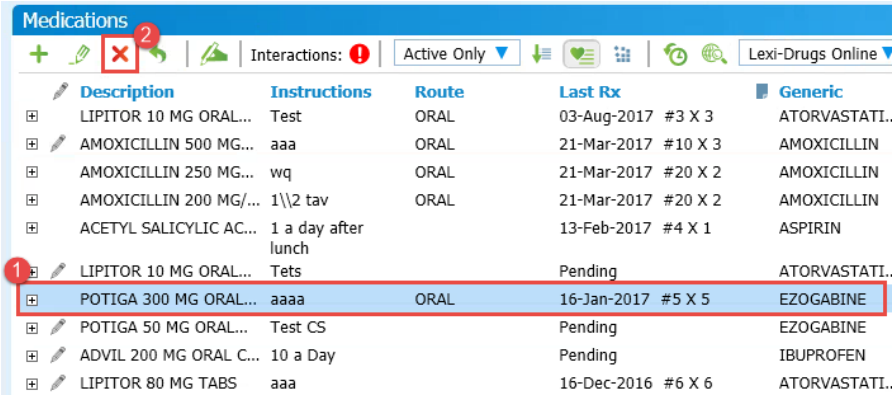
IMPORTANT: If you are delegated to update prescriptions for a provider and there are prescriptions from multiple providers listed, it is recommended that you address any pharmacy changes for your assigned prescriptions first. If the requested changes are for another provider, ignore these requests. The other provider can complete these in a separate document.

Workflow update: Cancel Prescription notifications

Cancel Rx Request messages are generated by the prescriber to notify the pharmacy that a previously issued electronic prescription should not be filled (this can occur if a provider decides to modify the patient’s therapy or if the prescription was issued in error). A Cancel Rx Response message is sent from the pharmacy in reply to verify that the prescription has been cancelled or that the pharmacy was unable to cancel.

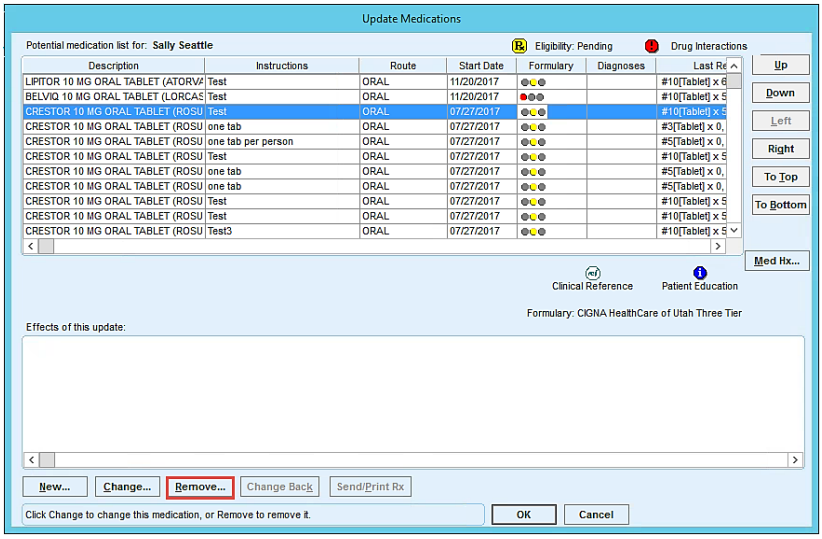
To send a prescription cancellation notification

The cancellation workflow remains the same; in the patient’s chart, select **Chart Summary** > **Medications** (left menu). In Medications, select a medication; click **Stop Medication** (you can also right click and cancel).



Stopping the medication sends an Rx Cancel Request to the pharmacy

Note: You can still cancel prescriptions from Update Medications, which is the more common workflow. Select **New Document** to begin a chart update; in Update, select **Medications**. In Update Medications, select the prescription to cancel; click **Remove**.



Workflow update: Rx Fill notifications

Rx Fill notifications allow pharmacists to send notifications to prescribers regarding the dispensed status of an electronic prescription. These notifications indicate that an electronic prescription has been dispensed, has been partially dispensed, or has not been dispensed.

IMPORTANT: Pharmacies do not currently have the capability to send fill notifications to providers; the system has been enhanced to meet this ONC certification requirement in preparation for this advancement on the pharmacy side (receipt of these notifications have been enabled on the ESM console to allow for this).

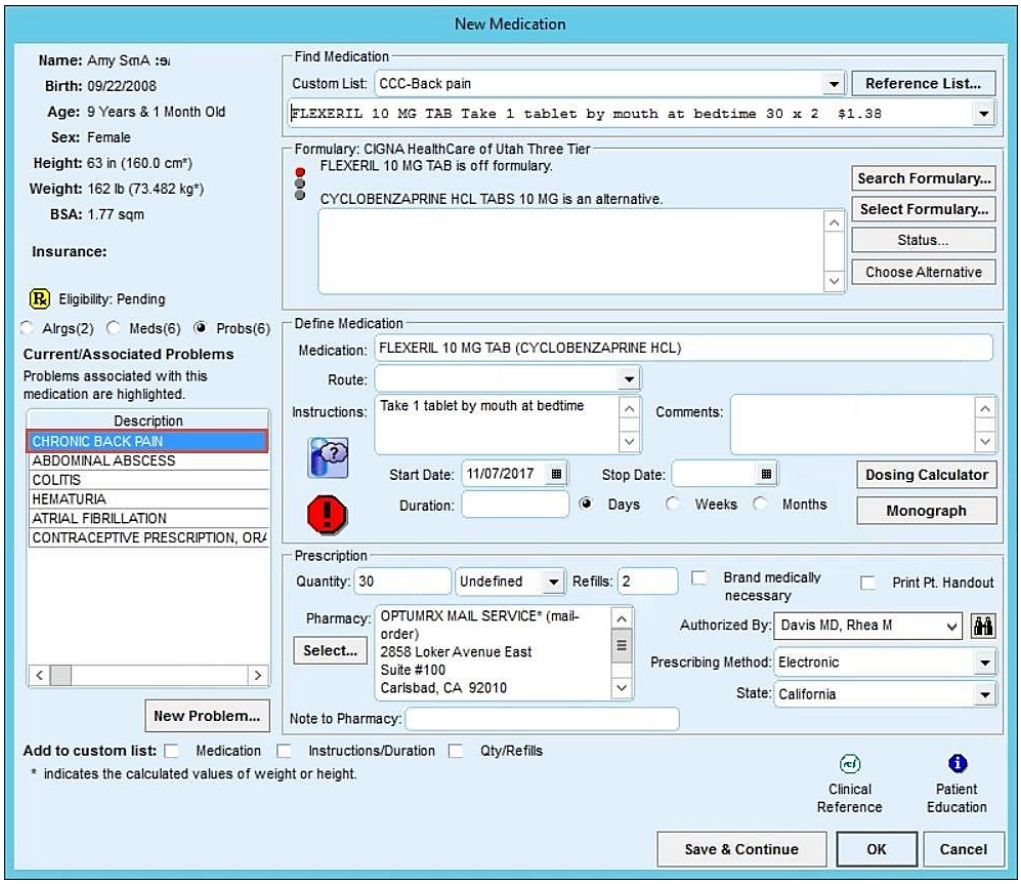
IMPORTANT: Any medication with a default stop date will not trigger a message to the pharmacy. Only the manual removal of an active medication will send the message.

MEDICATIONS, PRESCRIPTIONS, AND EPCS FIXES

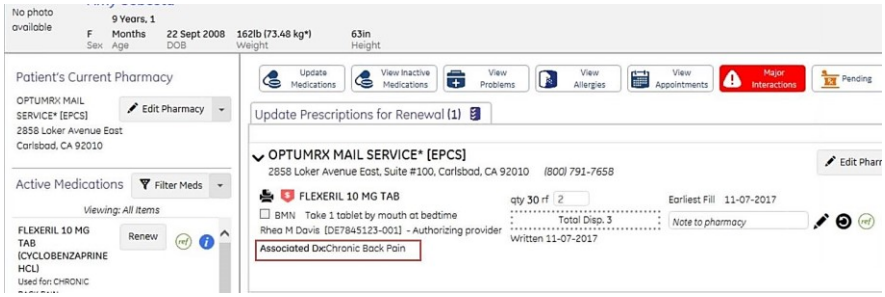
ePrescribing: Missing diagnosis codes

PATH: *Chart > Find Patient (Search/select result/OK) > Chart Summary > Medications > (+) Add Medication > (select eRx) Sign/Send Prescription*

Issue: Diagnosis codes were not being sent to pharmacies in electronic prescriptions. Resolution: It was discovered that the field that supports diagnosis codes in outbound electronic prescriptions was missing; this field has been added and now includes diagnosis codes if available for an electronic prescription. SPR 67770



Associate the diagnosis at the time of prescribing

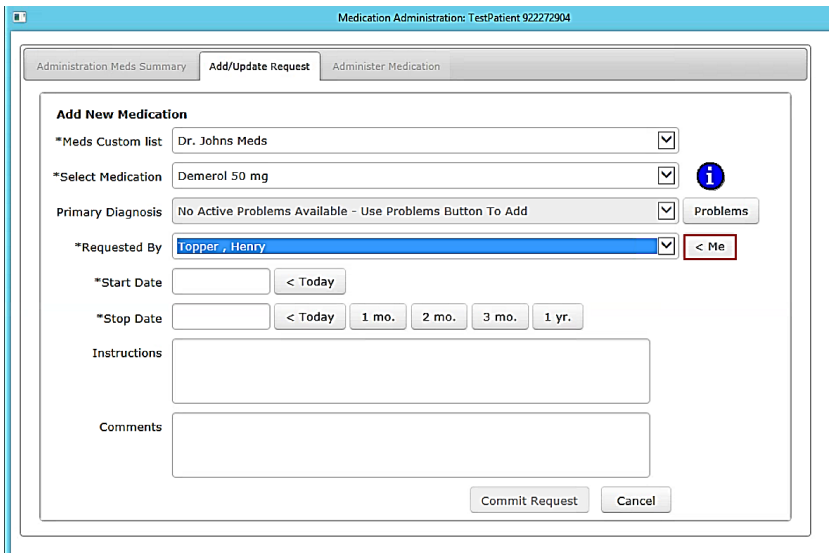


Diagnosis is associated on refill

Requested By error in Medication Administration

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Refill Prescription > Rx Refill > Favorites> Medication Administration*

Issue: When requesting that a new medication be added in Medication Administration, if users selected, the < Me button to add themselves as the requester, the system displayed the following error message: "User 'Lastname, Firstname' does not exist in the 'Requested By' user's list." Resolution: The error message no longer occurs and the user is added as the requestor. SPR 69022

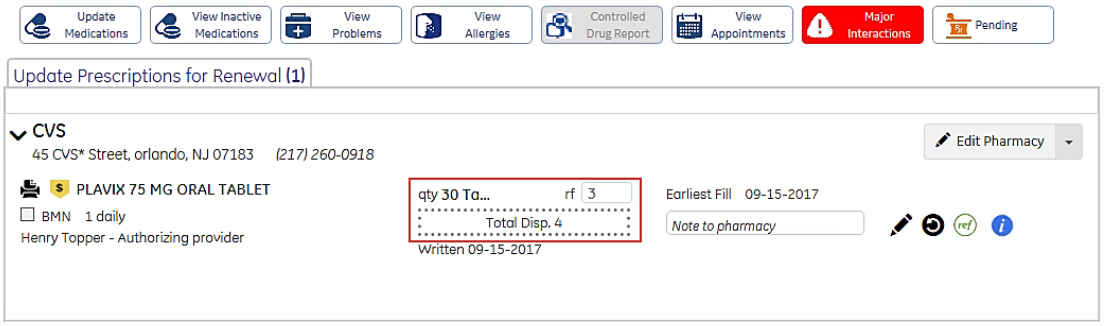


The < Me button in Add/Update Request (Medication Administration)

Quantity Qualifiers Rx Renewals displayed as unspecified

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Refill Prescriptions > Rx Refill > Renew*

Issue: Quantity Qualifier values displayed as 'Unspecified' even when a qualifier value had been selected and saved for a prescription renewal. Resolution: Now entered Quantity Qualifier values, such as quantity, refill count and refills dispensed, are retained once saved for a refill. SPR 69046

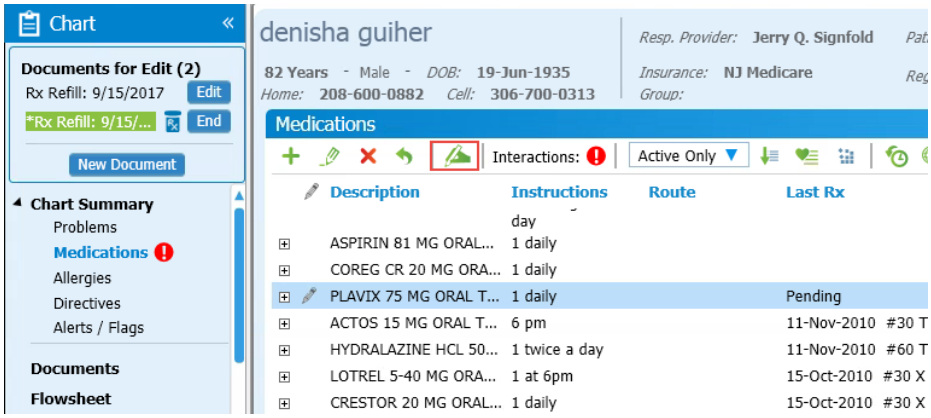


Quantity qualifiers in a prescription renewal

Delays when sending e-prescriptions

PATH: *Chart > Find Patient (Search/select result/OK) > Chart Summary > Medications > (+) Add Medication > (select) Sign and Send Prescription*

Issue: Previously, a significant delay occurred between e-prescription signing and the time that the e-prescription was sent by the system to the pharmacy. Resolution: After signing an e-prescription, the prescription is sent to the pharmacy within a reasonable timeframe after signing. SPR 69231



A user signing and sending a selected medication as electronic prescription

Approve or deny errors for refill requests

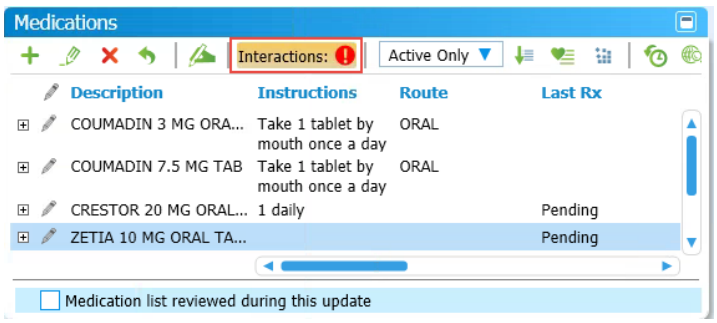
PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Refill Prescription > Rx Refill > Approve/Deny*

Issue: Error messages displayed when approving or denying a refill request with special characters in the description or refill number. Resolution: Now prescription renewals with special characters can be accepted or denied without errors occurring. SPR 69266

Medication interaction warning for non-coded medications

PATH: *Chart > Chart Summary > Medications*

Issue: The Medication Interaction warning was not displaying when a non-coded medication was the first medication added. Resolution: Now the Medication Interaction warning displays when an interaction is detected regardless of whether a non-coded medication is entered first. SPR 69313

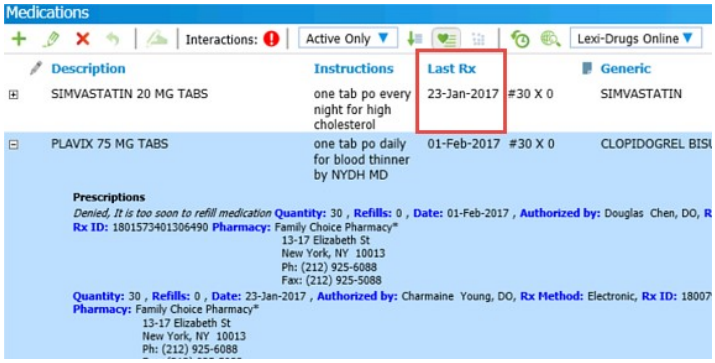


Interaction warnings in Medications

Last Rx date displayed medication denial date

PATH: *Chart > Chart Summary > Medications*

Issue: In Medications, the Last Rx column displayed the date the medication was denied instead of the date the prescription was last prescribed. Resolution: The Last Rx column displays the date the medication was last prescribed. SPR 69340



The Last Rx column in Medications

Rx Renewals mismatch issue caused duplicate entries

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Refill Prescriptions > Rx Refill*

Issue: When a medication was prescribed and then a renewal request was received with a slight difference in the prescription text, the system created a duplicate record for the same prescribed medication. For example, if the provider prescribed FAMOTIDINE 40 MG TAB and a renewal request was received for FAMOTIDINE 40 MG TABS (plural), a duplicate prescription was created. Resolution: The system now matches against unique drug IDs instead of request text to ensure that duplicate records are not created. SPR 69351

EPCS transmission errors

PATH: *Chart > Chart Summary > Medications > (+) Add Medication > (select) Sign/Send (EPCS Rx)*

Issue: Multiple error code issues were identified that caused EPCS transmissions to fail. Resolution: The following error code issues have been resolved:

- Medication instructions for controlled substances that include TAB or new line characters no longer result in transmission errors.
- Patient zip codes with hyphens no longer cause transmissions to fail.
- Patients with alternate addresses no longer result in errors.
- Publication time stamp mismatches no longer cause transmission errors. SPR 69366

Enhanced patient name matching logic

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Refill Prescriptions > Rx Refill*

Issue: When creating Rx Renewal requests, some clinics experienced a high mismatch rate when multiple patients with the same Name and DOB were found. Rx Renewal requests were also delivered to an incorrect location of care when a patient had charts at multiple locations because matching for renewals only considered patient name and date of birth. Resolution: Now when creating a new eRx renewal request, if there are multiple matches for Patient First Name, Last Name, DOB, and Gender; records are further matched based on SSN and Middle Name. If multiple patient matches are still found after checking SSN and Middle Name, the patient's home location of care is checked against the authorized locations for the provider. Only if there are still multiple matches after filtering for location of care, is Patient Match is set to "N" (match not found). SPR 69367 / 68986

Rx Renewals took an extended time to display an opened refill request

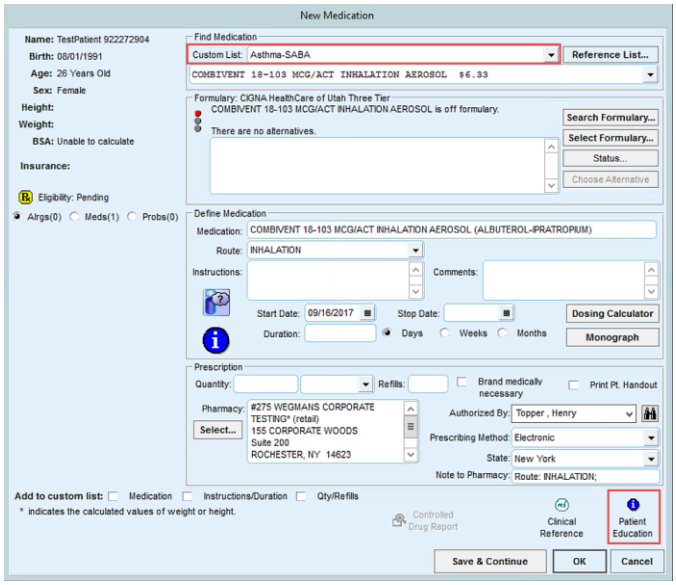
PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Refill Prescriptions > Rx Refill*

Issue: In Rx Renewals, when users selected a refill request, it would take 16 to 27 seconds for the accessed information to fully load. Resolution: Accessed refill requests now open and display within an expected timeframe. SPR 69843

Error upon accessing Patient Education from Medication Custom Lists (Administration)

PATH: *Chart > Find Patient (Search/select result/OK) > Chart Summary > Medications (add/edit medication) > New Medication or Update Medication > Custom List > Patient Education*

Issue: When attempting to access Patient Education from Problems in Medication Custom Lists, an error message displayed prompting the user to close the New Problem window; Patient Education did not display. Resolution: Now the Patient Education view opens from Medication Custom Lists with the handout displayed. SPR 69942

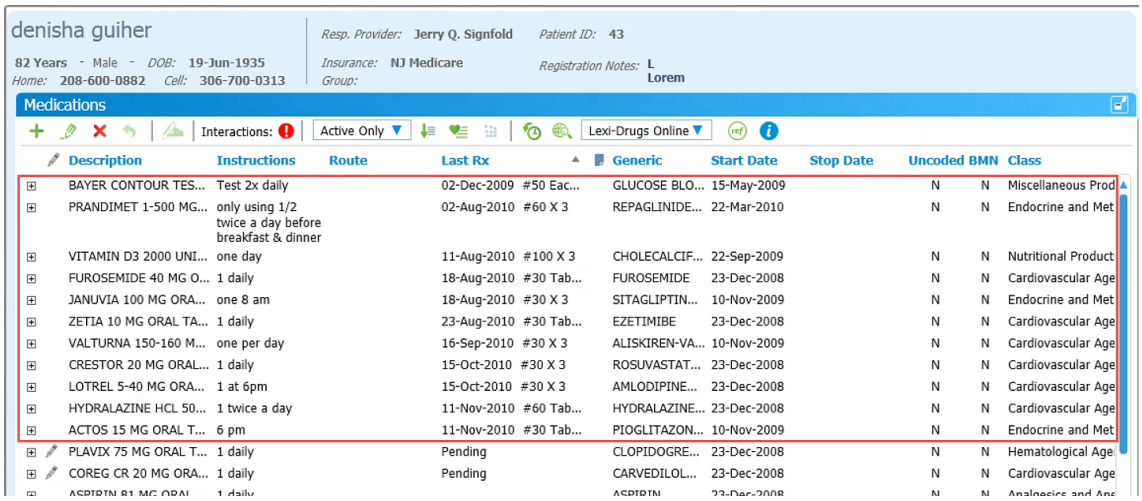


Patient Education accessed for medications from a Custom List

Medication denials easier to view and confirm

PATH: *Chart > Find Patient (Search/select result/OK) > Chart Summary or Refill Prescriptions*

Issue: In Rx Refill or Chart Summary, the Last Rx column sometimes displayed a denied prescription instead of the last approved prescription renewal; denials and approved prescriptions were listed together. This made it difficult to distinguish the last approved prescription date from a denial date when approving the current renewal request. Users were required to right-click the medication to access details and confirm. Resolution: Now the last Rx entry is always the last approved prescription and prescribed date rather than a denied prescription. Any denied prescriptions are listed together in a separate section, which does not display unless there is at least one denied prescriptions for the patient. SPR 69344 / 68999 / 68402



Approved prescriptions in Chart Summary > Medications (Last Rx column)

Users unable to tell if an Rx renewal has been started

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Refill Prescriptions > Rx Refill*

Issue: When a user started a prescription renewal (Rx Renewals) and placed the renewal on hold, other users were unable to tell whether the renewal had started. Upon accessing that renewal, a blank screen displayed. Resolution: Now prescription renewals display as 'Pending' so that other users will not attempt to start the same renewal again; completed renewals are removed from the Rx Renewal form. SPR 68588

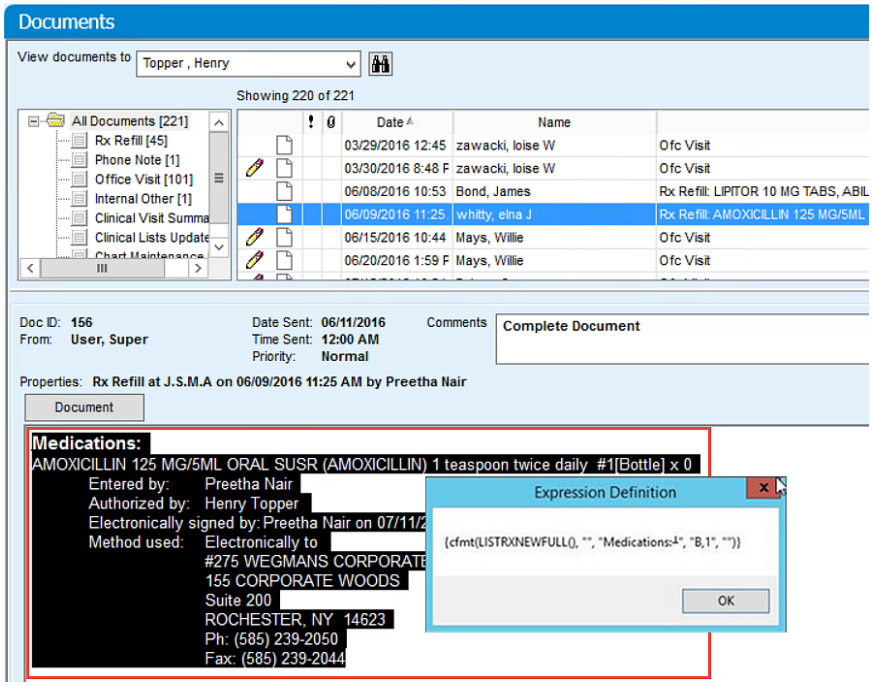
Prescription refill completes for a different patient

Issue: On rare occasion, Patient ID mismatches were occurring during prescription refill processing. Resolution: A warning message has been implemented to display when a patient ID mismatch occurs; when this message displays, the refill process will not complete. Log out of the system and log back in to proceed with the refill workflow. SPR 69840

Error when clicking Medications Summary

PATH: *Chart > Chart Desktop > Documents (select document with Rx/select medication text below)*

Issue: After adding a medication in Prescriptions and then closing the form, selecting the Medications text in the summary (red text) displays the following unintended error message: "Expression definition: {cfmt(LISTRXNEWFULL(),"", "Medications: ", "B,1", "")}." Workaround: Close the error message; ignore this message until this issue is resolved. SPR 70108



Error message when medication text was selected (Chart Desktop > Documents)

eRx prescription error when removing a medication prescribed by inactive providers

Issue: When a provider with a valid DEA number and eSM prescribing authority attempted to remove a medication that was electronically prescribed by a provider who was inactive in the Centricity system, an error message displayed: “The following prescriptions could not be signed since the authorizing provider is not registered for ePrescribing.” When this occurred, the medication could not be removed and the prescription(s) could not be signed. Resolution: Now providers can remove medications electronically prescribed by providers who are no longer active in the system and can subsequently sign for these prescriptions. SPR 70852

Additional Medication, Prescription, and EPCS fixes

The following medications or prescriptions-related issues have been resolved:

- **MEL error for prescriptions with double quotes:** When a pharmacy sent a renewal request for a DME or other medication that contained a double quote in the description, the Prescriptions form returned a MEL error: “Expected right curly brace. Prescriptions with double quotes in the description no longer cause this MEL error to occur. SPR 68365
- **Prescriptions form spelling error for a denial reason:** A spelling error was reported for a Denial Reason within Prescriptions form. The Denial Reason displays as: “Prescriber not associated with this practice or location. This is not an issue; the spelling for the Denial Reason is correct. SPR 68747
- **Ignored refill requests remain in Rx Renewals tab:** In Rx Renewals (Chart > Chart Desktop > Rx Renewals), when a user selected Ignore for an electronic prescription renewal request and then selected Renew from the left panel in the same update, the medication refill request remained in the Rx Renewals tab instead of being removed. Now ignored requests are removed. SPR 69347
- **CQR issue when reprinting a prescription:** When reprinting a printed prescription, CQR was incorrectly incrementing the denominator by 1 (one) because it did not have the RxType or quantity to disregard the count. Now CQR only counts the prescription once and does not increment for reprinting. SPR 64885
- **ASCII values in Rx Renewals:** When inbound messages with MEL data were imported that had ASCII values 32-126 and then the related prescription was accessed in Rx Renewals, the form was not properly formatting some characters for MEL and MEL_ERX or MEL_ERX_APPROV errors displayed. Now the Rx Renewals form accommodates all ASCII values that may be encountered in imported messages and ASCII errors no longer occur. SPR 69295
- **Rx Refill form delays:** The RX Refill form was taking up to 52 seconds to load post 12.2 upgrade. The form now loads within the timeframe expected. SPR 69710
- **Order of Medications:** The order of medications in the refill list did not match the order of medications in the patient's medication list. Now list orders are identical. SPR 69820
- **Quantity qualifier values:** The quantity qualifier values were defaulting to wrong units. Quantity qualifiers now display the correct units. SPR 70196
- **Cancelled transaction to pharmacy:** If a user removes a medication and the pharmacy does not support electronic cancellation, the user was previously not alerted. Now the system displays a message indicating that the pharmacy does not support electronic cancellation and they should contact the pharmacy to cancel the prescription. SPR 70642
- **Diagnosis code requirement for printed prescriptions:** An Ohio Regulatory Requirement states that diagnosis codes print on paper prescriptions, which was not previously supported. Now diagnosis codes appear on printed prescriptions. SPR 70709
- **Prescriptions filled in error now excluded from the ePrescribing measure:** Previously, if a prescription was renewed with no changes to the medication dose, instructions, or comments, and the document was later filed in error, the prescription was not excluded from the ePrescribing measure. Going

forward, prescriptions that are filed in error will be excluded. To repair historical data, you must reset your Meaningful Use Functional Measures Reporting subscription. SPR 70778

- **ICD-codes now supported within prescriptions:** Pharmacies now require that ICD-codes be included for prescriptions, whether they are printed, written, or sent electronically. The system now includes ICD-codes in printed and electronic prescriptions. SPR 64720 / 67770 / 70709
- **Quick text options now available from new HTML prescriptions forms:** Now when renewing a medication or updating a prescription using the new HTML based prescription forms, quick text functions when entering comments or instructions for a medication. SPR 67216
-

MEDICATIONS, PRESCRIPTIONS, AND EPCS KNOWN ISSUES

Medication discounts and prescription or document signing performance

Issue: The time it takes to sign prescriptions or documents has been increased by 2-4 seconds when the new Medications Discounts feature is in use. Workaround: No workaround. SPR 70471

Change Medication does not list the prescribing method as Electronic

Issue: The Change Medication dialog is not listing the prescribing method as Electronic even if the selected authorizing user is an eRx user and the pharmacy listed is an online pharmacy. This only occurs when a user changes a medication in the Change Medication dialog that does not have the 'Access electronic prescribing' privilege enabled. Workaround: Use the Edit Prescription dialog instead of Change Medication to make updates until this issue is resolved. SPR 70839

Prescribing method "Pending Approval" should not be signable

Issue: Previously, signed prescriptions with a prescribing method of "Pending Approval" were counted in the CQR ePrescribing measures. Now they are excluded from the measure. Workaround: No workaround. SPR 70844

6. Miscellaneous

Miscellaneous fixes and known issues are commonly related to third-party system interactions but may include information for areas not covered in other sections of this guide.

Areas include:

- Miscellaneous fixes
- Miscellaneous known issues

MISCELLANEOUS FIXES

Biscom fax status buttons disabled

PATH: *Chart > Find Patient (Search/select result/OK) > Chart Desktop > Fax Status*

Issue: Systems with Biscom integrated faxing were unable to resend, delete, or refresh from the Fax Status tab as these buttons appeared as disabled (were grayed out). Resolution: Now when users select Fax Status from within the Chart Desktop, the Resend, Delete, and Refresh buttons are enabled. SPR 68244

Transition of care counted twice for Meaningful Use

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > New Document > Update Chart > (Enter Clinical Date/select Encounter is a Transition of Care) > End/Sign Document; Check CQR count*

Issue: When a new patient had their first document created with a predated clinical date and the user identified the document as a Transition of Care event, the system was counting the same document twice for Quality Reporting (once for the clinical date and once for the Transition of Care event). Resolution: Now the Transition of Care event is only counted once for Quality Reporting (the denominator is only incremented by one). SPR 69695

LinkLogic added the wrong guarantor

PATH: *Registration (enter a patient with a first, middle, and last name identical to a patient already in the system) > Guarantor tab (enter guarantor) > Save*

Issue: LinkLogic was adding the wrong guarantor information to charts in cases where patient names (first, last, middle, and suffix) were identical. Resolution: LinkLogic uses additional unique patient values to match guarantor information and append it to a chart. SPR 64350

MUActivityLog was not capturing 522 secure message history data

PATH: *Chart > Chart Desktop > Messaging (send a secure message to a patient)*

Issue: Previously, the MUActivityLog was not capturing 522 secure messaging events occurring between providers and patients. Resolution: Now 522 secure messaging events are logged by MUActivityLog. SPR 69215

CPS 12.0 MIK: Registry credentials issue

Issue: Users were required to add credentials in the registry before starting MIK in W-Server 2012. Resolution: Credential entry is no longer required prior to starting MIK. SPR 56260

Users could not enable JBoss 6.4 attributes

Issue: When JBoss 6.4 attributes such as scan-interval were manually enabled in the standalone.xml config file, the attribute was not enabled. Resolution: JBoss 6.4 attributes can now be enabled. SPR 70278

MISCELLANEOUS KNOWN ISSUES

EDI Plugins unable to install from the web installation page

Issue: Upon selecting the install link to install a plugin from the web-based installation page, a message displayed to close the page tab "The web page you are viewing is trying to close the tab. Do you want to close the tab?" Users are then unable to install a plugin from the installation page. Workaround: Manually install the plugin instead of using the web page until this issue is resolved. SPR 70328

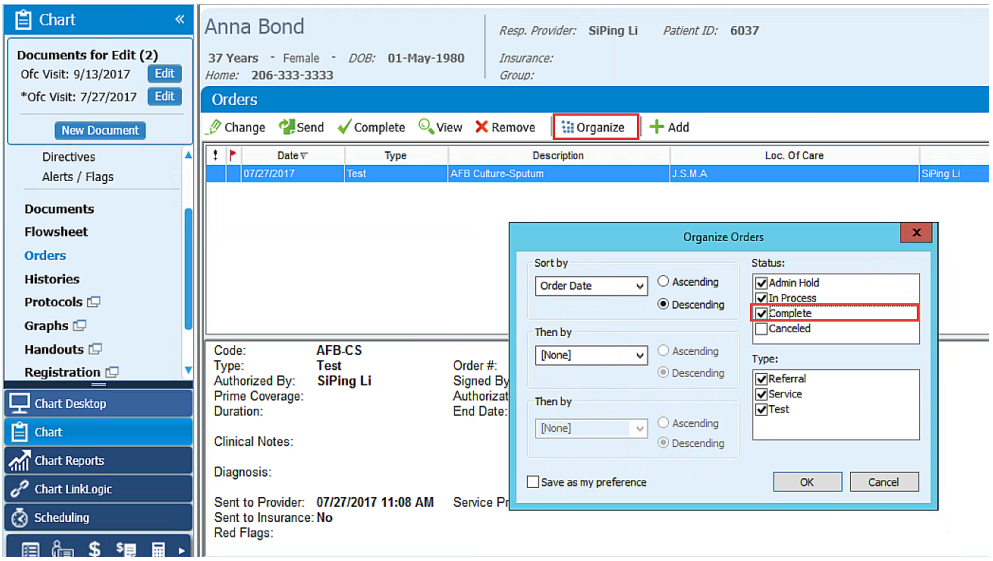
7. Orders

ORDERS FIXES

Users unable to reorder sequence of incomplete orders or remove Transfer of Care status

PATH: *Chart > Find Patient (Search/select result/OK) > Orders > Organize (select Complete)*

Issue: In the Chart Summary, users were unable to use the Organize button to reorder the sequence of incomplete tests, procedures, and referrals; they also could not remove the Transition of Care status for these items. Upon attempting, the system prompted users to enter a receiving provider without the ability to select a provider. This resulted in users exiting without saving their changes. Resolution: Now users can reorder incomplete orders in the Chart Summary and remove Transition of Care status. SPR 70258



The Complete option in Organize Orders

DTS excluded order modifiers

Issue: DTS was not including order modifiers in HL7 messages. Resolution: Now DTS includes order modifiers. SPR 55324

8. Registration

The registration workflow is now enhanced to capture multiple race and ethnicity values, a patient's preferred language, and gender identity/sexual orientation values. Areas include:

- Multiple race and ethnicity entries
- Sexual orientation and gender identity (SOGI)I
- Preferred Language options

REGISTRATION FEATURES

Multiple race and ethnicity entries

AUDIENCE: Clinic managers, providers, and system administrators (setup)

MU: 170.315.a.5

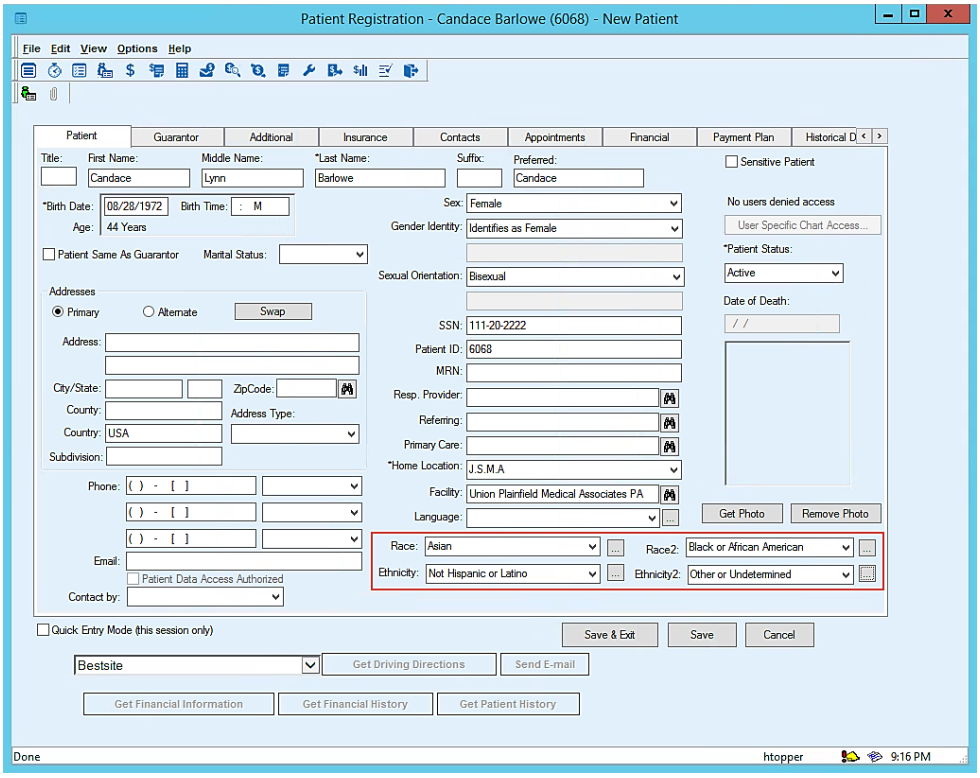
Summary: Existing Race and Ethnicity options in registration are now enhanced to capture up to two races or ethnic identities for a patient. This change supports the code sets prepared by the U.S. Centers for Disease Control and Prevention (CDC) for coding race and ethnicity data. Areas include:

- Workflow update: Enter multiple races and ethnicities
- Setup: Race and ethnicity options
- Multiple race/Ethnicity entries

Workflow update: Enter multiple races and ethnicities

Race and Ethnicity options in the patient registration workflow allow patients to identify up to two races or ethnic identities. While entry is optional, knowing a patient's race and ethnicity can aid in providing better patient care.

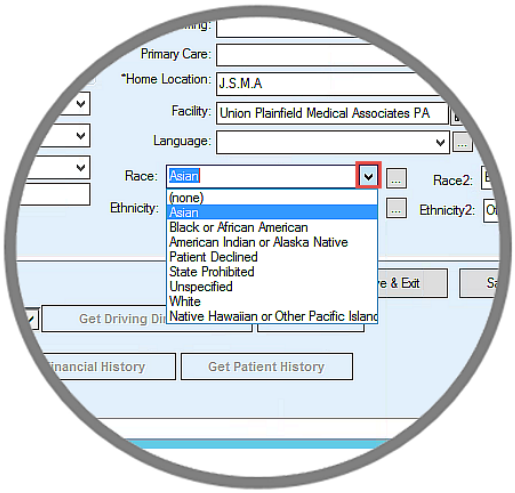
PATH: *Registration > Find Patient > New > Patient Registration – New Patient*



Patients enter up to two races or ethnic identities

Race and Ethnicity options in Patient Registration

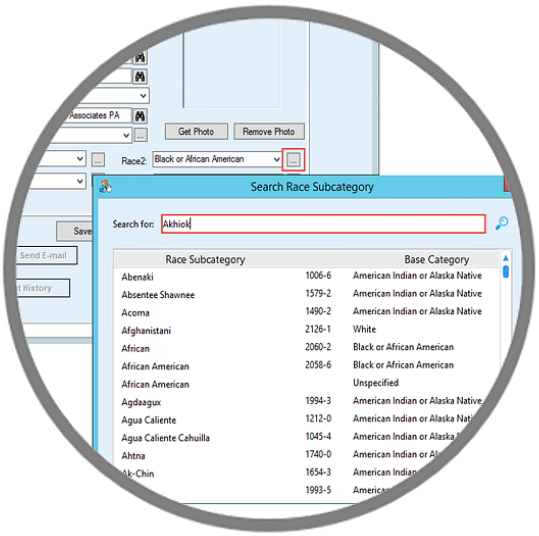
Dropdown menu options: Select general options from Race and Ethnicity dropdown menus; these values are retrieved from Race and Ethnicity options selected in Administration.



Click the dropdown menu to select from general race and ethnicity options

Search options: Select More [...] to enter specific race or ethnicity values; in the Search window, perform keyword searches to select from 921 available races and 43 ethnicities. These values are retrieved from Race Subcategory and Ethnicity Subcategory in system settings.

A. Select More (...) to search for a race or ethnicity value



A. Perform a keyword search for a race or ethnicity; select the result; click OK to enter

Setup: Race and ethnicity options

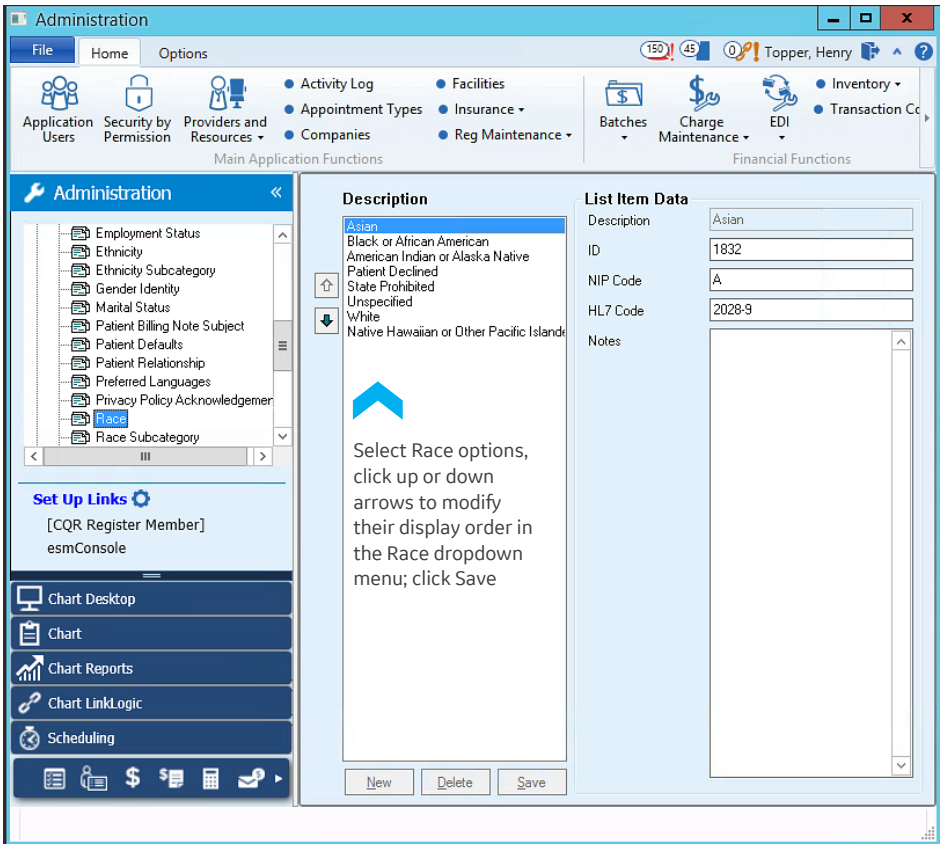
AUDIENCE: System administrators

Modify menu options for race, Race Subcategory, Ethnicity, or Ethnicity Subcategory fields.

Race settings: Race dropdown menu options are general and like race information collected by the U.S. Census Bureau. Options include:

- Asian
- Black or African American
- American Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- White
- Patient Declined
- State Prohibited
- Unspecified

PATH: *Administration > expand Registration; select Race*



IMPORTANT: While you can modify the order of Race menu options, it is not recommended that you add, remove, or modify option properties; each item is pre-associated with the HL7 and National Immunization Program codes required to support CCDA and immunization reporting.

Race subcategories

Race Subcategory options include 921 available races specific race options; users select More ... in Race and Race 2 fields to keyword search and select these values.

PATH: *Administration > expand Registration; select Race Subcategory*

IMPORTANT: It is not recommended that you add, delete, or modify Race Subcategory options as most are pre-associated with system ID, HL7 codes, and National Immunization codes required to support CCDA and reporting.

Ethnicity settings

Ethnicity dropdown menu options are general and like ethnicity information collected by the U.S. Census Bureau.

PATH: *Administration > expand Registration; select Ethnicity*

Options include: Hispanic or Latino, Not Hispanic or Latino, Patient Declined, State Prohibited, Unspecified

IMPORTANT: While you can modify the order of Ethnicity menu options, it is not recommended that you add, remove, or modify option properties; each item is pre-associated with the HL7 and National Immunization Program codes required to support CCDA and immunization reporting.

Ethnicity Subcategory settings

Ethnicity Subcategory options include 43 specific ethnicity options; users select More ... in Ethnicity and Ethnicity 2 fields to keyword search and select these values.

PATH: *Administration > expand Registration; select Ethnicity Subcategory*

IMPORTANT: It is not recommended that you add, delete, or modify Race Subcategory options as most are pre-associated with system IDs, HL7 codes, and National Immunization codes required to support CCDA and reporting.

Race and ethnicity for MU compliance

For this system to be 2015 Meaningful Use compliant, it must have the ability to capture multiple race and ethnicity values for a patient. Demographic requirements include:

- Race and ethnicity (enhanced)
- Preferred Language (enhanced in this release)
- Sex (existing)
- Sexual Orientation (new in this release)
- Gender Identity (new in this release)
- Date of Birth (existing)

TECH NOTE: Multiple race and ethnicity entries are supported within exported and imported CCDA files (CCDA 1.1 and 2.1). For CCDA 21, race and ethnicity values captured and stored as an extension of the Patient FHIR resource.

Sexual orientation and gender identity

AUDIENCE: Clinic managers, providers, and system administrators (setup)

MU: 170.315.a.5

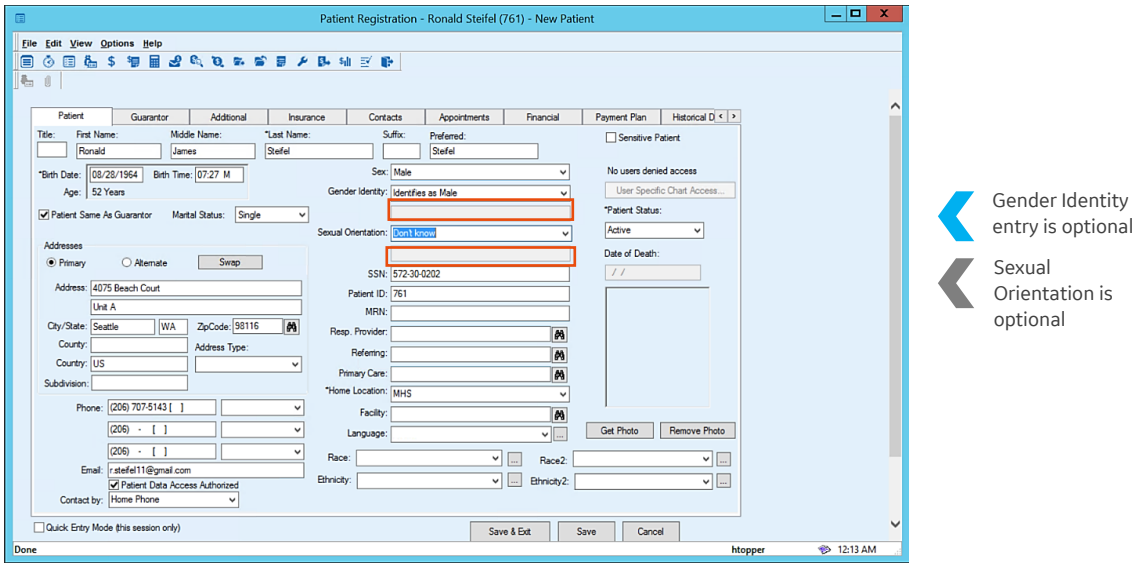
Summary: The patient registration workflow is now enhanced to capture a patient's sexual orientation and gender identity (SOGI); users can select from options within registration to provide this data. Areas include:

Workflow update: SOGI options in registration

New Sexual Orientation and Gender Identity (SOGI) fields are now a part of the patient registration workflow. The more information your providers have about a patient, the better care they can provide; at the same time, if a patient is uncomfortable divulging this information, they are not required to do so. Use the path below to view this enhancement; the link includes additional information about SOGI and patient health.

PATH: *CPS menu > Registration > Find Patient > New > Patient Registration (Patient tab)*

LINK: https://lgbthealtheduction.org/topic/sogi



Gender Identity and Sexual Orientation in Patient Registration

Gender identity values

During registration, patients select from one of the following SNOMED-encoded gender identity options (by default, entry is optional).

- Identifies as Male
- Identifies as Female
- Female-to-Male (FTM/Transgender Male/Trans Man)
- Male-to-Female (MTF/Transgender Female/Trans Woman)
- Genderqueer, neither exclusively male nor female
- Additional gender category or other, please specify

  Note: Includes text field to capture if this if selected
- Choose not to disclose

Sexual orientation values

During registration, patients select from one of the following SNOMED-encoded sexual orientation options (by default, entry is optional).

- Lesbian, gay, or homosexual
- Straight or heterosexual
- Bisexual
- Something else, please describe

  Note: Includes a text field to capture this if selected
- Don't know
- Choose not to disclose

New MEL symbols

- patient.sexualorientation
- patient.genderidentity

Setup: Adding SOGI menu options

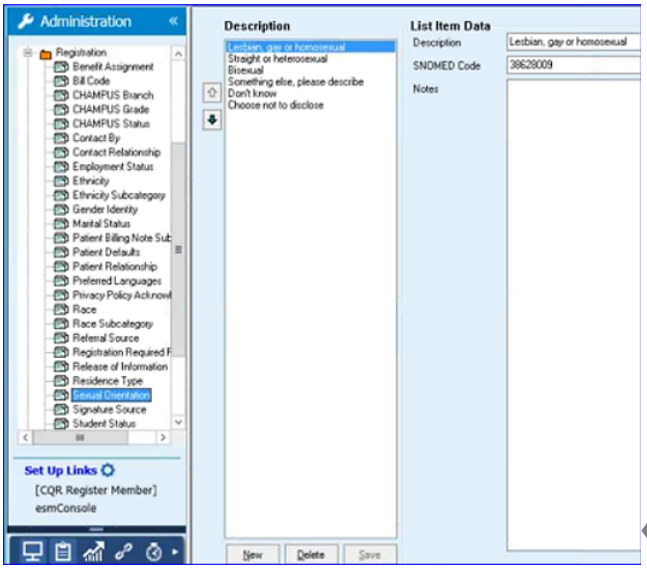
While you can include additional options for users to select from Sexual Orientation and Gender Identity fields, it is recommended that you not modify the existing options that are linked to SNOMED codes. Use the following to navigate to Sexual Orientation and Gender Identity in Administration to configure the menu options displayed.

IMPORTANT: All entries –even custom entries—are always optional selections in the registration workflow.

PATH: *Administration > Registration > Sexual Orientation/Gender Identity*

A. Expand Registration

B. Select Sexual Orientation or Gender Identity



C. Select New to create a custom entry

Sexual orientation and gender identity demographics

For this system to be 2015 Meaningful Use compliant, it must have the ability to capture the following demographic information, including a patient's sexual orientation and gender identity. Demographic requirements include:

- Sexual Orientation (new)
- Gender Identity (new)
- Race and Ethnicity (enhanced in this release)
- Preferred Language (enhanced in this release)
- Sex (existing)
- Date of Birth (existing)

TECH NOTE: For CCDA, gender identity and sexual orientation value inclusions in patient data transmissions are dependent upon the CCDA version in use. For version 1.1, patient data includes SOGI values. For CCDA 2.1, these values are stored within registration elements as extensions.

Preferred language options

AUDIENCE: Clinic managers and providers

MU: 170.315.a.5

Summary: The Language option in registration now supports the 483 language preferences required by ISO 639-2 (RFC 5646); users can perform keyword searches to enter a language or select from a list of the top 15 languages common to your practice. Areas include:

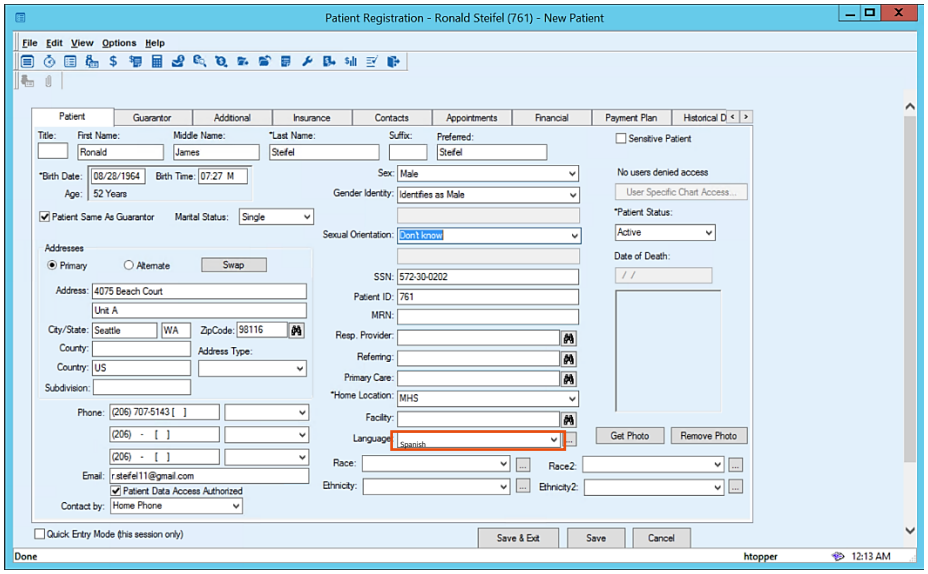
- Workflow update: Preferred language in patient registration
- Language values and searches
- Customizing preferred language options
- Preferred language and demographic requirements

Workflow update: Preferred language in patient registration

The Language option in the patient registration workflow has been expanded to support 483 language options. While patient entry of this value is optional, knowing a patient's language preference can aid providing a better patient experience and better health outcomes (for example, obtaining translator services or including a family member that can aid in communications during an encounter). For provider convenience, language preferences also display within the patient banner (Chart).

Use the following path to view this enhancement in the system.

PATH: *CPS menu > Registration > Find Patient > New > Patient Registration (Patient tab)*

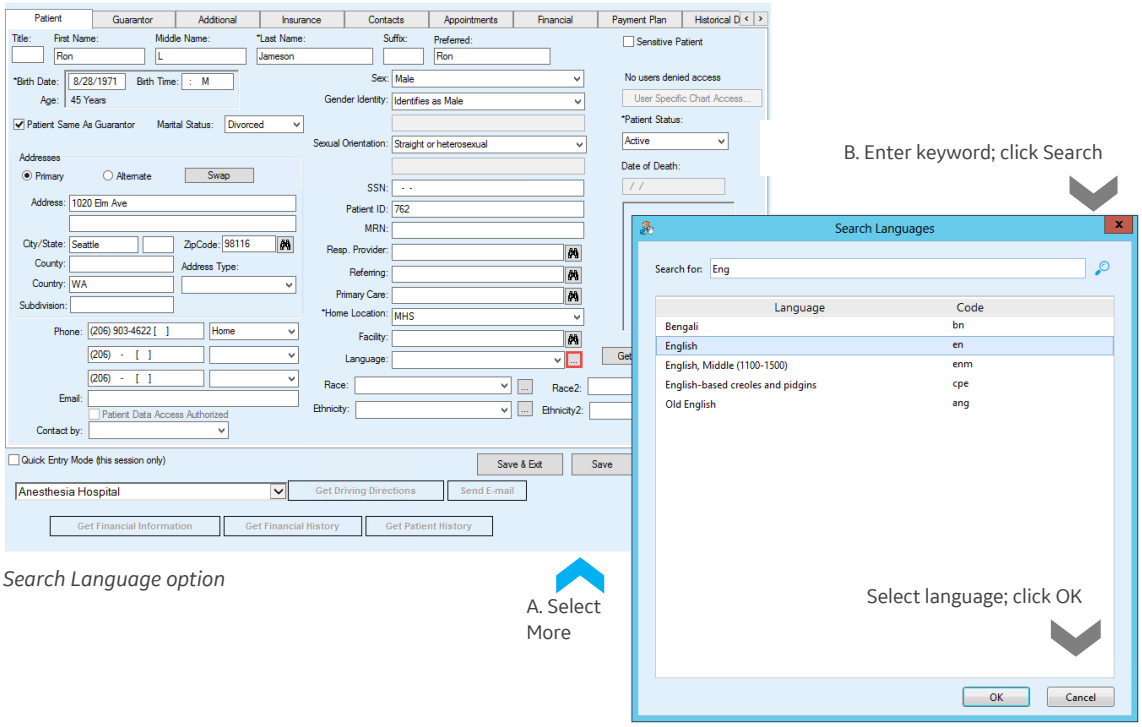


Language now supports over 483 language preferences

The Language field in Patient Registration

Preferred language searches

If the language the user requires does not display as an option in the dropdown list, users can select More ... in the Language field; the Search Languages dialog opens. In Search for, enter the first few letters of the language value. Click Search and then select the result; click OK to enter.



Search Language option

Preferred language options and customization

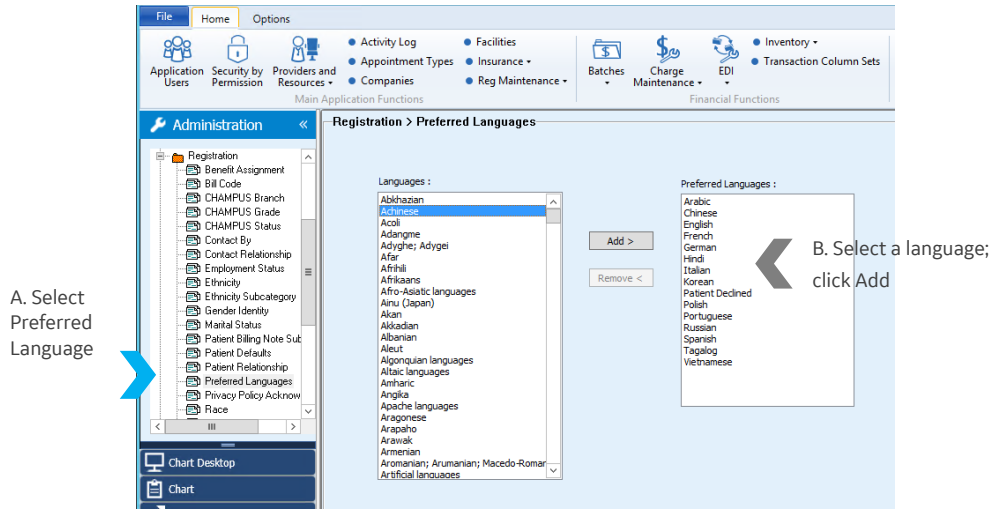
Your clinic can modify the options displayed in the Language dropdown menu to include up to 15 options preferred by patients at a given clinic location. While all 483 languages are supported, this makes entering a preferred language easier for most patients.

The Language dropdown menu can display up to 14 language selections plus the 'Patient Declined' option ('Patient Declined' is required). If fewer than 14 languages are added to display in the dropdown menu, only the languages selected will be retrieved from the database and displayed.

IMPORTANT: From this release forward, all language options are tied to ISO codes (ISO 639-2, RFC 5646) and cannot themselves be customized (you only have the option to add or remove the languages displayed in the dropdown menu). However, if your system includes customized language options added in a previous version, those entries will persist within the new release.

IMPORTANT: While you have the option to add or remove the 483 languages retrieved from the database as options in the Language dropdown menu, the 'Patient Declined' option is required and cannot be removed.

PATH: *Administration > Registration > Preferred languages*



Adding a language option in Administration

Preferred language and demographic requirements

This feature now has ability to capture the following demographic information, including a patient's preferred language. Demographic requirements include:

- Preferred Language (enhanced)
- Race and Ethnicity (enhanced in this release)
- Sex (existing)
- Sexual Orientation (new in this release)
- Gender Identity (new in this release)
- Date of Birth (existing)

TECH NOTE: For CCDA, the method for including language preference is dependent upon the CCDA version in use. For version 1.1, patient data includes the preferred language. For 2.1, the language preference captured is stored as an extension of the Patient FHIR resource and is included in header information for sent or received CCD files. For example, when sending or receiving a Transition of Care document in version 2.1, the preferred language is included in the document header.

Enable patient portal access

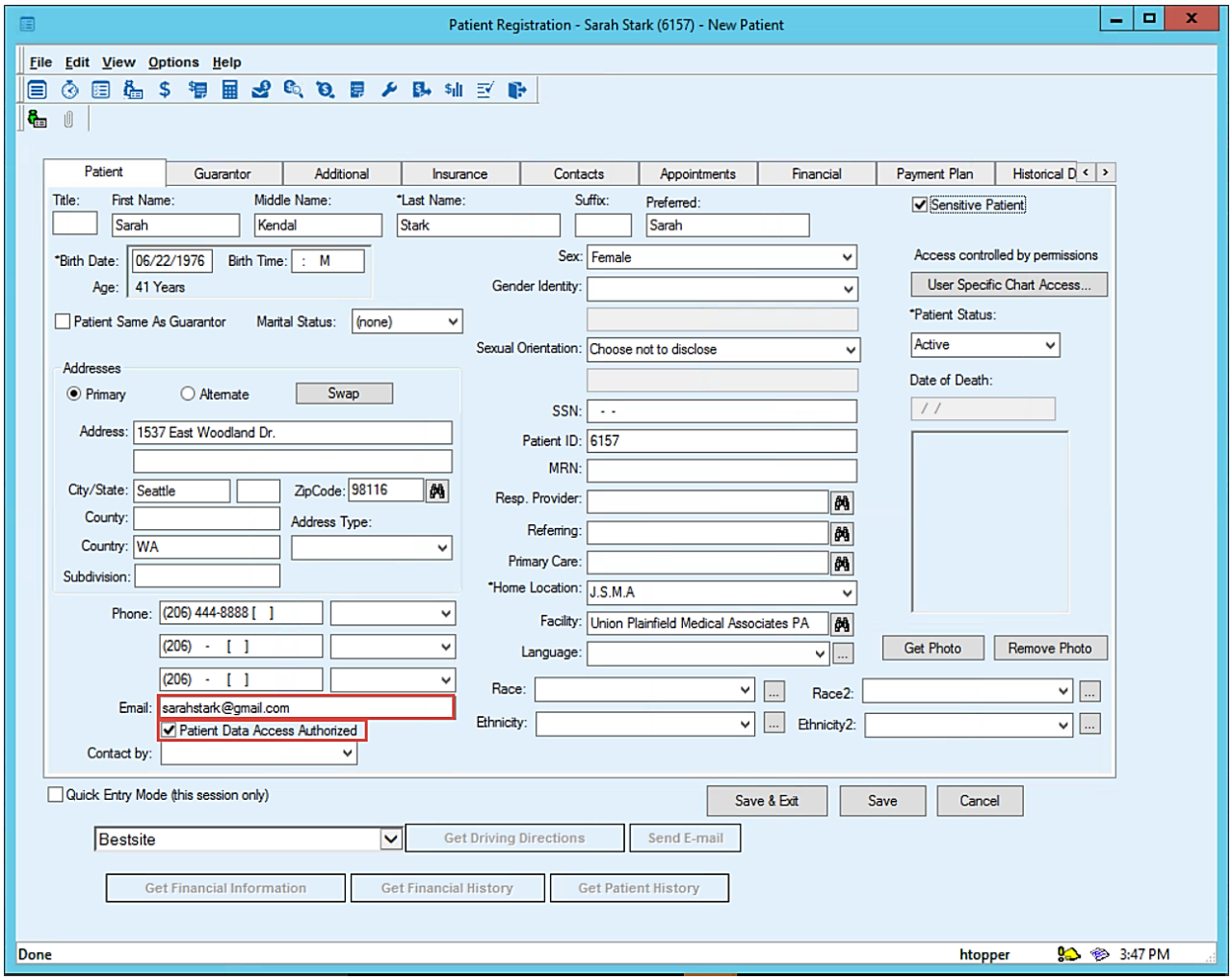
AUDIENCE: Clinic managers, providers, and system administrators

MU: 170.315.a.5

Summary: A new option has been added to the patient registration workflow that allows patients to receive authorized chart information for themselves or a dependent from a third-party portal location.

Enable patient portal access

Select **Registration** from the main CPS menu; perform a search for the patient to update, select the patient name, and then click **OK** (or select New if registering a new patient). In the Patient Registration form, ensure that the patient's email address is entered and that the **Patient Data Access Authorized** checkbox is selected.



Patient Data Access Authorized and a patient email address in Registration

REGISTRATION FIXES

ePrescribing: Missing diagnosis codes

Issue: Diagnosis codes were not being sent to pharmacies in electronic prescriptions. Resolution: The field that supports diagnosis codes in outbound electronic prescriptions was missing; this field has been added and now includes diagnosis codes if available for an electronic prescription. SPR 67770

Ethnicity and Race as required fields

Issue: Previously, when Race and Ethnicity fields were updated as required fields, required field entry rules for the new Race 2 and Ethnicity 2 fields were inconsistent (either entry was required or it was not required). Resolution: Now required field entry rules for Race and Ethnicity are the same. SPR 70788

Patient.Ethinicity MEL symbol

Issue: The Patient.Ethnicity MEL symbol was not pulling information from registration.
Resolution: This issue has been resolved. The Patient.Ethnicity MEL symbol now retrieves ethnicity data from registration as expected. SPR 70804

9. Reports

Reports advancements now include Prescription Drug Monitoring (PDMP/OARRS) installation options.

Areas introduced:

- Reports features: Prescription Drug Monitoring Program (PDMP) reports
- Miscellaneous known issues

REPORTS FEATURES

Prescription Drug Monitoring Program (PDMP) reports

AUDIENCE: System administrators and clinic managers

The abuse of controlled substance prescription drugs is a growing problem; since 2003, prescription medications such as opioid pain relievers and benzodiazepines have contributed to the deaths of more than 11,000 residents of the state of Ohio alone. Nearly half of young people who inject heroin reported first abusing prescription opioids. To address the growing misuse and the diversion of prescription drugs, the Prescription Drug Monitoring Program (PDMP) was developed.

Note: PDMPs are state specific and each state has its own system and requirements for access and use. GE is using a national aggregator called Appriss to access the state reports in which they support.

IMPORTANT: Even though the PDMP functionality is available in this release, it will not be commercially available until the first half of 2018. Check with your state for program participation details. For more information on a national level, see: https://www.cdc.gov/drugoverdose/index.html

With PDMP reports, review possible drug interactions for patients with prescriptions from more than one provider; identify potential attempts to obtain controlled substances from multiple providers.

To implement this feature:

- Prerequisites
- Setup: Schedule a consultation and install session
- Setup: Open an Appriss account
- Setup: Assign a PMP role
- Workflow update: Run a Controlled Drug report
- Workflow update: Run a Controlled Drug audit report

Prerequisites

- Centricity 12.3
- Centricity ePrescribing 4.2.2
- A PDMP license

Setup: Schedule a consultation and install session

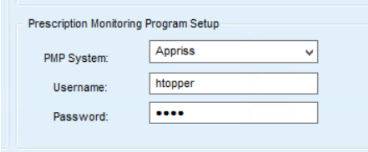
If you are interested in activating PDMP, please contact GE or your VAR representative for more information.

The installation session will include the sites to whitelist that Appriss recommends.

Setup: Open an Appriss account

Appriss is an analytics company that provides prescription drug monitoring program (PDMP) data to prevent substance abuse; this data is used in this reporting solution. If you are interested in activating PDMP, please contact GE or your VAR representative for more information.

Note: To add an administrator for PDMP, navigate to **Administration > Electronic Prescription > Electronic/ EPCS Settings > Prescription Monitoring Program Setup.** In Program Setup, select the appropriate PDMP system; enter the user name and password for the PDMP license.



Appriss is selected as the PMP system with administrator credentials added

Setup: Assign a PDMP role

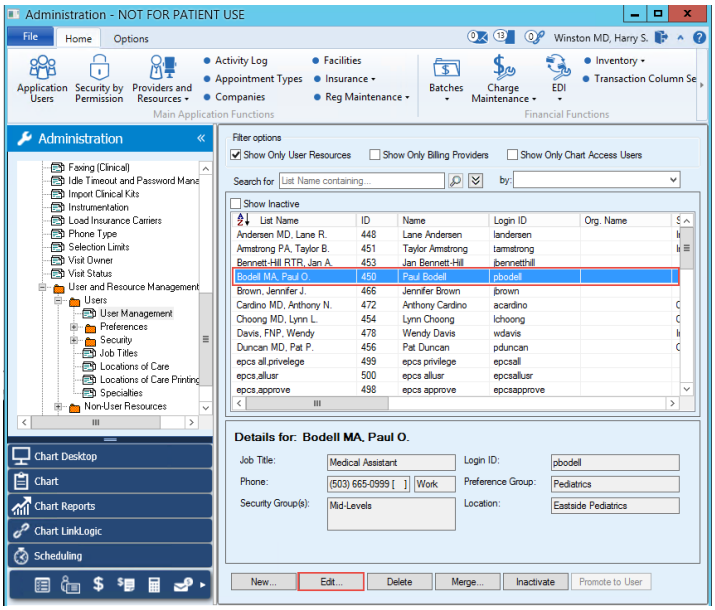
The PDMP feature is enabled by default (the feature switch is set to ON) so that the feature is immediately available once a PDMP account is established. Before users can run PDMP report, they must have a prescription management role assigned (a PDMP role); this role enables access to PDMP report features.

IMPORTANT: If the option to run the Controlled Drug report is not visible within medication or prescribing workflows, then the PDMP license is not configured in system. If the option to run the Controlled Drug report is disabled in the workflows, then the PDMP role is not configured for the user logged into the system and the button will be disabled.

Assign a PMP role

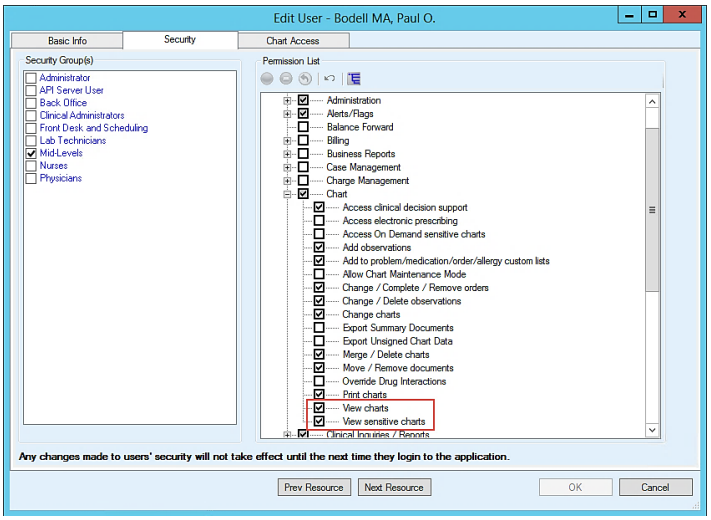
1. In the main CPS menu, select **Administration.**
2. In Administration, **select System > User and Resource Management > Users > User Management.**

3. In User Management, enter the user's last name in **Search for**; select an account; click **Edit**.



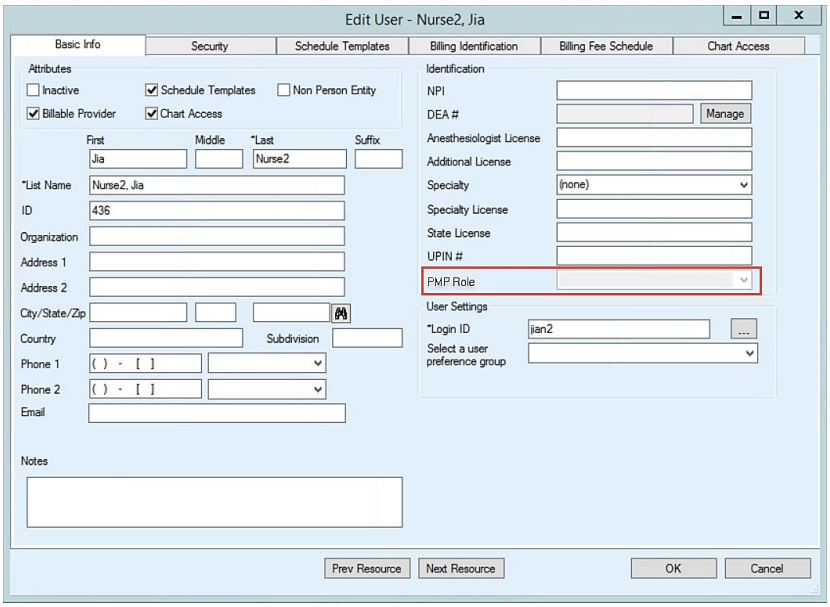
4. In Edit User, select the **Security** tab; in Security Group(s), select user groups with prescribing rights (for example, provider roles).

5. In the Permission list (right panel), verify that the user has **View charts** and **View sensitive charts** permissions selected.



If the user does not have these rights enabled, select them.

6. In Edit user, select the **Basic Info** tab; select an option from the **PMP Role**.



7. Ensure that the user account has an **NPI, DEA,** or **State License** number entered (at least one provider identifier entered). This information is passed to the PDMP gateway to identify the provider. If a State License number is used as provider identifier then the NPI field must be populated for the Location of Care.

   Note: The Appriss PMP gateway authorizes providers with individual DEA numbers to access the PDMP report; it does not support institutional DEA numbers. Because of this, individual DEA numbers are required for a provider or other user who needs to access PMP report while prescribing medications. Individual DEA numbers have a 9-digit alphanumeric format, such as AB1234579.

8. Click **OK** to apply the role.

Workflow update: Run a controlled drug report (PDMP report)

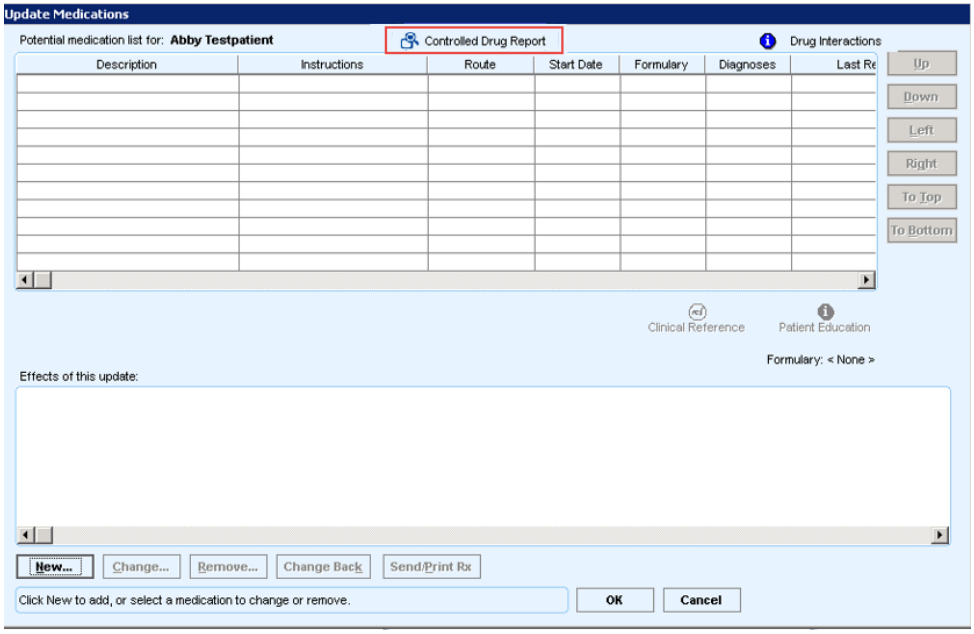
PDMP reports can be accessed from New Medication, Update Medication, Change Medication, and Rx Refill workflows; select the Controlled Drug Report option in these views to run the report.

When the user selects the Controlled Drug Report button, a request is raised to the PDMP gateway. This request includes the provider identifier, the location of care identifier, and patient data used to run the report.

- **Provider identifier:** The report request includes the NPI, DEA, or state license number to identify the provider. At least one of these identifiers is required to run the report.
- **Location of care identifier:** The request includes the state information and the NPI tied to location of care (this is determined by the location at the point of login). The gateway validates whether the provider at the location is authorized to request the report. If the provider is authorized, the gateway returns the report.
- **Patient information:** Prior to running the report, ensure that patient information, such as the patient's first name, last name, and date of birth are entered. Either the patient's zip code or telephone number is also required. The primary telephone number is captured during registration and is shared with the PMP gateway to retrieve patient information. The PMP gateway accepts a valid 7-digit or 10-digit telephone number.

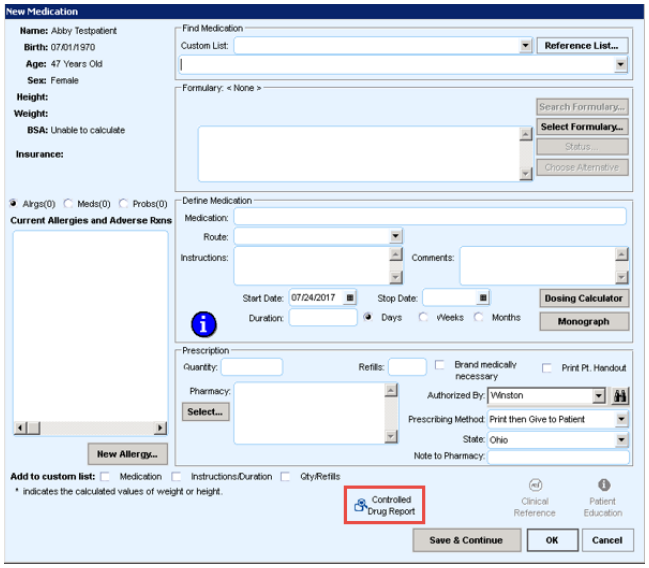
View a Controlled Drug Report when adding or updating medications

Select **Controlled Drug Report** in Update Medications.



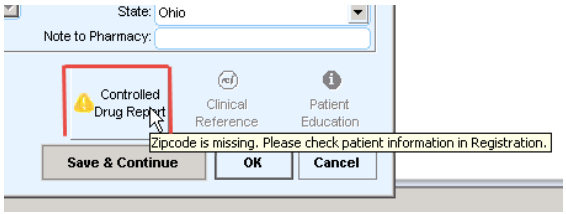
A Controlled Drug Report option in Update Medication

The Controlled Drug Report button also displays in New Medication and Change Medication forms. Select this button to view the patient's prescribing history for controlled substances.



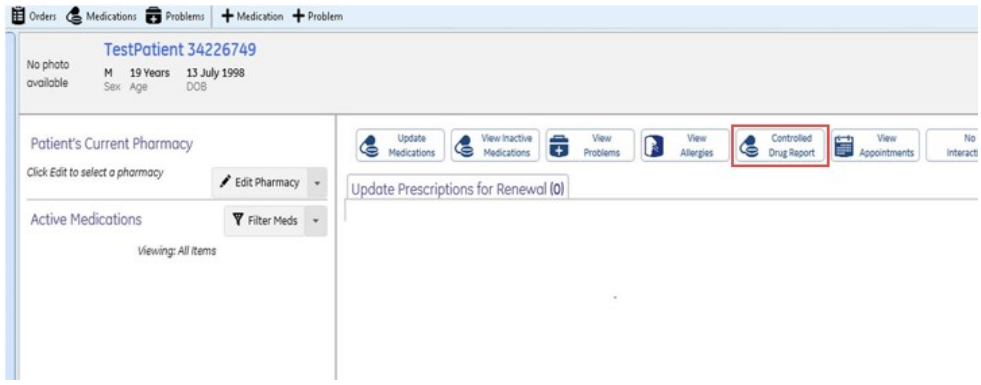
A Controlled Drug Report option in New Medication

Note: The Controlled Drug Report also displays alerts related to patient data required for the report. In this example, the patient's zip code is missing from registration information.



Run a Controlled Drug Report from prescription workflows

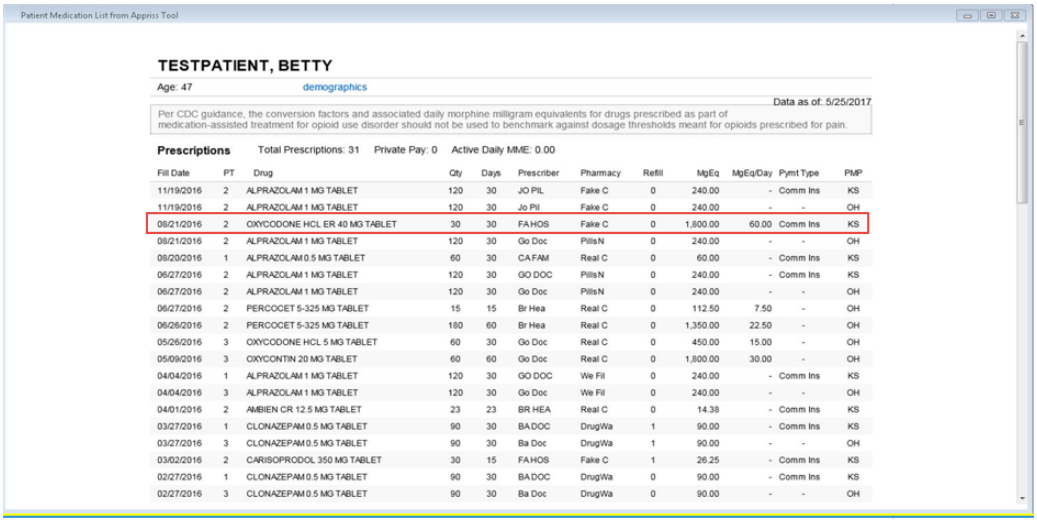
Select **Controlled Drug Report** in the prescription workflow to view patient prescribing activity from your practice and other organizations.



The Controlled Drug Report option in Rx Refill

Controlled Drug Report data

In the Controlled Drug Report, view the controlled substances prescribed to the patient, fill dates, prescribers, and pharmacies. Note increased activity within concentrated spans of time. For example, four prescriptions filled for Hydrocodone within a given month.


Patient Medication List from Appriss Tool

TESTPATIENT, BETTY

Age: 47 demographics

Data as of: 5/25/2017

Per CDC guidance, the conversion factors and associated daily morphine milligram equivalents for drugs prescribed as part of medication-assisted treatment for opioid use disorder should not be used to benchmark against dosage thresholds meant for opioids prescribed for pain.

Prescriptions Total Prescriptions: 31 Private Pay: 0 Active Daily MME: 0.00

Fill Date	PT	Drug	Qty	Days	Prescriber	Pharmacy	Refill	MgEq	MgEq/Day	Pymt Type	PMP
11/19/2016	2	ALPRAZOLAM 1 MG TABLET	120	30	JO PIL	Fake C	0	240.00	-	Comm Ins	KS
11/19/2016	2	ALPRAZOLAM 1 MG TABLET	120	30	Jo Pil	Fake C	0	240.00	-	-	OH
08/21/2016	2	OXYCODONE HCL ER 40 MG TABLET	30	30	FA HOS	Fake C	0	1,800.00	60.00	Comm Ins	KS
08/21/2016	2	ALPRAZOLAM 1 MG TABLET	120	30	Go Doc	Pills N	0	240.00	-	-	OH
08/20/2016	1	ALPRAZOLAM 0.5 MG TABLET	60	30	CA FAM	Real C	0	60.00	-	Comm Ins	KS
06/27/2016	2	ALPRAZOLAM 1 MG TABLET	120	30	GO DOC	Pills N	0	240.00	-	Comm Ins	KS
06/27/2016	2	ALPRAZOLAM 1 MG TABLET	120	30	Go Doc	Pills N	0	240.00	-	-	OH
06/27/2016	2	PERCOCET 5-325 MG TABLET	15	15	Br Hea	Real C	0	112.50	7.50	-	OH
06/26/2016	2	PERCOCET 5-325 MG TABLET	180	60	Br Hea	Real C	0	1,350.00	22.50	-	OH
05/26/2016	3	OXYCODONE HCL 5 MG TABLET	60	30	Go Doc	Real C	0	450.00	15.00	-	OH
05/09/2016	3	OXYCONTIN 20 MG TABLET	60	60	Go Doc	Real C	0	1,800.00	30.00	-	OH
04/04/2016	1	ALPRAZOLAM 1 MG TABLET	120	30	GO DOC	We Fil	0	240.00	-	Comm Ins	KS
04/04/2016	3	ALPRAZOLAM 1 MG TABLET	120	30	Go Doc	We Fil	0	240.00	-	-	OH
04/01/2016	2	AMBIEN CR 12.5 MG TABLET	23	23	BR HEA	Real C	0	14.38	-	Comm Ins	KS
03/27/2016	1	CLONAZEPAM 0.5 MG TABLET	90	30	BA DOC	DrugWa	1	90.00	-	Comm Ins	KS
03/27/2016	3	CLONAZEPAM 0.5 MG TABLET	90	30	Ba Doc	DrugWa	1	90.00	-	-	OH
03/02/2016	2	CARISOPRODOL 350 MG TABLET	30	15	FA HOS	Fake C	1	26.25	-	Comm Ins	KS
02/27/2016	1	CLONAZEPAM 0.5 MG TABLET	90	30	BA DOC	DrugWa	0	90.00	-	Comm Ins	KS
02/27/2016	3	CLONAZEPAM 0.5 MG TABLET	90	30	Ba Doc	DrugWa	0	90.00	-	-	OH

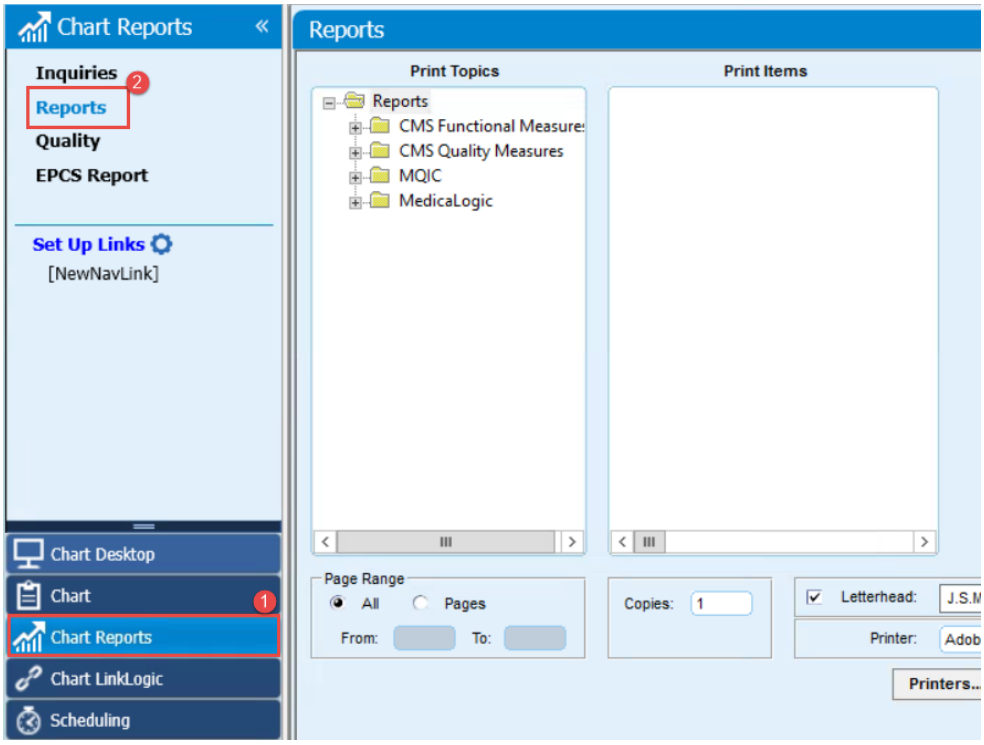
A controlled substance within the Controlled Drug Report

Workflow update: Run a PDMP audit report

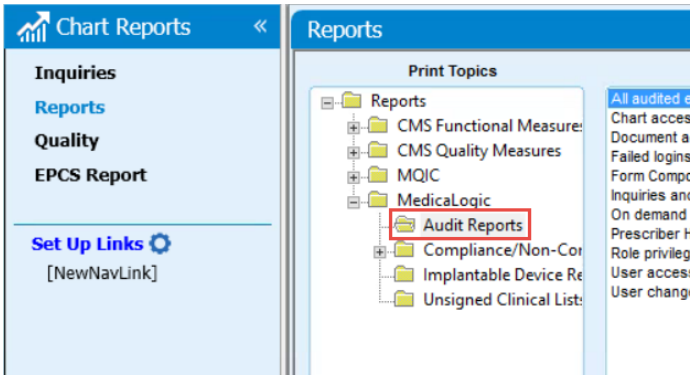
The Controlled Drug audit report lists providers that have run the Controlled Drug report; clinics use this report to monitor provider participation in checking prescription activity. The report lists the date and time the Controlled Drug report was run, the provider ID, the machine used, and whether the provider successfully accessed the report.

Run a Controlled Drug audit report

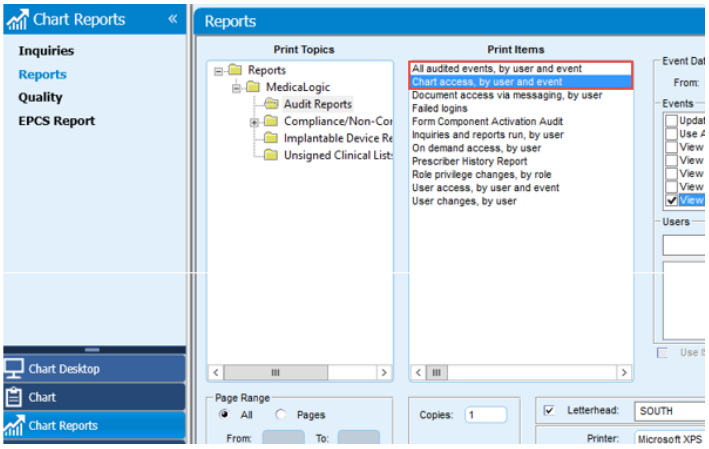
1. From the main Centricity menu, select **Chart.**
2. In Chart Desktop, select **Chart Reports > Reports.**



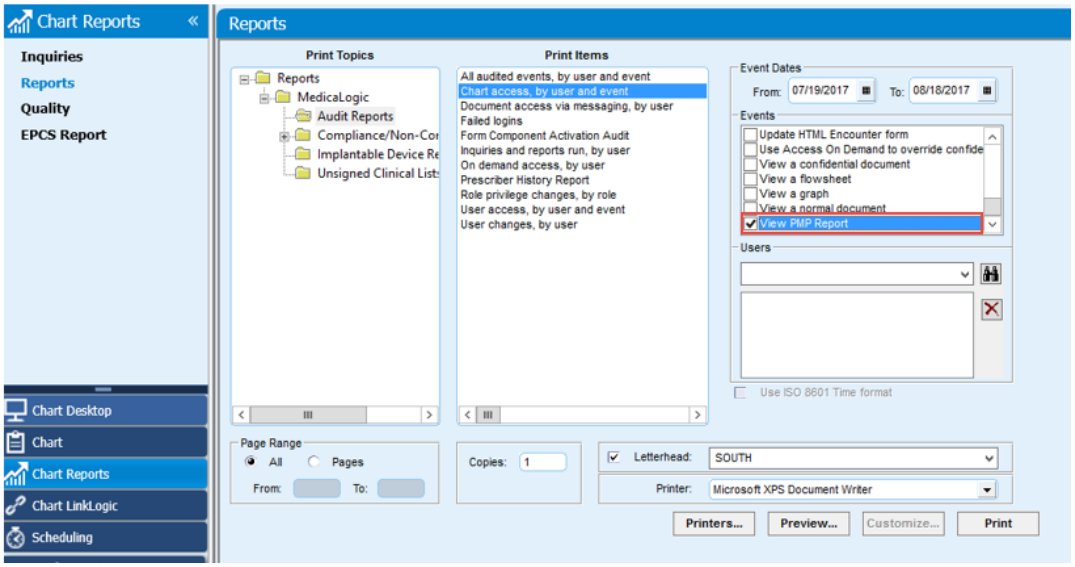
3. In Reports, Print Topics, expand **MedicaLogic**; select **Audit Reports**.



4. In Print Items, select **All Audited Events by User and Event** or **Chart Access by User and Event**; either option provides access to the PDMP report.



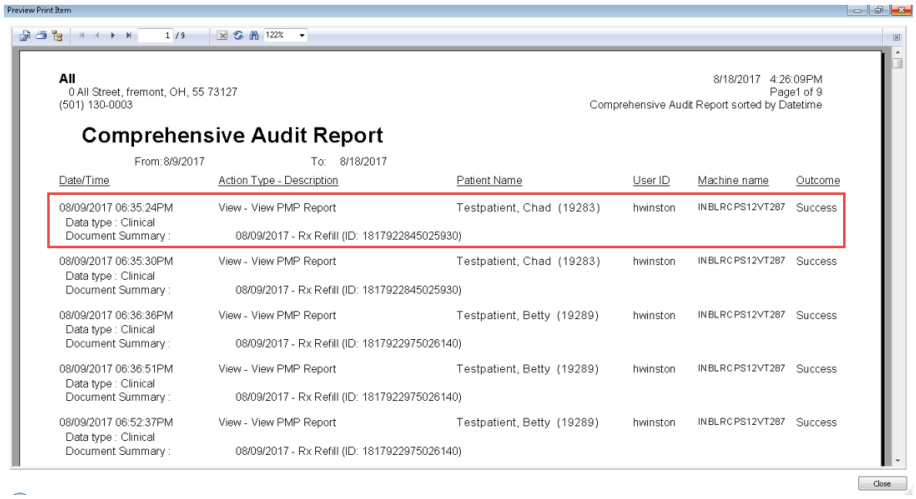
5. In Event Dates, select **View PMP Report**.



6. In Users, select a provider or multiple providers.

7. Click **Preview** to review the report on screen or select **Print**.

8. The audit report lists provider access to Controlled Drug reports by date and time. It includes the action performed (such as report viewing), the patient whose data was accessed, the user ID for the provider, the machine used, and the outcome (this displays as 'Success' if the report was successfully accessed).



REPORTS FIXES

Medication DDID report not displaying

PATH: *Chart Reports > Reports > MedicaLogic*

Issue: In the MedicaLogic folder, the MedicaLogic report was not displaying. Resolution: The issue that caused the report from displaying has been resolved; now the report displays within the MedicaLogic folder. SPR 68711

REPORTS KNOWN ISSUES

PDMP availability

Issue: PDMP reporting functionality will only be available within the first half of 2018. Workaround: No work around.

10. System

The following sections list fixes and known issues specific to system configuration, installation, upgrading, and performance.

Areas include:

- System features: System backup update
- System fixes
- System known issues

SYSTEM FEATURES

System backup update

AUDIENCE: System administrators

Summary: The backup database process is now enhanced to run integrity checks either every night or one night a week on the night an administrator specifies. Administrators may also specify the type of backup taken in the backup name (such as FULL for a full backup), which uses a new naming convention for backup events within transactional log files. Areas include:

- A summary of the changes made to the backup database process
- Methods to generate backup files, schedule backups, and recover data

Updated backup database process

The backup database process runs as one of many automated database maintenance jobs. As before, the backup database process performs the following:

- Only erases the previous backup if the new one is clean
- Creates a backup file with the database name, date, and creation time included in the filename

Now the backup database process also performs these actions:

- Verifies overall database integrity once a week
- Includes the scope of the backup taken within the backup name. For example: *your_database_name*_FULL_MM-DD-YYYY.bak
- For transactional log files, the naming convention appears in this format: *your_database_name*_LOG_MM-DD-YYYY.bak

Backing up data

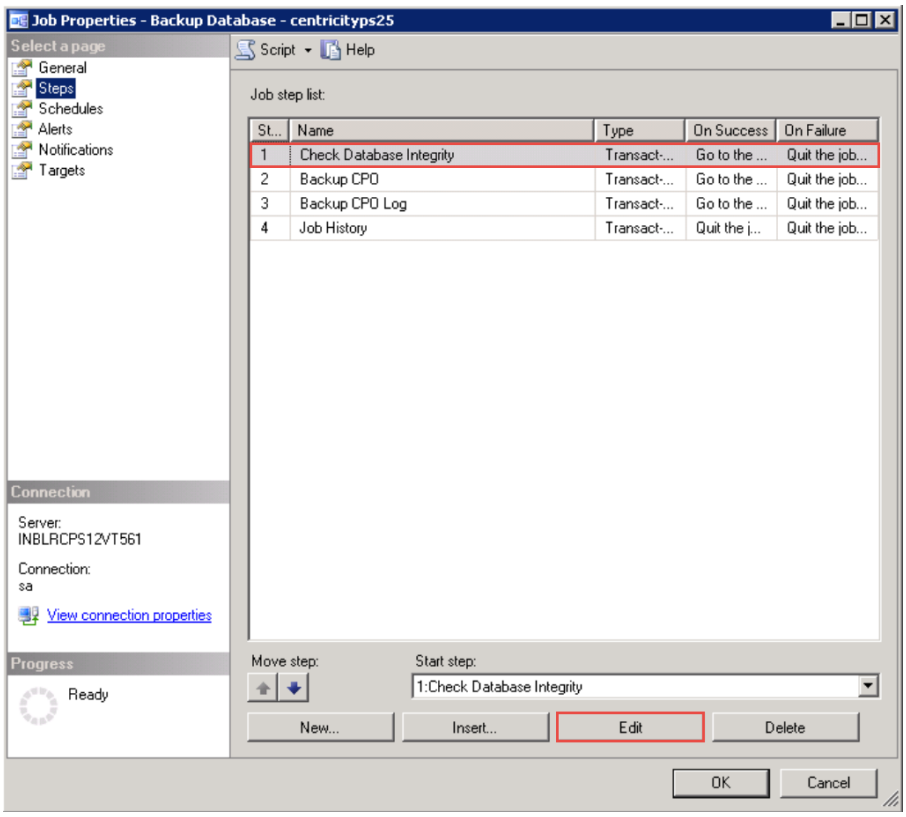
The overall backup process remains the same. Backup copies should be made and stored away from the working copies. Use Windows Backup Utility or other backup software to generate files. If you are using a different procedure to back up, please review the documentation provided by your vendor.

Scheduling and confirming database backups

Methods to schedule and confirm database backups remain the same. Use SQL Server Agent in SQL Server Management Studio to confirm or change the automatic database backup schedule. Verify daily backup success using SQL Server Management Studio or check the file date of the backup file to verify success.

Configure scheduling for full backups

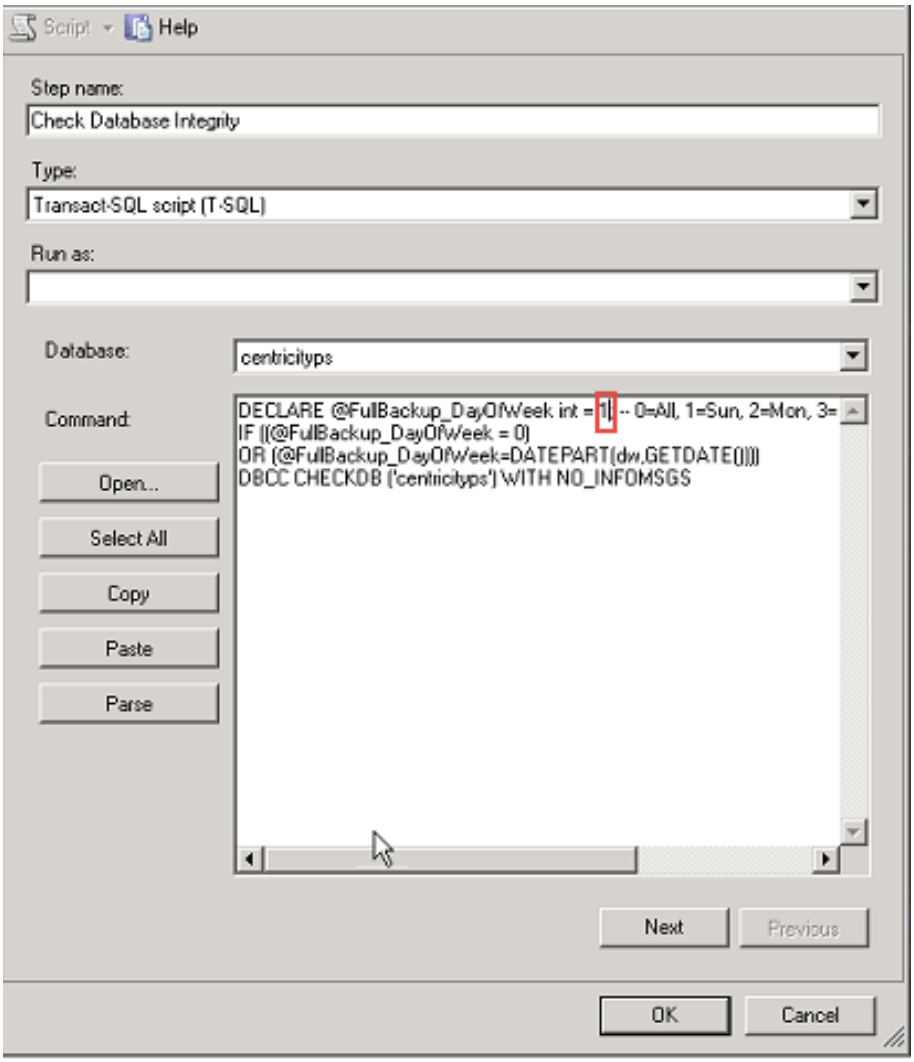
1. Launch **Microsoft SQL Server Management Studio**; in Object Explorer, expand **SQL Server Agent** and then **Jobs**. In Jobs, double-click **Backup Database – [your database name]**.
2. In Job Properties, - Backup Database – [your database name], select **[St. 1] Backup CPO**; click **Edit**.



3. In Backup CPO, define the frequency in which to run a full backup.

   In `DECLARE @FullBackup_DayOfWeek int =` , enter one of the following values.

   - Enter 0 (zero) to run a full backup every day.
   - Enter 1 to run a full backup every Sunday (this is the default value).
   - Enter 2 to run a full backup every Monday
   - Enter 3 to run a full backup every Tuesday
   - Enter 4 to run a full backup every Wednesday
   - Enter 5 to run a full backup ever Thursday
   - Enter 6 to run a full backup every Friday
   - Enter 7 to run a full backup every Saturday



4. Click **OK** to save backup scheduling settings.

   Note: The database name is automatically added to the job as in previous upgrades and installs.

Recover your data

The processes to recover data by installing a backup remain the same and are as follows. If your server hard drive fails or another problem corrupts your database, you can recover your data by restoring a backup file. There are two types of data recovery.

- Simple recovery restores the database to the most recent backup.
- Full recovery restores the database to the point of failure.

IMPORTANT: If a Services representative is assisting, they can only perform a full backup restore. Any point-in-time recovery will need to be performed by your organization's IT support staff.

Simple recovery

A simple recovery restores the database to the point of the last backup but not to the point of failure or to a specific point in time. For more information about simple backups, see https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/complete-database-restores-simple-recovery-model

Full recovery

A full recovery restores the database to the point of failure or to a specific point in time. Database backups and transaction log backups are used to provide complete protection against media failure. If one or more data files is damaged, media recovery can restore all committed transactions. In-process transactions are rolled back.

To guarantee this degree of recoverability, all operations, including bulk operations such as SELECT INTO, CREATE INDEX, and bulk loading data, are fully logged. You can only restore a database to the state it was in at the point of failure if the current transaction log file for the database is available and undamaged.

Restore the database to the point of failure

1. Back up the currently active transaction log.
2. Restore the most recent database backup without recovering the database.
3. If differential backups exist, restore the most recent one.
4. Restore each transaction log backup created since the database or differential backup in the same sequence in which they were created without recovering the database.
5. Apply the most recent log backup (created in Step 1), and recover the database.

   IMPORTANT: To prevent loss of transactions, secure and prevent damage to the transaction log. Use fault-tolerant disk storage for the transaction log.

   Note: For additional information on the restore process, see:

   - https://technet.microsoft.com/en-us/library/ms190982(v=sql.105).aspx
   - https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/restore-a-sql-server-database-to-a-point-in-time-full-recovery-model.

SYSTEM FIXES

CMS1500 HCFA Filing Method set to obsolete version on upgrade and new installs

Issue: Previously, the product had to be configured to point to the latest version of the CMS1500 HCFA form (CMS1500_V0212.rpt) after an install or upgrade to ensure filed claims did not fail. Resolution: Now the correct form is automatically configured and used. SPR 64063

System crash upon saving or saving/exiting Registration

PATH: *Registration > Insurance tab (deselect Mark Tertiary) > Save and Exit*

Issue: In Registration, when users removed the selection from Mark Tertiary (Insurance tab), and then clicked Save or Save and Exit, the system would crash. Resolution: The application no longer crashes when the Mark Tertiary option is removed and Registration is saved (or Save and Exit is selected). SPR 67049

Forms slowness

Issue: Users noted slowness when completing actions in system forms, such as signing for an office. Resolution: The issue that caused system slowness has been identified and corrected; now actions performed in forms complete within an expected timeframe. SPR 68160

CPS 10 versions of MBCinstaller90.dll caused system lockups

Issue: When upgrading CPS on a workstation or terminal server, the MBCinstaller90.dll would not update. Instead, it is saved to a numbered conflict subfolder on C:\Windows\Downloaded Program Files, which resulted in performance issues. Resolution: Fixed. MBCinstaller90.dll now automatically updates with upgrades. SPR 69039

Document query optimization

PATH: *Chart > Find Patient (Search/select result/OK) > Chart > Documents*

Issue: It was taking an unexpected length of time for the system to retrieve patient documents from the database. Resolution: Reduced the amount of time it takes to retrieve patient documents. SPR 69122

Client install version numbers and database versions did not match

Issue: In version 12.2, version numbers for client installations did not match the version number displayed for database installations. Resolution: In 12.3, client and database version numbers are now identical; these identical versions now display in the Control Panel, Help > About, as the Installer version, and the build version. SPR 69437

Registration-to-Chart crash

PATH: *Registration > Chart*

Issue: When navigating from Registration to the Chart module, the application crashed. Resolution: The application no longer crashes when navigating to Chart from Registration. SPR 70114

The system froze when Chart was accessed from Registration or Scheduling

Issue: When accessing the Chart module from Registration or Scheduling, the system froze and displayed an error message. Resolution: This issue has been resolved. SPR 70053

Server Configurator modified for the wrong number of users

Issue: When installing Server Configurator for 500 or 1000 users, the wrapper.conf file was automatically configured to support 200 users. For 500 users, the heap size must be 9GB out of 12GBof RAM; for 1000 users, the heap size should be 12GB out of 15GB of RAM. Resolution: Now installing Server Configuration for 500 or 1000 users, the correct heap size is allocated. SPR 70165

The .EAR file failed to deploy upon 12.2.2 installation

Issue: When upgrading to 12.2.2 build 4212 on one server (Windows 2012R/SQL server 2014) and JBoss on another server (Windows 2012), the .EAR file failed to deploy despite Server Configurator reporting successful completion. This resulted in errors within server* .log and wrapper.log. Resolution: The .EAR file deploys post implementation as expected; subsequent errors no longer occur. SPR 70379

SYSTEM KNOWN ISSUES

Server Configurator overwrites JBoss configuration when a training license is identified

Issue: In cases where the Demo website is installed over the existing CPS site, the current Jboss configuration is overwritten for production sites (this only occurs when using the Single Website feature in Server Configurator). Workaround: Always install the Demo site prior to production sites in a non-multi-website environment. SPR 67906

Application crashes when navigating between Chart and Administration

Issue: Centricity Practice Solution infrequently crashes when users access links within patient charts or Administration to navigate between these modules. Workaround: Use the main Centricity Practice Solution menu to access the Administration or Chart module. SPR 62425

11. Install the release

Access the latest installation guidelines for Centricity Practice Solution v12.3 at https://engage.gehealthcare.com/community/en/cps/documentation. Carefully review pre-installation, install, and post-installation instructions before installing.

12. Contact Centricity Services

Updates and services

To download additional services, Knowledgebase updates, or factory observation terms, go to the Centricity Practice Solution website at https://engage.gehealthcare.com/community/en/cps . On the website, you'll also find release publications, Support contact information, and links to training materials.

Contacting Centricity Services

If you need help or have any questions regarding this update, contact Centricity Services at 888.436.8491 or online at https://engage.gehealthcare.com/community/en/cps.

Note: If you have not registered for the Centricity Service Portal, you can create or register your Single Sign On and request access for Centricity Practice Solution. The new Customer Communication Page replaces the Listserv mailing lists effective immediately.

This new page provides important information, updates and notices for your Centricity product. Items such as leadership, product and service pack announcements as well as critical notices are posted here.

When you FOLLOW this page, you are advised as soon as something is posted. This assures you are kept current.

Note: You must access the portal at least once every 30 days to maintain your subscription access and FOLLOWS.

APPENDIX A:

CCDA document structures

AUDIENCE: System administrators and clinic managers

MU: 170.315 b2

Summary: Inbound CCDA documents may have Allergies, Problems, Medications, and Implantable Device XML components that differ in structure from those accepted by the system. During validation, documents are parsed for areas that require reconciliation; if the system can perform the reconciliation, the file is automatically reconciled and imported (no user action required). If a manual reconciliation is required, the document displays in the Reconciliation form for correction. The following article provides the expected XML structure for allergy, problem, and medication data.

IMPORTANT: The following accepted XML structures apply to both inbound CCDA v1.1 and v2.1 files.

Areas include:

Enhanced reconciliation logic

Originally, after an inbound CCDA document was validated and flagged for reconciliation, the Reconciliation feature would only check a given area within an inbound CCDA document for discrepancies. Now the Reconciliation feature checks multiple places within XML files. The areas checked vary depending on the component; for example, the checks performed for Medications differs from those performed for an Allergies component. If the element that's being parsed for reconciliation includes the value set and a discrepancy is identified, the remaining elements are skipped for parsing.

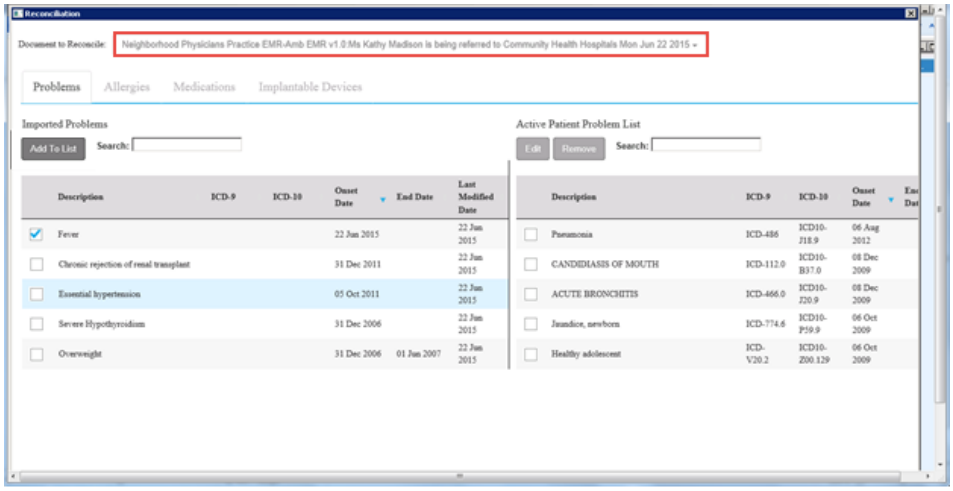
IMPORTANT: The Reconciliation feature is now optimized to find and automatically reconcile XML discrepancies as it can for both CCDA v1.1 and 2.1 inbound files; documents flagged for reconciliation that require user interaction display in the Reconciliation form for correction.

CCDA reconciliation workflow

AUDIENCE: System administrators

While the validation method used varies for CCDA versions 1.1 or 2.1, the reconciliation process is the same. During validation, if a document requires reconciliation, the reconciliation property within the document is set to 'Reconcilable' and the document appears within the Reconciliation form for correction.

Note: If the XML discrepancy can be automatically reconciled, the reconciliation occurs and the imported document does not display in the Reconciliation form for correction.



A document requiring correction in the Reconciliation form (CCDA v1.1 or 2.1)

A document in the Reconciliation form

CCDA v1.1 reconciliation overview: For CCDA Version 1.1, all sections of the received document are parsed and validated. Based on this parsing and the validation report, if sections of a CCDA such as Allergies, Problems, and Medications are importable but require reconciliation, the reconciliation flag is set for the document. If the system can automatically reconcile, the discrepancies are fixed and the file is imported (no user action required). If the document cannot be automatically reconciled, it appears in the document dropdown menu in the Reconciliation form for correction. Each section indicated must be updated to the format required so that the data can be imported.

CCDA v2.1 reconciliation overview: When inbound validation is configured for CCDA version 2.1, the new CDA Validator is used and the validation report includes flags indicating whether a document is importable and reconcilable. If the system can automatically reconcile, the discrepancies are fixed and the file is imported (no user action required). If the document cannot be automatically reconciled, it appears in the document dropdown menu in the Reconciliation form for correction. Each section indicated must be updated to the format required so that the data can be imported.

Reconciliation workflow (CCDA v1.1 or 2.1): In a chart update, insert an encounter form component that includes access to the Reconcile form, such as the **MU Core Checklist** or **CPOE A&P-CCC**. In the form displayed, select **Reconcile**. In Reconciliation, select the document to correct from the dropdown menu; select **Problems, Allergies, Medications**, or **Implantable Devices** tabs to view and reconcile given areas within the document.

CCDA component structures

The examples in the following sections display the flattened XML structure in the form of a path. For example, to read the attribute **'d'** from the **tree <A><B d=""></B></A>,** the structure **A->B("d")** is used where **'A'** is the parent tag, **'B'** is the child tag and **'d'** is the attribute of B.

No known allergies, problems, or medications

When imported CCDAs do not have structured XML entries for problems, or medications, a "No reconciliation items available" message displays in the corresponding section of the form.

IMPORTANT: The reconciliation form does not support corresponding OBS terms for unknown problems, medications, or allergies.

XML references

References can appear in the XML for all sections of an imported document. These values are derived from the declared value in the body of the `text > table` element of a given section.

In this example, the reference value is followed by reference usage (highlighted script).

XML narrative:

```
<title>Medications</title>
<text>
    <table>
        <thead>
            <tr>
                <th>Prescription</th>
                <th>Sig.</th>
                <th>Disp.</th>
                <th>Refills</th>
                <th>Start Date</th>
                <th>End Date</th>
                <th>Status</th>
            </tr>
        </thead>
        <tbody>
            <tr ID="currx9">
                <td>
                    <paragraph ID="med9">diphenhydrAMINE (BENADRYL) 25 mg
capsule</paragraph>
                </td>
                <td ID="sig9">Take 1 capsule (25 mg total) by mouth nightly as needed for
itching. (sig9)</td>
                <td>
                    <paragraph>7 capsule</paragraph>
```

```
                </td>
                <td>0</td>
                <td>01/24/2018</td>
                <td/>
                <td>Active</td>
            </tr>
        </tbody>
    </table>
    <footnote ID="subTitle8" styleCode="xSectionSubTitle xHidden">as of this
encounter</footnote>
</text>
```

Usage:

```
<code code="1049909" codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm"
displayName="Diphenhydramine 25 Mg Capsule">
    <originalText>
        <reference value="#med9"/>
    </originalText>
    <translation code="0185-0648-01" codeSystem="2.16.840.1.113883.6.69"
displayName="Diphenhydramine 25 Mg Capsule" codeSystemName="NDC"/>
    <translation code="238770" codeSystem="2.16.840.1.113883.6.208"
displayName="Diphenhydramine 25 Mg Capsule" codeSystemName="NDDF (First DataBank)"/>
</code>
```

Allergies component structure

AUDIENCE: System administrators and clinic managers

The following is an example of a properly structured Allergies component.

```
<component typeCode="COMP" contextConductionInd="true">
    <section classCode="DOCSECT" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.2.6.1" />
        <code code="48765-2" codeSystem="2.16.840.1.113883.6.1" displayName="Allergies, adverse
reactions, alerts"
            codeSystemName="LOINC" />
        <title>Allergies, Adverse Reactions, Alerts</title>
```

For each allergy, there must be an `entry` tag as follows with details included; it must contain an observation.

```
<entry typeCode="DRIV" contextConductionInd="true">
    <entryRelationship typeCode="SUBJ" contextConductionInd="true">
        <observation classCode="OBS" moodCode="EVN">
```

Allergies subsections

All Allergies subsections are searched under the `entry` tag and must follow this structure. Allergies subsections include Substance, Reaction, Criticality, Category, Onset Date, Stop Date, and Code.

1. Substance

Expected structure:

```
entry->act->entryRelationship->observation
->participant->participantRole->playingEntity->code("displayName")
```

If the attribute `displayName` is not set for the code, the following is used as an alternate.

```
playingEntity->code->originalText->reference("value")
```

Substance example:

```
<participant typeCode="CSM" contextControlCode="OP">
    <participantRole classCode="MANU">
        <playingEntity classCode="MMAT">
            <code code="2670" codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm"
displayName="Codeine">
                <originalText>
                    <reference value="#ALLERGEN4442631" />
                </originalText>
                <translation code="d00012" codeSystem="2.16.840.1.113883.6.314"
codeSystemName="multum-drug-id" displayName="codeine" />
            </code>
        </playingEntity>
    </participantRole>
</participant>
```

2. Reaction

For an observation under `entry`, there must be `entryRelationship` tags with `typeCode="MFST"`. Under this `entryRelationship` tag, an observation with `templateId root="2.16.840.1.113883.10.20.22.4.9"` must be present that corresponds to Reaction.

Expected structure:

```
entry->act->entryRelationship->observation
->entryRelationship(typeCode=MFST)
->observation(template id=2.16.840.1.113883.10.20.22.4.9)
->value->originalText->reference("value")
```

Reaction example:

```
<entryRelationship typeCode="MFST" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.9" />
        <value xsi:type="CD" code="422587007" codeSystem="2.16.840.1.113883.6.96"
```

```
codeSystemName="SNOMED CT"
            displayName="Nausea (finding)">
            <originalText>
                <reference value="#REACTION4442633" />
            </originalText>
        </value>
    </observation>
</entryRelationship>
```

3. Criticality

For an observation under `entry`, there must be `entryRelationship` tags under which an observation with `templateId root="2.16.840.1.113883.10.20.22.4.8"` must be present that corresponds to Criticality details.

Expected structure:

```
entry->act->entryRelationship->observation->entryRelationship->observation
->entryRelationship->observation(template id=2.16.840.1.113883.10.20.22.4.8)-
>value("code")
```

Example:

```
<entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.8" />
        <code code="SEV" codeSystem="2.16.840.1.113883.5.4" codeSystemName="HL7 ActCode"
displayName="Severity Observation" />
        <text>
            <reference value="#ALLSEV4442631" />
        </text>
        <statusCode code="completed" />
        <value xsi:type="CD" code="6736007" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT">
            <originalText>
                <reference value="#ALLSEV4442631" />
            </originalText>
        </value>
        <entryRelationship typeCode="MFST" inversionInd="true">
            <observation classCode="OBS" moodCode="EVN">
                <templateId root="2.16.840.1.113883.10.20.22.4.8" />
                <code code="SEV" codeSystem="2.16.840.1.113883.5.4" codeSystemName="HL7
ActCode" displayName="Severity Observation" />
                <text>
                    <reference value="#ALLSEV4442631" />
                </text>
                <statusCode code="completed" />
                <value xsi:type="CD" code="6736007"
                    codeSystem="2.16.840.1.113883.6.96"
```

```
                    codeSystemName="SNOMED CT">
                    <originalText>
                        <reference value="#ALLSEV4442631" />
                    </originalText>
                </value>
            </observation>
        </entryRelationship>
    </observation>
</entryRelationship>
```

The code value is based on Criticality. The following is the mapping of code value to Criticality.

399166001: Critical (C)

24484000 : Severe (S)

6736007: Moderate (N)

371924009: Moderate (N)

255604002: Mild (I)

371923003: Mild (I)

4. Category

Expected structure:

```
entry->act->entryRelationship->observation->value("code")
```

Example:

```
<observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.7" />
    <value xsi:type="CD" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
code="416098002" displayName="Drug allergy" />
```

The Category is based on the code value. The following maps the Category to the code value.

Drug: 416098002, 419511003, 416098002, 59037007

Food: 414285001, 418471000, 414285001

Environmental: 419199007, 420134006, 418038007

5. OnsetDate

Expected structure:

```
entry->act->entryRelationship->observation
->effectiveTime->low("value")
```

The default value is an end date from a significant time past.

Example:

```
<effectiveTime>
    <low value="20121002090000.000-0500" />
    <high value="20121003150000.000-0500" />
</effectiveTime>
```

6. StopDate

Expected Structure:

```
entry->act->entryRelationship->observation
->effectiveTime->high("value")
```

The default value is 'No end date.'

Example:

```
<effectiveTime>
    <low value="20121002090000.000-0500" />
    <high value="20121003150000.000-0500" />
</effectiveTime>
```

7. Code

In cases where there are multiple records, the first one that matches the structure is used.

Expected structure:

```
entry->act->entryRelationship->observation
->participant->participantRole->playingEntity
->code("code")
```

Example:

```
<participant typeCode="CSM" contextControlCode="OP">
    <participantRole classCode="MANU">
        <playingEntity classCode="MMAT">
            <code code="2670" codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm"
displayName="Codeine">
            </code>
        </playingEntity>
    </participantRole>
</participant>
```

Problems component structure

AUDIENCE: System administrators and clinic managers

The following is an example of a properly structured Problems component.

```
<component typeCode="COMP" contextConductionInd="true">
    <section classCode="DOCSECT" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.2.5" />
        <templateId root="2.16.840.1.113883.10.20.22.2.5.1" />
        <code code="11450-4" codeSystem="2.16.840.1.113883.6.1" displayName="Problem
List" codeSystemName="LOINC" />
        <title>Problem List</title>
```

For each problem, there must be an `entry` tag as below with details beneath. It should specifically have an observation.

```
<entry typeCode="DRIV" contextConductionInd="true">
    <act classCode="ACT" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.3" />
        <entryRelationship typeCode="SUBJ" inversionInd="false">
            <observation classCode="OBS" moodCode="EVN">
```

Problems subsections

All subsections are searched under the `entry` tag and must follow the structure below.

1. Code, CodeType, Code2, CodeType2

If there is only one matching structure, then `code` will be set. If there is an additional entry for code, then `code2` is set.

Expected structure:

```
entry->act->entryRelationship->observation->value->translation

translation("codeSystem") will be used to derive codeType

translation("code") will be set as code
```

IMPORTANT: Only ICD-9 and ICD-10 codes are supported. For other code systems, problems will be reconciled as not coded. For example, if code system is 2.16.840.1.113883.6.96 (SNOMED-CT), the code value is ignored. Similarly, codes from all other code systems are ignored but reconciled. The reconciliation logic checks for the first two translation codes. One of those should at least be ICD-9 or ICD-10 for the problem to be reconciled as coded.

```
2.16.840.1.113883.6.103(ICD-9)

2.16.840.1.113883.6.90(ICD-10)
```

Example:

```
<entry typeCode="DRIV" contextConductionInd="true">
    <act classCode="ACT" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.4.3" />
        <entryRelationship typeCode="SUBJ" inversionInd="false">
            <observation classCode="OBS" moodCode="EVN">
```

2. OnsetDate

Expected structure:

```
entry->act->entryRelationship->observation
->effectiveTime->low("value")
```

The default value is a past end date from a significant time past.

Example:

```
<effectiveTime>
    <low value="20121002090000.000-0500" />
    <high value="20121003150000.000-0500" />
</effectiveTime>
```

3. StopDate

Expected Structure:

```
entry->act->entryRelationship->observation
->effectiveTime->high("value")
```

The default value is 'No end date.'

Example:

```
<effectiveTime>
    <low value="20121002090000.000-0500" />
    <high value="20121003150000.000-0500" />
</effectiveTime>
```

4. Description

Expected structure:

```
entry->act->entryRelationship->observation->value("displayName")
```

If the `displayName` is null, then the following value is used.

```
observation->value->originalText->reference("value")
```

Example:

```
<observation classCode="OBS" moodCode="EVN">
    <value xsi:type="CD" code="194828000" codeSystem="2.16.840.1.113883.6.96"
```

```
codeSystemName="SNOMED CT" displayName="Angina (disorder)">
        <originalText>
            <reference value="#PROB6098507" />
        </originalText>
    </value>
```

Medications component structure

AUDIENCE: System administrators and clinic managers

A valid Medications component is structured as follows.

```
<component typeCode="COMP" contextConductionInd="true">
    <section classCode="DOCSECT" moodCode="EVN">
        <templateId root="2.16.840.1.113883.10.20.22.2.1" />
        <templateId root="2.16.840.1.113883.10.20.22.2.1.1" />
        <code code="10160-0" codeSystem="2.16.840.1.113883.6.1" displayName="History of
Medication Use" codeSystemName="LOINC" />
        <title>Medications</title>
```

For each medication, there must be an `entry` tag as follows with details included. It must include `substanceAdministration`

```
<entry typeCode="DRIV" contextConductionInd="true">
    <substanceAdministration classCode="SBADM" moodCode="INT">
```

Medications subsections

All subsections will be searched under `entry` tag and should follow the structure as below.

1. StartDate

Expected structure:

```
entry->substanceAdministration->effectiveTime->low("value")
```

Note: The type `IVL_TS` is also required as shown below in the tag.

Default value will be past end date which is way long back.

Example:

```
<effectiveTime xsi:type="IVL_TS">
    <low value="20080808000400.000-0500" />
    <high value="20121003150000.000-0500" />
</effectiveTime>
```

2. StopDate

Expected structure:

```
entry->substanceAdministration->effectiveTime->high("value")
```

Note that the type IVL_TS is also required as shown below in the tag.

Default value is 'No end date.'

Example:

```
<effectiveTime xsi:type="IVL_TS">
    <low value="20080808000400.000-0500" />
    <high value="20121003150000.000-0500" />
</effectiveTime>
```

3. Description

Expected structure:

The Description can be set from different sections of the CCDA. The parsing logic checks these sections and wherever it is set, that value will be used. The Description value is set either from substanceAdministration text, by reference or by the concatenation of multiple attributes as follows.

Note: Order of preference is set while parsing through elements. Once the description is set, the remaining elements will not be checked to get value of description.

```
entry->substanceAdministration->text
```

or

```
entry->substanceAdministration->text->reference("value")
```

or

```
entry->substanceAdministration->consumable->manufacturedProduct
->manufacturedMaterial->code->translation("displayName")
(appends with)
entry->substanceAdministration->doseQuantity("value")
(appends with)
entry->substanceAdministration->doseQuantity("unit")
(appends with)
entry->substanceAdministration->administrationUnitCode("displayName")
```

Example:

```
<substanceAdministration classCode="SBADM" moodCode="INT">
    <text>
        <reference value="#MEDSIG50118241" />
    </text>
    <consumable typeCode="CSM">
        <manufacturedProduct classCode="MANU">
            <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
                <code code="243670" codeSystem="2.16.840.1.113883.6.88"
```

```
codeSystemName="RxNorm" displayName="Aspirin 81 MG Oral Tablet">
                    <translation code="d00170" codeSystem="2.16.840.1.113883.6.314"
codeSystemName="multum-drug-id" />
                    <translation code="16561" codeSystem="2.16.840.1.113883.6.312"
codeSystemName="multum-drug-synonym-id" />
                </code>
            </manufacturedMaterial>
        </manufacturedProduct>
    </consumable>
```

4. Generic

Expected structure:

```
entry->substanceAdministration->consumable->manufacturedProduct
->manufacturedMaterial->code("displayName")
```

Example:

```
<substanceAdministration classCode="SBADM" moodCode="INT">
    <consumable typeCode="CSM">
        <manufacturedProduct classCode="MANU">
            <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
                <code code="243670" codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm" displayName="Aspirin 81 MG Oral Tablet">
                </code>
            </manufacturedMaterial>
        </manufacturedProduct>
    </consumable>
```

5. Instructions

Expected Structure:

Instructions can be set from different sections in the CCDA. The parsing logic checks these sections; wherever it is set, this value is used.

The order in which sections of the XML ar0020e are parsed is as follows.

Instructions template section

The section with tag `entryRelationship` is searched with template root = 2.16.840.1.113883.10.20.22.4.20.

```
<entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
        <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
```

Under this section, the below path is checked in order.

```
entryRelationship->act->code("displayName")
```

```
entryRelationship->act->code->originalTtext->reference(“value”)

entryRelationship->act->text

entryRelationship->act->text-> reference(“value”)
```

Example:

```
<entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
        <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
        <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09"/>
        <code code="311401005" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT">
            <originalText><reference value="#sig9"/></originalText>
        </code>
        <statusCode code="completed"/>
        <author>
            <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
            <time value="20180124193842+0000"/>
            <assignedAuthor>
                <id root="2.16.840.1.113883.4.6" extension="1770893570"/>
            </assignedAuthor>
        </author>
    </act>
</entryRelationship>
```

Medications Text section

The following text section is checked in this order.

```
entry->substanceAdministration->text

entry->substanceAdministration->text->reference("value")
```

Note: In the event of spaces, please remove the extra spaces or new lines as it can create issues.

Example:

```
<text><reference value="#MEDSIG50118241" /></text>
```

Medications entryRelationship section

The following is also supported for older versions of CCDA. Under `substanceAdministration`, the first child node `entryRelationship` must have a `substanceAdministration` with a `displayName="Medication Instructions"`

```
<code code="617311" codeSystem="2.16.840.1.113883.6.88" codeSystemName="RxNorm"
displayName="Medication Instructions"/>
```

For the above match, the following text value is used.

```
entry->substanceAdministration->entryRelationship(first child node)
->substanceAdministration->text
```

or

```
entry->substanceAdministration->text->reference("value")
```

Example:

```
<entryRelationship typeCode="REFR">
    <substanceAdministration classCode="SBADM" moodCode="INT">
        <code code="617311" codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm" displayName="Medication Instructions"/>
        <text><reference value="#MEDSIG50118241" /></text>
    </substanceAdministration>
</entryRelationship>
```

Note: Order of preference is set while parsing elements. Once the instructions are set, the remaining elements are not checked for the instructions value.

IMPORTANT: Ensure that if a reference is used, no additional spaces or new lines are present or the parser displays blank instruction values.

Error examples

Below are examples where instructions may be set but parsing logic may not be able to set the value.

Example 1

```
<entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
        <templateId root="2.16.840.1.113883.10.20.22.4.20"/>
        <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09"/>
        <code code="311401005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED
CT"/>
        <text>
            <reference value="#sig9"/>
        </text>
        <statusCode code="completed"/>
        <author>
            <templateId root="2.16.840.1.113883.10.20.22.4.119"/>
            <time value="20180124193842+0000"/>
            <assignedAuthor>
                <id root="2.16.840.1.113883.4.6" extension="1770893570"/>
            </assignedAuthor>
        </author>
```

```
    </act>
</entryRelationship>
```

Processing Result: The value of instruction is set in text reference, but the parsing logic first checks for text. As it encounters empty spaces or new lines, it may set instructions as blank. Also, there is an identified issue where parsing logic checks for nullable text element to set the value using reference element. In the above case, text element is present and hence, reference element will not be parsed.

Example 2

```
<entryRelationship typeCode="SUBJ" inversionInd="true">
    <act classCode="ACT" moodCode="INT">
        <templateId root="2.16.840.1.113883.10.20.22.4.20" />
        <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09" />
        <code code="311401005" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED
CT" />
        <text>
            <reference value="#sig9"/>Reference 2 to sig9.
        </text>
        <statusCode code="completed" />
    </act>
</entryRelationship>
```

Processing Result: The value of `instruction` is set in text reference, but the parsing logic first checks for text. The text has comments which is used to set the instructions, such as "`Reference 2 to sig9`."

Note: Text requiring a new line or white spaces is treated as the value for instructions. The following is an example of a blank example set.

```
<text>
    <reference value="#sig9" />
</text>
```

6. RxNormCode

Expected Structure:

```
entry->substanceAdministration->consumable->manufacturedProduct
->manufacturedMaterial->code("code")
```

The code value is only set if `codeSystem` is `2.16.840.1.113883.6.88`.

Example:

```
<substanceAdministration classCode="SBADM" moodCode="INT">
    <consumable typeCode="CSM">
        <manufacturedProduct classCode="MANU">
            <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
```

```
                <code code="243670" codeSystem="2.16.840.1.113883.6.88"
codeSystemName="RxNorm" displayName="Aspirin 81 MG Oral Tablet">
                </code>
            </manufacturedMaterial>
        </manufacturedProduct>
    </consumable>
```