

Quick Start Guide Open Health Informatics John Chelsom, Stephanie Cabrera, Catriona Hopper, and Jennifer Ramirez 5th October 2024



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Introduction

This document describes the basic setup and features of the cityEHR starting from a standard, out-of-thebox installation.

If you don't have an installation of cityEHR yet you should refer to the cityEHR Installation Guide.

If you have a standard installation running under Tomcat on your local machine, you can access cityEHR at *localhost:8080/cityehr*. For remote servers, replace '*localhost*' with the server's IP address.

cityEHR is an XML-based application that uses only declarative programming languages, including XHTML, XML, XForms, XSLT, and XQuery, ensuring simplicity and flexibility in customization.

The source code is located at CATALINA_HOME/webapps/cityehr/WEB-INF/resources/apps/ehr. Here, CATALINA_HOME refers to the base directory of your Tomcat installation.

If you have cityEHR installed with a different application server or you have changed the locations of the standard installation then you will need to find where the *resources/apps/ehr* directory is located in your installation.

The remaining sections of this Guide cover;

- Registering Patients
- Entering and viewing clinical data
- Annotating patient records
- Viewing and plotting historical data
- Finding patients
- Creating cohorts of patients and exporting their data

This guide also introduces key administrative functions, such as accessing user resources, generating test data, managing users, and creating export data sets. Note that only a subset of administration functions is covered here.

cityEHR is fully configurable, enabling clinicians to design secure, enterprise-scale health record systems that meet international standards while supporting locally defined data sets.

Additionally, this Quick Start Guide demonstrates how to create a new EHR system from scratch, including building the information model, configuring patient labels, defining search criteria, and establishing cohort selection terms.

Verifying the installation

This chapter ensures cityEHR is correctly installed and accessible. It guides users through logging in with default credentials, building the default application, and navigating the Dashboard to confirm the setup. Additional steps include reloading the default application, enabling debug mode to explore cityEHR's underlying structures, and managing session timeouts.

Log On

If cityEHR is installed on Apache Tomcat, you can access the log-on page using the Firefox web browser. On a local machine, use the URL: *http://localhost:8080/cityehr*. If running on a remote server, replace 'localhost' with your server's IP address.

Note that cityEHR 1.7 must be accessed using Firefox only (IE 11, Edge, Chrome and Safari will be supported from version 2.0 onwards).

The base cityEHR installation has a single default user set up with the credentials;

username: admin

password: password



cityEHR Log-on Page

Upon your first log-on, cityEHR prompts you to build a default application. This process generates an example information model and configuration. Choose **'Build Default Application'** to proceed. Alternatively, you may start with an empty database, but note that some features (e.g., Dashboard elements) may not display without default information models.

henticatio	on successful.			
	Initialize new cityEHR inst	tallation EHI		
l	Load the default configuration (reco	ommended) or sta Use Empty Data	– rt with an empty da abase	atabase.
IR Electronic	Heath Record			

Initialize New cityEHR Installation

cityEHR will now run through a sequence of steps to build the default application; while this is in progress the screen will look like the one displayed in the Figure below. It take a minute or so for this process to complete, so you will need to wait while before continuing.



Default Application Sequence Steps

After the default application has been built during your first log-on, and for every other time you log on, the screen will be as shown in the Figure below, after you have authenticated:



Post Authentication Page

Press the **Start** button to move to the default home page, which is pre-configured to be the dashboard page, as shown in the figure below

The Dashboard shows a summary of the overall status of the cityEHR application, which ships by default with the base installation. There is one user registered (the 'admin' user you logged in as) and no patients (so the total patients is zero, there are no clinical documents recorded and no documents in progress).

Note: The number of Information Models shown in the dashboard. If this number is zero (0) then the default application was not loaded properly when you ran cityEHR for the first time (probably because you selected to "Use Empty Database").



Default Home-page Dashboard

The Dashboard is your first glimpse of the pages in cityEHR, which can either be non-patient (like the Dashboard), cross-patient (ex. Patient Search page) or patient specific (view of the record for a patient, as identified in the Patient Label)

Whichever type, the general layout of all pages in the cityEHR system is the same, as shown in the figure below.

Patient Label		System Navigation	city EHR
EHR Navigation Type	EHR View Type Controls		
	EHR View Controls		
EHR Navigation			
	EHR View Display		
Session Information			
System Page Layout			
Reloading the Defaul	t Application		

The default application can be reloaded from the information models shipped with the cityEHR system. You may need to do this if you selected to start with an empty database the first time you ran cityEHR (in which case the Dashboard will show the number of information models as 0) or if you changed the models and want to restore to the default.

To reload the default application;

- 1. Navigate to **Administration** in the system menu.
- 2. Select Information Model from the left navigation menu.
- Click Reload Shipped Models for This Application in the top-right corner.
 Note: If you are reloading the models because you started with an empty database, you will not see the summary of Information Models.

		Quit Administration	city
		Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	EHR
Hit	[*] cityEHR - Administration - Manage Informatio	n Model	Show
▼ Information Model	Specialty: Summary - all specialties v Information M	odel: Summary - All Models v	G 0
Manage Information Model	Specialties (2) Inf	ormation Models (6)	1
Import Information Model	cityEHR Base (Common) Model (#ISO-13606:Folder:cityEHRBase)	#ISO-13606:Folder:cityEHRBase Specialty	1
Local Information Model		cityEHR Base (Common) Model /applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Specialty-cityEHRBase-00	Lods
Manage Media		#CityEHR:Class:Drugs	
Manage Image Maps		Class Drugs /applications/ISO-13606-EHR Extract-cityEHR/informationModel/cityEHR-Class-CommonModel-Dru	s-1.ods
► Directory			
Users and Care Teams	cityEHR Feature Demo (#ISO-13606:Folder:FeatureDemo)	#CityEHR:Class:Drugs	
► Knowledge Sources		Class Drugs (annifications/ISO-13606-EHR Extract.cityEHR/informationModel/cityEHR-Class-Drugs-2 ods	
► Patient Records		#CityEHR:Class:Diagnosis	
Manage Letters		Class Diagnosis	
► Cohort Searches		/applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Class-Diagnosis-21.ods	
► Export Data Sets		#ISO-13606:Folder:FeatureDemo Specialty	
► Manage Scheduling cityEHR Version Number - V1.7-2023-10-26-03	User: cityEHR Administrator / cityEHR Feature Demo / en-gb Logged on: 19:15:47 Thursda	Applications/SO-13606-EHR Extract-cityEHR/informationModel/cityEHR-Specialty-Feature-Demo-0 y, 26th October 2023 Last logged on: 19:06:00 Thursday, 26th October 2023	04.ods

Information Model Summary

- 4. In the Confirmation Dialog, select to **Reload**.
- 5. Now wait while the models are reloaded (which may take a few minutes) progress is displayed in the main view.

Once completed, the progress display will be cleared and you should see a summary of the models as shown in the Figure above.

Running in Debug Mode

cityEHR features a debug mode that allows the user access to additional features that expose some of the underlying information structures such as HL7 CDA documents. Debug mode can be activated in two ways:

Single session:

1. Add ?mode=debug to the URL (e.g., http://localhost:8080/cityehr/? mode=debug).

Persistent Setting:

- 1. Navigate to **Administration** in the system menu.
- 2. Select **System Parameters** from the left navigation menu.
- 3. Enable **Debug Mode** by checking the corresponding box and saving changes.

	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	city
Hid	e cityEHR - Administration - Manage System Parameters	Show
▼ System		comi/s
Manage Application Parameters	Parameter Set Dynamic Parameters 💙 Base language: en-gb - English / en-gb - English 🗸	Edit 🔽
Manage System Parameters	Dvnamic Parameters (dvnamicParameters)	
Manage System Icons	Debugging Mode	
Import Language Pack	Record Audit Log 🔽	
Apply All Language Packs	Cache Forms	
View Audit Log	Check database node status (online/offline)	
New Application	Default application Id cityEHR	
Inspect Spreadsheet	Default application IRI prefix: #ISO-13606:EHR_Extract: value: #ISO-13606:EHR_Extract:cityEHR	
▶ Database	language code: en-GB displayName: English userSelection: 🗌	
► Information Model		
► Directory		
Users and Care Teams		

Edit system parameters to set Debug Mode

When operating in debug mode, cityEHR displays some additional action buttons and selections that allow you to explore the XML structures that underlie the configuration and clinical content (HL7 CDA).

You can now restart a new session in debug mode;

- 1. Press the **Quit** button in the system navigation.
- 2. Enter your credentials (admin / password) as usual and you should see an additional selection drop-down which you can use to view various cityEHR configuration parameters.



Note: the banner informing you that cityEHR will start in debug mode.

cityEHR start-up in Debugging mode

3. These are all represented as XML, so you can view directly in the system or select **Download** and view in a text editor, XML editor or any web browser.

On the Sign On page, as shown in the Figure above, various of the internal XML instances, built during the log on process, are available to view by selecting in the **Debug Info** drop-down and then pressing the **Debug** button.

Features of Debugging mode;

 On patient-specific data input pages (Forms, Letters, etc) pressing the XML button within the view controls will bring up a dialog box with a listing of the current HL7 CDA document associated with the data input form. This dialog also has a button to Download the HL7 CDA XML.



XML viewer open for DAS 28 Form

• On patient-specific data input pages are check boxes within the view controls to Display ISO 13606 structure.

PARSON, Posy (ms) Born: 25-Jul-19 Patient Id 78172756 NHS Number 1234	50 (72 years) Gender: female	Dashboard Patient S	Search Patient Cohorts In-Tray Cli	Quit Administration nics Orders Registration	city HR
In Progress New Hide	Events Summaries Forms Letters	Pathways Booking Ordering			Show
Fracture Record	05-Apr-2023 - Bone Mineral D	ensity * Page load time:	w ISO-13606 🗹 Show Ids 🗌 Highlight E	intries None 🖌 🖬 🔳	5
Medication Record	BMD Data				
Medication Record (Dual)	Date of Scan 05-4-2023	Age at scan 72 years			
Patient Images	BMD Data				_
Body Mass Index	Scan date	Lumbar Spine Femoral Neck	Total Hip	Comments	
Bone Mineral Density	▼ 05-4-2023 📰 Lun	nbar Spine Femoral Neck	Total Hip BMD		
BMD Data					- 11
Diet and Exercise Plan			t		
Diet and Strengthening Plan					
Book Services	z		z		
Lifestyle Assessment					
Lifestyle Assessment and Schedule					
Blood Prassura History					

Showing ISO 13606 Structure in Debug Mode

View the Identifiers for the ISO 13606 components on the form by checking the **Show Ids** box within the view controls.

PARSON, Posy (ms) Born: 25-Jul-1 Patient Id 78172756 NHS Number 12:	1950 (72 years) Gender: female	Dashboard Patient Search Pa	Quit Administr atient Cohorts In-Tray Clinics Orders Registr	ration city
n Progress New Hid	^{de} Events Summaries <mark>Forms</mark> Letters Pat	hways Booking Ordering		Show
Fracture Record	05-Apr-2023 - Bone Mineral Densi	ty * Page load time: Show ISO-136	06 🗌 Show Ids 🗹 Highlight Entries 🗔 None 👻	
Medication Record	#ISO-13606:Section:BMDData			
Medication Record (Dual)	BMD Data Date of Scan #ISO-13606:Entry:ScanDa	te		
Patient Images	#ISO-13606:Element:Date #ISO-1	3606:Element:AgeAtScan		
Body Mass Index	#ISO-13606:Entry:BMDData			
Bone Mineral Density	Scan date	Lumbar Spine	Femoral Neck	
BMD Data	X #ISO-13606:Element:ScanDate	#ISO-13606:Cluster:LumberSpine	#ISO-13606:Cluster:FemoralNeck	#ISO-13606:0
Diet and Exercise Plan	05-4-2023	#ISO-13606:Element:BMDLumbar	#ISO-13606:Element:BMDFemoral	#ISO-13606
Diet and Strengthening Plan		BMD	BMD	BMD
Book Services		#ISO-13606:Element:TScoreLumbar	#ISO-13606:Element:TScoreFemoral	#ISO-13606
Lifestyle Assessment		#ISO-13606:Element:ZScoreLumbar	#ISO-13606:Element:ZScoreFemoral	#ISO-13606 z
Lifestyle Assessment and Schedule				
Blood Pressure History				
Lifestule Coole Ourstinnesis				
Showing ISO 13606	3 Component Ids in De	bug Mode		

Session Time Out

The cityEHR session is set to time out after a period on inactivity – this is controlled by the underlying session management of the Tomcat Application Server. If such a timeout occurs you will see an error dialogue which allows you to restart the application.

Got unexpected request sequence number	×
R B	
ase Session has timed out or encountered an error.	
Press Resume to restart.	
gisti Resume	
50-1	
- #ISO-13606:Cluster:PatientIdentifiers	
- #ISO-13606:Cluster:BasicDemographics	
ent - Title () /Mr/Mrs/Miss/Ms/Dr/Professor/notApplicable/	
ent - Forename ()	
ent - Surname ()	
- #ISO-13606:Cluster:AgeAndGender	

Session Time Out Dialogue

In addition, there is a session page load time limit which restricts the ability to refresh pages using the browser **reload current page** button. This limit is set by default at 10 minutes, but can be changed in the Admin page (System Parameters) if necessary. A change from the duration P10M (10 minutes) to PT1M (1 minute) is shown in the figure below.

	Quit Administration	city
	Dashboard Patient Search Patient Conorts In-Tray Clinics Orders Registration	EHR
Hide	cityEHR - Administration - Manage System Parameters	Show
▼ System		🖆 onits
Manage Application Parameters	Parameter Set Dynamic Parameters 💙 Base language: en-gb - English / en-gb - English 🗸	Edit 🗹
Manage System Parameters	Dynamic Parameters (dynamicParameters)	
Manage System Icons	Debugging Mode 🔽	
Import Language Pack	Record Audit Log 🖸	
Apply All Language Packs	Cache Forms	
View Audit Log	Check database node status (online/offline)	
New Application	Default application Id cityEHR	
Inspect Spreadsheet	Default application IRI prefix: #ISO-13606:EHR_Extract: value: #ISO-13606:EHR_Extract:cityEHR	
Show Wireframe	language code: en-GB displayName: English userSelection:	

Changing the Page Load Timeout on the Administration Page

If the browser reload page button is pressed within this time limit, then the page will reload as requested; outside the time limit the session will simply return to the sign on page. This means that it is not possible to copy and paste the URL of a cityEHR session or to bookmark a page (the URL will be invalid once the session page load time limit has expired).

Logging in after a session has expired (i.e. a session that was not Quit by the user) will prompt for the session to be resumed at the point the previous session timed out or was aborted.

Welcome cityEHR Admi	nistrator		-		
Authentication success	ful.		CI		
You can access more th	an one application.			LY	
cityEHR ~					
Debug Info:					
Startup Log	~				
Start Debug Test	Quit				
tyEHR Electronic Heath Recor 2013-2020 John Chelsom	Resume User Se	ssion <mark>city</mark>			
pen Health Informatics Resea	Your last session was n	ot terminated pro	perly.		
	Resume Session	Start New Sess	ion Quit		

Download User Resources

Throughout this Quick Start Guide, some features will require resources such as sample patient records or information models. These resources are included with cityEHR and can be downloaded for your use.

You can access and download these resources from the Administration page. To do this:

- 1. Click the **Administration** button in the System Navigation menu (top right of the page) to open the Administration page.
- 2. In the left-hand menu on the Administration page, select **Manage System Parameters** under the System menu.

	Quit Administration city
	Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
	cityEHR - Administration - Manage System Parameters
▼ System	
Manage Application Parameters	Download resources
Manage System Parameters	Version: V1.7-2023-02-26-01 Date: 2023-02-26T18:18:00.176Z
Manage System Icons	
Import Language Pack	
Apply All Language Packs	
View Audit Log	
New Application	
Inspect Spreadsheet	
► Database	
► Information Model	

Download User Resources from Administration Page

- 3. At the top right of this view, click the **Download Resources** button as shown in the figure below.
- 4. A zip file containing the resources will download to your browser. Depending on your browser setup, this file will be saved in your default Downloads folder.



Zip Archive of User Resources Downloaded to Browser

- 5. Open the zip file to access the folders and files included as User Resources. These resources will be needed at various points throughout the Quick Start Guide.
- 6. The complete set of resources should resemble the list shown in the figure below. (This example uses the Linux Archive Manager; your interface may vary depending on your system's zip file handling settings.)

	Extract	+		userResources-202	3-03-17T11-02-18	.zip	Q	≡	-	2	8
÷	→ ▲	Location:	i /								
Name			•	Size	Туре	Modifie	d				
Ê	defaultInformati	onModel			11.9 MB	Folder					
	informationMod	elTemplates			821.9 kB	Folder					
	careTeams.xml				1.8 kB	XML document	17 Marc	h 2023,	11:02		
	cityEHRAttachm	entTemplate.	docx		12.4 kB	Word 2007 do	17 Marc	h 2023,	11:02		
	EHR_Extract-Lau	raAbernathy.	.xml		720.4 kB	XML document	17 Marc	h 2023,	11:02		
	EHR_Extract-Tim	othyAbernat	hy.xml		721.6 kB	XML document	17 Marc	h 2023,	11:02		
N	myEHRFavicon.i	0			711 bytes	Windows icon	17 Marc	h 2023,	11:02		
A	myEHRLogoTall	- Medium.png	9		7.1 kB	PNG image	17 Marc	h 2023,	11:02		
T	myEHRLogoTall-	Small.png			3.7 kB	PNG image	17 Marc	h 2023,	11:02		
	PatientRecordIm	port.ods			12.7 kB	ODS spreadsh	17 Marc	h 2023,	11:02		
8	PatientRecordIm	port.xlsx			7.6 kB	Excel 2007 spr	17 Marc	h 2023,	11:02		
	PatientRecordIm	port.xml			54.2 kB	XML document	17 Marc	h 2023,	11:02		
	PatientRecordIm	port.xml.zip			1.6 kB	Zip archive	17 Marc	h 2023,	11:02		
	README.txt				1.2 kB	plain text docu	17 Marc	h 2023,	11:02		
	users.xml				14.5 kB	XML document	17 Marc	h 2023,	, 11:02		

User Resources Zip Archive

Exploring the Default cityEHR Application

This topic introduces the process of registering a new patient in the cityEHR application, guiding users through each step required to create a patient record. It explains how to access the registration form, complete required fields, and leverage features such as the demographics lookup service for auto-filling patient details. Additionally, the chapter covers options for entering GP details and addresses potential error messages. By the end, users will understand how to finalize patient registration and then search for them.

Registering a New Patient

On install, the database for the cityEHR application does not contain any patient records. To start using cityEHR, the first step is to create patient records via the patient registration page.

- 1. Log in using the default credentials:
 - Username: admin
 - **Password:** password
- 2. Click the **Registration** button in the System Navigation pane to access the registration form.

Dashboard Patient Search Patient Cohorts In-Tray	Quit Administration Clinics Orders Registration	city Elii
16-Mar-2024 - Patient Registration Page Load time:	Show ISO-13606 Show I	ds 🗌 💷
Patient Demographics		
NHS Number Title - Select Value - ~ Sex Assigned at Birth Hospital Number Forename Gender Identity Overseas Patient Sumame Date of Birth	- Select Value - Select Value	
GP Details		
Code Address Dr Town City Practice Postcode Find GP		

Patient Registration Form

- 3. Enter a **Hospital Number**, which is a mandatory field (highlighted in pink) and serves as the unique patient identifier. All other fields are optional.
- 4. Fill in patient details (e.g., NHS Number, Title, Forename) manually or use the **Find Demographics** service:
 - Enter the NHS Number (simulating a national patient identifier).
 - Check the **Find Demographics** checkbox, which appears after entering the NHS Number.
 - The demographics service populates remaining fields with simulated data or, in live systems, pulls data from EPR or national services.

	Ouit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
16-Mar-2024 - Patient Registration * Page load time	Show ISO-13606 Show Ids 5
Patient Demographics	
NHS Number 456 Hospital Number 46170247 Oversease Patient Find Demographics 2	Title Select Value - v Forename Jerome Jarome Gender Identity Select Value - v Sumame Hill Date of Birth 19-4-1973 Z Address 47 Acacia Gardens Town/City Lancaster Postoode LA4 6LO
GP Details	
Code Dr Practice Find GP	Address Town/City Postcode

Patient Registration "Find Demographics" Lookup Service

- 5. Similarly, Fill in GP details manually or use the **Find GP** service:
 - Enter Oxford in the Town/City field.
 - Check the Find GP checkbox to display two options. Select one to auto-fill GP details.

	Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
16-Mar-2024 - Patient Registration * Page load tim	e: Show ISO-13606 Show Ids 5 III
Patient Demographics	
NHS Number 456 Hospital Number 112121647 Overseas Patient □ Find Demographica ♥	Title Select Value> Sax Assigned at Birth Select Value> Forename Carin Gender Identity Select Value> Sumame Cale Date of Birth 13-1-1997 (2) Address 13 Sandy Lane
GP Details	
Code Dr Practice Find GP Oxford V - Select Match 101 Oxford 102 Oxford	Address Town/City Oxford Postcode

Find GP Service

6. Once all the details are entered (either by typing in the fields or by using the lookup services). Click the **Register** button (hover over it to see the label).

vancouverEHR	× +	
€ → ୯ û	0 O localhost: 8080/cityehr/ehr/cityEHRRegistration/?userId=admin&sessionId=cf9d9a60c7ef4d4a84962e8dfb7a914f	
		Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration
	22-Mar-2022 - Patient Registration *	
	Patient Demographics Nod Kimber 123 Hospital Number 1976 Oversean Patient Find Demographics Title Mr Provision 100 Sumante 100 Find Demographics Oversean Patient Sumante 100 Sumante 100 Find Demographics Oversean Patient Sumante 100 Sumante 100 Find Demographics Oversean Patient Sumante 100 Sumante 100 Find Demographics Address 2765 Oxford st Tenn/Oly Oxford Postcoler 00X 0x2	
	GP Details Cive [9599 07 Applesance Practice [Family Find GP Address [111 London St Trans/City Landon Practice]	Click Register

Register Button

- 7. If successful, confirm the action in the dialogue box and choose the next navigation step (default: *Hospital Anxiety and Depression Scale form*).
- 8. If the Hospital Number is missing or already exists, an error message will appear. Dismiss it, update the field, and try again.
- 9. Once registered, a confirmation message is displayed, completing the patient registration process.

Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	ity:
17-Mar-2023 - Patient Registration *	
17-Mar-2023 - Patient Registration * Patient Demographics WHS Number 4233 Hospital Number 12601 Overseas Patient Find Demographics WHS Number 12602 Ber, Assigned at Birth Male Gender Identity Male Gender Identity Male Gender Identity Address T5 Sandy Lane Register New Patient Code A new record will be created for this patient - data cannot be modified once committed. Atter registration: O Show patient record WHS patient record @ Hospital Anviety and Depression Scale ODAS 28	
cty/CHR Weston Number - V1.7-2022-12-11-02 Uber: cty/CHR Administrator / cty/CHR Feature Demo / en.gb Logged on: 12-33.10 Wednesday, 15th March 2023 First log on for this user.	

Confirmation of Patient Registration



1. After registration, navigate to the **Forms** tab to access patient data entry forms. If the page does not load automatically, click the **Forms** tab.





2. You will be presented with a list of new forms that can be entered for this patient. The forms are listed in various 'contexts of care' with the top category 'cityEHR Feature Demo' containing all the forms available and the others containing smaller sets of forms for Administration and for Clinical Care.

Form with Enumerated Values and Calculated Data

1. Forms can now be selected to enter new patient data. For this example the **Hospital Anxiety and Depression Scale (HADS)** will be used. Select the Form from the left navigation menu.

CALE, Corin (mr) Born: 13-Jan-1997 (27) Patient Id 12121647 NHS Number 456	years) Gender: male	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering	Show
▼ cityEHR Feature Demo (26)	16-Mar-2024 - Hospital Anxiety and Depression Scale Page load time:	ome: Show ISO-13606 🗋 Show Ids 🗋 Highlight Entries - None - 🗸 🖨
Current Observations	Anxiety Score	
Acid Base Disorders	Depression Score I feel tense or 'wound up'	Select Value v
Allergies and Warnings	I still enjoy the things I used to	Select Value v
Bone Chemistry	I get a sort of frightened feeling as if something awful is about to happen	Select Value v
Hospital Anxiety and Depression Scale	I can laugh and see the funny side of things Worrying thoughts go through my mind	Select Value v
Laboratory Test Results	l feel cheerful	Select Value v
Update Patient Demographics	I can sit at ease and feel relaxed	Select Value v
Feature Demonstration	I feel as if I am slowed down	Select Value v
	I have lost interest in my appearance	Select Value V
DAS 28	I feel restless as if I have to be on the move	Select Value V
DAS 68	I look forward with enjoyment to things	Select Value V
Diagnosis	I get sudden feelings of panic	Select Value v
Family History	I can enjoy a good book or radio or TV program	Select Value v
Fracture History		

Hospital Anxiety and Depression Scale Form

- 2. The form will load and you can now enter data into the fields by answering each question using the drop down menu selections. For this test, it doesn't really matter how you answer the questions ensure you continue to the bottom of the page and select an answer for every question.
- 3. At the top of the HADS form are two calculated entries for Anxiety Score and Depression Score. These will be calculated when all the questions have been answered.

CALE, Corin (mr) Born: 13-Jan-1997 (27 y Patient Id 12121647 NHS Number 456	ears) Gender: male	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration EHR
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering	Show
▼ cityEHR Feature Demo (26)	16-Mar-2024 - Hospital Anxiety and Depression Scale * Page load time:	anno, Show ISO-13606 🗋 Show Ids 🗋 Highlight Entries None 🗸 💽 🕥 🖨
Current Observations	Anxiety Score 16 Severe	
Acid Base Disorders	Depression Score 11 Moderate I feel tense or 'wound up'	Most of the time
Allergies and Warnings	I still enjoy the things I used to	Not quite as much ~
Bone Chemistry	I get a sort of frightened feeling as if something awful is about to happen	Yes, but not too badiy
Hospital Anxiety and Depression Scale	I can laugh and see the funny side of things Worrying thoughts go through my mind	A great deal of the time
Laboratory Test Results	I feel cheerful	Not at all
Update Patient Demographics	I can sit at ease and feel relaxed	Definitely
Feature Demonstration	I feel as if I am slowed down I get a sort of friathened feeling like 'butterflies' in the stomach	Very often v
DAS 28	I have lost interest in my appearance	Definitely
DAS 68	I feel restless as if I have to be on the move	Very much indeed v
Diagnosis	l look forward with enjoyment to things I get sudden feelings of panic	Rather less than I used to v
Family History	I can enjoy a good book or radio or TV program	Often v
Fracture History		

HADS Form: Anxiety and Depression Scores

4. Once you have finished entering data you can **Publish** the form to the patient record by clicking Publish in the EHR view controls.

CALE, Corin (mr) Born: 13-Jan-1997 (27) Patient Id 12121647 NHS Number 456	Quit Administration City Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	2
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering	<i></i>
▼ cityEHR Feature Demo (26)	16-Mar-2024 - Hospital Anxiety and Depression Scale * Page load time: and Show ISO-13606 Show Ids - Highlight Entries - None - v 💽 🖲 🕽 🔮	
Current Observations	Anxiety Score 16 Severe	
Acid Base Disorders	Depression Score 11 Moderate	
	I feel tense or 'wound up' Most of the time ~	
Allergies and Warnings	I still enjoy the things I used to Not quite as much 🗸	
Bone Chemistry	I get a sort of frightened feeling as if something awful is about to happen Yes, but not too badly v	
	I can laugh and see the funny side of things Not quite so much now -	
Hospital Anxiety and Depression Scale	Worrying thoughts go through my mind A great deal of the time ~	
Laboratory Test Results	I feel cheerful Not at all	
Update Patient Demographics	I can sit at ease and feel relaxed Definitely ~	
	I feel as if I am slowed down Very often v	
Feature Demonstration	I get a sort of frightened feeling like 'butterflies' in the stomach	
DAS 28	I have lost interest in my appearance Definitely v	
DAS 68	I feel restless as if I have to be on the move Very much indeed v	
570 00	I look forward with enjoyment to things Rather less than I used to v	
Diagnosis	I get sudden feelings of panic Quite often v	
Family History	I can enjoy a good book or radio or TV program Often V	
Fracture History		

Publishing Completed HADS Form to the Patient Record

- 5. Select the **Commit Form** button with the radio button **Show patient record** selected.
- 6. Once the data have been committed to the patient record you will be moved back to the patient record folder displaying a list of all data in the record for your patient, including the HADS data just completed.

CALE, Corin (mr) Born: 13-Jan-1997 (27 ye Patient Id 12121647 NHS Number 456	ars) Gender: male	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	city Elii
Events Annotations LifeLine Hide	Events Summaries Forms Letters Pathways Booking Ordering		Show
▼ All Events (2)	16-Mar-2024 - Hospital Anxiety and Depression Scale Page load time:		Ľ.
16-Mar-2024 Hospital Anxiety and Depression Scale	Anxiety Score 16 Severe Depression Score 11 Moderate		
16-Mar-2024 Patient Registration	I feel tense or 'wound up'	Most of the time	
	I still enjoy the things I used to	Not quite as much	
Patient Registration (1)	I get a sort of frightened feeling as if something awful is about to happen	Yes, but not too badly	
Hospital Anviety and Depression Scale (1)	I can laugh and see the funny side of things	Not quite so much now	
P Trospital Parkety and Depression Coale (1)	Worrying thoughts go through my mind	A great deal of the time	
	I feel cheerful	Not at all	
	I can sit at ease and feel relaxed	Definitely	
	I feel as if I am slowed down	Very often	
	I get a sort of frightened feeling like 'butterflies' in the stomach	Very often	
	I have lost interest in my appearance	Definitely	
	I feel restless as if I have to be on the move	Very much indeed	
	I look forward with enjoyment to things	Rather less than I used to	
	I get sudden feelings of panic	Quite often	
	I can enjoy a good book or radio or TV program	Often	

Patient Record Folder with Completed Hospital Anxiety and Depression Scale Form

Form with Graphical Data Input

1. Return to the **Forms** tab and select the form for **DAS 28.** This form records the Disease Activity Score for the patient, by selecting joints that are either tender or swollen. The input of tender or swollen joints is made by clicking on the appropriate area in the homunculus image.

LADD, Janet (ms) Born: 21-Jun-1964 Patient Id 60083743 NHS Number 1515	4 (60 years) Gender: female	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	city Elii
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering		Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - DAS 28 * Page load time:	Show ISO-13606 🗋 Show Ids 🗋 Highlight Entries None 🗸 🕼 📧	5 🔒
Current Observations	Disease Activity Score (DAS 28)		
Acid Base Disorders	S Swollen	Count Swollen Joints 4 Tender Joints 4 ESR	
Allergies and Warnings	Tender	Visual Analogue Scale 4	
Bone Chemistry	ST ST	DAS Score 2.82	
Hospital Anxiety and Depression Scale			
Laboratory Test Results	Right		
Update Patient Demographics			
Feature Demonstration			
DAS 28			
Disease Activity Score (DAS 28)			
DAS 68			
Diagnosis			
Family History			
Fracture History			
Fracture Record			
Medication Record			
cityEHR Version Number - V1.7-2024-07-22-01 Us	ser: cityEHR Administrator / cityEHR Feature Demo / en-gb Logged on: 03:07:15 Monday, 5th A	ugust 2024 Last logged on: 02:59:07 Monday, 5th August 2024	

Disease Activity Score (DAS) 28 Form

- 2. As you click to select the tender and swollen joints you will see the counts changing. Enter values for ESR (e.g. 2.3) and Visual Analogue Score (e.g. 4) and the DAS Score will calculate.
- 3. The DAS Score will be recalculated each time you select a tender or swollen joint or change either the ESR or Visual Analogue Score.
- 4. Once you have finished entering data you can **Publish** the form to the patient record by clicking the Publish button as before. Confirm the action and the DAS 28 data stored in the patient record.
- 5. Select **Commit Form** on the Dialogue Box that appears after clicking Publish.

LADD, Janet (ms) Born: 21-Jun-1964 Patient Id 60083743 NHS Number 1515	(60 years) Gender: female	Dashboard Patie	ent Search Patient Coh	Quit Adn orts In-Tray Clinics Orders R	ninistration egistration	city
In Progress New Hide	Events Summaries Forms Letters Pathways	Booking Ordering				Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - DAS 28 * Page load time:	-comit:	Show ISO-13606 🗌 Show	v Ids 🗌 Highlight Entries 🗔 None		58
	Disease Activity Score (DAS 28)					
		S Swollen	Count	Swollen Joints 4 Tender Joints	54	
Allergies and Warnings		Tender	Visual Analogue Scale	4		
			DAS Score	2.82		
Hospital Anxiety and Depression Scale	Publishing Form					
Laboratory Test Results						
Update Patient Demographics	Form will be committed to the patient	t record - data cannot be m	nodified once committed.			
	Commit Form Cancel	unxiety and Depression Sca	one Offacture Record			
DAS 28						
Disease Activity Score (DAS 28)	ST <mark>STSTSTSTSTSTSTSTSTSTSTSTSTSTSTSTSTST</mark>					
DAS 68						
Diagnosis						
cityEHR Version Number - V1.7-2024-07-22-01 Us	ver: cityEHR Administrator / cityEHR Feature Demo / en-gb Logge	d on: 03:07:15 Monday, 5th Augu	ist 2024 Last logged on: 02:5	9:07 Monday, 5th August 2024		

Committing Completed Disease Activity Score (DAS) 28 Form

The patient record now displays the event, with the data you recorded.
 Note: This does not include the homunculus graphics that was used for data entry.

LADD, Janet (ms) Born: 21-Jun-1964 Patient Id 60083743 NHS Number 1515	4 (60 years) Gender: female	Da	shboard Patient	Search Patient Coh	Quit A orts In-Tray Clinics Orders	dministratio Registratio		city
Events Annotations LifeLine Hide	Events Summaries Forms Letter	rs Pathways Booking	Ordering					Show
▼ All Events (2)	05-Aug-2024 - DAS 28 Page load	f time:				C) chino	8 6	2 2.
05-Aug-2024 DAS 28	Disease Activity Score (DA	S 28)						
Disease Activity Score (DAS 28)	1st MCP (hand) left swollen	Count	Swollen Joints 4	Tender Joints 4				
29-Feb-2024 Patient Registration	2nd PIP (hand) right swollen	ESR Visual Analogue Scale	2.3					
► Patient Registration (1)	4th PIP (hand) left tender Elbow left tender	DAS Score	2.82					
▶ DAS 28 (1)	Elbow right tender Knee right tender							

Event Displayed in the Patient Record

7. Return to the **Forms** tab and select the **Family History** form from the left navigation menu.

Note: You may need to reduce the resolution of the page to fit the display of the form shown below, or you can press the small Hide button to collapse the left hand navigation pane and give more room for the form.

LADD, Janet (ms) Born: 21-Jun-1964 Patient Id 60083743 NHS Number 1515	4 (60 years) Gender: female		Dashboard Patient Search Patien	Quit Administration t Cohorts In-Tray Clinics Orders Registration	city
In Progress New Hide	Events Summaries Forms Letters Pathways Book	ing Ordering	a second s	A CONTRACTOR OF A CONTRACT OF	Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Family History * Page load time:		Show ISO-13606	Show Ids 🗌 Highlight Entries - None - 🗸 💽 🔳	5 8
Current Observations	Family History				
Acid Base Disorders		Family history	Dolation	Canazal Dianaasis	
Allergies and Warnings	க்ள் க்ள்	×	Maternal Aunt	Malaria Malaria	
Bone Chemistry		×	Son v		
Hospital Anxiety and Depression Scale					
Laboratory Test Results	▎ <mark>▁</mark> ▋┌─╨╷╹─┐╨╨				
Update Patient Demographics					
Feature Demonstration	#T #T #T # "" T #T #T	p			
DAS 28					
DAS 68	<u>*</u> T * T *T				
Diagnosis					
Family History	· • • • • • •				
Family History					
Fracture History					
Fracture Record					
cityEHR Version Number - V1.7-2024-07-22-01 Us	ier: cityEHR Administrator / cityEHR Feature Demo / en-gb Logged on: 03:	07:15 Monday, 5th August 2024	Last logged on: 02:59:07 Monday, 5th August 2024		

Family History Form

- 8. This form has a representation of the family tree for the patient. Click on people icons in the image to select a family member this will then add a new line to the list of family members where you can fill out the date and details of a general diagnosis for that person.
- 9. To enter the diagnosis you can either press the '...' button to the right of the empty field, or begin typing for an auto-complete of the diagnosis.
- 10. You can also add family members by clicking the small **'+'** button at the top of the family history list, or remove a family member by pressing the **'x'** button next to the family member.
- 11. Once again, publish the form to the patient record when you are done.

LADD, Janet (ms) Born: 21-Jun-196 Patient Id 60083743 NHS Number 151	4 (60 years) Gender: female		Dashboard Patient Search P	Quit Administration atient Cohorts In-Tray Clinics Orders Registration	city EHR
In Progress New Hide	Events Summaries Forms Letters Pathways Bookir	ig Ordering			Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Family History * Page load time:		Show ISO-13	506 🗋 Show Ids 🗋 Highlight Entries - None - 🗸 🔯	
Current Observations	Family History				
Acid Base Disorders		Family history	Referies.		
Allergies and Warnings	杰前 杰前	Year of Diagnosis	Relation Maternal Aunt	General Diagnosis Malaria	
Bone Chemistry	* T * T	×	Son	General Diagnosis	
Hospital Anxiety and Depression Scale				Close Select Malaria	
Laboratory Test Results	▋ <mark>╨</mark> ╜┌─╨╹─┐╨╨			Trauma Infection	
Update Patient Demographics	תי תי רליו ידי ידי			Viral Infection Fungal Infection	
Feature Demonstration	. * T *T * T * T * T			Parasitic Infection	
DAS 28					
DAS 68	🗼 🛉 🛉 🛉 🛉			Blastomycosis Bacterial Infection	
Diagnosis				Prion Infection	
Family History	* * * * * *				
Family History					
Fracture History					
Fracture Record					
cityEHR Version Number - V1.7-2024-07-22-01 U	Jser: cityEHR Administrator / cityEHR Feature Demo / en-gb Logged on: 03:0	7:15 Monday, 5th August 2024	Last logged on: 02:59:07 Monday, 5th August	2024	

Selecting the Diagnosis from a Drop-down

Form with Sorting of Entries and Conditional Elements

- 1. Within the **Medication Record** Form, you can enter data for either Current Medications or Previous Medications by pressing the appropriate **'+'** button.
- 2. To enter the name of the medication you can either start typing in the input box, or select '...' to the right of the empty field, which will bring up an expandable list of medications from which you can select.

CALE, Corin (mr) Born: 13-Jan-1997 (27 Patient Id 12121647 NHS Number 456	years) Gender: male		Dashboard	Patient Search Patient Cohorts In-Tray Clinics	Quit Administration Orders Registration	city Elik
In Progress New Hide	Events Summaries Forms L	tters Pathways Booking	Ordering			Show
▼ cityEHR Feature Demo (26)	16-Mar-2024 - Medication Re	cord * Page load time:	ar	Show ISO-13606 Show Ids Highlight Entrie	is None v	3
Current Observations	Medications					
Acid Base Disorders	Current Medication Close Se Stopped	lect ame	Start	date		
Allergies and Warnings	X D - Metho	otrexate	16-3-20	24 🗷		
Bone Chemistry	Previous Medicatio	mira ednisolone				
Hospital Anxiety and Depression Scale	Current arugs 1 Cy	clophosphamide avchloroquine				
Laboratory Test Results	- Leftur - Enbre	iomide i				
Update Patient Demographics	-Humi	a				
Feature Demonstration	- Predr - Cyclo - Alend	isolone phosphamide ronate				
DAS 28		ronate				
DAS 68		thew D3 in D				
Diagnosis	-Zoled	ronate enac				
Family History	- Ibupn - Bend	ofen roflumethazide				
Fracture History	Omep	razole				
Renter Brook	- Lanso - Aspiri	n				

Medication Form's Expandable List of Medications

- 3. When typing the name of the medication you will either get a single medication filled out automatically as soon as your input matches it uniquely, or a drop-down selection of matching medications.
- 4. Once you've added a collection of medications, try checking or unchecking the **Stopped** button. When you do this, the medication will be moved between the lists for Current or Previous Medications.
- 5. Publish the form to the patient record when you are done.

LADD, Janet (ms) Born: 21-Jun-196 Patient Id 60083743 NHS Number 151	4 (60 years) Gender female Quit Administration 5151 A Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Medication Record * Page load time: Show ISO-13606 Show Ids Highlight Entries - None
Current Observations	Medications
Acid Base Disorders	Current Medication
Allergies and Warnings	Image: Strap with the strap withe strap with the strap with the strap with the strap wit
Bone Chemistry	Previous Medication 🔶
Hospital Anxiety and Depression Scale	Stopped Drug name Start date Stop date Reason for stopping X Z Alendronate 05-0-2023 0 04-0-2024 2
Laboratory Test Results	Current drugs 1 Stopped drugs 1 Total 2
Update Patient Demographics	
Feature Demonstration	

Categorization of Current and Stopped Medications

Form with Multiple Entries, Calculations and Pre-Filled Data

- 1. Navigate to the **Body Mass Index** Form.
- 2. On this form you can enter a set of measurements for height and weight of the patient on various dates the Body Mass Index (BMI) will be calculated, along with the average height and weight for the patient.
- 3. Publish the form.
- 4. Now return to the **Forms** tab and select the **Body Mass Index** form again.
- 5. The form will be pre-filled with the entries added in the previous step.
- 6. New entries can be added, however published ones cannot be removed or edited.

Note: The information model defining this behaviour can be set up to allow previous entries to be updated and/or deleted.

CHUMLEY-WARREN, Cecil (Mr) Bom: 3 Patient Id K1992183 NHS Number 7563628	>1953 (60 years) Gender Male Quit Admin C A Dashboard Patient Search Patient Cohorts In-Tray Registration	ty R
In Progress New Hide	nts Summaries Forms Letters Pathways Care Setting: CityEHR Feature Demo 🔽	Show
▼ cityEHR Feature Demo (22)	Aug-2020 - Body Mass Index * Page loss sine: PT2 6075 one - 🗸 😨 S	0
Current Observations	lody Mass Index	^
Allergies and Warnings	Body Mass Index	
Bone Chemistry	X 28-Aug-20.27 Height 173 (cm) Weight 87 (kg) 29.07 Overweight	
Laboratory Test Results	X 27-Aug-20, Height 173 (cm) Weight 82 (kg) 27.4 Overweight	
Update Patient Demographics	X 07-Aug-20(# Height 173 (cm) Weight 85 (kg) 28.4 Overweight	
Feature Demonstration	Height Minimum 173 (cm) Maximum 173 (cm) Average 173 (cm)	
Hospital Anxiety and Depression Scale	тедин полтон ос. (ng/) толлон от (ng/) техтаде че санананананан (ng/)	
DAS 28		
DAS 68		
Diagnosis		
Family History		
Fracture History		
Fracture Record		
Medication		
Patient Images		
Body Mass Index		
Body Mass Index		
Ross Misseel Descrity cityBR Version Number - V1.7/2020-03-02-2 User: cit	amministrator / ctlyDHR Peature Demo Loggest on: 10/01/44 on Tuesday 20th August 2020 Last loggest on: 14/33/58 on Thursday, 19th March 2020	~

Body Mass Index Form with Calculations

Form with Enumerated Class and Supplementary Data

- 1. Navigate to the **Diagnosis** Form.
- 2. Press the **'+'** button to add a new diagnosis.

- 3. Select '...' to browse available diagnoses or use the auto-complete (e.g. type sw...)
- 4. Depending on the diagnosis you select, you may see an additional **SDS** to the right of the diagnosis once it is selected.
- 5. Select this button to see the Supplementation Data Set dialogue.

LADD, Janet (ms) Born: 21-Jun-1964 Patient Id 60083743 NHS Number 1515	(60 years) Gender: female	Dashboard Patient S	Quit Administration earch Patient Cohorts In-Tray Clinics Orders Registration
In Progress New Hide	Events Summaries Forms Le	etters Pathways Booking Ordering	Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Diagnosis	* Page load time: Sho	w ISO-13606 Show Ids Highlight Entries - None V 😧 🗈 🖨
	Diagnosis		
Acid Base Disorders	Diagnosis - Infection	neral Diannosis Barterial Infection	
Allergies and Warnings	X Swine Flu	555	
Bone Chemistry	Co-morbidities	Supplementary Data Set -	
Hospital Anxiety and Depression Scale	Diagnostic Image	OK	
Laboratory Test Results		Viral Infection	
Update Patient Demographics		Onset Episode Select Value v	
Feature Demonstration		Clinical Course Select Value v Select Value v	
DAS 28		Status - Select Value V	
DAS 68			
Diagnosis			
Diagnosis			
Family History			

Entering a Supplementary Data Set

6. Complete the required data for the dialogue box and select **OK** when completed.

The supplementary data is displayed next to the diagnosis it is associated with.

LADD, Janet (ms) Born: 21-Jun-1964	4 (60 years) Gender: fem	ale								9	uit Administration	city
Patient Id 60083743 NHS Number 1515	5151 🛕							Dashboard Patient	t Search Pat	ient Cohorts	In-Tray Clinics O	rders Registration	EHR
In Progress New Hide	Events Su	ummaries Fo	rms Letters			ordering							Show
▼ cityEHR Feature Demo (26)	05-Aug-2	2024 - Diag	nosis * Page	load time:				antis S	how ISO-1360	6 🗌 Show Ids	Highlight Entries	None 🗸 🖾 🖪	5 8
Current Observations	Diagno	sis											
Acid Base Disorders	Diagnosi	is - Infection	•		0	1.01					On standal for	(e estine	
Allergies and Warnings	×	Swine Flu			Genera	s Onse	: 21-Aug-2024	Episode New ep	pisode		Bacteriai Ini	ection	
Bone Chemistry						Clinic Statu	al Course Chro s Suspected	nic Severity Mod	ierate				
Hospital Anxiety and Depression Scale	Co-morb	idities 🔶											
Laboratory Test Results	Diagnost	tic Image		Browse	No file selee	ted.	For infor	nation see					
Update Patient Demographics													
Feature Demonstration													
DAS 28													

Display of Supplementary Data Set

- 7. Now add a diagnostics image by selecting the **Browse** button from Diagnostic Image.
- 8. Navigate to a file on the file system to upload that image to the record.

Note: The image is stored directly in the current composition when it is committed to the patient record – this feature is designed for informal images as the type that might be capture in a mobile phone, not full diagnostic images capture using some imaging modality – any such images would be managed in the PACS, not the EHR.

9. Once the image has been uploaded it is displayed inline on the form.

LADD, Janet (ms) Born: 21-Jun-1964 Patient Id 60083743 NHS Number 1515	(60 years) Gender: female Quit Administration Cit Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	X
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering 31	0W
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Diagnosis * Ingel load time: www. Show ISO-13606 🗋 Show Ids 🗋 Highlight Entries - None - 🗸 😨 🍮	
Current Observations	Diagnosis	ŋ l
Acid Base Disorders	Diagnosis - Infection	Ш
Allergies and Warnings	Swine Flu Lyme disease	Ш
Bone Chemistry	Co-marbidities 🔶	Ш
Hospital Anxiety and Depression Scale	Diagnostic Image For information see	Ш
Laboratory Test Results		Ш
Update Patient Demographics		Ш
Feature Demonstration	The second	Ш
DAS 28		Ш
DAS 68		Ш
Diagnosis		Ш
Diagnosis		
Family History		Ш
Fracture History		1
Fracture Record		

Diagnostic Image Uploaded from the File system

- 10. Select the **Publish** to commit the form to the record and navigate to the patient **Events.**
- 11. The data recorded in now saved and displayed in the patient record, including the uploaded image.

Finding Patients

Once patients are recorded in your database, you can search for them and select the desired patient to view their record or input data.

1. Click the **Patient Search** button in the purple system navigation pane at the top of the page to open the search form, as shown below.

			Dashboard	Patient Search	Patient Cohorts	In-Tray	Qui Care Teams Re	t Admin gistration	city Eli
Recent	In-patients								
		Patient Search			Inpatients Only	Order by	Surname 🔹 🕽		615
		Patient Id	Surname	Forename					
		Gender - Select Value - • Day of Birth - Select Value - •	Month Select Value •	Year		Date			
		Consultant							
		Enter search criteria to find patient	t						
cityEHR VI	.98 User: cityEHR User	Logged on: 14:38:09 on Thursday, 3rd October 2013	Last logged on: 0000-00-00700:00:00.00+00:00						

Patient Search Form

- 2. Enter your search criteria and click the **Search** button at the top of the form. You can also press **Enter** after typing in any text input field. Hovering your mouse over the button will display its name.
- 3. For test patient data, try searching using a common letter in the surname or a patient identifier. For example, entering "K" may return results if the default format for patient identifiers was used when generating the test data.

Recent Care Team						
95325737 - Winston	Patient Search K: Search time: PT0.7335 / PT0.4165				1	Order by Hospital Number v Q 5
-	Patient id k Sumame Gender - Select Value - v Day of Birth - Select Value - v Model Consultant	- Select Value - v Year	Date [2]			
	Page Patient M	Sumame	Forecame	Gonder	Date of Birth	
Enter "K" for Patient ID	K9954501	Walters	7ak	Male	03-Sep.1986	
	K9897575	Borras	Angela	Female	15-Nov-1944	
	K9757100	Borras	Hiary	Female	15-Nov-1944	
	K9749102	Norton	Wallace	Male	15-Nov-1972	
	K5654509	Woods	Afred	Male	11-Sep-1987	
	K5550102	Trimble	Sigmund	Male	23-Jun-1982	
	K5499100	Grant	Corey	Male	15-Jan-1953	
	K5497515	Walters	Amber	Female	12-Jul-1986	
	K5453100	Neale	Heston	Male	08-Mar-1973	
	K5397545	Collymore	Bridget	Female	23-Apr-1946	
	You	ır Test Pat	tients 🔻			

Searching Patients with Patient ID using "K" as a Patient Identifier

- 4. The search results will display basic demographic details of matching patients:
 - If no results are found, a notification will appear.
 - If too many patients match your criteria (e.g., searching for "Male"), you'll be prompted to enter more specific search criteria.
- 5. When patients are found, the list will display even if only one result matches. This allows you to confirm the correct patient before viewing their record.

Recent Care Team					
95325737 - Winston	Patient Search K: Search time: PT0.73357PT0.4165				Order by Hospital Number 👻 🔍 🕄
	Platent Id Sumarie Gender - Select Value - v Day of Birth - Select Value - v Consultant Month Displaying 1 to 10 of 20 patients Page	- Select Value - v Year	Date 2		
	Patient Id	Sumame	Forename	Gender	Date of Birth
	K9954501	Walters	Zak	Male	03-Sep-1986
	K9897575	Borras	Angela	Female	15-Nov-1944
	K9757100	Borras	Hilary	Female	15-Nov-1944
	K9749102	Norton	Wallace	Male	15-Nov-1972
	K5654509	Woods	Afred	Male	11-Sep-1987
	K5550102	Trimble	Sigmund	Male	23-Jun-1982
	K5499100	Grant	Corey	Male	15 Jan-1953
	K5497515	Walters	Amber	Female	12.Jul-1986
	K5453100	Neale	Heston	Male	08-Mar-1973
	K5397545	Collymore	Bridget	Female	23-Apr-1946
	Select	a Patient	:		

List of Patients Found Using Patient Search

6. Click a patient from the list to access their default summary view. This view includes features for reviewing, charting, and annotating the record. The next exercise will guide you through these functionalities.

Creating Test Patients

To explore cityEHR further, you will need a larger sample of test patients. These can be generated using the functions available on the **Administration** page, which is accessed by clicking the **Administration** button in the main system menu (top right of the page).

- 1. On the **Administration** page, select the **Database** option from the left-hand menu, and then click **Generate Test Data**.
- 2. Click the **Browse** button to load a file containing a sample patient record.

		Dashboard	Patient Search	Patient Cohorts	In-Tray	Quit Admin Registration	city EHR
	Hole cityEHR / ISO-13606-Folder-FeatureDemo - Administration - Generate Test Data					States 1	Show
Information Model	XML file, or zip of XML file, containing a template record. Files created by the national export function can be loaded directly.						
Directory	The file must contain a single iso-13808:EHR_Extract containing a set of oda:ClinicalDocument elements Every oda:ClinicalDocument must be for the same patient as defined by the iso-13808:EHR_Extract						
► System	Template CDA documents: Rowse No file selected.						
▼ Database							
Run XQuery							
Load Document to XML Store							
Generate Test Data							
Browse Databases							
 Users and Care Teams 							
 Knowledge Sources 							
Patient Records							
Cohort Searches							
Export Data Sets							
Redirect Notifications							
My User Account							
Manage Patient Access							
Test Web Service							
cityEHR Version Number - V1.7-2020-07-02-5 U	ser: cityEHR Administrator / No specialty loaded. Logged on: 09:54:10 on Thursday, 27th August 2020 Last logged on: 00:52:34 on Thursd	ay, 27th August 2020					

Generating Test Data

3. Navigate to your downloaded **User Resources** folder and select the file named *EHR_Extract-TimothyAbernathy.xml*. (You can open this file separately using a text editor if you wish to view its contents.)

		File Upload									
4		4	📥 john	Documents	cityEHR	user resources	2021-11-10	•			
	Desktop	Nar	ne						▲ Size		Modified
È			information	ModelTemplates							10 Nov 2021
t	Downloads		defaultInfor	mationModel							10 Nov 2021
-	Music	Ф	users.xml						14.5	kВ	10 Nov 2021
			README.txt	t					1.2	B	10 Nov 2021
۵	Pictures		PatientReco	ordImport.ods					12.8	kB	10 Nov 2021
П	Videos	Ф	EHR_Extract	t-TimothyAberna	:hy.xml				722.	6 kB	10 Nov 2021
-		Ф	EHR_Extract	t-LauraAbernathy	.xml				721.	4 kB	10 Nov 2021
	Jelly2 :	48	cityEHRAtta	chmentTemplate	.docx				12.4	kВ	10 Nov 2021
		ø	careTeams.	xml					1.8	B	10 Nov 2021
Ĩ											
-	images										
-	Other Locations										
											All Files 🔻
									Cance	el	Open

Locating "EHR_Extract-TimothyAbernathy.xml" in User Resources Folder

4. The **User Resources** folder was created when you downloaded resources in the *verifying the Installation* section.

5. After uploading the *EHR_Extract-TimothyAbernathy.xml* file, you will see a range of options for generating test data, as shown below:

									Quit Administratio	n city
					Dashboard	Patient Searc	h Patient Cohorts	s In-Tray Clinic	s Orders Registratio	
Hide	cityEHR - Admini	stration - Ger	erate Test Da	ata						Show
	XML file, or zip of XML fi Files created by the patie The file must contain a s Every cda:ClinicalDocum Template CDA documen Report Progress	le, containing a temp ant export function cr ingle iso-13606:EHF ent must be for the ts: EHR_Extract-Tim Number of records	blate record. an be loaded directly A_Extract containing same patient as def nothyAbernathy.xml	y. a set of cda:ClinicalE ined by the iso-13606 685.1 KB 🔀	Document elen EEHR_Extract	nents				2
	Processed records 0 / 10 Gender Step time Average step time	Gender Value Percentage Number of records Forename	Not set 0 s 0 No forename	Male 20 0 V No forename	Female 20 0 V No foren	No 20 0 ame v	n-Binary	Intersex 20 0 No forename	Unknown 20 0 V No forename	×
		Patient identifier pr	efix K Patient	t identifier length 8 ars) 18 Maximur	(7 - 23) m age 65					

Generate Test Data Parameters, Following File Upload

- 6. By default, the system generates 10 test records evenly split between male, female, and other gender categories, aged between 18 and 65.
- 7. To customize, adjust the percentages in the gender columns (e.g., set **Male** and **Female** to 50% each and the others to 0%). Ensure the percentages total 100%; otherwise, an error message will appear. Optionally, generate 100 records instead of 10, but note that it may take up to 5 seconds per record, potentially exceeding 5 minutes for 100 records.

Note: The Generate button will only be active when the percentages across all categories add up to 100%

8. Set the **Forename** selection to **Male Forename** and **Female Forename** in their respective columns.

	Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	T I
	60 cityEHR - Administration - Generate Test Data	Show
► System	XML file, or zip of XML file, containing a template record. Files created by the patient export function can be loaded directly. The file must contain a single is 2056/EHR Extract containing as set of cda:ClinicalDocument elements	
	Every cda.ClinicalDocument must be for the same patient as defined by the Iso-13606:EHR_Extract	
Database Access Layer	Template CDA documents: EHR_Extract-TimothyAbemathy.xml 704.7 KB X the ones here	
Manage EMPI	Report Progress 🗹 Number of records 100	G.
Generate Test Data	Processed records 0 / 100 Gender Gender Sten time	
Browse Physical Databases	Average step time Percentage 0 50 50 0 0 0	
Browse Logical Databases	Number of records 0 50 50 0 0 0	
Information Model	Forename No forename V Male forename V Female forename V No forename V No forename V No forename V	
► Directory	Patient identifier profix (K Patient identifier length (8 (8 - 24))	
Users and Care Teams	gar cara oi oinni. 🗖 wiiliinnii afa (Aasis) 19 🦳 waxiinnii afa (2	
Knowledge Sources	Loaded file to: file:/Users/catrionahopper/Desktop/tomcat/Tomcat/temp/xforms_upload_1057202611157890266.tmp Load data from file, ready for processing.	
Patient Records	Data file is XML with root: recordSet	
Manage Letters	Filename: EHR_Extract-TimothyAbernathy.xml Type: text/xml	
Cohort Searches	Size: 721580 Content: file/Users/catrionahooper/Desktoottomcat/Tomcat/temp/xforms_upload_1057202611157890266.tmp	
Export Data Sets	Root Element: recordSet	
Manage Scheduling	Uploaded file contains:	
Order Communications cityEHR Version Number - V1.7-2022-12-11-02 Use	EHR_Extract: K1476889 - ch/EHR Administrator / ch/EHR Feature Demo / en.gb Logged on: 12:33:10 Wednesday, 15th March 2023 First log on for this user.	

Generate Test Data with Parameters Set

9. Once the parameters are configured, click the small **Generate** button on the right-hand side to create the test records. This process may take some time to complete.



Generating Test Data

10. After the records are generated, your screen will display a confirmation, as shown below:

	Guit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	city EHR
	Hee cityEHR - Administration - Generate Test Data	Show
► System	XML file, or zip of XML file, containing a template record.	
▼ Database	The file must contain a single iso-13606.EHR_Extract containing a set of cda:ClinicalDocument elements Every cda:ClinicalDocument must be for the same patient as defined by the iso-13606.EHR Extract	
Database Access Layer	Template CDA documents: EHR_Extract-TimothyAbernathy.xml 704.7 KB 🗙	
Manage EMPI	Loaded file to: file:/Users/catrionahopper/Desktop/tomcat/Tomcat/temp/xforms_upload_1057202611157890266.tmp	
Generate Test Data	Load data from file, ready for processing. Data file is XML with root: recordSet	
Browse Physical Databases	2023-03-17T21:15:49.293Z/ (PT2M11.286S) anarate-test-data (100/100) anarate-test-second	
Browse Logical Databases	(1/100) generata-test-data / generata-test-record / PT1.37S K1985397 / French	
Information Model	(2/100) generate-test-data / generate-test-record / PTI.217S K2495557 / Archibold	
► Directory	(3/100) generate-test-data / generate-test-record / PT1.153S K3545150 / Crossley	
Users and Care Teams	(4/100) generate-test-data / generate-test-record / PT1.145S K4489910 / Huntington-Smythe	
Knowledge Sources	(5/100) generate-test-data / generate-test-record / PT1.179S K5989954 / Borras	
Patient Records	(or100) generativ-test-data / generativ-test-record / P11.2125 K6481001 / Etheringham ///1001.cenorativ-test-data / generativ-test-record / P11.3195	
Manage Letters	K755398 / Norton (8/100) generative-lest-data / generative-lest-record / PT1 177S	
Cohort Searches	K6102524 / Borras (9/100) generate-test-data / generate-test-record / PT1.18S	
Export Data Sets	K9519954 / Woods (10/100) generate-test-data / generate-test-record / PT1.234S	
Manage Scheduling	K1050989 / Embury (11/100) generate-test-data / generate-test-record / PT1.146S	
Order Communications cityEHR Version Number - V1.7-2022-12-11-02 U	K115299 / Sanders (1911M) nanaratak-tark-tar/ nanaratak-tark. ber olyEHR Administrator / olyEHR Feature Demo / engle Logged on: 1233.10 Wednesday, 15th March 2023 Fist log on for this user.	

Generating Test Data Completed

11. Click the **Dashboard** button in the main system menu to leave the **Administration** page. The **Dashboard** will now reflect the newly loaded records.



Updated Dashboard with Generated Test Data

Viewing the Patient Record

Summary View and Charting

When you first access a patient's record, the **Summary** page is displayed, providing a selection of various summary views.

1. The default view is the summary for **Bone Chemistry – Messages**. These are bone chemistry results that have been sent to the cityEHR as messages from the laboratory which performed the tests. (At least we are pretending this in the test data, although the results used were originally generated in this way)

FINMORE, Gary (Mr) Bom: 13-Ap Patient Id K8971395 NHS Number 7	pr-1957 (63 years) Gender: Male			Dashboard	Patient Search	Patient Cohorts	in-Tray	Quit Admin Registration	city
Views	Hide Events Summaries Forms Lette	rs Pathways Care Setti	g: cityEHR Feature Demo 🗸			10. Mar.			
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages							View Current Da	ta 🗸 🔒
Bone Chemistry – Messages	18:45:13 on 21-Sep-1981 - Bone	Chemistry Results							
18:45:13 on 21-Sep-1981 Bone Chemistry Results	Bone Chemistry								
Patient Alerts	Sample Date Analyte	Measurement							
Fracture History	21-Sep-1981 CTX 21-Sep-1981 P1NP	0.91							
Medication History	21-Sep-1981 Calcium	2.48							
Diagnosis History	21-Sep-1981 Alkaline phosphatas 21-Sep-1981 Vitamin D	2 84							
Lab Results – Messages	21-Sep-1981 GFR	126							
Registration Event Summary	21-Sep-1981 Creatinine 21-Sep-1981 MDRD	180							
Blood Pressure History									
Height, Weight, BMI									
Bone Mineral Density									
cityEHR Version Number - V1.7-2020-07-02-5	User: cityEHR Administrator / cityEHR Feature Demo Logged	on: 09:54:10 on Thursday, 27th Augu	st 2020 Last logged on: 00:52:24 on Thurs	day, 27th August 2021					

Summary View for Bone Chemistry - Messages

2. By default, only the most recent set of bone chemistry results is shown. Use the drop-down menu at the top-right of the pane to select **Historic Data**, displaying the complete history of results for the patient.

Views	Hide Events Summaries Forms Letters	Pathways Care Setting: cityEHR Feature Dr	amo 🗸	
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages			View Historic
Bone Chemistry – Messages	00:08:32 on 17-Jul-1998 - Bone 0	hemistry Results		
00:08:32 on 17-Jul-1998	Bone Chemistry			
Bone Chemistry Results	Bose Chemistry			
01:59:30 on 22-Mar-1998	Concel Data factula	Manual		
Bone Chemistry Results	Sample Date Analyte	wesswement		
Bone Chemistry Results	17-Jul-1998 CTX	0.91		
11:33:06 on 14-Jan-1998	17-Jul-1998 P1NP	146		
Bone Chemistry Results	17-Jul-1998 Calcium	2.48		
20:37:17 on 22-Oct-1997	17-Jul-1998 Alkaline phosphatas	3 84		
Bone Chemistry Results	17_Jul.1998 Vitamin D	44		
21:57:31 on 04-May-1997	17 Jul 1992 GER	136		
Bone Chemistry Results		12.0		
16:08:33 on 31-Jan-1997	17-Jul-1998 Creatinine	47		
Bone Chemistry Results	17.Jul-1998 MDRD	180		
16:58:02 on 20-Jun-1996				
21.14.45 on 12 Aug 1995	01:59:30 on 22-Mar-1998 - Bone	hemistry Results		
21.14.45 0ft 12-Apr-1396 Bone Chemistry Results	CT.CO.CO ON LE MAI TOOD - DONO	noniou y reourco		
00:24:38 on 24-May-1995	Bone Chemistry			
Bone Chemistry Results	Bone Chemistry			
12:52:03 on 15-Apr-1995	Sample Date Analyte	Measurement		
Bone Chemistry Results	22.Mar.1998 CTX	0.93		
04:40:01 on 07-Feb-1995	22 Mar 1998 P1NP	90.2		
Bone Chemistry Results		30.4		
Patient Alects	Z2-Mar-1998 Alkaline phosphata	8 81		
	22-Mar-1998 Vitamin D	69		
Fracture History	22-Mar-1998 GFR	83		
	22-Mar-1998 Creatinine	67		
Medication History	22-Mar-1998 MDRD	119		
Diagnosis History	19:43:48 on 13 Eeb 1998 - Bone	hamietn/ Daeulte		
Lab Results – Messages	Bone Chemistry			
	Bone Chemistry			
Registration Event Summary	Samala Data Analyte	Manufacture		
	D 425 L 4000 C L	0.07		
Blood Pressure History	□ 13-Feb-1998 Calcium	2.3/		

Changing Summary View to "Historic Data"

3. Select two or three analytes (e.g., CTX, P1NP, Calcium) to view on a chart by checking the corresponding boxes. Selecting a box in one result set will also select it across other sets.

FINMORE, Gary (Mr) Bom: 13-Apr-1 Patient Id K8971395 NHS Number 7563	1957 (63 years) Gender: Male			Dashboard	Patient Search	Patient Cohorts	In-Tray	Quit Admin Registration	cit	ty
Views	Hide Events Summaries Forms Letters	Pathways Care Settin	cityEHR Feature Demo 🗸							
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages						View Histo	orio Data 🗸 🔊	¢	8
Bone Chemistry – Messages	Selected 3 variable(s) with date range 15	80-02-28 to 1981-09-21								
18:45:13 on 21-Sep-1981 Rose Chemistry Results	18:45:13 on 21-Sep-1981 - Bone Ch	emistry Results								î
14:02:10 on 20- Jul-1981	Bone Chemistry									
Bone Chemistry Results	Bone Chemistry									
02:05:32 on 14-Jul-1981	Sample Date Analyte	Measurement								
Bone Chemistry Results	21-Sep-1981 CTX	0.91								
06:47:31 on 30-Jun-1981	24 Fan 4994 D4ND	440								
Bone Chemistry Results	21-3ep-1361 P INP	140								
Bone Chemistor Results	✓ 21-Sep-1981 Calcium	2.48								
11:08:11 on 08-Mar-1981	21-Sep-1981 Alkaline phosphatas	ie 84								
Bone Chemistry Results	24 San 4994 Vitamin D	44								
00:57:41 on 23-Jan-1981	21-Sep-1361 Vitalinin D	44								
Bone Chemistry Results	21-Sep-1981 GFR	126								
18:29:31 on 12-Oct-1980	21-Sep-1981 Creatinine	47								
Bone Chemistry Results		400								
Bone Chemistry Results	21-3ep-1361 MDRD	100								
13:40:15 on 16-Apr-1980										
Bone Chemistry Results	14:02:10 on 30-Jul-1981 - Bone Che	emistry Results								
01:29:07 on 30-Mar-1980	Description of the second seco									
Bone Chemistry Results	Bone Chemistry									
10:09:38 on 28-Feb-1980 Rese Chemister Results	Bone Chemistry									
Bolle Chemistry Results	Sample Date Analyte	Measurement								
Patient Alerts	29-Jul-1981 CTX	0.93								
Fracture History	29-Jul-1981 P1NP	90.2								
	29-Jul-1981 Alkaline phosphatas	e 87								
Medication History	29-Jul-1981 Vitamin D	69								
Diagnosis History	29-Jul-1981 GFR	83								
Lab Results - Messages	29-Jul-1981 Creatinine	67								
cityEHR Version Number - V1.7-2020-07-02-5 Us	er: cityEHR Administrator / cityEHR Feature Demo Logged on: 0	119 9:54:10 on Thursday, 27th August	2020 Last logged on: 00:52:24 on Thurs	day, 27th August 2020						~

Selecting Analytes to View on Patient Chart

4. As analytes are selected, a summary of the total number and the data range is updated at the top of the pane.

WALTERS, Zak (Mr) Born 03-Se	sp-1986 (35 years) Gender: Male		Quit Administration	ty
Peter to Kasakari nersi nanceri	Ha			لغل
vews	Events Summaries Forms Letters	ramwaya Care setting c	Austratate remo	
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages		Vew Hatoric Data 👻 🔊 🖉	
Bone Chemistry - Messages	Selected 3 variable(s) with date ran	ige 2003-02-27 to 2004-04-13		
2322:57 on 13-Apr-2004	23:22:57 on 13-Apr-2004 - Bone	Chemistry Results		16
Bone Chemistry Results	Bone Chemistry			
151853 on 06-Mar-2004 Roma Chemistry Results	Bone Chemistry			
17:50:38 on 23-Feb-2004	Sample Date Analyte	Measurement		
Bone Chemistry Results	5 13-Apr-2904 CTX	0.91		
19(13:32 on 13-Feb-2004	11.Anr.2004 PINP	646		
Bone Chemistry Results	C \$3.4nr.2004 Calcium	2.45		
Bona Chemistry Results	O 13 Apr 2004 Albelies should	alara M		
08:02:23 on 22-Nov-2003	5 43 Apr 2004 Mitamia D	44		
Bone Chemistry Results	13-Apr-2004 Vitamin D	44		
18:18:54 an 22-Oct-2003	U 13-Apr-2004 GFR	129		
Bone Chemistry Results	13-Apr-2004 Creatinine	47		
Bone Chemistry Besuits	13-Apr-2004 MORD	100		
10/28:56 on 18-Jul-2003				
Bone Chemistry Results	15:18:53 on 06-Mar-2004 - Bone	Chemistry Results		
22.08.29 en 02-Apr-2003	Bone Chemistor			
Bone Chematry Results	Same Consider			
Bone Chemistry Results	Family Cala Jacking	1 from second		
05/23:18 on 27-Feb-2003		Alegisterenera		
Bone Chemistry Results	06-Mar-2004 CTX	0.93		
Patient Alerts	0 06-Mar-2004 PHSP	90.2		
	06-Mar-2004 Alkaline phosph	atase 87		
Fracture History	G 06-Mar-2004 Witamin D	69		
	06-Mar-2004 GFR	83		
Medication History	06-Mar-2004 Creatinine	67		
Diagnosis History	5 05-Mar-2004 MDRD	119		
Lab Results - Messages	17:58:38 on 23 Feb 2004 - Bone	Chemistry Results		
Barris Barris Barris Barrison	Bone Chemistry			
Registration Event Summary	Bore Chemistry			
Blood Pressure History	Sample Date Analyte	Measurement		
	23-Feb-2004 Calcium	2.37		
Height, Weight, BMI	23-Feb-2004 Alkaline phosph	atase 50		
	C 23-Feb-2004 GFR	509		
Bone Mineral Defaity	O 21 Exh 2004 Creatining	14		
	S at the and store			
	arrestored MORD	1993		

Summary of Analytes Selected and Overall Data Range Covered

5. Select the **Chart** button, now visible at the top-right of the pane, to generate a chart for the selected analytes.

Views	Hide Events Summaries Forms Letter	rs Pathways Care Sett	chyEHR Feature Demo 👻
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages		View Historic Data 🗸 S 🖉 😝
Bone Chemistry – Messages	Selected 3 variable(s) with date rang	pe 1995-02-07 to 1998-07-17	
00:08:32 on 17-Jul-1998	00:08:32 on 17-Jul-1998 - Bone	e Chemistry Results	1
Bone Chemistry Results	Bone Chemistry		
01:59:30 on 22-Mar-1998	Bone Chemistry		
Bone Chemistry Results	Samala Data Analida	Manmond	Chart Butter
Rena Chamistry Results		0.01	Chart Button
11:33:05 on 14-Jan-1998	17-301-1996 CTA	0.31	
Bone Chemistry Results	☑ 17-Jul-1958 P1NP	146	
20:37:17 on 22-Oct-1997	✓ 17-Jul-1998 Calcium	2.48	
Bone Chemistry Results	17-Jul-1998 Alkaline phosphat	tase 84	
21:57:31 on 04-May-1997	17-Jul-1998 Vitamin D	44	
Bone Chemistry Results	17.Jul-1998 GFR	126	
16:08:33 on 31-Jan-1997	T Int 1997 Creatining	17	
Bone Chemistry Results		41	
Rona Chamistry Results	17-Jul-1996 MDRD	180	
21-14-45 on 12-Apr-1996			
Bone Chemistry Results	01:59:30 on 22-Mar-1998 - Bon	e Chemistry Results	
00:24:38 on 24-May-1995	Rone Chamistor		
Bone Chemistry Results	Bone Chemisay		
12:52:03 on 15-Apr-1995	Bone Chemisby		
Bone Chemistry Results	Sample Date Analyte	Measurement	
04:40.01 on 07-Feb-1995	22-Mar-1998 CTX	0.93	
Bone Chemistry Results	22-Mar-1998 P1NP	90.2	
Patient Alerts	22-Mar-1998 Alkaline phospha	itase 87	
	22-Mar-1998 Vitamin D	69	
Fractore Pestory	22.Mar-1998 GFR	83	
Medication History	22-Mar-1998 Creatinine	67	
Diagnosis History	22.Mar-1998 MDRD	119	
Lab Results - Messaces	19:43:48 on 13-Feb-1998 - Bon	e Chemistry Results	
	Bone Chemistry		
Registration Event Summary	Bone Chemistry		
Blood Pressure History	Sample Date Analyte	Measurement	

Using Chart Button to Commit Analytes for Chart View

6. On pressing the Chart button, a dialogue window will appear showing the charts for the selected analytes. Adjust the chart parameters using the options at the top of the dialogue.



Dialogue Window with Charts of the Analytes Selected

7. When finished, press the **Close** button at the top of the dialogue to dismiss the window.

WALTERS, Zak (Mr) Jorn 03-Sep-1906	6 (35 years) Gender: Male	Quit Administration city
Patient Id K9954501 NHS Number 7563620	19274 🛕	Dashboard Patient Search Patient Cohorts In-Tray Registration
Vews Ho	Rests Sumains Forms Letters Pathways Care Setting olig08R Feature Demo v	
▼ cityEHR Feature Demo (10)	Bone Chemistry - Messages	View Historic Data v 5 0
Bone Chemistry - Messages	Selected 3 variable(a) with date range 2003-02-27 to 2004-04-13	
2322:57 on 13-Apr-2004	23:22:57 on 13:Apr-2004 - Bone Chemistry Results	Ê
Bone Chemistry Results	Bone Chemistry	
Bone Chemistry Results	Bone Chemistry	
17:58:38 on 23-Feb-2004	Sample Date Analyte MORD Close Refresh	
Bone Chemistry Results	S 13 Apr-2004 CTX Vision D Sector 2000 3 B Internal 14 v Months v Distr Combined v Lowert Barked v Lowert Laft v	
19:13:32 on 13-Feb-2004 Bone Chemistry Results	O 15 Apr 2004 P18P	
09:12:08 on 17-Jan-2004	0 13 Apr-2004 Calcium	
Bone Chemistry Results	O 13 Apr-2004 Alkaline phose 200	
08.02-23 on 22-Nov-2003	2 13 Apr-2004 Witamin D 5	
10:10:54 on 22:0ct-2003	0 13.Apr.2004 GFR 8	
Bone Chemistry Results	O 13.Apr.2004 Creatinine	
00.03:28 on 10-Aug-2003 Bone Chemistry Results	□ 13.4gr-2804 M080	
10;29:56 on 18-Jul-2003	100	
Bone Chemistry Results 22:00:29 on 03-Are-2003	15:18:53 on 06 Mar 2004 - Bot	
Bone Chemistry Results	Bone Chemistry	
07:18:03 on 21-Mar-2003	Bone Chemistry	
Bone Chemistry Results	Sample Date: Analyte	
0522356 on 27-Peb-2003 Bone Chemistry Denote	5 06-Mar-2004 CTX	
Durin Cristian y Results	0.06 Mar 2004 P18P	
Patent Alerts	06 Mar 2004 Alkaline phose 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
Fracture Halory	C 06 Mar 2004 Vitamin D S S S S S S S S S S S S S S S S S S	
	06.Mar.2004 GFR	
Medication History	O 66-Mar-2004 Creatinine	
Diagnosis History	6 06 Mar 2004 M080	
Lab Results - Hessages	17:58:38 on 23 Feb 2004 - Boo	
Registration Event Summary	Bone Cheminitry 00	
Blood Pressure History	Sampie Date Analyte	
	23-Feb-2004 Calcium 2.37	
neget, weget, our	23 Feb 2004 Alkaline phosphatase 80	
Bone Mineral Density	23-Feb-2004 GFR 109	
	23-Feb-2004 Creatinine 51	
	23-Feb-2004 MORD 963	

Dismissing the Dialogue Window Using the Close Button

Viewing the Longitudinal Record

To view all events recorded for a patient, navigate to the **Events** tab at the top of the viewing pane.

$\leftarrow \ \rightarrow \ G$	🔘 🗅 🕫 localhost:8080/cityehr/ehr/fityEHRFolder-Events;?userId=admin&sessionId=53b36f97bd7117b20b960cb1f3722052	80% 🛱 🔍 🗎 🧶	≡
WALTERS, Zak (Mr) Born: 03-Sep-198 Patient Id K9954501 NHS Number 76636	6 (55 years) Gender: Male	Quit Administration C Dashboard Patient Search Patient Cohorts In-Tray Registration	ity
Events Annotations H	s Events zummaries Forms Letters Pathways Care Setting: cityEIR Feature Demo 🗸		Show
▼ All Events (35)	13-Dec-2021 - Treatment Recommendations	5 6 C	: C+
15-Dec-2021 Treatment Recommendations Anti-Osteoporosis Therapy Recommendations	Anti-Oxteoporosis Therapy Recommendations Indecator Recommendation Medicator have Dose Recommendation Animodicate 3 Terrs		î
and Referrals Outcome	Supplement Recommendade Duration Supplement Name Dose Recommended Duration Vitamilio2 Life		
Information Follow-Up	Falls Risk Intervention Recommendations and Referrals		
30-Jul-2005 Allergies and Warnings	Outcome		
29-Jul-2005 Lifestyle	No data recorded.		
29-Jul-2005 Body Mass Index	NOS Landri false		
29-Jul-2005 Medication	Smoking Cessation true Alcohd Mediartian tale		
29-Jul-2005 Hospital Anxiety and Depression Scale	Physical Exercise true Dietery Calcium Leafert fielde Dem bitmensel stafft fielde		
29-Jul-2005 Patient Registration	Pollow-Up		
02-Feb-2005 Lifestyle	Is a Follow-Up Appointment with the Patient Required? failse DXA Referral		
28-Jan-2005 Lifestyle	Is this the patient's first DXA Scan7 false		
12-May-2004 Lifestyle	Is this the patient's second DXA Scan? false Is this a re-referral for a DXA Scan? false		
08-May-2004 DAS 28			
01-May-2004 BMD Data			
01-May-2004 Risk Factors			
01-May-2004 Medications			
13-Apr-2004 Bone Chemistry Results			
13-Apr-2004 Laboratory Test Results			
06-Mar-2004 Bone Chemistry Results			
23-Feb-2004 Bone Chemistry Results			

Viewing all the Events in the Patient Record

- 1. The left-hand panel displays a list of all recorded events. Details of the most recent event are shown in the main viewing pane.
- 2. Select any historic event from the list to display its details in the main viewing pane.

Annotations and Notifications

The **Events** page provides access to the full longitudinal record. While cityEHR prevents modifications to committed (published) events, users can add annotations to enhance or provide context to existing entries.

 Select a historic event, such as a Hospital Anxiety and Depression Scale (HADS) assessment, to annotate.

Events	Events Summaries Forms Letters Pathways Care Setting: ctyEHR	Feature Demo 👻	Show
► All Events (34)	25-Jun-2002 - Hospital Anxiety and Depression Scale		3 6 9
Bone Chemistry Results (12)	Anxiety Score 16 Severe		î
Laboratory Test Results (9)	Depression Score 13 Moderate	Heart of the time	
Medications (1)	I still enjoy the things I used to	Definitely as much	
 Patient Registration (1) 	I can laugh and see the furny side of things	As much as I always could	
Allergies and Warnings (1)	Wonying thoughts go through my mind I feel cheerful	A great deal of the time Not at all	
► BMD Data (1)	I can sit at ease and feel relaxed I feel as if I am straved down	Not often Neards all the time	
► Lifestyle (4)	I get a sort of frightened feeling like 'butterflies' in the stomach	Quite often	
Risk Factors (1)	I have lost interest in my appearance I feel restless as if I have to be on the move	Definitely Not very much	
▼ Hospital Anxiety and Depression Scale (1)	I look forward with enjoyment to things I get sudden feelings of panic	Definitely less than I used to Quite often	
25-Jun-2002 Hospital Anxiety and Depression Scale	I can enjoy a good book or radio or TV program	Not often	_
► DAS 28 (1)	Hospital Anixety and Depression Scale = HADS		
Medication (1)			
Body Mass Index (1)			

Selecting a Historical Hospital Anxiety and Depression Scale Form for Annotations

- 2. Click the small **Flag** button at the top-right of the record view. This will display the annotations for this event.
- 3. Click the '+' button at the top-left to create a new annotation.

Events Hide	Events Summaries Forms Letters Pathways Care Setting: cityEHR Fe	ature Demo 👻	She had a second s
All Events (34)	25-Jun-2002 - Hospital Anxiety and Depression Scale		9 8
 Bone Chemistry Results (12) 	No annotations recorded - click to add.		
Laboratory Test Results (9)	Anxiety Score 16 Severe		
Medications (1)	Depression Score 13 Moderate		•
Patient Registration (1)	I teel tense or wound up: I still enjoy the things I used to	Most of the time Definitely as much	
 Allergies and Warnings (1) 	I get a sort of frightened feeling as if something awful is about to happen I can laugh and see the furny side of things	Very definitely and quite badly As much as I always could	Click Flag Button
► BMD Data (1)	Worrying throughts go through my mind I feel cheerful	A great deal of the time	CIICK Hay button
► Lifestyle (4)	I can sit at ease and feel relaxed I feel as if I am showed down	Not often Nearth all the time	to Appotato
Risk Factors (1)	I get a sort of frightened feeling like 'butterflies' in the stomach	Quite often	to Annotate
Hospital Aroiety and Depression Scale (1) Solur-2002 Hospital Aroiety and Depression Solution	I have lost interest in my appearance I feel reatiess as if I have to be on the move I look forward with enjoyment to things I not reaties forward with enjoyment	Definitely Not very much Definitely less than I used to	
► DAS 28 (1)	I can enjoy a good book or radio or TV program	Not often	
Medication (1)			
 Body Mass Index (1) 			

Clicking Flag and '+' Buttons to Annotate

4. Enter the **Type** and **Comments** for the annotation, then press **Save** in the topright menu to commit the annotation.

FINMORE, Gary (Mr) Born: 13-Apr-1957 Patient Id K8971395 NHS Number 7563628	7 (63 years) Gender: Male 8274 🛕	D	ashboard Patient Searc	ah Patient Cohorts In-T	Quit Admin Tray Registration	city atl:
Events	e Events Summaries Forms Letters Pathways	Care Setting: cityEHR Feature Demo 🗸				Show
▼ All Events (34)	08-Jul-1983 - Hospital Anxiety and Depressio	n Scale				8 2
08-Jul-1983 Allergies and Warnings	Click to add new annotation Created Type	Comments	Date	Action	Notify Effective I	Time
08-Jul-1983 Lifestyle	X 10:16:09 on 27-Aug-2020 Alert V	This patient has a high level of anxiety		No notification	27-8-2020	2
08-Jul-1983 Body Mass Index						
08-Jul-1983 Medication	Anxiety Score 16 Severe					^
08-Jul-1983 Hospital Anxiety and Depression Scale	Depression Score 13 Moderate I feel tense or 'wound up'	Most of the time				- 1
08-Jul-1983 Patient Registration	I still enjoy the things I used to I get a sort of frightened feeling as if something awful is	Definitely as much s about to happen Very definitely and qu	ite badly			
04-Nov-1982 Lifestyle	I can laugh and see the funny side of things Worrying thoughts go through my mind	As much as I always of A great deal of the time	ould			
28-Oct-1982 Lifestyle	I feel cheerful	Not at all				
31-Oct-1981 Lifestyle	I can sit at ease and teel relaxed I feel as if I am slowed down	Not often Nearly all the time				
25-Oct-1981 DAS 28	I get a sort of frigthened feeling like 'butterflies' in the s I have lost interest in my appearance	stomach Quite often Definitely				
15-Oct-1981 BMD Data	I feel restless as if I have to be on the move	Not very much				
15-Oct-1981 Risk Factors	I get sudden feelings of panic	Quite often	used to			
15-Oct-1981 Medications	I can enjoy a good book of radio of 10 program	Not often				-
21-Sep-1981 Bone Chemistry Results						
21-Sep-1981 Laboratory Test Results						
30-Jul-1981 Bone Chemistry Results						
14-Jul-1981 Bone Chemistry Results ctythR Vesion Number- V1.7-000-07-025 User of	vi styleHR Administrator / cityleHR Peature Demo Logged on: 09:54:10 on Thur	sday 27th August 2020 Last logged on: 00:52:24 on Thursday 27	7th August 2020			*

Annotating a Hospital Anxiety and Depression Scale Form

- 5. The saved annotation is stored as a new event in the patient record, linked to the original annotated event.
- 6. Annotations can also serve as notifications for other clinical users regarding specific events in the patient record.
- 7. To notify a user, create a new annotation and use the **Action** drop-down menu to select the intended user(s).
- 8. For fresh cityEHR installations, with only an administrator user, select **Notify Role** as the action and choose **Administrator** from the drop-down.

Events	Events Summaries Forms Letters Pathways Care Setting: city	EHR Feature Demo 🤟	Show
► All Events (34)	25-Jun-2002 - Hospital Anxiety and Depression Scale		
Bone Chemistry Results (12)	Click to add new annotation		
Laboratory Test Results (9)	Created Type X 13.24.05 on 08-Dec-2021 Alert Y T	Comments Date Action Notify This patient has a Moderate Level of Depression 07-12-2021	Effective Time
► Medications (1)	12/22/26 as 08 Day 2021 Alast	his estimat has a blob local of avoids: 2011.12.07	2021.12.007
Patient Registration (1)	13.23.33 00 00 00 00 00 00 00 00 00 00 00 00 0	is powers has a regimerer or anotecy cost of 200	EVE IT LE VOL
 Allergies and Warnings (1) 	Anxiety Score 16 Severe Depression Score 13 Moderate		Î
► BMD Data (1)	I feel tense or 'wound up'	Most of the time	
► Lifestyle (4)	I still enjoy the things I used to I get a sort of frichtened feeling as if something auful is about to happen	Definitely as much Very definitely and nuite badly	
► Risk Factors (1)	I can laugh and see the funny side of things Wornying thoughts go through my mind	As much as I always could A great deal of the time	
▼ Hospital Anxiety and Depression Scale (1)	I feel cheerful	Not at all	
25-Jun-2002 Hospital Aroviety and Depression Scale	I can at at ease and feel relaxed I feel as if I am slowed down I get a cort of frightened feeling like 'butterflies' in the stomach	Not often Nearly all the time Quite often	
► DAS 28 (1)	I have lost interest in my appearance	Definitely	
 Medication (1) 	I feel restless as if I have to be on the move I look forward with enjoyment to things	Not very much Definitely less than I used to	
► Body Mass Index (1)	I get sudden feelings of panic I can enjoy a good book or radio or TV program	Quite often Not often	

Notifying Administrator Using Annotations

9. Complete the notification details and press **Save** to commit the annotation. The notified user will receive a message in their **InTray**, which is covered in a later section of this guide.
Cohort Search

The cohort search facility allows you to:

- Make cross-patient searches on any entry/element in the information model.
- Combine cohorts returned from individual searches.
- Save searches and patient cohorts.
- Reload searches and cohorts that have been saved previously.
- View and print cohort lists.
- Export patient data for a cohort.

To run cohort searches, press the **Patient Cohorts** button in the main cityEHR navigation panel (available at the top of every page).

$\epsilon \rightarrow G$	C i calhost:8080/cityehr/ehr/cityEHRCohortSearch/?userId=admin&sessionId=1a2c0cb66378e9d914a230c52b6b3e90			80% 13		⊚ ≡
		Dashboard	Patient Search	Patient Cohorts	Quit Administration n-Tray Registration	city EHR
Ny Searches Shared Searches	Kee Search Cohort					
	Cohort Search				Specialty Elfn 2	~
	New term v Select Search Type - v			T		
	Att None Ref 1 Search Term				Coho	vt (0)
			Cli	ck this		
otyEHR Version Number - V1.7-2021-12-08-1 User	c obyEVR Administrator / Effin 2 / en-gb Logged on: 09 23 19 Thursday, 9h December 2021 Last logged on: 09 29 56 Thursday, 9h December 2021					

Running Patient Cohort Searches

The sections below demonstrate cohort search features using a small test database (e.g., the data generated in the "Generate Test Data" section).

Demographics

- 1. Navigate to **Patient Cohorts** in the in the system navigation.
- 2. To search for cohorts based on patient demographics, select **Demographics** (default on page load) from the left-hand search type selection.

dy Searches	Shared Searches Hide	Search Colort		
		Cohort Search	Specialty cityEHR Feature Demo v	Q,
		New term Demographics V Description Gender V Regrad to V		
		All None Ref 1 Search Term	Cohort (0)	

Searching for Cohorts Using Demographics

3. Select to search on **Gender**, **Date of Birth**, or **Age**. Enter search criteria and press the **Search** button to display a summary of the cohort found.



Searching for Patients Using Gender as a Demographic

4. View the Cohort Results in the display window.

My Searches Shared Searches Hide	Search Cohort	
Patient Cohort 2021-12-08T14-45-29.019Z	Cohort Search : Search Smer. P70.3185	Specialty CityEHR Feature Demo 👻 Cohort search Patient Cohort 2022-12-1 🔽 🖨 🛍 🍮 📿
	New term Demographics Description Gender equal to Female Scope All data V	
	Arry News Ref 1; Search Ferm	Cohert (9) (7)
	Cohort Search Results	Number of Patients Returned

Viewing Cohort Results in the Display Window

5. Select the check-box next to the **Cohort Search Results**.



Selecting the Box Next to the Cohort Search Results

6. Navigate to the **Cohort** tab (next to the **Search** tab). You can now view the patients in this cohort (see figure below).

My Cohorts	Shared Cohorts	Nos Search Cohort					
		Cohort Search : Search Int Provides	1. Navigate here			Cohort search Patient Coh	ort 2021-12-1 😨 🖬 🥍 🖨 🛤
		Displaying 1 to 2 of 2 patients					
		Patient Id	Sumame	Forename	Gender	Date of Birth	Age
		K5310150	Hobson	Brian	Male	29-Mar-1957	64
		38703301	Gibson	Howard	Male	17-Mar-1976	45
			1				
		2. Vi	ew Results here				

Viewing Patients in Selected Cohort

7. You can now print or export this list. Refer to further sections for printing instructions and exporting data.

Administrative Data

1. Select **Administration** from the left-hand search selection menu to search for cohorts based on the effective time or author of specific compositions.



Searching for Cohorts Using Administration

2. The cohort is formed as patients who have any compositions of the specified type with the author or effective time as constrained by the search criteria. If no context is chosen then the cohort is formed based on any composition e.g. find all patients with any compositions committed by a specific author (user). Select the search criteria to be **author** and select any option from the context drop-down (see figure below).

		Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration	ty R
Ny Searches Shared Searches	* Sead Genet		
	Cohort Search : Service PE 2005 Species Species Species Species Species (Species Species Speci	v Cohort search Patient Cohort 2022-04-257 😡 🖨 🔳 🔊 🗘	a,
	New term dependation Description Author quality Content Stored Records Yradure Record		
	All Name Auf 1 Search Term	Cobort (0)	
	3 Has Frencer He Cord with Author equals to chypER Advisibility Xee Cord with Author equals to chypER Advisoration	0	
	a real language assessment and relative sign on options realisation the first structure option of the Autors and the assessment	(1)	
	Change this drop-down list from "Effective Time" to "Author" Select any Context		

Searching for Cohorts Using "Author" as Search Criteria

3. Click the **Search** button (magnifying glass) to return results.



Search Results for Co-morbidity History

4. Select the check-box next to the **Patient List**.

					Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration
Wy Searches Shared Searches	How Search Cohort			Second	
	Cohort Search	h : Search See: P70.000	13	Specially cityEHR Feature Demo	
	New term	Administration Author			
	All None	Reft	Search Term		Cohort (II)
	0	2	Has Fracture Record with Author equal to chyDHR Administrator		(2)
	0	2	Has Lifestyle Assessment with Author equal to ob/EIR Administrator Has Fracture Record with Author equal to ob/EIR Administrator		(1) (2)
	Click o	ne of thes	e boxes. Ideally select one that returns several patients		This cohort contains two patients

Clicking on Empty Box of New Patient List

5. Navigate to the **Cohort** tab to view a list of patients from your search results.

Observations

1. Set the search term to **Observation**. Adjust the parameters to refine your cohort searches for specific observations. Ensure you click **Search** to display the results.

My Searches	Shared Searches	Here Search Cohort	
		Cohort Search	Specialty cityEHR Feature Demo 👻 🔍
		New term v Observation v Description	
		Effective time v	
		Practice Platest age Avge V	
		💌 Current 🗸 equal to 🗸 Yes 🗸 💽 Context Stored Records 🔨 Any context 🗸	
		Att those Ref 1 Search Term	Cohort (0)

Changing Cohort Search Term to Observation

2. In this example, the **Observation** is set to "Fracture," with **time** set to *Current* and **Scope** set to *All Data*. Review the search results, as shown in the figure below.

My Searches	Shared Searches	Hide	Search Cohort	1			
			Cohort Search	1 : Search tim	w. PT0 6025	Specialty cityEHR Feature Demo 🔹 Cohort search Patient Cohort 2021-12-0	e 11 5 0
			New term 👻	- Select Se	arch Type – 👻		
			W/ None	Ref † 🛔	Search Term		Cohort (0)
				1	Fracture Current equal to Yes		(0)

Cohort Search Results for "Observation" as Fracture

3. If no results are returned for the observation, modify the search parameters to explore different results.

Combining Cohorts

The cohort search functionality enables you to combine multiple searches. Follow the steps below to learn how to combine cohorts:

1. Conduct the individual cohort searches you wish to combine. For example, searches for **Gender equal to Female** and **Gender equal to Male**, as shown in the figure below.

My Searches	Shared Searches Hide	Search Cohor						
Patient Colo	et 2021-12-08T14-45-29-019Z	Cohort Searc	h : Search tim	e: PT0.3565		Specialty cityEHR Feature Demo	▼ Cohort search Patient Cohort 2021-12-1	
		New term 👻	- Select Set	arch Type - 👻				Search
		All None	Ref 11	Search Term				Cohort (0)
			2	Gender equal to Female				(6)
			1	Gender equal to Male				(2)

Two Cohort Searches (Female and Male Demographics) for Combining

2. Select the cohorts to be combined by checking their respective boxes.

Search Cohort	
Cohort Search : Search time: PT0.3885	Specially cityEHR Feature Demo 🔹 Cohort search Patient Cohort 2021-12-1 😨 🖬 🧤 🖨 🛍 🕭 🖉
New term v - Select Search Type - v	Search
Ref 11 Search Term	Cohort (8)
2 Gender equal to Fernale	(6)
1 Gender equal to Male	(2)
Select Lists that you want to combine	
	Term To Control Term To Term To Term To Term To Term To Term To Term Term To Term To Term Term To Term Term Term Term Term To Term Term Term Term Term Term Term Term

Selecting Cohorts to Combine

- 3. From the **Select Search Type** menu, choose **Combine Selected Cohorts**, select an operator, and click **Search**. You may also select **Combine Cohorts**. Available operators include:
 - **AND**: Returns members common to both cohorts.
 - **OR**: Returns all members from both cohorts.
 - **A PERCENTAGE OF**: Finds members of cohort A that are also in cohort B and calculates the percentage.



Choosing an Operator to Combine Cohorts

4. View the combined results in the display window, select them, and save the cohort search for future use.

My Searches	Shared Searches Hide	Search Cohor	1					
Patient Cohort	2021-12-08T14-45-29.019Z	Cohort Search	h : Search time	× PT0.0465	Specialty cityEHR Feature Demo	v Cohort search Patient Cohort 2021-12-6 🖬 🖬 🦜 🖨	-	50
		New term 👻	Select Sea	rch Type – 👻				Search
		All None	Ref 🔃	Search Term			Cohort (8)	E.
			3	(Gender equal to Fernale) OR (Gender equal to Male)			(8)	
			2	Gender equal to Female			(6)	
			1	Gender equal to Male			(2)	

Combined Cohort Results

5. Navigate to the **Cohort** tab to view the combined cohort list. To print this list, click the printer icon in the top-right corner.

Cohort Search Journame Formania Generative Coloradia Diagrang 15 of all partiests Suraname Formania Generative 100-001144 K4064496 Doras Anaber Formania 100-001144 K4064496 Doras Anaber Formania 100-001144 K4064496 Doras Anaptie Formania 20-001144 K4054096 Doras Anaptie Formania 20-001142 K4021056 Formania Nona Formania 20-001142 K1021056 Follows Nona Formania 20-001142 K101106 Hoborn Dian Maine 17-000-11142 K101106 Cilowon Homania Maine <						Hide Search Cohort
Displaying 11st 8 of 2 patients Journame Francame Consider Data of Birth KASASS Dorns Andreer Frankame 19-Out-1944 KASASS Dorns Andreer Frankame 19-Out-1944 KASASSS Dorns Angel Frankame 20-Out-1944 KASASSS Dorns Angel Frankame 20-Out-1944 KASISSS Dorns Angel Frankame 20-Out-1942 KASISSS Frankame Hole Frankame 15O-Out-1942 KASISSS Frankame Hole Frankame 25O-Out-1942 KASISSS Frankame Hole Frankame 25O-Out-1942 KASISSS Hole Hole Frankame 25O-Out-1942 KASISSS Hole Hole Hole 25D-Out-1942 KASISSS Hole Hole Hole Hole 25D-OUT-1942 KASISSS Hole Hole Hole Hole 17D-01575 2015011 Obsen Hole	ohort search Patient Cohort 2021-12-1 😰 🖬 🔭 😝	Cohort sear			arch time: PT0.0165	Cohort Search
Patient M Samame Formane Gandre Date of Erich 19-0-1941 X64645 Dras Andr Frank 19-0-1941 X64645 Dras Apel Frank 12-0-1941 X64645 Dras Apel Frank 12-0-1941 X64645 Dras Apel Frank 2-0-0-1942 X61505 Hard Hard Frank 16-0e-1952 X615026 Hard Hard Frank 16-0e-1952 X615026 Hard Hard Frank 15-0e-1952 X615026 Hard Nare Frank 15-0e-1952 X615026 Hard Nare 2-0-1971 16-0e-1952 X615026 Hard Nare 17-0e-1976 17-0e-1976 X617027 Gatorn <t< th=""><th>500</th><th></th><th></th><th></th><th>atients</th><th>Displaying 1 to 8 of</th></t<>	500				atients	Displaying 1 to 8 of
KD56445DorasAnderFanale17-06-1844KD56545DorasApolaFanale12-06-1844KD55545DorasApolaFanale22-06-1844KD55545NataHandFanale22-06-1842KD20255PalbusNataFanale22-06-1842KD20255PalbusNataFanale22-06-1842KD20255PalbusNataFanale20-06-1842KD20255PalbusNataFanale20-06-1842KD20257PalbusNataPanale20-06-1842KD30510PalbusDanaMate22-Mat-1872XD30510ObsonHasardMate17-Mat-1976	Age	Date of Birth	Gender	Forename	Sumame	Patient Id
KK54549 Untimore Jave Fundie Fundie 12/00-1954 KK51558 Bran Angria Fundie 20-01154 25/00.1912 KK51528 Fundie Non Fundie 15/00-1952 15/00-1952 KK51528 Fundie Non Fundie 15/00-1952 15/00-1952 KK514055 Fundie Non Bran Made 25 Mar 1957 XK514055 Nobion Bran Made 25 Mar 1957 38703351 Obion Howard Male 17 Mar 1956	77	19-Oct-1944	Female	Amber	Borras	K4954485
NMS0545 Danas Apagia Family 22 00:1912 NMS0545 Holen Holen Family 25 00:1912 NMS0545 Files Noa Family 16 00:1912 NMS055 Holen Noa Family 32 00:1912 NMS055 Holen Noa Family 32 00:1912 NMS055 Holen Dan Mare 22 Mar/1917 NUM105 Galoun Hoased Mare 17 Mar/1916 NUM105 Galoun Hoased Mare 17 Mar/1916	55	13-Nov-1966	Female	Jane	Littlemore	K5454519
X8812931 Needam Hein Fendre 22-0-01172 X102105 Follows Nota Fendre 16-00-1522 X884056 Nota* Hein Fendre 30-Mar 1573 X5310150 Hoborn Dean Made 23-Mar 1576 3075351 Galoon Hoson Made 17-Mar 1576	77	28-Oct-1944	Female	Angela	Borras	K9953545
X102105 Falses Nea Fande 19.0e.1932 X1041055 Nasie Nea Fande 30.4e.1932 X101515 Holson Dian Male 20.4e.1932 X101516 Holson Dian Male 20.4e.1937 X101516 Glason Hossed Male 17.Mar.1976	49	25-Oct-1972	Female	Helen	Needham	K9810298
K436656 Navé Noa Penale 32.04.04.157 K331559 Holson Dan Male 23.04.1557 3372331 Gibson Homad Male 17.740r1575	68	16-Dec-1952	Female	Nina	Fellows	K1021025
X0.13580 Hobun Dan Male 29.Mar-157 3873321 Obton Howel Male 17.Mar-1376	48	30-Mar-1973	Female	Nina	Neale	K4948505
30723331 Gidson Hexaed Male 17.Mar-1976	64	29-Mar-1957	Male	Brian	Hobson	K5310150
	45	17-Mar-1976	Male	Howard	Gibson	38703301
	45	17-Mar-1976	Male	Howard	Gibson	38703301

Printing Combined Cohort Results List

Printing Cohort Lists

Follow these steps to print cohort lists:

1. Select the cohort list(s) you want to print from the search results.



Selecting the Cohort List(s) for Printing

2. Navigate to the **Cohort** tab and click the print icon.



Printing the Selected Cohort List(s)

3. Choose **Open File** and select the application to open the cohort list.



Opening Cohort Lists in Desired Application

4. Print the cohort list from the selected application.



Confirmation of the Cohort List(s) Print

Exporting Patient Data from cityEHR

Patient data can be exported in a number of different formats for individual patients or for cohorts of patients found through the cohort search facility.

Exporting Data for an Individual Patient

1. The full record for an individual patient can be exported from the patient Events page. Click on a patient in Patient Search for whom you would like to export their record.

Recent Care Team						
95325737 - Winston	Patient Search K: Search time: PT0.7335 / PT0.4185					Order by Hospital Number v Q 5
	Patient Id K Sumanne Gender - Select Value - V Day of Birth - Select Value - V Month Consultant	- Select Value - v Year	Date 2			
	Displaying 1 to 10 of 20 patients Page	1 of 2 🕨 🗰				
	Patient Id	Sumame	Forename	Gender	Date of Birth	_
	K9954501	Walters	Zak	Male	03-Sep-1986	
	K9897575	Borras	Angela	Female	15-Nov-1944	_
	K9757100	Borras	Hilary	Female	15-Nov-1944	
	K9749102	Norton	Wallace	Male	15-Nov-1972	
	K5654509	Woods	Alfred	Male	11-Sep-1987	
	K5550102	Trimble	Sigmund	Male	23-Jun-1982	
	K5499100	Grant	Corey	Male	15-Jan-1953	
	K5497515	Walters	Amber	Female	12-Jul-1986	
	K5453100	Neale	Heston	Male	08-Mar-1973	
	K5397545	Collymore	Bridget	Female	23-Apr-1946	
	Select	a Patient				

Selecting a Patient for Record Export

2. Navigate from the **Summaries** page to the **Events** page.

Events	⁵ Events Summaries Forms Letters Pathways	Show
▼ All Events (34)	10-Jun-2002 - Allergies and Warnings	
10-Jun-2002 Allergies and Warnings	Allergies	
10-Jun-2002 Lifestyle	Pet Dander	
10-Jun-2002 Body Mass Index	Nuts	
10-Jun-2002 Medication	1. Navigate to Events Page	
10-Jun-2002 Hospital Anxiety and Depression Scale		
10-Jun-2002 Patient Registration		
17-Dec-2000 Lifestyle		
01-Dec-2000 Lifestyle		
29-Sep-1998 Lifestyle		
17-Sep-1998 DAS 28		
25-Aug-1998 BMD Data		
25-Aug-1998 Risk Factors		
25-Aug-1998 Medications		
04-Jul-1998 Bone Chemistry Results		
04-Jul-1998 Laboratory Test Results		

Navigating to Patient Events Page

3. Select the event you would like to export.





4. Click the **Export Record** icon to export the individual patient data.

$\leftarrow \ \rightarrow \ G$	◯ 🗅 🕫 localh	host:8080/cityehr/ehr/c	sityEHRFolder-Ever	ts/?userId=admin&sessionId=bfaceb43a053e6c569d376608ffb8c89	80% Å 🖂 🖉 🌢 🗏
BORRAS, Angela (Ms) Born 15 Patient id K9097675 MHS Number	Nov-1944 (77 years) Gender:	Female			Out: Administration Cit
vents Annotations	Hide Events Summaries	Forms Letters Pathwa	iys Care Setting:	ityENR Feature Demo V	
▼ All Events (35)	04-Apr-2022 - Life	style Assessment			9 8 a
04-Apr-2022 Lifestyle Assessment	Of event: 04-Apr-2	2022 Lifestyle Assessm	ient		
Lifestyle	Lifestyle				
Lifestyle Scale Questionnaire	Level Of Mobil Walking for a gus	lity arter of a mile	some diff	Smoking Habits culty Smoking Habits Exampler	
Body Mass Index 10-Jun-2002 Allergies and Warnings	Stooping, crouchi Doing chares and	ing or kneeling und the house	some diff	culty culty	· · · · · · · · · · · · · · · · · · ·
	Lifestyle Scale	Questionnaire			
10-Jun-2002 Body Wass Index	Lifestyle Questions I eat five portio	a ons of fruit and vegetable	sperday Nota	plicable	Click Export
10-Jun-2002 Medication	I get at least 8	hours sleep each night	Not a	plicable	
10-Jun-2002 Hospital Aroviety and Depresaion Scale	I drink modera I tend to tell th	au mins twice or more ea ate amounts of alcohol ie truth in lifestyle questio	onnaires Nota	picable picable	Record icon (4th
10-Jun-2002 Patient Registration	Body Mass Inde	x			
17-Dec-2000 Lifestyle	Body Mass Index Measurement date	BI	MI Interpretation		icon from the
01-Dec-2000 Lifestyle	10-Jun-2002	Height 173 cm Weight 87 kg			
29-Sep-1998 Lifestyle	13-Sep-2001	Height 173 cm			1.60
17-Sep-1998 DAS 28	01-Dec-2000	Height 173cm			lett)
25-Aug-1998 BMD Data		Weight 85 kg			
25-Aug-1998 Risk Factors					
25-Aug-1990 Hedications					
94-Jul-1998 Bone Chemistry Results					
04-Jul-1993 Laboratory Test Results					
09-Mar-1996 Bone Chemistry Results	•				
01-Feb-1996 Bone Chemistry Results	·				
01-Feb-1956 Laboratory Test Results					
02-Jan-1998 Bone Chemistry Results					
10-Oct-1997 Bone Chemistry Results					
10-May-1997 Laboratory Test Result	• 🗸				
0 1 <i>1</i>			-		
Selecting	Patient	Event to	o Exp	DIT	



Data can be exported in various formats for patient cohorts created through cohort searches.

- 1. Navigate to the **Administration** screen in the Purple system navigation.
- 2. Navigate to **Cohort Searches** in the menu on the left side of the screen, and then click **Manage Cohort Searches**.

	cityEHR - Administration - Manage Cohort Searches	Stow
► System	User: cityEHR Administrator (admin) V Cobort type: All V	Role: Administrator
► Database	Patient 2021-12-08T14.45.29.019Z	Patient Cohort 2021-12-08T14:45:29.019Z
► Information Model		
► Directory		
Users and Care Teams		
► Knowledge Sources		
► Patient Records		
▼ Cohort Searches		
Manage Cohort Searches		
Import Cohort Search		
► Export Data Sets		
Redirect Notifications		
Manage Patient Access		
Test Web Service		

Manage Cohort Searches Page

- 3. View your saved cohort searches in the main display screen.
- 4. Select the box next to the cohort search you wish to export.

Hde	* cityEHR - Administration - Manage Cohort Searches	Stau
► System	User: cityEHR Administrator (admin) V Cohort type: All	Role: Administrator v
► Database	Patient Cohort 2021-12-08T14:45:29.0192	Patient Cohort 2021-12-06T14:45:29.019Z
 Information Model 		
Directory		▲
Users and Care Teams		
Knowledge Sources		lick this
Patient Records	l l l l l l l l l l l l l l l l l l l	IICK UIIS
▼ Cohort Searches		
Manage Cohort Searches]	
Import Cohort Search		
Export Data Sets		
Redirect Notifications		
My User Account		
Manage Patient Access		
Test Web Service		

Selecting Desired Cohort Search for Export

5. Click the **Export** button that appears at the top right of your screen.

Hde	cityEHR - Administration - Manage Cohort Searches			Show
► System				¥ 🗠
► Database	Usee: cityEHR Administrator (admin) v Cobort type: All v	Role: Administrator v		
► Information Model	Patient Cohort 2021-12-08T14.45.29.0192	Patient Cohort 2021-12-08T14	45.29.019Z	
► Directory			Clickto	
Users and Care Teams			CIICK to	
Knowledge Sources			Evenert	
Patient Records			export	
▼ Cohort Searches				
Manage Cohort Searches				
Import Cohort Search				
Export Data Sets				
Redirect Notifications				
My User Account				
Manage Patient Access				
Test Web Service				

Exporting Desired Cohort Search

6. A dialogue box will appear. Save your exported file or open it with a default application.

	Dashbaard Dattar Carris Dattar Car	Quit	Administration	city
	Udantodati Patenti Seatcal Patenti Cos	na in-iray	Registration	
	cityEHR - Administration - Manage Cohort Searches			
► System				W C
► Database	User: CityEHR Administrator (admin) v Cohort type: All v Role: Administrator v			
► Information Model	Patient Cohort 2021-12-08714-45-29 0192			
► Directory				
► Users and Care Teams	Opening cohortSearches-2021-12-10111-37-38.ap			
► Knowledge Sources	You have choten to open: colour Searcher 2021-12: 10711-37:39.zip			
► Patient Records	which is: Compressed (zipped) Folder (2.8 kB) forest http://localboat.0000			
▼ Cohort Searches	What should Firefox dowith this file?			
Manage Cohort Searches	Open with Windows Spilorer (default) v			
Import Cohort Search	Save File			
► Export Data Sets	Construction of the second s			
Redirect Notifications	OK			
My User Account				
Manage Patient Access				
Test Web Service				

Cohort Export Dialogue Box

7. For this example, open the file with **Microsoft Edge**.

	cityEHR - Administration - Manage Cohort Searches
► System	T C
► Database	User of 51R Administrator (admi) v Cohert spec Al v Bole Administrator v
► Information Model	Patient Cohort 2021-12-00174-45-22 👔 🖉 🔹 🔹 Education Cohort 2021-12-00174-45-22 0192
► Directory	Pre tisse Share Wew Compressed Faller Hub. • • •
Users and Care Teams	A There A There
Knowledge Sources	R Oxide access
► Patient Records	Device #
▼ Cohort Searches	E bottom a
Manage Cohort Searches	A With 3 Jorns
Import Cohort Search	
► Export Data Sets	Extract Contents
Redirect Notifications	
My User Account	Dotage v < 3
Manage Patient Access	1 Zen.
Test Web Senice	

Extracting the Exported Cohort File's XML Contents

8. Extract the XML contents, and a new window will open displaying the XML of the exported data.

	alla .	
C/UserSumEscAppUtati_coal(temp/temp1_cohortsearches_ducl-12-10111-37-stup)cohortSearches_ducl-12-10111-37-stumi	* G Search	V* 107 207 8
Users'umiss'.AppData'u × C		
xml version="1.0" encoding="UTF-8"7>		
ohortSearches xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:x2="http://	schemas.microsoft.com/office/excel/2003/xml*	
Instance of the second s	syntax-ns# xmlns:cityEHR= http://openhealthinformatics.org/ehr xmlns:is	-0-13606= http://www.iso.org/iso-
606* xmlns:ev="http://www.w3.org/2001/xml-events* xmlns:xi="http://www.w3.org/2001/XInclude* xmlns:exist="http://exist. Result="http://www.w3.org/2001/xml-events* xmlns:xi="http://www.w3.org/2001/XInclude* xmlns:exist="http://exist.	.sourcetorge.net/NS/exist* xmins:exforms="http://www.exforms.org/ext/1-	-0 d (wformer
hs.stel. http://www.ws.org/1997/36//heistonin_indp://witexa.org/1997/add/ addis.add// addis.add// addis.add// addis.a	Spreadsheet="urn:schemas-microsoft-com:office:spreadsheet" xmins:f="http:	//orbeon.org/oxf/xml/formatting*
ns:owl="http://www.w3.org/2002/07/owl#" xmlns:widget="http://orbeon.org/oxf/xml/widget" xmlns:cda="urn:hl7-org:v3" xml	ins:xforms="http://www.w3.org/2002/xforms" xmlns:ss="urn:schemas-micro	osoft-com:office:spreadsheet*>
<cohortsearch xmlns:exf="http://www.exforms.org/exf/1-0" xmlns:fr="http://orbeon.org/o</td><td>xf/xml/form-runner" xmlns:math="http://exslt.org/math"></cohortsearch>		
<id>admin2021-12-08T14+46-10.9752</id>		
<pre>cohortName> Patient Cohort 202112:0814:45:29.019Z</pre> /cohortName>		
< cohortPatientString/>		
< cohortPatientCount/>		
<cohortanalysis></cohortanalysis>		
- Search entries		
 cparameters> 		
- <graph decimalprecision="0" hovercapbg="FFFFDD" hovercapborder="000000" numbersuffix="" numdivlines="0" p="" xaxisnam<=""></graph>	<pre>ie="" yaxisname="" yaxisminvalue="0" yaxismaxvalue="0" subCaption="" caption=</pre>	" bgcolor="e1f5ff">
<set color="FFFFFF" name="Template" value="10"></set>		
 		
 <enumeratedclassselection></enumeratedclassselection> 		
<elementqueryposition></elementqueryposition>		
 cussy > cutvNode/> 		
<classdisplayname></classdisplayname>		
<selectednode code=" type= " displayname="/></td><td></td><td></td></tr><tr><td><supplatset(> <</td><td></td><td></td></tr><tr><td>- <suppDataQuery></td><td></td><td></td></tr><tr><td><! Set of <query> elements for the Supplementary Data of the selected class node></td><td></td><td></td></tr><tr><td></suppDataQuery></td><td></td><td></td></tr><tr><td><I Template query element for the Supplementary Data></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td><origin/></td><td></td><td></td></tr><tr><td><comparatorType/></td><td></td><td></td></tr><tr><td><pre><searchentry displaymame="></selectednode> <searchentry code=" type=" displaymame=" code= " type="/></pre></td><td></td><td></td></tr><tr><td><searchTerm3 displayName="></searchentry>		
<searchterm4 code="" displayname="" type=""></searchterm4>		
<searchterm5 code="" displayname="" type=""></searchterm5>		
<searchoperator1 displayname="" selection=""></searchoperator1>		
- <suppdataquery></suppdataquery>		
Compared were set of country elements made for all supplementary data sets in the entry (may be more than one)>		
<pre><pre>celement displayName="" type="" clusterDisplayName="" clusterId="" elementType="" elementDisplayName="" elementIRI=</pre></pre>	*" id="/>	
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<pre></pre>		
- <query></query>		
ndow diaploving overgated appart VML file		
nuow uisplaying extracted conort AIVIL life		

Export Data Sets

- 1. Navigate to the **Administration** screen in the Purple system navigation.
- 2. Navigate to **Export Data Sets** in the menu on the left side of the screen.

	Reference of the second	a Sets	
▶ System	Export Data Set:		
► Database			
► Information Model			
► Directory			
Users and Care Teams			
► Knowledge Sources			
► Patient Records			
► Cohort Searches			
▼ Export Data Sets			
Manage Export Data Sets			
Import Data Set			
Redirect Notifications			
My User Account			
Manage Patient Access			
Test Web Service			

Manage Export Data Sets Page

3. Enter a name for your data set.



Naming the Data Set

4. Select the entries you want to add to your exported data set. These will appear in the column on the right. You can also filter entries by composition by using the drop-down menu next to **Composition**.



Selecting Entries to Add to Exported Data Set

5. Click the **Save** button at the top right of the display window.

Inspecting the XML Store

The native XML database used in cityEHR can be browsed using tools in the Administration page. This functionality is useful for understanding how data is stored and can assist administrators in managing database contents. However, the facility to remove data must be used with extreme caution as it may invalidate the XML store's structure and/or compromise patient records.

Browsing Logical Databases

Open the **Administration** page and select **Browse Logical Databases** within **Databases** from the menu on the left-hand side of the display screen. The logical database will display all databases as if they are part of one database, whereas the physical database shows the different nodes within that database.



Browse Logical Database Page

Browsing Physical Databases

- 1. Open the **Administration** page and select **Browse Physical Databases** from the menu on the left-hand side.
- 2. Two separate databases are available as the root for browsing:
 - XML Store stores users and patient records for all installed applications.
 - Audit Log stores audit data for all users.
- 3. Select the database store you wish to browse. For this example, select **xmlstore**.

Hide	cityEHR - Administration - Brow	se Physical Databases	10000			Show
► System	System: EHR Application 👻 Database: Buil	t-in Database 👻 Node: builtin-basicEHR 👻 Version	: 1.4.1dev			
▼ Database	Idb/ehr				Show BTUs 🔲 Sort by: Type 🗸 🔰	Filter:
Database Access Layer	Name	Type	Size	Last Modified		
Manage EMPI	xmistore	collection	2	2021-12-08T10-25-09-893Z		
Generate Test Data	100.09	Conection		2021-12/00110-20-40-112		
Browse Physical Databases						
Browse Logical Databases						
► Information Model						
► Directory						
► Users and Care Teams						
► Knowledge Sources						
► Patient Records						
► Cohort Searches						
► Export Data Sets						
Redirect Notifications						
My User Account						
Manage Patient Access						
Test Web Senice						

Browse Physical Database Page

4. The top level of the **xmlstore** database contains collections for **Applications**, **Systems**, and **Users**. Any cityEHR installation can support multiple applications and a single set of users, each of whom has access to one or more applications.

					Dashboard Patient Search Patient	Quit Administration Cohorts In-Tray Registration	city
	in cityEHR - Administration - Browse Physical Dat	abases					Bee
► System	System EHR Application v Database Built-in Database	v Node: builtn-basicENR v Version: 1.4.1dev					
▼ Database	Adbiehzbenistore				Show BTUs Sort by: Type	• If Filer.	
Database Access Layer	Name	Type	Size	Last Modified			
Manage (1071	system	collection	2	2021-12-06T04 39:50 959-05:00			
	applications	collection	10	2021-09-17711-32-06-215-04-00			
Centrals liest cass	USETS	Composes	*	2021-00-1711-32-01 Addres 00			
Browse Physical Databases							
Browse Logical Databases							
► Information Nodel							
► Directory							
Users and Care Teams							
► Knowledge Sources							
Patient Records							
► Cohort Searches							
► Export Data Sets							
Redirect Notifications							
Wy User Account							
Ilanage Patient Access							
Test Web Service							

browse Physical Database "xmlstore" Page

- 5. Click on the **users** link to view a list of all registered users. Initially, this will include only the default **admin** user and any others you imported or created previously.
- 6. Click on the **admin** link, then on **credentials**. Click the binoculars icon at the top right of the viewing panel.

	^{Hos} cityEHR - Administration - Browse Physical Database	ses			
► System	System: EHR Application v Database: Built-in Database v Node: built	Itin-basicEHR 👻 Version: 1.4.1dev			
▼ Database	/db/ehr/smistore/users/admin/credentials				Show BTUs 🗋 Sort by: Type 👻 🚺 Filter:
Database Access Layer	Name	Type	Size	Last Modified	T
Managa EMDI	recentPatients	resource	4096	2021-12-08T14:42:15.353Z	
and appendix and a	credentials	resource	4096	2021-12-08T10:26:46.507Z	Click to view XMI
Generate Test Data	session-parameters	resource	4096	2021-12-08T15:02:25.438Z	
	htmlCache	resource	4096	2021-12-08T14:37:38.404Z	
Browse Logical Databases					
► Directory					
Users and Care Teams					
Knowledge Sources					
Patient Records					
Cohort Searches					
► Export Data Sets					
Redirect Notifications					
My User Account					
Manage Patient Access					
Test Web Senice					

Viewing "xmlstore" Page Credentials

7. An XML document containing the user details (*users.xml*) will appear in a new dialogue window.

Hde	cityEHR - Administration - E	rowse Physical Databases	Show Show
► System	System: EHR Application 👻 Database	XML Document Viewer - credentials	
▼ Database	(db/ehr/xmistore/users/admin/crede		Show BTUs 🗋 Sort by: Type 🗸 🚺 Filter:
Database Access Layer	Name	Download Close	
Manage EMPI	recentPatients	A	
Generate Test Data	session-parameters	<pre><credentials></credentials></pre>	
Browse Physical Databases	htmlCache	<pre>cuserid>admin clogonAlias/></pre>	
Browse Logical Databases		<pre>cusername>cityENR Administrator <code></code></pre>	
► Information Model		<pre><specialtycode></specialtycode> <jobtitle></jobtitle></pre>	NIVIL Dialogue
► Directory		<pre><organisation></organisation> <cemail></cemail></pre>	Roy
► Users and Care Teams		<pre></pre> capplications>	DOX
► Knowledge Sources		<pre><iso=liso=liso=liso=liso=liso=liso=liso=l< th=""><th></th></iso=liso=liso=liso=liso=liso=liso=liso=l<></pre>	
► Patient Records		180-13606:EMR Extract	
Cohort Searches			
► Export Data Sets		<restrictpatientaccess displayname="*All" patients*="" value="**"></restrictpatientaccess> <role administrator*="" displayname="*System" value="*fCityERR:Role:System:Administrator*/"></role>	
Redirect Notifications		<pre><!-- Set as 'careTeam' to restrict to patients in user's care team(s)--><!-- <role displayBame=** value=**/--></pre>	
My User Account			
Manage Patient Access		(/uses)	
Test Web Service		<	

XML Document of User Details

- 8. You can download the XML to view it in a text editor.
- 9. Return to the top level of the **xmlstore** by clicking the back button located next to the database selection drop-down (not the browser's back button).

Hide	cityEHR - Administ	ration - Browse Physic	al Databases		1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	Contract Martine		Show
► System	System: EHR Application	v Database: Built-in Database	v Node builtin-basicEHR v Version: 1.4.1dev					
▼ Database	db/ehr/xmistore B	ack Button				Show BTUs D Sort by: Type	V It Filter	
Database Access Layer	Name		Туре	Size	Last Modified			
Manage EMPI	users		collection	1	2021-12-08T10-26-46.507Z			
Generate Test Data	appreasions		collection	1	2021-12-00110-25-09-0932			
Browse Physical Databases								
Browse Logical Databases								
► Information Model	Mavi	asto to spoli	ications					
Directory	INAVI	gate to appli	ications					
Users and Care Teams								
Knowledge Sources								
► Patient Records								
Cohort Searches								
► Export Data Sets								
Redirect Notifications								
My User Account								
Manage Patient Access								
Test Web Service								

Returning "xmlstore" Top Level by Clicking the Back Button

- 10. Click on the **applications** link, then the link for **ISO-13606-EHR_Extract-cityEHR**.
- 11. This displays the top-level collections for the default cityEHR application.

Hide	cityEHR - Administration - Browse Physical Databases					Show
► System	System: EHR Application v Database: Built in Database v Node: builtin-basi	cEHR Version: 1.4.1dev				
▼ Database	/db/ehr/xmlstore/applications/ISO-13606-EHR_Extract-cityEHR				Show BTUs 📄 Sort by: Type 👻 👥 Filter:	
Database Access Layer	Иатте	Type	Size	Last Modified		
Managa FMPI	data	collection	1	2021-12-08T13:30:56.011Z		
	informationModel	collection	2	2021-12-08T10-25:09.895Z		
Generate Test Data	languagePack	collection	1	2021-12-08T12:47:33.962Z		
	cohortSearches	collection	2	2021-12-08T14:46:11.045Z		
Browse Physical Databases	systemConfiguration	collection	6	2021-12-08T10-25:13.769Z		
Browse Logical Databases	records	collection	10	2021-12-08T12:08:19.993Z		
Export Data Sets						
Redirect Notifications						
My User Account						
Manage Patient Access						
Test Web Senice						

Top-Level Collections for the Default cityEHR Application

- 12. Click on the **records** link to see a list of patients with stored records for this application.
- 13. Click on a patient's link to view a list of timestamped compositions (XML documents in HL7 CDA format) representing the events stored in their record.

	Deer	hboard	Patient Search	Quit Patient Cohorts In-Tray	Administration Registration	city
	Kie cityEHR - Administration - Browse Physical Databases					Show
► System	System: EHR Application 🔹 Database: Built in Database 👻 Node: builtin basicEHR 👻 Version: 1.4.1dev					
▼ Database	db/ehr/vmistore/applications/ISO-1366EHR_Extract-cityEHR/records/K1025710		Show BTUs	Sort by: Type v It	Filter:	
Database Access Layer	Name	Type	Size	Last Modified		^
Manage EMPI	2021-12-08T12-26-35 1822-196-03-28T10-04-20 610474-CityEHR-Message-LabData-admin	resour	e 12288	2021-12-08T12-26:35.7	2Z	
Generate Test Data	2021-12-08112-26-35.1822-1950-12-201 (VII-04-16-3000) F-Cage Interestinger004mminissignaturini 2021-12-08112-26-35.1822-1956-11-19122-14-38.606899-CityEHR Message LabData-admin	resour	ie 12288	2021-12-08T12-26:35.8	42. 39Z	_
Browse Physical Databases	2021-12-08T12-26-35.182Z-1996-11-19T22-14-38.606899-City/EHR-Message-BoneChemistry-admin	resour	e 12288	2021-12-08T12:26:35.9	22	
	2021 12.08T12.26-35.1822.1995-10-25T06-33-06.519234-CityEHR Message-BoneChemistry-admin 2021.12.08T12.26-35.1822.1995-04.15T13.38.38.0125.CityEHR Message-BoneChemistry-admin	resour	ie 8192 ie 8192	2021-12-08T12-26:35.9 2021-12-08T12-26:367	.5Z	_
Browse Logical Databases	2021-12-08712-26-35,1822-1995-04-08701-08-56-079294-CryEHR-Message-LabOlta-admin Timostamp example. Click any of these	resour	e 12288	2021-12-08T12-26:36.0	JBZ	_
► Information Model	2021-12-08T12-26-35.182Z-1995-03-24T00-44-37.295901-CtyEHR-Message-LabData-admin	resour	e 12288	2021-12-08T12:26:36.0	ИZ	
	2021-12-08T12-26-35.182Z-1995-03-24T00-44-37.295901-ChyEHR Message-BoneChemistry-admin	resour	ie 16384	2021-12-08T12:26:36.1	HZ.	
Directory	2021-12-08T12-26-35.182Z-1995-01-04T04-36-58.685029-CityEHR-Message-LabData-admin	resour	e 12288	2021-12-08T12:26:36.1	17Z	
Users and Care Teams	2021-12-08T12-26-35.182Z-1995-01-04T04-36-58.685029-ChyEHR-Message-BoneChemistry-admin	resour	ie 16384	2021-12-08T12:26:36.2	15Z	
	2021-12-08T12-26-35 1822-1994-06-27123-29-00.766735-CeyEHR-Message-BoneChemistry-admin	resour	ce 16384	2021-12-08T12-26:36.2	πz	
 Knowledge Sources 	2021-12-08112-26-35-1822-1994-04-30118-64-47-98252-ChylerR-Message-LabData-admn	resour	ie 12288	2021-12-08T12:26:36.3	.32	
Patient Records	2021-12-00122-02-30 1822-1994-04-30119-04-47.98224-03/CTH-04853age dome.CHEMISTY-3807001 2021-19-0012-02-30 1822-1994-04-30119-04-47.98224-03/CTH-04853age dome.CHEMISTY-3807001 2021-19-012-02-2021-02-2021-02-2021-02-02-02-02-02-02-02-02-02-02-02-02-02-	resource	e 20400	2021-12-00112-20:36.3	.92	
b. Colora Baserbas	2021-12/0112-26-53 2022-12-093-07-2023-04-40/07-12-05/012-014/012-04/00000000000000000000000000000000000	resour	ie 16384	2021-12-08T12-26-36-4	37	
Concil Searches	2021-12-06T12-26-35.1822-1930-06-27T13-37-23.7T3169-CayEHR Message-BoreChemistry admin	resour	e 12288	2021-12-08T12-26-36-5	4Z	_
Export Data Sets	2021-12-08T12-26-35.182Z-1993-06-27T13-37-23.713169-Cty/EHR-Message-LabData-admin	resour	e 8192	2021-12-08T12:26:36.5	16Z	
Define Nation	2021-12-08T12-26-35.182Z-1993-05-01T15-05-12-494206-Cty/EHR-Message-BoneChemistry-admin	resour	ie 16384	2021-12-08T12:26:36.6	22	_
Procirect Parallelances	2021-12-08T12-26-35.182Z-1993-05-01T15-05-12.494206-CityEHR-Message-LabData-admin	resour	e 12288	2021-12-08T12:26:36.6	2Z	
My User Account	2021-12-08T12-26-35.182Z-1999-07-28T18-32-32.18143-CityEHR-Form Allergies/Warnings-admin	resourc	e 8192	2021-12-08T12-26:35.2	132	
Harris Barling Association	2021-12-08T12-26-35.1822-1998-04-13T12-41-55.238694-CbyEHR-Form-Lifestyle-admin	resour	ce 16384	2021-12-08T12:26:35.2	4Z	
Manage Patient Access	2021-12-08T12-26-35-182Z-1996-05-30T21-13-20-542938-CkyEHR-Form-DAS28-admin	resour	e 90112	2021-12-08T12:26:35.2	<i>i</i> 6Z	
Test Web Senice	2021-12-08T12-26-35 1822-1999-07-28T15-59-49 114666-Cty/EHR Form-Lifestyle-admin	resour	ie 12288	2021-12-08T12:26:35.3	22	
	2021-12-08T12-2633-182Z-1998-04-27T06-38-32-128366-CeyEHR Form Lifestyle-admin	resour	ie 16384	2021-12-08T12:26:35.3	32	
	2021-12-06112-26-33: 1822-1999-07-28115-46-09: 748967-CayUHR Form Medication-admin	resour	e 16384	2021-12-08T12:26:35.3	.5Z	
	2021-12-08112-26-35.1822-1999-07-28115-47-33.173468-GbyEHR-Form-HADS-admin	resour	ie 40960	2021-12-08T12:26:35.4	.62	~

Patient Timestamped Compositions

14. Click on a timestamp, then on the binoculars icon to view an HL7 CDA document for the selected event.

	Hide cityEHR - Administration - I	Browse Physical Databases					Show
► System	System: EHR Application 👻 Databas	XML Document Viewer - 2021-12-08T12-26-35.182Z-1	996-03-28T10-44-20.610474-CityEHR-Message-LabData-admin				A = U
▼ Detabase	 /db/ehr/xmlstore/applications/ISO- 	Download Close		She	ow BTUs 🔲 S	ort by: Type 👻 🔰 Filter	
Database Access Layer	Name		^	Туре	Size	Last Modified	- (
Manage EMPI	2021-12-08T12-26-35-182Z-1996-03-28T 2021-12-08T12-26-35-182Z-1995-12-20T	<clinicaldocument #cityer:nessace:labdat<="" th="" xmlns:rdf="http://www.w3.or
<typeId extension="><th>p/1999/02/22-rdf-syntax-ns#" xmlns:fr="http://orbeon a" root="4CityUERIMessage"/></th><th>resource resource</th><th>12288 16384</th><th>2021-12-08T12-26:35.772Z 2021-12-08T12-26:35.814Z</th><th></th></clinicaldocument>	p/1999/02/22-rdf-syntax-ns#" xmlns:fr="http://orbeon a" root="4CityUERIMessage"/>	resource resource	12288 16384	2021-12-08T12-26:35.772Z 2021-12-08T12-26:35.814Z	
Generate Test Data	2021-12-08T12-26-35-182Z-1995-11-19T2 2021-12-08T12-26-35-182Z-1995-11-19T2	<templateid 2021-12-08t12-26-35.1822-19<="" extension="#ISO-13606:Folder:R
<id extension=" th=""><th>heumatology" root="#ISO-13606:ENR_Extract:cityENR"/> 96-03-28T10-44-20.610474-CityENR-Message-LabData-adm</th><th>resource resource</th><th>12288 12288</th><th>2021-12-08T12-26-35.85921, 2021-12-08T12-26-35.922Z</th><th>Click binoculars icon</th></templateid>	heumatology" root="#ISO-13606:ENR_Extract:cityENR"/> 96-03-28T10-44-20.610474-CityENR-Message-LabData-adm	resource resource	12288 12288	2021-12-08T12-26-35.85921, 2021-12-08T12-26-35.922Z	Click binoculars icon
Browse Physical Databases	2021-12-08T12-26-35-182Z-1995-10-25T0 2021-12-08T12-26-35-182Z-1995-08-15T1	<pre><code <effectivetime="" code="" codesystem="cityIIR" display="" laboratory="" results"="" test="" value="1996-03-28T10:44:20. <recordTarget></pre></th><th>Name="></code> 610474"/></pre>	resource	8192 8192	2021-12-08T12-26-35-955Z 2021-12-08T12-26-36Z		
Information Model	2021-12-08T12-26-35.1822-1995-04-08T 2021-12-08T12-26-35.1822-1995-03-24T	<pre><patientrole> <id extension="%1025710"></id> continut></patientrole></pre>	2. Dialogue Box that	resource	12288 12288	2021-12-08T12:26:36:048Z 2021-12-08T12:26:36:094Z	
Directory	2021-12-08712-26-35.1822-1995-03-2470 2021-12-08712-26-35.1822-1995-01-0470	(name) (prefix)Hs(/prefix)	appears after clicking	resource resource	16384 12288	2021-12-08T12:26:36.141Z 2021-12-08T12:26:36.187Z	
► Users and Care Teams	2021-12-08T12-26-35.182Z-1995-01-04T0 2021-12-08T12-26-35.182Z-1994-05-27T2	<pre><grven>Zara</grven> <family>French</family> </pre>	binoculars icon	resource resource	16384 16384	2021-12-08T12-26:36.235Z 2021-12-08T12-26:36.297Z	
Knowledge Sources	2021-12-08T12-26-35-182Z-1994-04-30T 2021-12-08T12-26-35-182Z-1994-04-30T	<pre></pre>	<pre>Female* codeSystem="cityEER* displaySame="Female"/></pre>	resource resource	12288 20480	2021-12-08T12-26-36-343Z 2021-12-08T12-26-36-389Z	
Patient Records Cohort Searches	2021-12-08712-26-35.1822-1993-07-3070 2021-12-08712-26-35.1822-1993-07-3070	<pre><pre><pre>cproviderOrganization></pre></pre></pre>	1.113883.2.1.4.3*/>	resource resource	12288 16384	2021-12-08T12-26-36-437Z 2021-12-08T12-26-36-483Z	
► Export Data Sets	2021-12-08T12-26-35-182Z-1993-06-27T 2021-12-08T12-26-35-182Z-1993-06-27T	 		resource	12288 8192	2021-12-08T12:26:36.514Z 2021-12-08T12:26:36.576Z	
Redirect Notifications	2021-12-08T12-26-35-182Z-1993-05-01T 2021-12-08T12-26-35-182Z-1993-05-01T	<pre><component></component></pre>		resource	16384 12288	2021-12-08T12-26-36-622Z 2021-12-08T12-26-36-652Z	
My User Account	2021-12-08T12-26-35-182Z-1999-07-28T 2021-12-08T12-26-35-182Z-1998-04-13T	<pre><section <="" citytmr:layout="Ranked" th=""><th>> tion:OsteoporosisOtherLabs* root="cityEER"/></th><th>resource resource</th><th>8192 16384</th><th>2021-12-08T12-26:35.223Z 2021-12-08T12-26:35.254Z</th><th>_</th></section></pre>	> tion:OsteoporosisOtherLabs* root="cityEER"/>	resource resource	8192 16384	2021-12-08T12-26:35.223Z 2021-12-08T12-26:35.254Z	_
Manage Patient Access	2021-12-08T12-26-35-182Z-1996-05-30T2 2021-12-08T12-26-35-182Z-1999-07-28T	<pre>ctitle>Other Labs</pre>	× *	resource resource	90112 12288	2021-12-08T12-26-35-286Z 2021-12-08T12-26-35-332Z	
Test Web Senice	2021-12-08T12-26-35.1822-1998-04-27T0 2021-12-08T12-26-35.1822-1999-07-28T1	6-38-32.128365-CityEHR-Form-Lifestyle-admin 15-48-09.748967-CityEHR-Form-Medication-admin		resource resource	16384 16384	2021-12-08T12-26-35-363Z 2021-12-08T12-26-35-395Z	
		1 17 10 170 170 170 17 10 17 10 10 10 10 10 10 10 10 10 10 10 10 10			12070	0004 40 00740 00 00 4007	

HL7 CDA Document for Selected Event

15. Continue exploring the database, such as the **ISO-13606-EHR_ExtractcityEHR** collection, to view contents stored for the information model (OWL XML files) and the system configuration (templates for forms, letters, and data dictionary).

Manipulating the Information Model as an Ontology

This topic guides users through browsing, exporting, editing, and importing ontology-based information models in cityEHR using Protege.

Browse the Ontology in cityEHR

- 1. Move to the Administration screen by pressing the button in the top right corner of the screen. Then, move to Information Model in the Menu on the Left of the Screen. You should land on "Manage Information Model". You will see a summary of the information models loaded for this installation (if not, press the selection to Manage Information Model in the left hand menu).
- 2.

н	ettyEHR - Administration - Manage Information Model	
► System	Specialty: Summary - all specialties v Information Model: Summary - All Models	v
► Database	Specialties (2)	Information Models (6)
Information Model Manage Information Model Import Information Model Import Language Pack	olyEHR Common Model (HISO-1306/F946er.cb;EHRBase)	#ChyEHR Class Drugs Class Drugs Ingelations/SO 13056 EHR_Extract-ckyEHRInformationModel/ckyEHR Class-CommonModel Drugs-1.xml #SD: 1086/EFIAdex:ccyEHRBase Specially ccyEHR Classics
Local Information Model		/applications/ISO-13606-EHR_Extract-cityEHR/information/Model/cityEHR-Specialty-Common/Model-9 xml
Manage Media Manage Image Maps ► Directory	cityEHR Feature Damo (#ISO-13606 Folder FeatureDemo)	450 J 1969 Frieler FastmiCenno Spocialy copUBIF Featur Denno / Applications/SDS 1096 ERB_Einst-capEHR1/informationModelCapEHR Specially Feature Denno 171 xml
Users and Care Teams Knowledge Sources		ROJERR Class Labited Cass Laboratory Test Applications/SO:1306-EPR_Edust-ca5e3R016/omadoAddelca6e3R-Class-Labited - Xml
Patient Records Cohort Searches		80y6/RFC Class Drugs Class Drugs Juggical and NSO 1506/EFIR_Estack-tyfErR/InformationModel/chyfErR-Class-Drugs 2.xml
Export Data Sets Redirect Notifications		#ChyEHR Class Diagnosis Class Diagnosis (557 1995 EHE Extrant sk-DHE)InformatioNeddish-EHE ("see Diagnosis" 11 and
My User Account Manage Patient Access		ngyeninense reverse in generes per reveninensen og per revensedgibliget (1.511
Test Web Service		

Base Manage Information Model screen

3. In the selection for Information Model, find the model for Specialty - cityEHR Feature Demo. This is the model that was driving the interaction with the cityEHR that you have just encountered.

	cityEHR - Administration - Manage Information Model	
▶ System	Specialty: cityEHR Feature Demo 🗸 Information Model: Summary - All Models	 Image: A start of the start of
▶ Database	styEHR Feature Demo Info	vmation Models (4)
▼ Information Model	styEHR Feature Demo (#ISO-13606:Folder:FeatureDemo)	#ISO-1900 Folder FeatureDemo
Manage Information Model	Summary of models contained	opecanty cityEHR Feature Demo Landinatione/ICO.1900/EHR Extract.city/EHR/eformative/Model/city/EHR.Speciality/Feature/Demo.171 vml
Import Information Model	within Feature Demo	#CityEHR.Classs.LabTest
Import Language Pack		Class Laboratory Tests
Local Information Model		/applications/ISO-13806-EHR_Extract-cityEHR/information/Model/cityEHR-Class-LabTest-6.xml
Manage Media		#CityEHR Class Drugs Class
Manage Image Maps		ungs /applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Class-Drugs-2.xml
► Directory		#CityEHR-Class-Diagnosis Class
Users and Care Teams		Diagnosis Jappications/ISO-13606-EHR Extract-cityEHR/information/Model/cityEHR-Class-Diagnosis-21.xml
Knowledge Sources		
▶ Patient Records		
► Cohort Searches		
Export Data Sets		
Redirect Notifications		
My User Account		
Manage Patient Access		
Test Web Service		

Selecting cityEHR Feature Demo information model

4. The model is loaded to cityEHR as an ontology which you can browse by selecting "Feature Demo" from the Information Model drop down shown below. You can then expand the ontology by clicking the + sign. See image below.

	cityEHR - Administration - Manage Information Model
► System	Specialty: ChyErR Fasture Demo 🔍 Information Hodel: Specialty - chyErR Fasture Demo 🗸 Show ontology summary 🖬 Base/Applied Language English / English Language: an CB-English 🗸
► Database	Select view SO-1506 Browser V DW ISO IIII W I
▼ Information Model	Imported from file: //applicational/SO-13566 EHR_Estrat-cityEHRIeftormationModel/cityEHR Special?- Diemo-171.xml
Manage Information Model	Noti specification: 1250
Import Information Model	Variance 5 Casses 0 1. Change Information Model to Feature Demo
Import Language Pack	Folder: 4
Local Information Model	Form: 26 THE C
Manage Media	Sections: 85 Effects 151
Manage Image Maps	Custer: 12 Eurost: 357
Directory	Const. 10 Terms 943
Users and Care Teams	# EPR_Educt - objEMR Feature Demo
Knowledge Sources	
► Patient Records	
Cohort Searches	
Export Data Sets	—
Redirect Notifications	2. Click + to expand and view Ontology
My User Account	
Manage Patient Access	
Test Web Senice	

Changing information model and viewing ontology

5. You can browse through the ontology by expanding the tree controls - you should see the Folders, Views, Forms, Sections and Entries for the screens you have already worked with. You can select any of the loaded models and browse either as ISO-13606, data dictionary contents, class hierarchies and class nodes, depending on the type of the model (specialty or class hierarchy).

Export the Ontology and Open in Protege

1. Export the ontology by clicking the **Export** button at the top-right. Select **OWL** to download the ontology as a zip file.

Hide	cityEHR - Administration - M	anage Information Model	Show
▶ System	Specialty: cityEHR Feature Demo	Information Model: Specialy - clyEHR Feature Demo 🗸 Show ontology summary 🗹 Base/Applied language English / English Language: en-GB - English 🗸	
► Database	Select view: Solution Select view: Select vi	cwi iso mm cori	
▼ Information Model	Imported from file: /applications/ISO	13606-EHR_Extract-cityEHR/informationModel/cityEHR-Specialty-Feature-Demo-171.xml	
Manage Information Model	Total assertions: 12590		
Import Information Model	Warnings: 5 Classes: 0	Export	
Import Language Pack	Folders: 4 Views: 10		
Local Information Model	Forms: 26 Messages: 6	Buttons	
Manage Media	Sections: 85 Entries: 151		
Manage Image Maps	Clusters: 12 Elements: 357		
► Directory	Terms: 943		
 Users and Care Teams 	EHR_Extract - cityEHR Feature Demo		
► Knowledge Sources			
► Patient Records			
► Cohort Searches			
► Export Data Sets			
Redirect Notifications			
Manage Patient Access			
Test Web Senice			

Exporting Ontology models

2. Save the file on your system. Rename it to use a **.zip** extension and unzip it to obtain the ontology (an OWL/XML file). Rename the file to use a **.owl** extension for easier compatibility with Protege.

Hide	cityEHR - Administration - Manage Information Model
▶ System	Specialty: [chyEHR Feature Demo 🗸 Information Model: [Specialty-chyEHR Feature Demo 🗸 Show ontology summary 🖬 Base/Applied Language: English / English Language: [en-GB - English /
► Database	Select view: ISO-1500B Browser 🖌 000/ ISO mm 000; 🗑
▼ Information Model	Imported from file: /applications/80-13006-EHR_Extract-city/EHR/information/Modelicity/EHR Specialty Feature-Demo-171.xml Model type
Manage Information Model	Total assertions: 12590
Import Information Model	Warning: 5 Opening 50-1308-Folder-FetureDemo-3021-12-01715-82-82.p X Classes 0
Import Language Pack	Folders: 4 You have closen to spen: Values: 10 0 93.1966 Halder Folder Closens-2021-12-08115-48.28.2p
Local Information Model	Form: 26 which is Compressed Epiped) Folser Message: 6 for http://tealhout.000
Manage Media	Section: 85 Entries: 151 What about Firefers do with this file?
Manage Image Maps	Clusters: 12 Elametrs: 357 Ogen with Windows Explorer (default) ~
► Directory	Udits: 10 @ gove lie Terms: 543 @ Do this instantiative for file: 18 which from your as
Users and Care Teams	DR_Estact - cityERR Feature Demo
► Knowledge Sources	OK Caved
▶ Patient Records	
Cohort Searches	
► Export Data Sets	
Redirect Notifications	
My User Account	
Manage Patient Access	
Test Web Service	

Renaming export file pop-up

- 3. Open the ontology in Protege. Start Protege, select **Open an existing ontology**, navigate to the unzipped file, and open it. You can also double-click the file if it has a **.owl** extension.
- 4. Use the **Classes** tab to view the class hierarchy and the **Individuals** tab for specific instantiations of the Feature Demo model.
- 5. Explore classes corresponding to ISO-13606, HL7 CDA, and cityEHR-specific components.
- 6. Under the **Object Properties** tab, expand **Top Object Property** to view all object properties in cityEHR. These are split into two sets, with names starting 'has' or 'is' each named pair being the inverse of each other.
- 7. Similarly, use the **Data Properties** tab to view all data properties available in the architecture.

Edit the Ontology

In Protege, try adding a new section to a form or new entries to an existing section. Save your changes using **Save As** to preserve the original file in case of errors.

Note: Ensure you follow your workshop instructor's guidance to prevent issues in the ontology structure.

Load the Model to cityEHR

- 1. Return to the cityEHR Admin page and select **Import Information Model** from the left-hand menu. Browse to your OWL/XML file, upload it, and then click **Import**.
- 2. Once the import completes, a summary of the loaded model will appear. If errors are found, the model will not be loaded, and the errors will be reported.
- 3. After a successful import, return to the Patient Search screen. Select a patient and navigate to the updated form to verify the changes.

Manipulating the Information Model as a Spreadsheet

If you have administrative access, your Administration Page, Figure 109.



Administration Page

Manipulating the information model as an ontology is quite difficult and it is easy to make a mistake. There are several underlying reasons for this:

- the atomic assertions in an ontology mean that two or three related assertions need to be made to specify fairly simple associations (for example, to create a section which has a title and two subsections will take at least six separate assertions)
- ontologies are used to classify and reason, but are not good for constraining users in the models they can create - we can easily find that a model is inconsistent, but its not so easy to prevent users from creating an inconsistent model in the first place.

To get around these issues, and to create tooling that clinical users are able to work with more easily, the information model for cityEHR can also be created and modified using a standard spreadsheet package.

The open source Open Office spreadsheet is used to create a model in a way that is easier to control, in terms of the constraints that can be applied.

When the spreadsheet model is ready it is then saved as an XML file and is transformed from that to an ontology in OWL/XML format as it is loaded to the cityEHR.

- 1. Using Open Office, open the file cityEHR Specialty Feature Demo.ods in the information model directory of the materials
- 2. This is an open office spreadsheet set up with a cityEHR information model. It has about 20 sheets (see the tabs along the bottom left) and you will see that some of these correspond to components in the ISO-13606 model Folders, Sections, Entries, Clusters, Elements
- 3. Other sheets correspond to particular types of Composition Views, Forms, Letters, etc

- 4. We are going to use the spreadsheet to add our own new form to the information model.
- 5. To do this, move to the Forms sheet and enter details of the new form on one of the blank lines (don't insert a new line, just use one of the existing blank lines the sheet should be protected to prevent you from inserting or deleting lines).
- 6. In the column called Form Id enter an identity for your form this must use only the characters a-zA-Z0-9 (i.e. no spaces or special characters, including dashes). The form will use the Display Name you enter in the second column this is the title of the form and can contain any characters, including spaces and special characters. We will set our Form ID to Test Form and Display Name to Test Form so that it is easily identifiable in the interface.



Specialty - Feature Demo.ods Information Model

- 7. The Rank column determines the order in which your form will be listed, relative to the other forms already defined enter a low number to see it near the top of the list or a high number to see it at the bottom
- 8. The fields that are buff coloured and headed Sections are where you can select the sections that will appear on your form-you pick these from the drop down lists in each field. Sections will appear on your form in the order in which they are listed here.
- 9. The sections in those drop down lists come from the Sections sheet. You can move there to see how sections are defined in a similar way to Forms. You can add a new section here and add Entries to it, in the same way that you added sections to a form.
- 10. In the Entries sheet you can add new entries, each with a list of elements as contents. Finally, you can defined elements on the Elements sheet, with their data types, including lists of enumerated values, if required.
- 11. Once you are happy with your changes save the spreadsheet under a new name (its important to do this in case you have made a mistake and need to revert to the previous version).

Note: skip the next steps if you are instructed by your workshop organiser to load models directly as a spreadsheet file.

- 12. Having saved the new spreadsheet you now need to save it again, but this time in XML format. To do that use Save As and select in the File type dialogue at the bottom of the screen for Microsoft Excel 2003 XML (.XML) note that this option may be scrolled off the bottom of the list of file types when you first select the list.
- 13. The save as XML will take about 30 seconds. Once successfully saved, make sure you close the spreadsheet since it is now in XML format and any additional changes you make to it will not be properly recorded in the spreadsheet. (to make further edits, reopen the .ods file and re-save as XML when you are done).
- 14. Back in the cityEHR interface, navigate to the Admin page and select Import Information Model from the list of selections on the left.

cityEHR	×	+												
$\leftarrow \ \ \rightarrow \ \ {\bf C}$	(0 0	localhost:8080)/cityehr1-7-RC2	2/ehr/cityEHRAd	imin/?userId	d=admin&ses	ssionId=dd8aa	a5162906c31403af	792d3e82c24		☆		⊚ ≡
									Dashboard	Patient Searc	h Patlent Cohorts	Qui In-Tray	Administration Registration	city EHR
		Hide	cityEHR /	ISO-13606-	Folder-Elfin	2 - Admi	inistration	n - Manage	Application P	arameters			•	Show
▼ System			Application	ityEHR v						Debug Info:	Startup Log		~	anto Edit 🗌
Manage Application Parame	otors		Name: cityEH	B										
Manage System Parameters	8		Version: V1.7- Date: 2021-09	-RC2 -22T12:46:53.40	2-07:00									
View Audit Log			Users: 1											
New Application			Specialties: 3											
Inspect Spreadsheet			Information M	lodels: 7										
► Database			Compositions	2										
Information Model														
Directory														
Users and Care Teams														
Knowledge Sources														
► Patient Records														
Cohort Searches														
Export Data Sets														
Redirect Notifications														
My User Account														
Manage Patient Access cityEHR Version Number - V1.7-RC2	User: cl	IYEHR Ad	ministrator / Elfin 2	Logged on: 09:41:	18 on Monday, 18th (October 2021	Last logged on	n: 08:00:24 on Mor	nday, 18th October 2021					

Navigating to the Information Model page

- 15. Browse to the information model spreadsheet you have just created and press to open it. The file will now be 'uploaded' to the cityEHR server. Once that has completed, an Import button will appear on the right of the display screen.
- 16. Press the import button and wait for the model to import to the database. This may take between 20 seconds and a couple of minutes, depending on the power of your machine.
- 17. Once completed, you will see a summary of all the processing that has been made, including lists of an errors found in your model.
- 18. If the model loaded successfully you can now navigate to the Patient Search page, find a patient, select Forms and you should see your new form available in the list of forms to create.



Forms page displaying new form

Configuring a Runtime Application

There are two types of applications you can create. You can either create a new one from scratch, or one that is shipped with cityEHR (like Elfin, Elfin2, or Ponseti). Instructions for making a New Application can be found in Section 13.1, and instructions for making an application that is shipped can be found in Section 13.2

Creating Your Own cityEHR Application – New Application

These instructions assume you are making an application with the identifier myEHR. Note that this identifier can contain upper/lower case characters and digits but no spaces.

- 1. Navigate to cityEHR Log-in Page
- 2. Enter user credentials. If you are starting from a blank database, the admin page will take a while to load. For this initial log-on, you will have to authenticate with username: user and password: password. This log-on may take some time as the system builds the application. Your screen may look like this:

	Loading
Import-informationModel (51/55) ImportinformationModel -createCompositions	
Welcome cityEHR Administrator	
Start Quit	
EHR	and the second second
084/H Elistonic Huan Record 0 2013 2020 Junn Cheisism Oper Hauth Mohmutick Research Programme	

cityEHR log on page loading

3. Click "Start"

Welcome cityEHR Administrator	city
Authentication successful.	H R
cilyEHR Electronic Heath Record © 2013-2020 John Chelsom Open Health Informatics Research Programme	

cityEHR log on page start up button

4. Navigate to the Administration Page at the top right of the screen next to "Quit". Click "Administration".

	Dasi	hboard Patient Searc	h Patient Cohorts	Quit Administration	city EHR
Hid	cityEHR - Administration - Manage Application Parameters				Show
▼ System	Application cityEHR v	Debug Info:	Startup Log		🗸 🚥 Edit 🔲
Manage Application Parameters			-		
Manage System Parameters	Name: cityEHR Language: en-GB		Cli	ick "Administra	tion"
View Audit Log	Version: V1.7-2021-12-05-1 Date: 2021-12-07T15:26:32.276Z				
New Application	Users: 1				
Inspect Spreadsheet	Specialties: 2				
▶ Database	Information Models: 6 Records: 0				
Information Model	Compositions: 0				
Directory					
Users and Care Teams					
Knowledge Sources					
Patient Records					
Cohort Searches					
► Export Data Sets					
Redirect Notifications					
My User Account					
Manage Patient Access					

Primary Administrative page

5. Now navigate to and click on "New Application" in the menu left of the screen. See below.

[Quit /	dministration	city
		Dashboard	Patient Search	Patient Cohorts	In-Tray	Registration	EHR
His	⁵⁰ cityEHR - Administration - New Application						Show
▼ System	waiting						
Manage Application Parameters	Enter identifier for the new application						
Manage System Parameters	Application Id:						
View Audit Log							
New Application							
Inspect Spreadsheet	Click "New Application" and then enter an Id in the box						
► Database	called"Application Id"						
Information Model							
► Directory							
Users and Care Teams							
Knowledge Sources							
 Patient Records 							
► Cohort Searches							
► Export Data Sets							
Redirect Notifications							
My User Account							
Manage Patient Access	v						

New Application page within Administration

- 6. Now enter an Application Id. For this exercise, we will name the Application Id "myEHR". Ids can be made up of upper and lower case characters a-z, digits 0 to 9, and dashes (-) or underscores (_). There cannot be spaces in the Id. Some installation Ids have configurations shipped with the cityEHR installation and if you pick one of those Ids it will install that configuration for you. if you pick a new Id, then it starts from scratch. myEHR will be our new Id for this exercise.
- 7. Now click the button that has a check mark to verify your application Id.

	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration
Hise cityEHR - Administration - New Application	
em myEHR / waiting	
Ianage Application Parameters	
tanage System Parameters Application Id. TmyEHR	1. Click the check button called "Verify Application Id"
/iew Audit Log	ten j rippied en te
New Application	
Inspect Spreadsheet	
Database	
nformation Model	
Directory	
Jsers and Care Teams	
Knowledge Sources	
Patient Records	
Cohort Searches	
Export Data Sets	
direct Notifications	
/ User Account	
inge Patient Access	

Verifying the Application ID

8. If this ID has never been used before, your screen will look like this:

	Dashboard Patient Search Patient Co	Quit Administration whorts In-Tray Registration	City Effi
Hit	eityEHR - Administration - New Application		Show
▼ System	myEHR / application-parameters-built You can change the display name here		5 5
Manage Application Parameters			
Manage System Parameters	Application Configuration (application)		
View Audit Log	Iso-13606:EHR_Extract id: #ISO-13806.EHR_Extract.myEHR_displayName: myEHR_baseLanguageCode: en-GB_commonModel in	defaultSpecialty:	
New Application	city		
Inspect Spreadsheet	Application logo hint: 60 x 60 px value: /applications/ISO-13608 EHR_Extract-cityEHR/images/cityEHRLogoTall-Simail png	You can also change the logos	
► Database	Application favicon hint: 16 x 16 px value: /applications/ISO-13606-EHR_Extract-cityEHR/images/cityEHRLogoTall-Small.ico 🗙 🚟	here h	
Information Model	Splash page header logo hint: Recommended width is 720px value: Browse No file selected.		
Directory			
Users and Care Teams		CITY	
Knowledge Sources			
Patient Records			
Cohort Searches	Solash page image left hint: Recommended with 360xx or 180xx, value: /angleations/ISO.13606.EHR Extract.chvEHR/mages/chvEHRI ognTall.Medium pgg		
 Export Data Sets 	Splash page image, reit imit recommended width 300px or 100px value. Browse. No file selected.		
Redirect Notifications			
My User Account			
Manage Patient Access			

New application configuration

- 9. You can change the display name of your new application and change the logos.
- 10. Once you are finished changing the display name and logos (if you want), you can now click on "Create New Application ID" identified by the lighting bolt. See image below.

	cityEHR - Administration - New Application	Show
▼ System	m/ER4 / aplcatio-parameters-bult	*
Manage Application Parameters		_
Manage System Parameters	Application Configuration (application)	
	Iso-13006:EHR_Extract id: HISO-13006.EHR_Extract.myEHR_display/lame: myEHR_baseLanguageCode: en-G8_commonModel: defaultSpecially:	
New Application	city	
Inspect Spreadsheet	Application logo hint: 60 x 60 px value: /applications/ISO-13606/EHR_Extract_cityEHRLogoTall-Small.png	
► Database	Application favicon / hint: 16 x 16 px value: /applications/8SO-13006 EHR_Estract-chyEHR/images/chyEHRLogoTail-Small.co 🗙 🚟	
Information Model	Splash page header logo hint: Recommended widh is 720px value: Browse_ Ito fife selected.	
► Directory		
Users and Care Teams	CITY	
Knowledge Sources		
▶ Patient Records		
Cohort Searches	Salash mane imane left hof Recommended with Yillow view instriction/ISO-1966-FHR Extent-ch/FHR image/ch/FHR instruction/FHR in	
► Export Data Sets	Splash page image, right hint. Recommanded with 350pc or 100pc . value [Recover_] No This selected.	
Redirect Notifications		
Manage Patient Access		
Test Web Service		

Creating a new application ID

11. A Dialogue Box will appear. Click Confirm.

	Ouit Administration City Deshboard Patient Search Patient Cohors In Tray Registration	Y
Hde	cityEHR - Administration - New Application	<i>an</i>
	myEHR / application-parameters-built	*
	Application Configuration (application)	
	Iso12806:EIR_Extract of #100-13006.EIR_Extract.m;EIR displaylame: m;EIR baseLanguageCode en-GB commonModel defaultSpecialy:	
New Application	i maga	
	Application kogo Ant. 60 x 60 px value: Applications/SD-13665-EHR_Estrat-ts/EHR/imagesich/EHR_Lop/Tat/Small pn x	
	Application favicon / hirt 16 x 16 px value: /applications150-13606- imali ico 🗙 🚟	
	Splash page header fogo hint: Recommended widh is 720pr. value: Create new aplication	
	Create anne chyEPR application with the id	
	opene programme met in in in international with 300pc of 100pc value. Beyond the first selected.	
Test Web Service		

Dialogue box to create new application

12. cityEHR will now create your new application. This may take a few moments. Your screen should now look like this, with three completed steps:

	Dashboard Patient Cehora in Januari automati	J
Hde	chyEHR - Administration - New Application	
System	canadaEVR / compiled-organit-application	
	2022-05-22(1):024-24:41:24:00()(073:175))	
	(1)(2)(3)(3)(4)(4)(4)(2)(3)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)	
pply All Language Packs		
iew Audit Log		
ew Application		
abase		
rmation Model		
rs and Care Teams		
wiedge Sources		
ient Records		
ort Searches		
ort Data Sets		
ct Notifications		
ge Patient Access		

Page displayed when new application is created

- 13. Once cityEHR has finished creating your application, navigate to "Quit" in the Purple Dashboard.
- 14. On the log-in page, you should now be able to select your new application in the drop-down menu.

Welcome chyGRR Administrator Authentication successful You can access new than one syndication.
ect myEHR from dropdown
de click Start extension teal fead extension tead extension tead extension teal fead e

Selecting alternative application on cityEHR log on page

15. your application will be "empty" until you create, configure, and import an information model for your application. Navigate to section 13 called "Manipulating an Information Model" for instructions on how to do this.

Creating a Shipped Application

This section will teach you how to create an application that ships with cityEHR, such as Elfin or Elfin2. For this example, we will create an application with the id Elfin.

1. Navigate to Administration page and then to "New Application" under "System" in the menu on the left of the screen.

		Dashboard	Patient Search	Patient Cohorts	Qui A In-T.u,	dministration	city EHR	
Hde	cityEHR - Administration - Manage Application Parameters	and the second					Show	1
▼ System	Application cityEHR 🗸		Debug Info: S	tartup Log		T	antis Edit)
Manage Application Parameters								
Manage System Parameters	Name: cityEHR Language: on-GB		1 N		A			
View Audit Log	Version: V1.7-2021-12-08-1 Date: 2021-12-08T10-09-57-32Z		1. INA	vigate to	Adm	iinistra	uon	
New Application	Users: 1							
Inspect Spreadsheet	Specializer 3							
▶ Database	Record A							
Information Model	Compositions: 911 2. Navigate to New Application							
► Directory	under "System"							
Users and Care Teams								
Knowledge Sources								
► Patient Records								
► Cohort Searches								
 Export Data Sets 								
Redirect Notifications								
Manage Patient Access								
Test Web Service								

Navigating to New Application in Administration

2. Enter the shipped application id "Elfin" or "Elfin2" or "Ponseti". For this exercise, enter the application ID "Elfin2".

		Dashboard	Patient Search	Patient Cohorts	Quit / In-Tray	Administration Registration	city
Hide	cityEHR - Administration - New Application						Show
▼ System	Elfin / waiting						5 🗸
Manage Application Parameters	Entar identifier for the new understion						
Manage System Parameters	Application Id. Effin						
New Application							
Inspect Spreadsheet							
► Database							
Information Model							
► Directory							
Users and Care Teams							
Knowledge Sources							
► Patient Records							
► Cohort Searches							
► Export Data Sets							
Redirect Notifications							
Manage Patient Access							
Test Web Service							

Entering the shipped application name "Elfin2"

3. Click "Verify Application Id" (the check mark icon) in the top right of the display screen.



Verifying the new application "Efin2"

4. Your screen should now look like the one below if you have typed in Elfin2.

	Dashboard Patient-Scarch Patient-Scarch In Tary Registration
Hide	cityEHR - Administration - New Application
	Effin / application parameters built
	^^^
	Application Configuration (application)
	bo-1980KERE_barear ir #ISO-1966EHR_bareart ir #ISO-1966EHR_bareart #ISO-
New Application	
	Application logo hnt: 60 x 60 pc valve: /applications/ISO-1500EEHR_ExtractElInimagns/ullinicon prg 🗙 🐨
	Application function hint: 16 x 16 pic value:
	Create new aplication
	Create a new cityEHR application with the id
	Splach page header logo - hirt: Recommended width is 720pr. value: /applications150-13606-EHP, Extract Ethn/mages/elfhSplach.png 🗴
	TRIDE

Configuration page and dialogue box for Elfin

5. If you have typed in "Ponseti" as the application ID, your screen will look like the one below.

	How cityEHR - Administration - New Application	Show
▼ System	Ponseti / application-parameters-built	5 5
Manage Application Parameters		^
Manage System Parameters	Application Configuration (application)	
View Audit Log	Iso-13006:EHR_Extract id: #ISO-13006 EHR_Extract Ponseti displayName dubFOOT Database baseLanguageCode en-G8 commonModet: defaultSpecialty: #ISO-13006 Folder F	² onseti
New Application	club	
Inspect Spreadsheet	Application logo hint: 60 x 60 px value: /applications/ISO-13606.EHR_Extract.Ponseti/images/clubFootDB/contDB/control	
► Database	Application favieon hint: 16 x 16 px value: /applications/ISO-13008-EHR_Extract-cHyEHR/ImagesicityEHRLogsTall-Small.co 🎽 🛗	
 Information Model 		
Directory	ClubFOO	5 J.
Users and Care Teams	Splash page header logo hint: Recommended width is 720px value / applications/ISO-13606 EHR Extract-Ponset/images/clubFootDBBanner.png	
Knowledge Sources		a 1
 Patient Records 		
Cohort Searches		
 Export Data Sets 		
Redirect Notifications		
My User Account	Splazh page image, left hint: Recommended width 360px or 180px value: /applications/ISO-1380s-EHR_Extract-Ponset/images/BootsAndBar/pg X	
	Splash page image, right hint: Recommended width 360px or 180px value: Browse No file selected.	~

Shipped application, Ponseti configuration page

6. These are two applications that ship with cityEHR that can be created in your local database.

Hide	cityEHR - Administration - New Application	Show
▼ System	Efin / completed-create application	5
Manage Application Parameters	2021-12-0713-33-29-00227 (PTTM31-096S)	
Manage System Parameters	(1):22 cristle-application (created-application-separatized) / / / 2:3/15 (2):22 cristle-application (created-application-input / 2:3/15) (2):22 cristle-application (created-application-input / 2:3/15) (2):22 cristle-application(cristle) / 2:3/15) (2):	
View Audit Log	G232 import elementationAdd / importing maintainabilidad en agri / TTD 103 G23 import elementationAdd en agri / TTD 103 G23 import elementationAdd en agri / TTD 103	
New Application	(92) import information/dotal / importing/matinat/holds/generativ/clicinary / PT4.1776 (72) import information/holds/ - importing/matinat/holds/generativ/clicinary / PT4.1776 (72) import information/holds/ - importing/matinat/holds/generativ/clicinary / PT4.1776 (72) import information/holds/ - importing/matinat/holds/generativ/clicinary / PT4.1776 (72) import information/holds/generativ/clicinary	
Inspect Spreadsheet	(822) import information/Model / importingmation/Model exhaul/Directories / PT25: 5518 (822) import information/Model / importingmation/Model exhaul/Directories / PT25: 5519 (822) import information/Model / importingmation/Model exhaul/Directories / PT25	
► Database	(1002) import-informationModel / importinformationModel-idea#FormCache / PT1 028 (11/22) creates application / creates / 1096-641Effis Security FLS Del 2018.cm / PT7 9525	
► Information Model	(2022) inport-idemainalizationModel / importinemationModel-welly / PTI 0428 (1022) import-idemainalization/ importinemationModel-welly / PTI 0428	
► Directory	(4d2) inpat-idmatiated/ada/ impatificationalistica/ada/1971.155 (15d2) inpat-idmatiated/ada/ impatificationalistica/apartability/ada/ada/ada/ada/ada/ada/ada/ada/ada/ad	
Users and Care Teams	(903) import-eformatizen/ded / importificemanisten/ded-createCompositions // 1106/14493 (1772) import-eformatizen/ded / importificemanisten/ded-createCompositions // 1106/14493	
► Knowledge Sources	(1932) import-formational integrational and integrational and integration and integrated and integrated and in	
► Patient Records	2132) inport-informationAdul / importinformationAdul-andy / PTI 023 2222) import-informationAdul / importinformationAdul-andy / PTI 023 2222) import-informationAdul / importinformationAdul - may / PTI 023	
► Cohort Searches	2023) import-informationAdod / importinformationAdod-awa / PT3 3356 [24/2] import-informationAdod / importinformationAdod-awa / PT28 1378	
► Export Data Sets	(2502) import-informationModel / importInformationModel-catatCompositions / IPTMM 3495 (2502) import-informationModel / importInformationModel-inclusionComposition / IPTA 065	
Redirect Notifications	(27/3) import-informationModel / importificmationModel-ioptateLanguagePacka / PT123VS (2023) import-informationModel / importificmationModel-index/mc2akar / PT0565	
My User Account	(2012) create-application / create-lapplication-importMedia / PTD 8655 (2012) create-application / create-lapplication-importMediations/ PTD 1035 (2012) create-application / create-lapplications/ PTD 1035	
Manage Patient Access	(JIA) (Shaki piptulari) i Shaki piptulari) i Shaki piptulari (Shaki Shaki Sha Shaki Shaki Sha	
Test Web Service		

Page displayed when new application (Elfin) is created

- 7. Now click "Create New Application" (lightning bolt icon) and wait for it to load. This may take a few minutes.
- 8. Once it has finished creating, navigate to Quit in the Purple Dashboard
- 9. You should now be able to select "Elfin 2" as an application from the log-in page
- 10. Click Start and you will be navigated to the start-up home page for Elfin2.

Creating an Information Model

Creating and Configuring the Information Model

The information model for your EHR application can be created in a spreadsheet by copying the model for the default cityEHR application that is found in the files:

- cityEHR Specialty Feature Demo
- cityEHR Class Diagnosis
- cityEHR Class Drugs
- cityEHR Class LabTest

All four spreadsheets have a Configuration sheet at the front which looks as follows:

0	0		👕 cityEHR – Specialty – Featu	re Demo 130.ods - OpenOffice.org) Calc	
1	• 🔰 🗔 👒 📝 🚦	🗟 🖴 🔍 🏷 🌉 😹 🗞 🛍 • 🛷	' 🔄 - (2) - 💩 🛃 👗 🗄 🏏	🏙 🧭 💼 🗟 🔍 🔞 📘 Find	■ ♣ ♣	
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B15	; 🗾	βx Σ = allow				
	Α	В	С	D	E	F
1	Parameter	Values				
2	Application	cityEHR	cityEHR Base Application	City University, London		
3	Specialty	FeatureDemo	cityEHR Feature Demo			
4	Layout	Ranked	Unranked	Ascending	Descending	
5	CRUD	R	CRU	CRD	CRUD	
6	Occurrence	Single	MultipleEntry			
7	InitialValue	Empty	Pre-filled	Default		
8	DataType	boolean	date	dateTime	time	duration
9	EntryType	Act	Encounter	Observation	Procedure	RegionOfInterest
10	ValueRequired	Optional	Required			
11	ViewType	Folder	Composition			
12	Rendition	Form	ImageMap	Standalone		
13	ElementType	memo	media	patientMedia	calculatedValue	enumeratedValue
14	CohortSearch	PrimarySearch	Searchable	NotSearchable		
15	RBACtype	allow	deny			
16	Roles	clinician	administrator			
17	Scope	Full	Defined	Expanded		
18	FormLayout	Form	Section	Entry		
19	PathSeparator	/				
20						
21	NR Configuration	Contents Folders Views				•
Sho	et 1 / 21	Defaul	+	STD	Sum=0	
She	21/21	Deraul	L	310	Sum=0	U U U U U U U U U U U U U U U U U U U

Configuration page of information models

- 1. To begin doing this, open the cityEHR webapps folder
- 2. 2. Navigate to the following folder: *webapps/cityehr/WEB-inf/resources/apps/ ehr/resources/applications/ISO-13606-EHR-Extract-cityEHR/informationModel*



Folder path of information models You should land on the page above

- 3. Open the file named: Open the file named cityEHR-Specialty-CommonModel.
- 4. Go to File # Save a Copy # Rename it to your applicationId-CommonModel
- 5. Save your copy somewhere convenient.

6. Close the original cityEHR-Specialty-CommonModel

- 7. Open the copy you have saved at the location you saved it in.
- 8. Change the ApplicationId on the Configuration page to exactly match the ApplicationId you assigned your new application. This is found on Line 2, Cell B on the Configuration Sheet (1st sheet).

	vancouverEHR-Specialty-CommonModel-9.ods - LibreOffice Calc - * 9									
File	Edit View Insert	Format Sheet Data Tools W	lindow Help							
	글 - 철 - 글 - 전 목 정 실 학 합 - 술 · · · · · · · · · · · · · · · · · ·									
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82	- 3	k Σ = vancouverEHR								
	A	8	с	D	E	F	G	н		
1	Parameter	Values								
2	Application	vancouverEHR	tyEHR Base Application	City University, London				T		
3	Specialty	cityEHRBase	cityEHR Common Model							
4	Layout	Ranked	Unranked	Ascending	Descending					
5	CRUD	R	CRU	CRD	CRUD	UL	L	0		
6	Occurrence	Single	MultipleEntry					22		
7	InitialValue	Empty	Pre-filled	DistinctValues	Default			78		
8	DataType	boolean	date	dateTime	time	dayTimeDuration	yearMonthDuration	double		
9	EntryType	Act	Encounter	Observation	Procedure	RegionOfInterest	SubstanceAdministration	Supply		
10	ValueRequired	Optional	Required							
11	ViewType	Folder	Composition							
12	Rendition	Form	ImageMap	Denoted	Enumerated	Standalone	Chart	Highlighted		
13	ElementType	memo	media	patientMedia	calculatedValue	staticValue	enumeratedValue	enumeratedClass		
14	CohortSearch	PrimarySearch	Searchable	NotSearchable						
15	RBACtype	allow	deny					1		
16	Roles	clinician	administrator							
17	Scope	Full	Defined	Expanded	Hidden					
18	FormLayout	Form	Section	Entry						
19	PathSeparator	/								
20	LanguageCode	en-GB (han	no this to	NOUR						
21		Chan	ge tins to	y your						
22			Τ	-						
23		Appli	cation IF							
24		Appli								
25										
20		Make sure you are	on the							
28		Configuration Page								
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	Configu	ration Poiders Views Mess	ages Forms Letters Pathwa	ys Orders Prescriptions Bo	okings Sections Sections (Task	s) Entries Entries (Actions)	clusters elements Units			
X	Find	👻 💎 🧼 Find All	Formatted Display Match Cas	• 🙀						

Changing the Application ID within the information model

- 9. Save your changes (File # Save)
- Now, navigate to File ---> Save As --> keep the name the same --> change the format to .xml under "All Formats" in the bottom right of the pop-up window. See image below.



Saving the file as an XML

- 11. Close your windows
- 12. Open cityEHR back up.
- 13. Log-in using the same credentials
- 14. Now navigate to your EHR. This should be added in the drop-down under "You can access more than one application"



Selecting your application on cityEHR log on page Click Start

- 15. Navigate to Administration
- 16. Navigate to Information Model --> import information model on the menu on the left-side of the screen
- 17. Click Browse
- 18. Find the .xml file you just saved. Note: It will not work if you don't select the .xml file
- 19. Select the .xml file

vancouverEHR × +									
€ → ሮ ŵ	0 localhost:8080	/cityehr/ehr/cityEHRA	dmin/?userId=admin&sessionId=cf9d9a60c7ef4d4a84962e8dfb7a914f			90% (2 ☆	lin. CO	: ≝
	1		File Upload			earch Patient	Cohorts	Quit Administration In-Tray Registration	my ETR
Hide	vancouverEHR		4 ☆ scabrera22 Marktop vancouverEHR >						Show
► System	The model must confor		Name VancouverEHB-Specialty-CommonModel-9 ods	✓ Size 57.4 kB	Modified 10 Mar				
► Database	Graph - graphML (creat Spreadsheet - MS 2003	Desktop	vancouverEHR-Specialty-CommonModel-9.xml	2.7 MB	10 Mar				
v Information Model	Information model for a	Downloads							
Manage Information Model						-			
Import Information Model									
Local Information Model									
Manage Media									
Manage Image Maps									
Directory									
Users and Care Teams									
► Knowledge Sources									
► Patient Records									
► Cohort Searches									
► Export Data Sets									
Redirect Notifications									
My User Account									
Manage Patient Access			-		All Files 👻				
Test Web Service				Cancel	Dpen				

Selecting new XML file for import

20. Import the information model using the icon at the top-right of the window. See image below.

vancouverEHR × +				
↔ ở ŵ	Contemp Contemporary Contempo	99% … 🗟 🕁	in 🖸	8 ≡
		Dashboard Patient Search Patient Cohorts	Quit Administration In-Tray Registration	my Ett
Hide	vancouverEHR - Administration - Import Information Model			Show
► System	The model must conform to the cityEHR specification in one of the following formats.			
► Database	Graph - graphML (created by Yed) or mm (Mindmap) Spreadsheet - MS 2003 XML format			
▼ Information Model	information model for upload (Ontology, Spreadsheet or Graphi: vancouverEHR-Specialty-CommonModel-9.xml 2.6 MB 🗶			
Manage Information Model	Merge existing model 🗌 Rebuild directories 🖬			
Import Information Model	Loaded file to: file;/usr/share/apache-tomcat-9.0.56/temp/xforms_upload_1647011379755092104.tmp Load data from file, ready for processing.			
Local Information Model	Data file is XML with root: Workbook Recognised information model format: MS Office XML 2003 format (.xml)		- 4	
Manage Media	Input model is a spreadsheet - converting to OWL/XML. Transformed uploaded file to OWL/XML.	Click this hout		
Manage image Maps	Filename: vancouverEHR-Specialty-CommonModel-9.xml		Jullor	1
Directory	iype: test/armi Size: 2704217			
Users and Care Teams	Content: file:/usr/share/apache-tomcat-9.0.56/temp/xforms_upload_1647011379755092104.tmp	to import		
► Knowledge Sources	Root Element: Ontology Urbanded file contains:			
Patient Records	Common information model			
Cohort Searches	#ISO-13606-EHR_Extract:vancouverEHR #ISO-13606-Folder:cityEHRBase			
► Export Data Sets	arrya Diamor			
Redirect Notifications	1 warnings.			
My User Account	Context: Composition: ClinicalAssessment Warning: Rank not defined - set default of 1			
Manage Patient Access				
Test Web Service				

Button to begin import of new information model

- 21. You should now land on a page that shows you the completion of 8 steps.
- 22. Navigate to Quit.
- 23. Log back into your application.
- 24. Navigate to Administration
- 25. Navigate to Application Parameters found in the menu on the left-hand side of the screen.
- 26. Click "Edit"

$\leftarrow \ \ \rightarrow \ \ {\bf C}$	🛇 🗋 🕫 🕶 localhost 8080/dityehr/ehr/cityEHRAdmin/luserId=admin8isessionId=8c679885188257e18919f4547ec7f2bf	80% 😭	☺ 🗋 🚸 ≡
		Daabboard Datiant Faarsh Datiant C	Quit Administration
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▼ System	Second text and the second secon	Debuo Info: Startun Los	
Manage Application Parameters	parameters en-gb - English / en-gb - English v		
Manage System Parameters			^
Import Language Pack	Appleates Configuration (application)	ale al la	
Apply All Language Packs	inagos	SUCCE VENUE	
View Audit Log	my		
New Application	Application logo hint. 60 x 60 px value: /imoges/ny/EHRLogoTall-Small.prg 🗙 EHR	Click Edit	button
Inspect Spreadsheet	Application favicon hint: 16 x 16 px value: ImageshrytHRLogsTail-Favicon ico 🗙 🚟	Cher Luit	Satton
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 Information Model 	mv		
► Directory	y		
 Users and Care Teams 			
Knowledge Sources	비미하는 이 비미 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이		
► Patient Records	Splash paga imaga, latt hirt Recommended with 360px value. ImagesImpEHRLogTaFileSum.png 🗙		
► Cohort Searches	Splash page Image, right hirt: Recommended with 300px or 10px value [Browse] No the selected.		
► Export Data Sata			
Redirect Notifications	Inngurge code en -G0 display/ilame. English		
My User Account	X Anguage code: er ES daplayliane. [Spanish		
Manage Patient Access	Home Page - Accreditation (accreditation)		
Test Web Service	• in		
	X Inna (ch, EHR Bectronic Heath Rec		
	King (b 2013-2020 John Chelson		
	X Inter Open Health Informatics Res		

Editing Application parameters

27. Navigate to the "commonModel" option on the screen and ensure that the option #ISO-13606:Folder:cityEHRBase is selected (see below)

$\leftarrow \ \ \rightarrow \ \ G$	🔿 🗅 🕫 🕶 localhost:8080/dtyehr/ehr/cityEHRAdmin/TuserId=admin&sessionId=8c679885188257e1891944547ec772bf		80%	S 📄 🧶 =
			Dashboard Patient Search Patient Cohort	Quit Administration
	* trial1 - Administration - Manage Application Parameters			Show
▼ System	Specialities CityEHR Base Model v		Debug Info: Startup Log	v anno Edit 🗹
Manage Application Parameters	parameters en-gb - English / en-gb - English v			
Manage System Parametera	Antication Configuration (Anticology)			^
Import Language Pack	iao-19886:EHR_Entract is: #DO-19886:EHR_Extract trial1 displayName: Trial 1 baseLanguageCode: en GB co	mmonModel #SO-13886:Felder.cityEHRBase v fautSpecialty Select Value -	v l	
Apply All Language Packs	imagea			
View Audt Log	my			
New Application	Application logo hint 60 x 60 px value: /mages/myEMBLogoTal-Smatterg 💥 🗮			
Inspect Spreadsheet	Splash page header logo hint: Recommended width is 720px value. Trovers. No file selected.			
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► Directory		Ensure		
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	Mine chyEHR Electronic Heath Res			
	Mine at 2013-2020 John Chelson			
	Ime Open Health Informatics Res			
	-			

Selecting the cityEHR Base folder

28. Click Save and Navigate to Quit

$\leftarrow \ \rightarrow \ \mathbf{G}$	🔘 🗅 🛤 🕶 localhost:8080/cityehr/ehr/cityEHRAdmin/?userId=admin&usessionId=8c679885188257e18919I4547ec772bf	80% f	3 🔍 🗌) 🔷 🗉
		Databloard Datient Search	Quit Administrat	tion my
н	56 trial1 - Administration - Manage Application Parameters		resent counts arring magnets	Show
▼ System	Specialities: CelyOHR Base Model 🚽	Debug Info: Startup Log	v ante	Edk 🖬 🔊 🖬
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► Directory				
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Test Web Service				
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Saving Application Parameters

- 29. Log back into your application
- 30. Navigate to Patient Search and Registration in the top-right fo the screen on the purple dashboard
- 31. You should see a fully formed Patient Search Page and a Registration Page. See below:

A Millouverent A	T				
↔ ↔ ↔ ↔	0 localhost:8080/cityehr/ehr/cityEHRPatientSearch/?userId=admin&sessionId=cf9d9a60c7ef4d4a84962e8dfb7a914f	(90%	🖂 🏠	In E	3 📽 🗄
	Di	shboard Patient Search	Patient Cohorts	Quit Administration In-Tray Registration	my
Recent Care Team	the second se				
	Patient Search			Order by Hospit	tal Number
	Pater II Summe Parenane Day of Bink - Select Value - North North Day of Bink - Select Value - North North Consultati				

Populated patient search page on your application

- 32. Navigate to Registration page
- 33. On the Registration page, register one patient. Click the menu button at the top right of the screen to finalize the registration.

vancouverEHR	× +		
← → ♂ ☆	0 localhost:8080/cityehr/ehr/cityEHRRegistration/?userid=admin&sessionId=cf9d9a60c7ef4d4a84962e8dtb7a914f		Ξ
		Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration	ny IR
	22-Mar-2022 - Patient Registration *	ه	11
	Patient Demographics		
	IH-S Number 123 Hospital Number 9876 Overseas Patient Find Demographics		
	Tible Mr - Forename Bat Surname Man		
	Gender Male Justo of Birth 10-3-1970		
	Address 2765 Oxford st Town/City Oxford Postcode OX4 0C2		
	GP Details		
	Code 8389 Dr Applesauce Planty Pind Or	Click Register	
	Address 1111 London St TownyCrity London Poscobe OV6 7EN	Click Register	

populated patient registration page on your application

Congratulations! You have registered one patient and made your own base application.

Activity complete! Quit cityEHR. If you would like to learn how to make changes to the spreadsheet to add Forms, Sections, Entries, Clusters, and Elements, please refer to the separate Information Modelling Guide.
Managing Information Directories

Element Directories

Directories are stored text that the user can edit. This section will show you how to access and edit element directories in cityEHR.

1. Navigate to the Admin screen of your chosen application. For this example, we will use Elfin 2.

		Dashboard Patient Search Patient Cohorts	Quit Administration City In-Tray Registration EHR
Hide	cityEHR - Administration - Manage Application Parameters		Show
▼ System	Apploaten dyEHR v	Debug Info: Startup Log	v 🔤 Edit 🗋
Manage Application Parameters			
Manage System Parameters	Name objetik Language: en-GB		
	Versien: V1.7-2021-12-05-1 Date: 2021-12-07714-4655.09Z		
	Users: 1		
	Specialize: 3		
► Dutabase	Records: 1		
► Information Model	Compositions: 231		
► Directory			
Users and Care Teams			
► Knowledge Sources			
► Patient Records			
► Cohort Searches			
► Export Data Sets			
Redirect Notifications			
Manage Patient Access			

Manage application parameters within administration

- 2. Navigate to the "Directory" menu on the left of the screen.
- 3. Click on "Manage Directory"



Manage Directory administration page

- 4. Ensure that the correct Speciality and Directory Type are selected. For this exercise, it should be set at Elfin2 and Element, respectively.
- 5. In the "Directory" dropdown list at the top right of the screen, select the directory you wish to edit or add to. For this example, we have selected "Adverse Effects" as our Element Directory.

		Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration	
Ho	Elfin2 - Administration - Manage Directory		Show
► System	Adverse Effects (OslesAdverseEffects) 💽 9	Specially: Elin Z v Directory Type: Eliment Directory (Adverse Effects) v 🕄	et 0
► Database	Display Name (required)	Value (default in Zinphay Name)	
► Information Model	Pruritus	prutas	
▼ Directory	Angioedenia	angie dema	
Nexas Disasters	Difficana (Kash)	erocos paividže	
wanage breakly	Redness	redness	
Import Directory	Nection	100360	
 Usera and Care Teams 	Voniting	venting	
Knowledge Sources	Swelling No. Adverse Effects	svorang no.dv/avretEfrects	
► Patient Records	In the second seco		
► Cohort Searches			
► Expert Data Seta			
Redirect Notifications			
My User Account			
Manage Patient Access			
Test Web Service			

Selecting the desired directory from the dropdown list

6. You can add or edit this directory by clicking on the "+" sign at the top left of the directory or by editing the text boxes.

			Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration
Hide	Elfin2 - Administration - Manage Directory		20ax
► System	Adverse Effects (OstesAdverseEffect	Add directory element Second Common Second	Directory Type: Element v Directory: Adverse Effects (OsteoAdverseEffects) v 🖬 🖄 🔿
► Database	Display Name (required)	· · · · · · · · · · · · · · · · · · ·	Value (default is Display Name)
► Information Model	Puritus		prurbus
▼ Directory	Angioedema (Irticaria (Bach)	A manufacture of the second second	angoeoema urticoria
Manage Directory	Pain at Infusion Site	Edit directory directly in the UI	painA1Site
Import Directory	Redness		redness
Users and Care Teams	Venting		venting
Knowledge Sources	Swelling		swelling
In Datient Decourts	No Adverse Effects		noAdverseEffects
 Colorid Provident 			
Export Data Sets			
Redirect Notifications			
My User Account			
Manage Patient Access			
Test Web Service			
	•		

Editing the directory

7. Click the icon "Rebuild Directory" at the top left of the Manage Directory form to save and rebuild the directories into your application.

на	cityEHR - Administration - Manage Directory		9
► System	BWI Interpretation Text (StillInterpretationText) 💽 4	Specially: Ethin 2 - Directory Type, Element, - Directory: BM/interpretationText (BM/interpretationText)	v 12
► Databose	Display Name (required)	Value (default in Display Name)	
 Information Model 	Underweight	underweigte	
▼ Directory	Normal BME Overweight	evenesit Click	ha ican
Manage Directory	Chese		neicon
		"Rebu	ild
 Users and Care Teams 		Direct	ory" to
Knowledge Sources		save a	nd rebuild
► Patient Records		directo	ories into
		your a	pplication
► Export Data Sets			
Redirect Notifications			
Nanage Patient Access			
Test Web Service			

Rebuilding the directory

8. Navigate to the screen that contains this directory (form, letter, etc.) and view your changes

Entry Directories

1. Entry Directories work like Element Directories, but for Entries. You can edit Entry Directories the same way as Element Directories. To do this, navigate to Manage Directory and then Select "entry" in the Element Type drop down.

				Dashboard Pat	ient Search Patient Coho	Quit Administration rts In-Tray Registration	city
	KityEHR - Administration - Manage	Directory			Contraction of the		Show
▶ System	Clinic Code (ClinicCode) 💽 0		Specialty: cityE	HR Feature Demo 🚿 Directo	ry Type: Element 🗸 irecti	ary: Clinic Code (ClinicCode) 🗸	60
► Database	Display Name (required)		Value (default is Display Name)		Element		
Information Model							
▼ Directory							
Manage Directory							
Import Directory							
Users and Care Teams				Calant F			
Knowledge Sources				Select El	ntry in Dire	ectory Type	1
Patient Records				Drop-do	own		
Cohort Searches							
Export Data Sets							
Redirect Notifications							
My User Account							
Manage Patient Access							
Test Web Service							
cityEHR Version Number - V1.7-2021-12-08-1	User: cityEHR Administrator / Elfin 2 / en-gb Logged or: 09:23:19 Th:	raday, 9th December 2021 Last logged on: 09-25:56 Thursday, 9t	h December 2021				

Selecting the type of directory

2. Select the Name of the Directory you want to modify.

				Da	shboard Patient !	Search Patient Cohorts	Quit Administration	city
1	Hide cityEHR - Administration	- Manage Directory			6,777			Show
► System	(GPDetails) 🔶 2		Speciality: cityEHR Feature	e Demo 🗸 Directory Type:	Entry V Direct	ory: (GPDetails)		~ 12
► Database	Edit GPCode Code GPName I	r GPPractice Practi	ice LookUpGP Find GP	GPLookUpKey*	Address ddres	(GPDetails) (Demographics)		
Information Model	X 101 Smithson	The Varsity Clinic		101 Oxford	19 St John's Stre	et (ClinicDetails) et Registration Configurat	tion (RegistrationConfigurati	on)
▼ Directory	X 102 Wright	Jericho Health Cen	tre	102 Oxford	79 Walto			
Manage Directory								
Import Directory								
Visers and Care Teams								
Patient Records			Colort	بيغمرها والمارين	م مالي م		مناثا اماريم	
► Cohort Searches			Select	which entr	y direct	.ory you w	ould like	10
► Export Data Sets			modify	/				
Redirect Notifications								
My User Account								
Manage Patient Access								
Test Web Service								
cityEHR Version Number - V1.7-2021-12-08-1	User: clt/EHR Administrator / Elfin 2 / en-gb Logged	on: 14:08:52 Thursday, 9th December 2021	Last logged on: 09:23:19 Thursday, 9th Decemb	er 2021				

Selecting the directory to modify

3. You can make changes in the existing directories or add new ones.



Importing Directories

- 1. To import a directory, first navigate to the Administration page, and then to Directory in the menu on the left.
- 2. Now Navigate to "Import Directories" under "Directory".



Import directory page

3. Click the "Browse" button in the display window and navigate to the folder shown in the image below.

⊌ File Upload _							_		×	-	σ×
← → v 1]	≪ webapps > cityehr	> WEB-INF > resources >	apps > ehr > resources	> applications > ISO-	13606-EHR_Extract-cityEl	HR > directories	0 v				⊠ =
Organize • Ne	ew folder							(H · C	• •		
📰 Pictures 🕄 exist-data	A Name GPDetails	~	Date modified 4/3/2021 2:55 PM	Type XML Document	Size 7 KB					Administration	
This PC To be stop Desktop Documents Downloads Music Pictures Videos Windows (C) Nuscosi		2. Select th	is file			1. Navig your Tor	ate to this ncat folder	folder fro	m		
1	File name:						<u> </u>	All Files Open Ca	~ ncel		
 Patient Records 											
Cohort Searches											
 Export Data Sets 											

Selecting GP details file for import

- 4. Select the file "GP Details".
- 5. Click the import button.

H Contraction of the second	64 cityEHR - Administration - Import Directory	Show
► System	Directory can be for entries or elements Entry directory format: iso, 19806 EHP. Extraction, 19806 entry Collectionies, 19808 extru/rds.component/rds.obeenvalion	
► Database	Element directory format: los 13606 EHR_Extract/los 13606 elementCollection/so-13606 element/so-13606 value	
Information Model	Directory for upload (XML): GPDetails xml 6.6 KB 🗙	
▼ Directory		
Manage Directory	Loade the to inscriming an index study of your as study of your study of your and the study of t	1
Import Directory	Filename: GPDetails xml	
Users and Care Teams	Type-text/xml Size: 6741	Import Button
Knowledge Sources	Content: file:/C//Program%20Files%20(x86)/Apache%20Software%20Foundation/Tomcat%209.0_Tomcat9SC/temp/xforms_upload_7264020527020085563 tmp	
► Patient Records	Root Element: EHR_Extract	
Cohort Searches	Uploaded file contains:	
► Export Data Sets	enny-Generatori.	
Redirect Notifications		
My User Account		
Manage Patient Access		
Test Web Service		

Importing the GP details file

6. Now navigate to "Manage Directory" and navigate to your Entry Directories and you should be able to see "GP Details" as an option to edit!

Directory Look Up Using a Web Service

There is an example of a directory lookup using a web service on the Registration form in the Feature Demo information model that ships with cityEHR. The web service is a demonstration service that returns a randomly generated set of demographics data, given the patientId as an input parameter.

15-Aug-2024 - Patie	nt Registration Page load time:
Patient Demograp	nics
NHS Number	Hospital Number Overseas Patient
Title	Select Value V Forename Surname
Sex Assigned at Birth	Select Value v Gender Identity Select Value v Date of Birth
Address	Town/City Postcode
GP Details	
Code	Dr Practice Find GP
Address	Town/City Postcode

Empty patient registration form

15-Aug-2024	Pa	atient	Registratio	ו *	Page	load	time:
-------------	----	--------	-------------	-----	------	------	-------

Patient Demograp	hics
NHS Number	8372675093 Hospital Number Overseas Patient Find Demographics
Title	Select Value v Forename Surname
Sex Assigned at Birth	Select Value > Gender Identity Select Value > Date of Birth
Address	Town/City Postcode
GP Details	
Code	Dr Practice Find GP
Address	Town/City Postcode

NHS number filled in patient registration form

	Patient Demograph	ics
	NHS Number	8372675093 Hospital Number 15444231 Overseas Patient 🗌 Find Demographics 🏹 8372675093
	Title	Mr V Forename Corey Surname Collymore
	Sex Assigned at Birth	Male Gender Identity Male Date of Birth 13-1-1995
	Address	16 Sandy Lane Town/City Croydon Postcode CR1 9DW
(GP Details	
	Code	Dr Practice Find GP
	Address	Town/City Postcode

Lookup service used in patient registration form

Access Control - documentation coming soon!

cityEHR has a role-based access control system that can be configured to restrict user access to specific functions, based on the role of the user. In addition, users can be restricted so that they can access only the data of patients who are assigned to the care team(s) of which that user is a member.

Setting Up User Roles

Assigning Roles for a User

Role-based Access Control to Functions

Restricting Access to Care Team Patients

Care Pathways – documentation coming soon!

Health Lifestyle Pathway

- 1. To review the pathways functionality in cityEHR, we will navigate through the Healthy Lifestyle pathway in the cityEHR Feature Demo application.
- 2. Log-in to the cityEHR Feature Demo application.
- 3. Navigate to Patient Search and select a patient.
- 4. Navigate to Pathways in the blue dashboard. See below.

STRANGE, Susan (Miss) Born 26-Aug-1	(76 years) Gender Unspecified	idmentation city
Patient Id 86085254 NHS Number 96	Dashteed Palent South Pylent Coloris In Tra	EHR
In Progress New Hide	esis Summaries Forms Letters Pathneys Care Setting Chfrift Fathre Denn -	Show
▼ citytHR Feature Demo (3)	are Pathways	
	elect a template to create a care pathway for this patient.	

patient pathways page in cityEHR

5. In the menu on the left-hand side, navigate to the pathway called "Lifestyle Assessment".

STRANGE, Susan (Miss) Born 26-Aug- Patient id 86085254 NHS Number 96	945 (Para) Genter Tespectived Behaved Neter Servic Depectived	Cut Admentmen
n Progress New Hide	^{las} Events Summaries Forms Letters Puttmuys Care Setting: chr/Bit/Bit/SettingData	Show
▼ cityEHR Peature Demo (3)	Care Pathways	
Lifestyle Assessment	Select a lampilate to create a care pathway for this patient.	
Monitor Patient Progress		

Lifestyle assessment pathway

6. Click the checkmark icon at the top-right of the screen below the blue and purple dashboards. See below.

RIVERS, Queenie (Mrs) Dom: 25-Aug-1 Patient Id 81082506 NHS Number 9889	1917 (P4-years) Gender: Female	City Constant Start Start Start Courts & Tray Superstant
In Progress New Ho	e Eventa Summaries Forms Letters Pathways Care Setting: cityEHR Feature Deno 🗸	20v
▼ ctyErR Feature Demo (3)	26.Apr-2022 - Lifestyle Assessment	Action Display Current Status 🔍 😈 S 🛩 🖶
Lifestyle Assessment	Lifestyle Assessment Status Charted v	
Assessment Follow Up	Lifestyle Assessment Role: Administrator v Delby (Styrs): Status: Charted v	
Weight Loss Program	Assessment Follow Up Slater Charted v	

Starting the lifestyle assessment

7. Once clicking Start Pathway, you will notice that the italicized "Lifestyle Assessment" turns into a blue hyperlink. Click this.

RIVERS, Queenie (Mrs) Born: 25-Aug-1947 Patient id 81082508 NHS Number 9809	74 years) Gender, Female	Guit Adventuration city
In Progress New Hide Ew	inta Summaries Forms Letters Pathways Care Settling: objetit Feature Demo 🗸	Stor
▼ ctyEHR Pesture Demo (3) 26	Apr.2022 - LHestyle Assessment	Action Display Current Status 🔍 🕱 🕭 🔒
Volution Value della Ca Undry Assessment Assessment Para Assessment Para De Notar Phare Payras Volget Las Arguns		Anter Laport Correct 2005

Lifestyle assessment hyperlink

8. Now click the "Action" button that appears at the top-right of the screen. The icon looks like an open book. See below.

RIVERS, Queenie (Mrs) Som 25-Aug-1 Patient Id 81082506 NHS Number 9809	1947 (4years) Geodo: Temale	Guit Advantation Daubboard Patient Swarch Patient Cohorte In-Tray Registration
In Progress New Ho	Events Summaries Forms Letters Pathways Care Setting ClyEHR Feature Demo 🗸	Show
▼ cityEHR Feature Demo (3)	26-Apr-2022 - Lifestyle Assessment	Action 🕮 splay Current Status 🧹 🗑 🕭 🗭
Lifestyle Assessment	Lifestyle Assessment	
Lifestyle Assessment Assessment Follow Up	Ubstyle Assenter Deby (days) Onlow In Progress v Moler Administrator Deby (days) Onlow In Progress v	
Nanitor Patient Progress Weight Loss Program	Assessment Follow Up Statistic Charted	

Action button for Lifestyle assessment

9. You should be navigated to a Lifestyle Assessment form. Fill out some values in this form.

RIVERS, Queenie (Mrs) Born 25-Aug Patient id 81082506 NHS Number 9809	-1947 (74 years) Gender: Female		Gut Administration city Disabaserd Patient Search Patient Cohorts In-Tray Registration
In Progress New 16	^{ise} Events Summaries <mark>Forms</mark> Letters Pathways C	re Setting: cityEHR Feature Dento v	Stor
	26-Apr-2022 - Lifestyle Assessment *		Highlight Entries - None - 🗸 🖬 🗑 🖨
	Fulfills care path way action:		
	Lifestyle		^
	Level Of Mobility	Smoking Habits	
	Walking for a quarter of a mile	- Select Value v Smoking Hisbits Select Value	
	Walking up 10 steps without resting	- Salert Value - v	
	Strength courties or inseling		
		- seect value - V	
	Doing chores around the house	- Select Value v	
	Walking from one room to another on the same level	Select Value V	
	Getting in or out of bed	- Select Value v	
	Lifestyle Scale Questionnaire		
	Rezultz		
	Total 0		
	Average score		
	Please answer all the questions.		
	Lifestyle Questions		
	I eat five portions of fruit and vegetables per day	Not applicable v	
	I get at least 8 hours sleep each night	Not applicable v	
	I exercise for 30 mins twice or more each week	Not applicable v	
	I drink moderate amounts of alcohol	Not applicable v	
	I tend to tell the truth in lifestyle questionnaires	Not applicable v	
	Body Mass Index		
	Body Maza Index 🔶		

Empty Lifestyle assessment

- 10. Click the Publish icon at the top-right of the screen and click Commit Form.
- 11. Your in-progress pathway will appear on the left-hand side of the screen. Click on it.



In progress lifestyle assessment

12. You should now see that the Lifestyle assessment section of your pathway has been completed. You can now click the icon called "Progress" to continue documenting in the section Assessment Follow Up.

Using Sub-Pathways

- one with sub pathways

Pathways with Repeating Loops

- one with repeating loops

--- a lifestyle assessment - takes BMI, if your BMI is > 30 --> diet and exercise plan

Clinical Correspondence

Creating a Letter Template

Letter templates are word processor documents (either LibreOffice or MS Office) which contain fields that reference Sections, Entries or Element components in the clinical information model. The template can then be associated with a Letter composition that contains those components, which are then extracted from the composition and used to instantiate the fields in the template.

The letter templates are created outside of cityEHR as any regular document using LibreOffice Write or MS Word. An example of a template is shown below.

The cityEHR Clin	ic NHS		
	NHS Trust		
#ISO-13606:Section:LetterHeadLeft	#ISO-13606:Section:LetterHeadRight		
#ISO-13606:Section:LetterHeadTarget	#ISO-13606:Section:LetterHeadSupplement		
#ISO-13606:Section:LetterHeadSubject			

#ISO-13606:Entry:patientLetterIntroduction

000	#ISO-13606:Entry:patientLetterMedicationAdvice/#ISO- 13606:Element:patientLetterMedicationAdvice
	#ISO-13606:Entry:patientLetterCalciumAdvice/#ISO- 13606:Element:patientLetterCalciumAdvice
	#ISO-13606:Entry:patientLetterVitamindAdvice/#ISO- 13606:Element:patientLetterVitamindAdvice
Z'	#ISO-13606:Entry:patientLetterExerciseAdvice/#ISO- 13606:Element:patientLetterExerciseAdvice
	#ISO-13606:Entry:patientLetterSmokingAdvice/#ISO- 13606:Element:patientLetterSmokingAdvice

Page 1 of 2

Letter Template for Patient Advice using LibreOffice Writer

A Letter Template can contain any text and graphics, together with the fields which reference content in the patient record. The text for those fields is then pulled into the template from the Letter in cityEHR with which the template is associated.

#ISO-13606:Section:sectionId	The values of all Elements for all Entries in the specified Section
#ISO-13606:Entry:entryId	The values of all Elements in the specified Entry
#ISO-13606:Entry:entryId/ #ISO-13606:Element:elementId	The value of the specified Element

Note that the components with the referenced identifiers must be present in the Letter with which the template is associated – if not, then the referenced field will be blank. When developing templates you can find the identifiers to use by accessing a Letter in cityEHR running in debugging mode. Click the checkbox to Show Ids and the identifiers for each component will be displayed.



Show Ids When Running cityEHR in Debugging Mode

Importing and Associating a Template

Letter Templates can be imported from the Administration page by selecting the option for Manage Letters | Manage Letter Templates. This page lists all currently loaded templates and you can add a new one by pressing the + button in the top right menu and then browsing to the file location of the word processor document you with to import. Pressing the red X button next to any existing template in the list allows you to change (re-import) the associated word processor file.

	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	city
Hide	ityEHR - Administration - Manage Letter Templates	Show
► Directory		+
▶ Users and Care Teams	Letter Template Name Template File Content Type	
► Knowledge Sources	Patient Asvice Template Patient Asvice Template.odt 🗱 Shipped template	
	Attachment Template cityEHRAttachmentTemplate.docx X MS Word	
Patient Records	ODF Default Template ODF Default Template.odt 🗶 Shipped template	
▼ Manage Letters	MS Word Default Template	
	GP Letter Template GP Letter Template .odt 🗱 Shipped template	
Manage Letter Templates	Patient Letter Template Patient Letter Template.odt X Shipped template	
Associate Templates		
► Cohort Searches		
▶ Export Data Sets		
► Manage Scheduling		
► Order Communications		
► Manage Interfaces		
Letter templates		

Once your chosen template is loaded you can associate it with one or more Compositions in the clinical information model by selecting Manage Letters | Associate Templates

	Dashboard	Quit Administration I Patient Search Patient Cohorts In-Tray Clinics Orders Registration	city EHR
Hide	cityEHR - Administration - Associate Templates	and the second second second second second	Show
► Directory	Specialty: cityEHR Feature Demo V Letter Template Name Patient Asv	ice Template v	Ø 1
► Users and Care Teams	Template Variables	Associated Compositions	
► Knowledge Sources	#ISO-13606:Section:LetterHeadLeft	All Compositions	
► Patient Records	#ISO-13606:Section:LetterHeadTarget #ISO-13606:Section:LetterHeadTarget	Patient Advice Letter	
▼ Manage Letters	#ISO-13606:Section:LetterHeadSubject #ISO-13606:Entry:patientLetterIntroduction		
Manage Letter Templates	#ISO-13606:Entry:patientLetterMedicationAdvice/ #ISO-13606:Element:patientLetterMedicationAdvice		
Associate Templates	#ISO-13606:Entry:patientLetterCalciumAdvice/ #ISO-13606:Element:patientLetterCalciumAdvice		
► Cohort Searches	#ISO-13606:Element:patientLetter/itamindAdvice #ISO-13606:Element:patientLetter/itamindAdvice		
► Export Data Sets	#ISO-13606:Element:patientLetterExerciseAdvice #ISO-13606:Element:patientLetterExerciseAdvice		
► Manage Scheduling	#ISO-13606:Element:patientLetterSmokingAdvice #ISO-13606:Element:patientLetterSmokingAdvice		
Order Communications	#ISO-13606:Element:patientLetterAlcoholAdvice #ISO-13606:Entry:LetterSignatureBlock/#ISO-13606:Element:SignatoryName		
Manage Interfaces			
Associating letter templa	ates with compositions		

Using a Template with a Letter

The templates associated with a Letter are available to select when it is being edited. Select the template and press the Wordprocessor button.



Screenshot of Letter template being edited

ILLINGWORTH, Terry (Mx) Born: 21-	Apr-1963 (61 years) Gender: Non-Binary Quit Administration City	
Patient Id L2575555 NHS Number 7563	1628274 🛕 Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	R
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering Sh	w
▼ cityEHR Feature Demo (7)	08-Aug-2024 - Patient Advice Letter * Page load time:	-
Patient Advice Letter		
Patient Letter	The cityEHR Clinic	
GP Letter	NHS Trust	
Diet and Exercise Advice	Mx Terry Illingworth Clinic Code Select Value v	
Diet and Strength Advice		
Improve Lifestyle Advice	Town/City	
Maintain Lifestyle Advice	Ref: 7563628274 / Mx Terry Illingworth	
	Dear Mx Terry Illingworth	
	This letter contains advice on how to maintain a healthy	
	lifestyle.	
	Make sure you take your medication as prescribed and complete the full course of treatment.	

Patient advice letter template

Interactive Image Maps

There are two ways in which an Entry in the clinical model can be linked to an image for data entry and several ways in which the image maps themselves can be created. This section explains how the different types of linkage work, using the sample image maps that ship with the Feature Demo application.

Linking to a Simple Entry

The DAS 28 and DAS 68 forms in the Feature Demo contain examples of linking simple entries. The image map is used to set the values of Elements in the Entry.



DAS 28 Image Map Display

Disease Activity Score (DAS 28)				
1st IP (hand) right swollen 1st IP (hand) right tender 1st MCP (hand) right swollen Elbow right swollen Knee right swollen	<i>Count ESR Visual Analogue Scale DAS Score</i>	Swollen Joints 5 4 2 2.67	Tender Joints 2	
Knee right tender Wrist right swollen				

DAS 28 Recorded Values

Linking to a Multiple Entry

The Family History form in the Feature Demo contains an example of an image map linked to a multiple entry; each click in the image map adds another entry, with the value of an enumerated value element set through the selection in the map.



Creating a New Image Map

There are several steps to creating a new image map for an Entry in the clinical information model:

- 1. Set the Rendition of the Entry to ImageMap
- 2. Create the SVG image map in an external file
- 3. Upload the SVG image map, linked to the Entry

To illustrate this process you can create a new image map for the

Creating Language Variants

Create Language Pack

	Quit Administration	my
	Dashboard Patient Search Patient Cohorts In-Tray Registration	EHR
Hide	newEHR - Administration - Manage Application Parameters	Show
▼ System	Specialties: HIV Data Collection 🗸 Debug Info: Startup Log	∨ ∝mi/>
Manage Application Parameters	Parameter Set Language Packs v Base language: en-gb - English / en-gb - English v	Edit 🗹
Manage System Parameters	Language Packs (languagePacks)	
Manage System Icons	➡ language	
Import Language Pack	language code: en-GB displayName: English	
Apply All Language Packs	X language code: es-ES displayName: Spanish	
View Audit Log	★ language code: uk-UA displayName: Ukrainian	
New Application		
Inspect Spreadsheet		
▶ Database		
► Information Model		

Create new language pack

Enable user selection of language

	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration	ny TR
Hide	newEHR - Administration - Manage System Parameters	Show
▼ System		<xmi></xmi>
Manage Application Parameters	Parameter Set Dynamic Parameters 🗸 Base language: en-gb - English / en-gb - English 🗸	dit 🗹
Manage System Parameters	Dynamic Parameters (dynamicParameters)	
Manage System Icons	Debugging Mode 💟	
Import Language Pack	Record Audit Log 🔽	
Apply All Language Packs	Cache Forms	
View Audit Log	Check database node status (online/offline)	
New Application	Default application Id newEHR	
Inspect Spreadsheet	Default application IRI prefix: #ISO-13606:EHR_Extract: value: #ISO-13606:EHR_Extract:newEHR	
▶ Database	language code: en-GB displayName: English userSelection:	
► Information Model		
► Directory		

Enable user selection of language

Using the cityEHR API

Enabling API Access

cityEHR has an Application Programming Interface (API) exposed as a RESTful web service. API For any installation API access can be enabled in the Administration page System | Manage System Parameters by clicking the Edit check box, then checking API Access and pressing Save.

	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
Hide	cityEHR - Administration - Manage System Parameters
▼ System	
Manage Application Parameters	Parameter Set Dynamic Parameters 🗸 Base language: en-gb - English / en-gb - English 🗸 Edit 🗹
Manage System Parameters	Dynamic Parameters (dynamicParameters)
Manage System Icons	Debugging Mode 🔽
Import Language Pack	Record Audit Log 🗹
Apply All Language Packs	Cache Forms API Access
View Audit Log	Page load timeout PT10M
New Application	Check database node status (online/offline)
Inspect Spreadsheet	Default application Id dityEHR
Show Wireframe	Default application IRI prefix: #ISO-13606:EHR_txtract: value: #ISO-13606:EHR_txtract:cityEHR
▶ Database	userseiecuon:
▶ Information Model	
► Directory	
► Users and Care Teams	
► Knowledge Sources	
Enabling API access	

With cityEHR accessible on http://localhost:8080/cityehr, the API can be invoked using the URL

http://localhost:8080/cityehr//ehr/api

When the API is disabled, the response (as shown in the Firefox web browser) is a simple statement with guidance on how to enable it.

```
-<cityEHRapi>
-<cityEHRapiDisabled>
API is disabled for this installation. Set access using system parameters Enable API option
</cityEHRapiDisabled>
</cityEHRapi>
```

Disabled API message

When the API is enabled the response (as shown in the Firefox web browser) provides a summary of the API specification.

```
-<cityEHRapi>
+<command name="authenticate"></command>
+<command name="getApplicationList"></command>
+<command name="getDemographics"></command>
+<command name="getCompositionList"></command>
+<command name="getCompositionList"></command>
+<command name="getComposition"></command>
+<command>
</command>
</command>
```

Enabled API message

Each command is shown with an example call, response and a list of its parameters.

```
-<cityEHRapi>
 -<command name="authenticate">
    <description/>
    <example>/ehr/api/authenticate/?userId=user&password=secret</example>
  -<cityEHRapiResponse>
     <sessionId>863fa22fd0253e00333d96bb4417973a</sessionId>
    </cityEHRapiResponse>
  -<cityEHRapiResponse>
     <userAuthenticationFailed/>
    </cityEHRapiResponse>
  -<parameters>
     <parameter name="userId"/>
     <parameter name="password"/>
    </parameters>
  </command>
 +<command name="getApplicationList"></command>
 +<command name="getDemographics"></command>
 +<command name="getCompositionList"></command>
 +<command name="getComposition"></command>
 +<command name="postComposition"></command>
 </cityEHRapi>
```

API command parameters

There are two styles of API call - either style invokes the same command:

/ehr/api/authenticate/?userId=user&password=secret

or

/ehr/api/?command=authenticate&userId=user&password=secret

Using the cityEHR API

Authenticate and Start a Session

http://localhost:8080/cityehr/ehr/api/authenticate/?userId=admin&password=password

-<cityEHRapiResponse> <sessionId>863fa22fd0253e00333d96bb4417973a</sessionId> </cityEHRapiResponse>

http://localhost:8080/cityehr/ehr/api/authenticate/?userId=admin&password=wrong

-<cityEHRapiResponse> <userAuthenticationFailed/> </cityEHRapiResponse>

1. Get List of Applications

http://localhost:8080/cityehr/ehr/api/getApplicationList/? userId=admin&sessionId=863fa22fd0253e00333d96bb4417973a

Get Patient Demographics

http://localhost:8080/cityehr/ehr/api/getDemographics/? userId=admin&sessionId=863fa22fd0253e00333d96bb4417973a&applicationId=TSO-13606-EHR_Extract-cityEHR&patientId=K123456789

Get List of Patient Compositions

http://localhost:8080/cityehr/ehr/api/getCompositionList/? userId=admin&sessionId=863fa22fd0253e00333d96bb4417973a&applicationId=TSO-13606-EHR_Extract-cityEHR&patientId=K123456789

Get Patient Composition

/ehr/api/getComposition/? userId=admin&sessionId=863fa22fd0253e00333d96bb4417973a&applicationId=TSO-13606-EHR_Extract-cityEHR&patientId=K123456789&compositionId=2023-10-26T20-52-40.71*01-00-CityEHR-Form-BaseRegistration-admin&mime=application/pdf