

Quick Start Guide Open Health Informatics John Chelsom, Stephanie Cabrera, Catriona Hopper, and Jennifer Ramirez Version: 1.0.0-SNAPSHOT Revision: 27th March 2025



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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.

lelcome cityEHR Administrator uthentication successful.	
Start Quit	city
Initialize new cityEHR instal	lation EHR
Load the default configuration (recomm	mended) or start with an empty database.
Load Default Configuration	e Empty Database
rEHR Electronic Heath Record 2013-2020 John Chelsom en Health Informatics Research Programme	

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.

import-informationModel (24/69) importInformationModel-createCompositionsWelcome cityEHR Administrator Authentication successful.StartQuit	city EAR
cityEHR Electronic Heath Record © 2013-2020 John Chelsom Open Health Informatics Research Programme	

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:

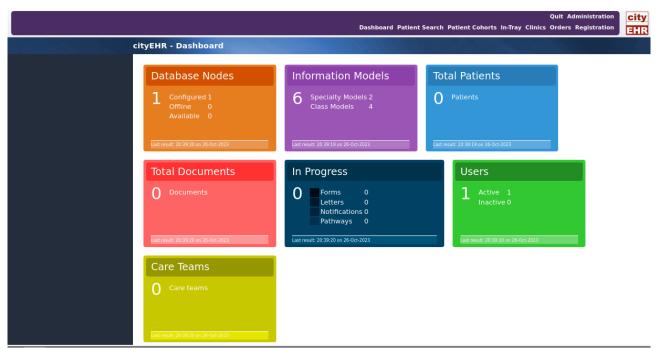


Post Authentication Page

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 Defau	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.
- 3. 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
	Hide cityEHR - Administration - Manage Information	
▼ Information Model	Specialty: Summary - all specialties v Information Mo	del: Summary - All Models v
Manage Information Model		rmation Models (6)
Import Information Model	cityEHR Base (Common) Model (#ISO-13606:Folder:cityEHRBase)	#ISO-13606:Folder:cityEHRBase Specialty
Local Information Model		cityEHR Base (Common) Model /applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Specialty-cityEHRBase-001.ods
Manage Media		#CityEHR:Class:Drugs Class
Manage Image Maps		Drugs
► Directory		/applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Class-CommonModel-Drugs-1.ods
Users and Care Teams	cityEHR Feature Demo (#ISO-13606:Folder:FeatureDemo)	#CityEHR:Class:Drugs Class
► Knowledge Sources		Drugs
► Patient Records		/applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Class-Drugs-2.ods #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 cityEHR Feature Demo
► Manage Scheduling cityEHR Version Number - V1.7-2023-10-26-03	User: cityEHR Administrator / cityEHR Feature Demo / en-gb Logged on: 19:15:47 Thursday	/applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Specialty-Feature-Demo-004.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
Ì	Hide	cityEHR - Administration - Manage System Parameters	Show
	▼ System		cami/>
	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 Page load timeout PT10M	
	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.

Debugging Mode	
Welcome cityEHR Administrator	
Authentication successful.	city
Debug Info:	
Startup Log v	
Start Debug Test Quit	EHR
yEHR Electronic Heath Record	and the second se
2013-2020 John Chelsom	

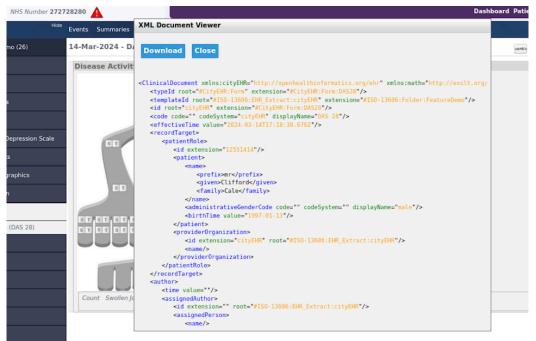
cityEHR start-up in Debugging mode

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;

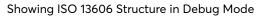
 On patient-specific data input pages (Forms, Letters, etc) pressing the XML button within the view controls will bring up a dialog box with a listing of the current HL7 CDA document associated with the data input form. This dialog also has a button to Download the HL7 CDA XML.



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-1 Patient Id 78172756 NHS Number 12	oney and a second s
In Progress New Hic	Events Summaries Forms Letters Pathways Booking Ordering Show
Fracture Record	05-Apr-2023 - Bone Mineral Density * Page load time: 💿 Show ISO-13606 🗹 Show Ids 🗅 Highlight Entries None 🗸 💽 😂 🖨
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	Umbar Spine Femoral Neck Total Hip BMD BMD BMD
BMD Data	
Diet and Exercise Plan	
Diet and Strengthening Plan	
Book Services	
Lifestyle Assessment	
Lifestyle Assessment and Schedule	
Blood Pressure History	



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			r: female) ashboard Pat	ient Search	Patient Coho	orts In-Tray Cli	Quit Admi		city EHR
In Progress New Hid			Forms Letters	Pathway	vs Booking	Ordering			1. A.			Show
Fracture Record	05-Ap	or-2023 - Bo	one Mineral D	ensity *	Page load time:	-am	Show ISO-1	13606 🗌 Show	lds 🗹 Highlight B	Entries None	-	5 8
Medication Record		-13606:Sectio	on:BMDData									
Medication Record (Dual)		Data	-13606:Entry:So	anDate								
Patient Images	#1	5-4-2023	ment:Date #		<mark>6:Element:A</mark> 72 years	geAtScan						
Body Mass Index		D-13606:Entry	:BMDData									
Bone Mineral Density			Scan date			Lumbar Spine	?		Femora	l Neck		
BMD Data	×	#ISO-1360	6:Element:Scan		#ISO-13606 Lumbar Spine	:Cluster:Lumb	erSpine	#ISO-1 Femora	3606:Cluster:F	emoralNeck	#ISC Total	0-13606:C
Diet and Exercise Plan		05-4-2023	2		#ISO-1360	6:Element:BM	DLumbar	#ISO-	13606:Element	t:BMDFemoral	#15	SO-13606:
Diet and Strengthening Plan					BMD			BMD			BM	
Book Services					#ISO-1360	6:Element:TSc	oreLumbar	t		t:TScoreFemoral	t	SO-13606:
Lifestyle Assessment					#ISO-1360 Z	6:Element:ZSc	oreLumbar	#150- z	13606:Element	t:ZScoreFemoral	l #19 z	SO-13606:
Lifestyle Assessment and Schedule												1
Blood Pressure History												
Showina ISO 13606	5 Cor	nponer	nt Ids in	Deb	ua Mo	de						

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	×
Session has timed out or encountered an error.	
Press Resume to restart.	
Resume	
PTV 3.7676-771 ustor. Ustrophild so the se	
SO-13606:Cluster:PatientIdentifiers	
ISO-13606:Cluster:BasicDemographics	
- Title () /Mr/Mrs/Miss/Ms/Dr/Professor/notApplicable/	
- Forename ()	
- 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 Cohorts In-Tray Clinics Orders Registration	EHR
Hide	cityEHR - Administration - Manage System Parameters	Show
▼ System		🖆 ami's
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 cityCHR	
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.

Debugging Mode					
Welcome cityEHR Adm Authentication success			cit		
You can access more th cityEHR v				J	
Debug Info: Startup Log	- 		_		
Start Debug Test	Quit			R	
tyEHR Electronic Heath Reco 2013-2020 John Chelsom		ision city			
pen Health Informatics Resea	Your last session was no	ot terminated properl	ly.		
	Resume Session	Start New Session	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.

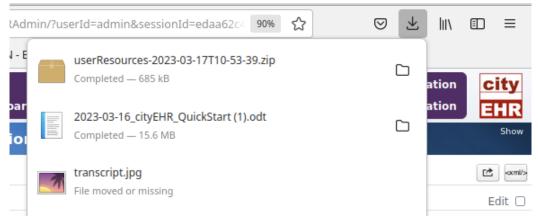
You can access and download these resources from the Administration page. To do this:

- 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.

	Dashboard Patient Search Patient Cohorts In-Tray Clinics	Quit Administration Orders Registration	city EHR
Hide	cityEHR - Administration - Manage System Parameters		Show
▼ System		\rightarrow	c ami/>
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-2023	-03-17T11-02-18.	zip	Q = - 0 (2)
← → 📥 Location: 🚞 /				
Name	•	Size	Туре	Modified
efaultInformationModel	· · ·	11.9 MB	Folder	^
informationModelTemplates		821.9 kB	Folder	
		1.8 kB	XML document	17 March 2023, 11:02
cityEHRAttachmentTemplate.docx		12.4 kB	Word 2007 do	17 March 2023, 11:02
EHR_Extract-LauraAbernathy.xml		720.4 kB	XML document	17 March 2023, 11:02
EHR_Extract-TimothyAbernathy.xml		721.6 kB	XML document	17 March 2023, 11:02
imyEHRFavicon.ico		711 bytes	Windows icon	17 March 2023, 11:02
🛃 myEHRLogoTall - Medium.png		7.1 kB	PNG image	17 March 2023, 11:02
imyEHRLogoTall-Small.png		3.7 kB	PNG image	17 March 2023, 11:02
PatientRecordImport.ods		12.7 kB	ODS spreadsh	17 March 2023, 11:02
PatientRecordImport.xlsx		7.6 kB	Excel 2007 spr	17 March 2023, 11:02
PatientRecordImport.xml		54.2 kB	XML document	17 March 2023, 11:02
PatientRecordImport.xml.zip		1.6 kB	Zip archive	17 March 2023, 11:02
README.txt		1.2 kB	plain text docu	17 March 2023, 11:02
vsers.xml		14.5 kB	XML document	17 March 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		city Elii
16-Mar-2024 - Patient Registration Page load time:	Show ISO-13606 Show Ids	
Patient Demographics		
	- Select Value - v - Select Value - v	
GP Details		
Code Address Dr Town-Olly 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.

	Cuit 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	Title Select Value - v Forename Jerome Jerome Gender Identity Select Value - v Sumame Hill Date of Birth 19-4-1973 Z Address 47 Acacla Gardens TownCity Lancaster Postcode
GP Details	
Code Dr Practice Find QP	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.

	Dashboa	Quit Admin rd Patient Search Patient Cohorts In-Tray Clinics Orders Re	Oncy
and the state of the			
16-Mar-2024 - Patient Registr	ration * Page load time:	Show ISO-13606	Show Ids 🗌 🐧 💷
Patient Demographics			
NHS Number 456 Hospital Number 12121 Overneus Patient Find Demographics	647 Title Select Value Corin Cale Address Town/Cale Town/Cale Town/Chy Colchester Postcode Col 9DW	Sex Assigned at Birth - Select Value - v Gender Identity - Select Value - v Date of Birth 13-1-1997	
GP Details			
Code Dr Practice Find GP 2 Oxford V Select Match 101 Oxford 102 Oxford	Address Tom/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).

a valicouverentia X	T		
← ⇒ ♂ ☆	Icalhost:8080/cityehr/ehr/cityEHRRegistration/?userId=admin&sessionId=cf9d9a60c7ef4d4a84962e8dfb7a914f	(99%)	⊽☆ IN ⊡ & ≡
		Dashboard Patient Search Pati	Quit Administration
	22-Mar-2022 - Patient Registration *		
	Patient Demographics		
	NHS Number 123 Hospital Number 9876 Overseas Patient Find Demographics		
	Title Mr - Forename Bat Sumame Man		
	Gender Male Date of Birth 10-3-1970		
	Address 2765 Oxford st Town/City Oxford Postcode OX4 OC2		•
	GP Details		
	Code 5959 Dr Applesauce Practice Family Find GP	CI: I	D 1.1
	Address 1111 London St Town/City London Postcode Ov6 7EN	Click	Register
		Chief	c register

Register Button

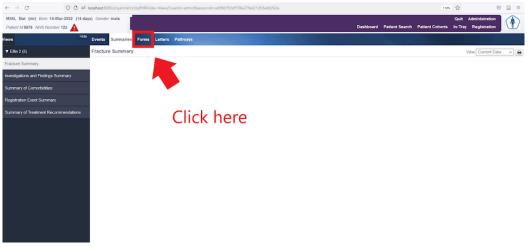
- 7. If successful, confirm the action in the dialogue box and choose the next navigation step (default: *Hospital Anxiety and Depression Scale form*).
- 8. If the Hospital Number is missing or already exists, an error message will appear. Dismiss it, update the field, and try again.
- 9. Once registered,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

	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	city
		EHR
17-Mar-2023 - Patient Re	gistration *	5 1
Patient Demographics NHS Number	3423 Hospital Number 14261611 Overseas Patient E Find Demographics Z	
Title	Mr v Forename Cameron Surname Cornwall	
Sex Assigned at Birth	Male V Gender Identity Male V Date of Birth 13-1-1995	
Address Postcode C	15 Sandy Lane Town/City Croydon	
	r New Patient	
Code		
	ord will be created for this patient - data cannot be modified once committed. Postcode	
Alter regis Registe	ration: O Show patient record () Hospital Anxiety and Depression Scale () DAS 28	
cityEHR Version Number - V1.7-2022-12-11-02 User: cityEHR Administrator / cityEHR Feature De	mo / en-gb Logged on: 12:33:10 Wednesday; 19th 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.



Locating Forms Page

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.

Patient Id 12121647 NHS Number 456	L De	Quit Administration
Progress New	tide Events Summaries Forms Letters Pathways Booking Ordering	
▼ cityEHR Feature Demo (26)	16-Mar-2024 - Hospital Anxiety and Depression Scale Page load time:	Show ISO-13606 Show Ids Highlight Entries - None
Current Observations	Anxiety Score Depression Score	
Acid Base Disorders	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
	I can laugh and see the funny side of things	Select Value v
lospital Anxiety and Depression Scale	Worrying thoughts go through my mind	Select Value v
aboratory Test Results	I feel cheerful	Select Value v
pdate Patient Demographics	I can sit at ease and feel relaxed	Select Value V
	I feel as if I am slowed down	Select Value
eature Demonstration	I get a sort of frigthened feeling like 'butterflies' in the stornach	Select Value V
AS 28	I have lost interest in my appearance	Select Value v
	I feel restless as if I have to be on the move	Select Value v
AS 68	I look forward with enjoyment to things	Select Value v
iagnosis	I get sudden feelings of panic	Select Value v
amily History	I can enjoy a good book or radio or TV program	Select Value V

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		Quit Administration City Internation City Internation City
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:	how 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'	st of the time
Allergies and Warnings		t quite as much v
Bone Chemistry	I get a sort of frightened feeling as if something awful is about to happen	s, but not too badly
Hospital Anxiety and Depression Scale		t quite so much now
Laboratory Test Results		great deal of the time
Update Patient Demographics		finitely ~
Feature Demonstration		ry often v
		ry often v
DAS 28		finitely
DAS 68		ry much indeed v
Diagnosis		ite often
Family History		ten 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 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 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 v
Bone Chemistry	I get a sort of frightened feeling as if something awful is about to happen	Yes, but not too badly
Hospital Anxiety and Depression Scale	I can laugh and see the funny side of things Worrying thoughts go through my mind	Not quite so much now
Laboratory Test Results	l feel cheerful	A great deal of the time
Update Patient Demographics	I can sit at ease and feel relaxed	Definitely v
Feature Demonstration	I feel as if I am slowed down	Very often v
Peature Demonstration	I get a sort of frigthened feeling like 'butterflies' in the stomach	Very often ~
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
	I look forward with enjoyment to things	Rather less than I used to v
Diagnosis	I get sudden feelings of panic	Quite often
Family History	I can enjoy a good book or radio or TV program	Often ~
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.

Events Annotations LifeLine Hide Events		
	ents Summaries Forms Letters Pathways Booking Ordening	Show
▼ All Events (2) 16-	-Mar-2024 - Hospital Anxiety and Depression Scale Page load time:	
Deserved as Deals	Anxiety Score 16 Severe Depression Score 11 Moderate	
Tormal 2024 Flavorit Hogistiation	I feel tense or 'wound up'	Most of the time
A second s	I still enjoy the things I used to	Not quite as much
	I get a sort of frightened feeling as if something awful is about to happen	Yes, but not too badly
Hospital Anxiety and Depression Scale (1)	I can laugh and see the funny side of things	Not quite so much now
Prospital Armety and Depression Scale (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 frigthened 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

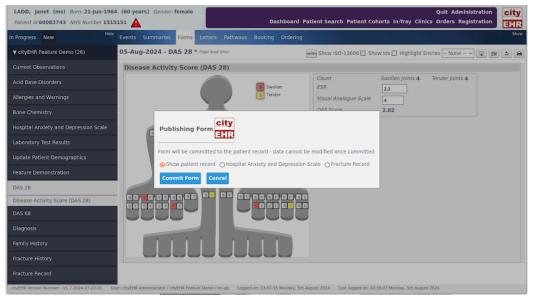
Form with Graphical Data Input

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-196 Patient Id 60083743 NHS Number 151		Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
In Progress New Hide	Events Summaries Forms Letters Pathways Booking O	rdering Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - DAS 28 * Page load time:	show ISO-13606 🗋 Show Ids 🗌 Highlight Entries None 🗸 💽 🕤 🖨
Current Observations	Disease Activity Score (DAS 28)	
Acid Base Disorders	S Swollen	Count Swollen Joints 4 Tender Joints 4 ESR 2.3
Allergies and Warnings	Tender	Visual Analogue Scale 4
Bone Chemistry	डर डर	DAS Score 2.82
Hospital Anxiety and Depression Scale		
Laboratory Test Results	Right Left	
Update Patient Demographics		
Feature Demonstration		
DAS 28		
Disease Activity Score (DAS 28)	STATSISISI ST	
DAS 68		
Diagnosis		
Family History		
Fracture History		
Fracture Record		
Medication Record		
cityEHR Version Number - V1.7-2024-07-22-01 U	ser: cityEHR Administrator / cityEHR Feature Demo / en-gb Logged on: 03:07:15 Mor	tday, 5th August 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.



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.

ivents Annotations LifeLine	^{Ide} Events Summaries Forms Letter	rs Pathways Booking	Ordering			Sho
▼ All Events (2)	05-Aug-2024 - DAS 28 Page load	time:				
05-Aug-2024 DAS 28	Disease Activity Score (DA	S 28)				
Disease Activity Score (DAS 28)	1st MCP (hand) left swollen 2nd PIP (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 MCP (hand) right swollen 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			Dashboard Patient Search Patier	Quit Administration nt Cohorts In-Tray Clinics Orders Registration	city Elik
In Progress New Hide	Events Summaries Forms Letters Pathways Bookin	g Ordering		and the second	Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Family History * Page load time:		Show ISO-13606 [Show Ids 🗌 Highlight Entries - None - 👻 💽	58
Current Observations	Family History				
Acid Base Disorders		Family history Year of Diagnosis	Relation	General Diagnosis	
Allergies and Warnings	க்ள் க்ள்	X	Maternal Aunt	Malaria	
Bone Chemistry		×	Son v		
Hospital Anxiety and Depression Scale					
Laboratory Test Results	▎▏ <mark></mark> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>				
Update Patient Demographics	[rr' rr' r+r rr rr				
Feature Demonstration	₳₶ ₳₶₳ ~~ ₶₳₶ ₳₶				
DAS 28					
DAS 68	* † * † * †				
Diagnosis					
Family History	· • • • • •				
Family History					
Fracture History					
Fracture Record					
cityEHR Version Number - V1.7-2024-07-22-01 Us	er: 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			Dashboard Patient Search Pa	Qui atient Cohorts In-Tray Clinics Ord	t Administration ers Registration
In Progress New Hide	Events Summaries Forms Letters Pathways Bookir	ng Ordering			Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Family History * Page load time:		Show ISO-136	06 🗌 Show Ids 🗌 Highlight Entries 🔄	None v 🖾 🖻 🌢
Current Observations	Family History				
Acid Base Disorders		Family history Year of Diagnosis	Relation	General Dia	anarie
Allergies and Warnings	க்ற் க்ற்	X		 Malaria 	
Bone Chemistry		×	Son	General Diagnosis	
Hospital Anxiety and Depression Scale				Close Select Malaria	
Laboratory Test Results	▋▏ <mark>▁</mark> ▋ _┍ ▁ͳ╹─┐ <u>ͳ</u> ╙			Trauma Infection	
Update Patient Demographics				Viral Infection Fungal Infection	
Feature Demonstration	* *** **** **************************			Parasitic Infection Malaria	
DAS 28				Scabies	
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	ser: 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 2	:024	

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) Gondor: male	Quit Administration
In Progress New Hide	Events Summaries Forms Letters Pathways Booking	g Ordering Show
▼ cityEHR Feature Demo (26)	16-Mar-2024 - Medication Record * Page load time:	one Show ISO-13606 Show Ids Highlight Entries - None - v
Current Observations	Drug name Medications	
Acid Base Disorders	Current Medication Close Select	Start date
Allergies and Warnings	Stopped Osteoporosis Drugs	16-3-2024 💌
Bone Chemistry	Previous Medicatio	
Hospital Anxiety and Depression Scale	Current drugs 1 Cyclophosphamide	
Laboratory Test Results	- Leflunomide	
Update Patient Demographics	Humira Prednisolone	
Feature Demonstration	- Cyclophosphamide	
DAS 28	Alendronate Risedronate	
DAS 68	Calcichew D3 Vitamin D	
Diagnosis	- Zoledronate	
Family History	- Ibuprofen - Bendroflumethazide	
Fracture History	- Bendroniumernazide - Omeprazole - Lansoprazole	
Burster Burst	Aspirin	

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-1964 Patient Id 60083743 NHS Number 1515	ony
In Progress New Hide	Events Summaries Forms Letters Pathways Booking Ordering Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Medication Record * Auge load time: Show ISO-13606 Show Ids Highlight Entries - None - v 😨 🖲 5 🖨
Current Observations	Medications
Acid Base Disorders	Current Medication Stopped Drug name Start date
Allergies and Warnings	Image: State
Bone Chemistry	Previous Medication 🔶
Hospital Anxiety and Depression Scale	Stopped Drug name Start date Stop date Reason for stopping X Alendronate 05-0-2023 Od-0-2024 Image: Comparison for stopping
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.

Patient Id K1992183 NHS Number 7563	3628274		Male				Dashboard	Patient Search	Patient Cohorts	In-Tray	Quit Admin Registration	city E
Progress New	Hide Events Summa	ries Forms	Letters Pathways	Care Setting: ci	yEHR Featu	re Demo 🗸						Sh
 cityEHR Feature Demo (22) 	25-Aug-2020 -	Body Mass	Index * Page load time:	PT2.607S					Highlight Entrie	es - None		
Surrent Observations	Body Mass I											
Allergies and Warnings	Body Mass Ind	ex 🔸				BMI (kg/m²)	Interpretation					
Bone Chemistry		ug-20	Height 173	cm) Weight 87	(kg)	29.07	Overweight					
aboratory Test Results	× 27-A	ug-20		cm) Weight 82	(kg)	27.4	Overweight					
Jpdate Patient Demographics	× 07-A	ug-20	Height 173	cm) Weight 85	(kg)	28.4	Overweight					
eature Demonstration	Height Weight		Minimum 173 (o Minimum 82 (log			ge 173 (cm) 84.66666666	666667 (km)					
lospital Anxiety and Depression Scale			in a log	<i>y maximum</i> or (rig	, in a second	04.00000000	666667 (A <u>3</u>)					
AS 28												
AS 08												
lagnosis												
agnosis amily History												
AS 88 iagnoalis amily History racture History racture Record												
iagnosia amily History racture History												
agnosis unily History acture History acture Record												
agnosis umity History acture History acture Record Adication Lifent Images												
agnosis unity History acture History acture Record edication												

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 avaliable 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			Dashboard Patient	t Search Patient Cohorts	Quit Administration In-Tray Clinics Orders Registration	city EIR
In Progress New Hide	Events Summaries Forms	Letters Pathways Booking Orde	ring			Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Diagnosis	* Page load time:	Summer S	how ISO-13606 🗌 Show Ids	🗆 Highlight Entries None 🗸 🖾 😰	58
Current Observations	Diagnosis					
Acid Base Disorders	Diagnosis - Infection 🔶	Seneral Diagnosis	Bacterial Infection			
Allergies and Warnings	X Swine Flu	sos	Bacterial Intection			
Bone Chemistry	Co-morbidities 🔶	Supplementary Data Set -				
Hospital Anxiety and Depression Scale	Diagnostic Image	ОК				
Laboratory Test Results		Viral Infection Type of infection				
Update Patient Demographics		Onset Epise	beleet funde			
Feature Demonstration		Clinical Course Select Value	Severity Select Value v			
DAS 28		Status Select Value	×			
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 Patient Id 60083743 NHS Number 1515			Dashboard Patient Search Patie	Quit Administration Int Cohorts In-Tray Clinics Orders Registration	city
In Progress New Hide	Events Summaries Forms Letters Pathway	ys Booking Orde	ing		Show
▼ cityEHR Feature Demo (26)	05-Aug-2024 - Diagnosis * Page load time:		Show ISO-13606	Show Ids 🗌 Highlight Entries - None - 👻 💽	58
Current Observations	Diagnosis				
Acid Base Disorders	Diagnosis - Infection 🔶	General Di		Bacterial Infection	
Allergies and Warnings	X Swine Flu	505	Onset 21-Aug-2024 Episode New episode Clinical Course Chronic Severity Moderate	bacterial intection	
Bone Chemistry	Co-morbidities		Status Suspected		
Hospital Anxiety and Depression Scale	Disensatie Image		For information see		
Laboratory Test Results	Brow	se No file selected.	Por mornadon 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			Dashboard Patient Search Pi	Quit Administration atient 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 - Diagnosis	* Page load time:	Show ISO-136	506 🗋 Show Ids 🗋 Highlight Entries 🗌 None 🗸 🔝 🛙	
Current Observations	Diagnosis				
Acid Base Disorders	Diagnosis - Infection	Seneral Diagnosis	Bacterial Infection		
Allergies and Warnings	X Swine Flu	505	Lyme disease	505	
Bone Chemistry	Co-morbidities 🛨				
Hospital Anxiety and Depression Scale	Diagnostic Image	Comments of the second s	The state	For information see	
Laboratory Test Results		1			
Update Patient Demographics					
Feature Demonstration		1 - 1 - All	ATT ORIGINA		
DAS 28					
DAS 68			A MAN		
Diagnosis			ANG SID		
Diagnosis		A. A.	- CALEA		
Family History			130		
Fracture History		~			
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		Quit Admin Registration	city EIII
Recent	In-patients						. 25. 7		
		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	1	2	
		Consultant							
		Enter search criteria to find patien	t.						
CITYEHR VO	U.98 User: cityEHR User	Logged on: 14:38:09 on Thursday, 3rd October 2013	Last logged on: 0000-00-00T00:00:00.00+00:00						11.

Patient Search Form

- 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.

325737 - Winston	Patient Search K: Search time: J	PT0.7335 / PT0.4185			Order by Hosp	tal Number 🗸 🔍
	Patient Id K	Sumame Forename	•			
	Gender - Select Value -	~				
	Day of Birth - Select Value -	V Month - Select Value - V	r Date 🗷			
	Consultant					
	Consenten					
	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	Hlary	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	

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.

125737 - Winston	Patient Search K: Search time: PT0.73					
		35 <i>/PT</i> 0.4185			Order by H	ospital Number 👻 🔍
	Patient Id K	Sumame Forename	,			
	Gender Select Value - 🛩					
	Day of Birth - Select Value - v	Month Select Value - V	Date Z			
	Consultant					
	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	Hlary	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	

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
	Hise cityEHR / ISO-13606-Folder-FeatureDemo - Administration - Generate Test Data						Show
Information Model	XML file, or zip of XML file, containing a template record. Files created by the patient export function can be loaded directly.						
Directory	The file must contain a single iso-13808:EHR_Extract containing a set of cda:ClinicalDocument elements Every cda:ClinicalDocument must be for the same patient as defined by the iso-13808:EHR_Extract						
► System	Template CDA documents: Browse 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	User: cityEHR Administrator / No specialty loaded. Logged on: 09:54:10 on Thursday, 27th August 2020 Last logged on: 00:52:24 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.)

		_			F	ile Upload				8
📥 Home			📥 john	Documents	cityEHR	user resources	2021-11-10)		
🔲 Desktop		Nar	ne						Size	Modified
Docume		<u> </u>	information	ModelTemplates					1	10 Nov 2021
👃 Downlo	ads		defaultInfor	mationModel						10 Nov 2021
🎵 Music		ø	users.xml						14.5 kB	10 Nov 2021
Ja Wusic		111	README.txt	t					1.2 kB	10 Nov 2021
Pictures			PatientReco	ordImport.ods					12.8 kB	10 Nov 2021
🕂 Videos		Φ	EHR_Extrac	t-TimothyAbernat	:hy.xml				722.6 kB	10 Nov 2021
		Ф	EHR_Extrac	t-LauraAbernathy	.xml				721.4 kB	10 Nov 2021
🔲 Jelly2		41	cityEHRAtta	chmentTemplate	.docx				12.4 kB	10 Nov 2021
		Ф	careTeams.	xml					1.8 kB	10 Nov 2021
💼 tomcat										
🚞 images										
- Other L	ocations									
										All Files 🔻
									Cancel	Open
									cancer	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:

Hide	cityEHR - Admini	stration - Ger	ierate Test Da	ata	Dashboard	Patient Search	Patient Cohorts	In-Tray Clinics	Quit Administration Orders Registration	City
	XML file, or zip of XML fil Files created by the patie The file must contain as Every cda:ClinicalDocum Template CDA document Report Progress ? Processed records 0 / 10 Gender Step time Average step time	Int export function or ngle iso-13606:EHP ent must be for the is: EHR_Extract-Tim Number of records Gender Value Percentage Number of records Forename Patient identifier pr	an be loaded direct Letract containing same patient as de iothyAbemathy.xml 10 Not set 0 No forename	a set of cda:Clinical ined by the iso-1360 685.1 KB X Male 20 0 V No forename i identifier length 8		Nor 20 0		Intersex 20 0 No forename	Unknown 20 0 v) No forename	a

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.

			1	Dashboard Patient Sea	arch Patient Coho	rts In-Tray Clinics	Orders Registration	EHR	
Hide	cityEHR - Administratio	n - Generate Test Data					A DECEMBER	Show	
► System	XML file, or zip of XML file, contain Files created by the patient export								
▼ Database	The file must contain a single iso- Every cda:ClinicalDocument must	13606:EHR_Extract containing a s							
Database Access Layer	Template CDA documents: EHR_I	rplate CDA documents: EHR_Extract-TimothyAbernathy.xml 704.7 KB 🕱 the ones here							
Manage EMPI		er of records 100						I.	
Generate Test Data	Processed records 0 / 100 Gender Gender	r							
Browse Physical Databases	Step time Value Average step time Percer	Not set	Male 50	Female 50	Non-Binary	Intersex	Unknown		
Browse Logical Databases		er of records 0	50	50	0	0	0		
Information Model	Foren	ame No forename ~	Male forename	~ Female forename ~	No forename	 No forename 	✓ No forename	~	
► Directory	Patient	t identifier prefix K Patient	t identifier length 8	(8 - 24)					
Users and Care Teams	Set da	te of birth 🗹 Minimum age (years	s) 18 Maximu	m age 65					
Knowledge Sources	Loaded file to: file:/Users/ci	atrionahopper/Desktop/tomcat/Ton	ncat/temp/xforms_up	load_1057202611157890	0266.tmp				
▶ Patient Records	Load data from file, ready fi Data file is XML with root: r								
Manage Letters	Filename: EHR_Extract-Timothy/ Type: text/xml	Abernathy.xml							
Cohort Searches	Size: 721580		1	00011157000000					
Export Data Sets	Root Element: recordSet	er/Desktop/tomcat/Tomcat/temp/x	torms_upload_10572	202611157890266.tmp					
Manage Scheduling	Uploaded file contains:								
Order Communications cityEHR Version Number - V1.7-2022-12-11-02 User: cityEHR Version Number - V1.7-2022-12-11-02	EHR_Extract: K1476889 tyEHR Administrator / cityEHR Feature Demo	/ en-gb Logged on: 12:33:10 Wednet	day, 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.

	Cuit Administration Cit Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration	-
Hide	cityEHR - Administration - Generate Test Data	how
► System	XML file, or zip of XML file, containing a template record. Files created by the patient export function can be loaded directly.	
▼ Database	The file must contain a single iso-18608/EHR_Extract containing a set of cda:ClinicalDocument elements Every cda:ClinicalDocument must be for the same patient as defined by the iso-18608/EHR_Extract	
Database Access Layer	Template CDA documents: EHR_Extract-TimothyAbernathy.xml 704.7 KB 💥	
Manage EMPI		Ģ
Generate Test Data	Processed records 0 / 100 Gender Gender Step time Maine Mot est Male Example Non-Binany Interney Hotoman	
Browse Physical Databases	Step time Value Not set Male Female Non-Binary Intersex Unknown Average step time Percentage 0 50 50 0 0 0 0	
Browse Logical Databases	Number of records 0 50 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Information Model		
► Directory	Patient identifier prefix K Patient identifier length 8 (8 - 24) Set date of birth 2 Minimum age (vears) 18 Maximum age 65	
► Users and Care Teams	Set date of birth 🗹 Minimum age (years) 18 Maximum age [65	
Knowledge Sources	Loaded file to: file:/Users/catrionahopper/Desktophomcat/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: 721590 Content: file:/Users/catrionahopper/Desktopftomcat/Tomcat/Temp/kforms_upload_1057202611157890266.tmp	
Export Data Sets	Root Element: record/Set	
Manage Scheduling	Uploaded file contains:	
Order Communications	EHR_Extract: K1476889	

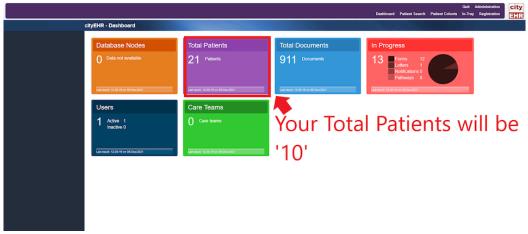
Generating Test Data

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

	Deabharrad Dallard Seconds Deficient Ocharda its Torry Offician Orders Deallatesting	ity Hi:
	Hee 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.	
▼ Database	The created by the patient export number can be baded unleavy. 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-Timothy/Abernathy 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	2023-03-17T21:15:49.2932/ (PT2M11.2365) generate-test-data (100/100) generate-test-record	
Browse Logical Databases	(1/100) generate-test-data / generate-test-record / PT1.37S K1985397 / French	
► Information Model	(2/100) generate-test-data / generate-test-record / PT1.217S 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	(6/100) generate-test-data / generate-test-record / PT1.212S K6481001 / Etheringham	
Manage Letters	(7/100) generati-test-data / generate-test-record / PT1.139S K7535396 / Norton (8/100) generati-test-data / generate-test-record / PT1.177S	
Cohort Searches	(e/10/) generative-test-data / generative-test-record / P1.17/S K8102524 / Borras (9/100) generative-test-data / generative-test-record / P11.18S	
Export Data Sets	K5519954 / Woods (10/100) generate-test-data / generate-test-record / PT1.234S	
Manage Scheduling	K1050889 / Embury (11/100) generate-test-data / generate-test-record / PT1.146S	
Order Communications city/EHR Version Number - V1.7-2022-12-11-02	K1152999 / Sanders (19/10/0) nementatu-tast-triata / nementatu-tast-transmit/ PT1 1975 Uter: cb/DH Administrat/ch/DHF Returned Demol eng Logged on: 12:331 W Methewsday, 15th March 2023 First 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-Apr-1 Patient Id K8971395 NHS Number 7563					Dashboard	Patient Search	Patient Cohorts	In-Tray	Quit Admin Registration	city EHR
Views	Hide Events Summaries Forms Lett	ers Pathways	Care Setting:	cityEHR Feature Demo 🗸						
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages								View Current Data	• • 8
Bone Chemistry – Messages	18:45:13 on 21-Sep-1981 - Bor	e Chemistry I	Results							
18:45:13 on 21-Sep-1981 Bone Chemistry Results	Bone Chemistry 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 phosphata 21-Sep-1981 Vitamin D	se 84 44								
Lab Results – Messages	21-Sep-1981 GFR 21-Sep-1981 Creatinine	126								
Registration Event Summary	21-Sep-1981 MDRD	180								
Blood Pressure History										
Height, Weight, BMI										
Bone Mineral Density										
cityEHR Version Number - V1.7-2020-07-02-5 Use	er: cityEHR Administrator / cityEHR Feature Demo Logg	ed on: 09:54:10 on Thur	sday, 27th August 202	D Last logged on: 00:52:24 on Thurso	iay, 27th August 2020					

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.

ityEHR Feature Demo (10)	Bone Chemistry – Messages		View Historic D
e Chemistry – Messages	00:08:32 on 17-Jul-1998 - Bone	mistry Results	
8:32 on 17-Jul-1998	Bone Chemistry		
Chemistry Results	Bone Chemistry		
3:30 on 22-Mar-1998 Chemistry Results	Sample Date Analyte	feaswement	
Chemistry Results :48 on 13-Feb-1998	17.Jul.1998 CTX		
All on 13-rep-1330 Chemistry Results		0.91	
06 on 14-Jan-1998	17-Jul-1998 P1NP	146	
Chemistry Results	17-Jul-1998 Calcium	2.48	
17 on 22-Oct-1997	17-Jul-1998 Alkaline phosphata	34	
Chemistry Results	17-Jul-1998 Vitamin D	44	
:31 on 04-May-1997	17.Jul.1998 GFR	126	
Chemistry Results	17-Jul-1998 Creatinine	47	
:33 on 31-Jan-1997			
Chemistry Results	17.Jul.1998 MDRD	180	
:02 on 20-Jun-1996 Chemistry Results			
:45 on 12-Apr-1996	01:59:30 on 22-Mar-1998 - Bone	emistry Results	
Chemistry Results	Dura Oliveriates	,	
38 on 24-May-1995	Bone Chemistry		
Chemistry Results	Bone Chemistry		
:03 on 15-Apr-1995	Sample Date Analyte	Measurement	
Chemistry Results	22-Mar-1998 CTX	0.93	
01 on 07-Feb-1995	22-Mar-1998 P1NP	90.2	
Chemistry Results	22.Mar-1998 Alkaline phosphata	87	
nt Alerts	22-Mar-1998 Vitamin D	69	
	22-Mar-1998 GFR	83	
	22-Mar-1998 Creatinine	67	
	22-Mar-1998 MDRD	119	
	19:43:48 on 13-Feb-1998 - Bone	emistry Results	
lesults – Messages	Bone Chemistry		
	Bone Chemistry		
stration Event Summary			
	Sample Date Analyte	Measurement	

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.

INMORE, Gary (Mr) Bom: 13-Api atient Id K8971395 NHS Number 75		ale			Dashboard	Patient Search	Patient Cohorts		Quit Admin Registration	ci II
NS	Hide Events Summaries	s Forms Letters	Pathways C	are Setting: cityEHR Feature Den	10 🗸					
cityEHR Feature Demo (10)	Bone Chemistry	– Messages					Ň	/iew Histori	io Data 🖌 🔊	¢
ne Chemistry – Messages	Selected 3 variable	e(s) with date range	1980-02-28 to 198	1-09-21						
15:13 on 21-Sep-1981	18:45:13 on 21-5	Sep-1981 - Bone	Chemistry Res	ults						
e Chemistry Results	Bone Chemistr	v								
2:10 on 30-Jul-1981	Bone Chemistry	<i>y</i>								
e Chemistry Results										
15:32 on 14-Jul-1981	Sample Date		Measurement							
e Chemistry Results 17:31 on 30-Jun-1981	✓ 21-Sep-1981	I CTX	0.91							
e Chemistry Results	✓ 21-Sep-1981	1 P1NP	146							
1:47 on 23-May-1981	✓ 21-Sep-1981	Calaium	2.48							
e Chemistry Results										
6:11 on 06-Mar-1981	21-Sep-1981	1 Alkaline phospha	tase 84							
Chemistry Results	21-Sep.1981	Vitamin D	44							
7:41 on 23-Jan-1981										
e Chemistry Results	21-Sep-1981	I GFR	126							
9:31 on 12-Oct-1980	21-Sep-1981	1 Creatinine	47							
e Chemistry Results 0:23 on 11-Sep-1980			180							
e Chemistry Results	21-Sep-1981	MDRD	180							
0:15 on 16-Apr-1980										
e Chemistry Results	14:02:10 on 30-	Jul-1981 - Bone C	hemistry Res	ilts						
9:07 on 30-Mar-1980			nonnotry noo	3100						
e Chemistry Results	Bone Chemistr	T y								
9:38 on 28-Feb-1980	Bone Chemistry									
e Chemistry Results	Sample Date	Analyte	Measurement							
ent Alerts	✓ 29-Jul-1981	СТХ	0.93							
cture History	29-Jul-1981	P1NP	90.2							
none mistory	29-Jul-1981	Alkaline phosphat	ase 87							
lication History	29-Jul-1981	Vitamin D	69							
nosis History	29-Jul-1981	GFR	83							
	29-Jul-1981	Creatinine	67							
Results – Messages	29-Jul-1981	1000	119							
· · · · · · · · · · · · · · · · · · ·				27th August 2020 Last logged on: 00:52:						

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.

	-1906 (35 years) Gender: Male		Quit Administration
atient Id K9954501 NHS Number 75			Deshboard Patient Search Patient Cohorts In-Tray Registration
•	Hide Events Summaries Forms Letters	athways Care Setting: city(3R Feature Demo v	
cityENR Feature Demo (10)	Bone Chemistry - Messages		Verw Historic Data 🗸 🗴
one Chemistry - Messages	Selected 3 variable(s) with date ra	2003-02-27 to 2004-04-45	
22:57 on 13-Apr-2004	23:22:57 on 13-Apr-2004 - Bone	hemistry Results	
ne Chemistry Results (18:53 on 06-Mar-2004	Bone Chemistry		
one Chemistry Results	Bone Chemistry		
158-38 on 23-Feb-2004	Sample Date Analyte	Measurement	
ne Chemistry Results	13-Apr-2904 CTX	0.91	
13:32 on 13-Feb-2004 ne Chemistry Results	13-Apr-2004 PINP	145	
12:08 on 17-Jan-2004	13-Apr-2004 Calcium	2.40	
te Chemistry Results	13-Apr-2004 Alkaline phospil	ise 84	
02:23 on 22-Nov-2003	3.Apr.2004 Vitamin D	44	
ne Chemistry Results 18:54 on 22-Oct-2003	13-Apr-2004 GFR	126	
ne Chemistry Results	13-Apr-2004 Creatinine	47	
13:28 on 10-Aug-2003	13-Apr-2004 MDRD	100	
e Chemistry Results	a syngerized anono		
28:56 on 18-Jul-2003 re Chemistry Results	1		
te Chemistry Kesuts 08:29 on 02-Apr-2003	15:18:53 on 06-Mar-2004 - Bon	hemistry Results	
re Chemistry Results	Bone Chemistry		
18:03 on 21-Mar-2003	Bone Chemistry		
te Chemistry Results 23:18 on 27-Feb-2003	Sample Date Analyte	Measurement	
22.10 on 22-rec-2003 te Chemistry Results	C 06-Mar-2004 CTX	0.93	
ent Alerta	06-Mar-2004 PHNP	90.2	
en vena	06-Mar-2004 Alkaline phospi	ase 87	
cture History	2 06-Mar-2004 Vitamin D	69	
	06-Mar-2004 GFR	83	
dication History	O 06-Mar-2004 Creatinine	0	
ignosis History	2 06-Mar-2004 MDRD	153	
b Results - Hessages	17:58:38 on 23 Feb 2004 - Bon	hemistry Results	
pistration Event Summary	Bone Chemistry		
	Bone Chemistry		
od Pressure History	Sample Date Analyte	Measurement	
	23-Feb-2004 Calcium	2.37	
pht, Weight, BMI	23-Feb-2004 Alkaline phospl	ise 80	
ne Mineral Density	23-Feb-2004 GFR	509	
and manufactures of the starty	23-Feb-2004 Creatinine	51	

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 Letters Pathway	Care Setting: ChyEliR Feature Domo 🖌
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages	View Historic Data 🗸 👌 🗳 🖨
Bone Chemistry – Messages	Selected 3 variable(s) with date range 1995.02.07	0 1996.07.17
00:08:32 on 17-Jul-1998	00:08:32 on 17-Jul-1998 - Bone Chemistr	Results
Bone Chemistry Results	Bone Chemistry	
01:59:30 on 22-Mar-1998	Bone Chemistry	•
Bone Chemistry Results 19:43:48 on 13-Feb-1998	Sample Date Analyte Measure	Chart Butter
Bone Chemistry Results	✓ 17_Jul.1998 CTX 0.91	Chart Button
11:33:06 on 14-Jan-1998		
Bone Chemistry Results	☑ 17.Jul-1998 P1NP 146	
20:37:17 on 22-Oct-1997	☑ 17-Jul-1998 Calcium 2.48	
Bone Chemistry Results	17-Jul-1998 Alkaline phosphatase 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 Bone Chemistry Results	17.Jul.1998 Creatinine 47	
16:58:02 on 20-Jun-1996	17.Jul.1998 MDRD 180	
Bone Chemistry Results	17-Jul-1956 MDRD 180	
21:14:45 on 12-Apr-1996		
Bone Chemistry Results	01:59:30 on 22-Mar-1998 - Bone Chemist	Results
00:24:38 on 24-May-1995	Bone Chemistry	
Bone Chemistry Results		
12:52:03 on 15-Apr-1995	Bane Chemistry	
Bone Chemistry Results	Sample Date Analyte Measure	enf
04:40:01 on 07-Feb-1995	22-Mar-1998 CTX 0.93	
Bone Chemistry Results	Z2-Mar-1998 P1NP 90.2	
Patient Alerts	22-Mar-1998 Alkaline phosphatase 87	
	22-Mar-1998 Vitamin D 69	
Fracture History	22-Mar-1998 GFR 83	
Medication History	22-Mar-1998 Creatinine 67	
Diagnosis History	22-Mar-1998 MDRD 119	
Lab Results – Messages	19:43:48 on 13-Feb-1998 - Bone Chemist	Results
	Bone Chemistry	
Registration Event Summary	Bone Chemistry	
Blood Pressure History	Sample Date Analyte Measure	ent.

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.

Views	Kie Events Summaries Forms Letters Pathways Care Setting: cbyEHR Feature Demo 🗸	
▼ cityEHR Feature Demo (10)	Bone Chemistry – Messages	View Historic Data 🗸 5 6 🖨
Bone Chemistry – Messages	Calcium Close Refresh PINP CTX Start (77-2-199) B Interval: 4 v Years v Plots Combined v Laport Stacked v Legend Left v	
00 88 20: 417-64.1998 Done Chemistry Rends 11 (5:0) 40: 22.548-1909 Done Chemistry Rends 11 (5:0) 40: 22.548-1909 Done Chemistry Rends 10:41 24 at 117-54.1998 Done Chemistry Rends 11:33 26: 414-54.1999 Done Chemistry Rends 21:57 10: 40 May 1997 Done Chemistry Rends 21:57 10: 40 May 1997 Done Chemistry Rends 21:45 20: 33-154.1997 Done Chemistry Rends 21:44 26: 4154-1995 Done Chemistry Rends 22: 22: 31: 41.54-1995 Done Chemistry Rends	CTX Star (0.2.300) M Honey (4 v) Yaan v Pala Combende Layed Started V Legend (4 v)	Dialogue Window
Patient Alerts Fracture History		
Medication History	300	
Diagnosis History	19/43/48 on 13-Feb-1998 - Bone Chemistry Results	
Lab Results – Messages	Bone Chemistry	
Registration Event Summary	Bone Chemistry Bone Chemistry	
Blood Pressure History	Sample Date: Analyte Measurement	

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.

Note	WALTERS, Zak. (Mr). Dom: 03-Sep- Patient Id K9954501. NPIS Number 756			ity III:
Bed Designed B	Views	Hee Events Summers Forms Letters Pathways Care Setting of (IR) (Pathways Care Setting Of (IR)		
2227 million 222 m	▼ cityEHR Feature Demo (10)	Bone Chemistry - Messages	View Historic Data v 5	
Number of Marking Number of Marking 11 Start Bark (Salak) Salak (Salak) 12 Start Bark (Salak) Salak (Salak) <td>Done Chemistry - Messages</td> <td>Selected 3 variable(s) with date range 2003-02-27 to 2004-04-13</td> <td></td> <td></td>	Done Chemistry - Messages	Selected 3 variable(s) with date range 2003-02-27 to 2004-04-13		
<pre>it et de auchesses it de au</pre>		23:22:57 on 13:Apr-2004 - Bone Chemistry Results		1
Interprofile Interprofile <td< td=""><td></td><td></td><td></td><td></td></td<>				
intermediation provided in the second of				
II S22 mit 10-8-206 0 - 0.4 y -006 / 10m 0 - 0.4 y -0.4 y		Vitamin D		
International Constructional Constructing Constructing Constructional Constructional Constructi	19:13:32 on 13-Feb-2004			
Bale Construction Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane Image: Data 2004 Additional phane				
New Conservation ¹ • 3 - 3 - 0 - 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0	Bone Chemistry Results	0 13-Apr-2004 Alkaline phone 200		
It Star John Million II Shar John Million It Shar John				
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Bole Water Deady 23-feb-3004 Creatinine 61				
	Bone Mineral Density			
		A TALATON WAR IN		

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.

$\leftarrow \ \rightarrow \ {\tt G}$	O D 🕫 localhost:8080/cityehr/ehr/cityEHRFolder-Events//userId=admin&sessionId=53b36f97bd7117b20b960cb1f3722052	80% 🟠 🖂 🧶 🗏
WALTERS, Zak (Mr) Born: 03-Sep-1986 Patient Id K9954501 NHS Number 756362		Quit Administration city Dashboard Patient Search Patient Cohorts In-Tray Registration
104		Dashboard Patient Search Patient Cohorts In-Tray Registration
vents Annotations	Events Summaries Forms Letters Pathways Care Setting: cityEllR Feature Demo 💙	
▼ All Events (35)	15-Dec-2021 - Treatment Recommendations	
15-Dec-2021 Treatment Recommendations	Anti-Osteoporosis Therapy Recommendations Intelcation Recommendations	^
Anti-Osteoporosis Therapy Recommendations	Medicalan Marine Dase Recommended Duration	
Falls Risk Intervention Recommendations	Alendronate 3 Years	
and Referrals	Supplement Recommendations Supplement Name, Dose Recommended Duration.	
Outcome	supported in the cost of the contracted of the cost of	
Information		
Follow-Up	Falls Risk Intervention Recommendations and Referrals No date recorded.	
30-Jul-2005 Allergies and Warnings	Outcome	
29-Jul-2005 Lifestyle	No data recorded.	
28-30-2003 Cilestyle	Information	
29-Jul-2005 Body Mass Index	NOS Losflot false	
29-Jul-2005 Medication	Smoking Cessation true	
	Alcohol Moderation false Physical Exercise true	
29-Jul-2005 Hospital Arxiety and Depression Scale	Priyakum Zaketuse True Dietary Calcium Leaffet (jage	
Depression Scale	Drug / Information Leafinet failse	
29-Jul-2005 Patient Registration	Follow-Up	
02-Feb-2005 Lifestyle	Is a Nolon-Up Appointment with the Patient Required? false	
	DXA Referral	
28-Jan-2005 Lifestyle	Is this the patient's first DXA Scan? false	
12-May-2004 Lifestyle	Is this are patient's second DXA Scan? false Is this a re-referral for a DXA Scan? false	
08-May-2004 DAS 28	Is this a re-referral for a DXA Scan? false	
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.



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.

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

Events	Events Summaries Forms Letters Pathways Care Setting: ctyEH	Feature Demo 👻	
► All Events (34)	25-Jun-2002 - Hospital Anxiety and Depression Scale		3 8 9
Bone Chemistry Results (12)	Anxiety Score 16 Severe		
Laboratory Test Results (9)	Depression Score 13 Moderate		
 Medications (1) 	I her tense or wound up I still enjoy the things I used to	Most of the time Definitely as much	
Patient Registration (1)	I get a sort of frightened feeling as if something awful is about to happen	Very definitely and quite badly	
	I can laugh and see the funny side of things Worwing thoughts oo through my mind	As much as I always could A great deal of the time	
Allergies and Warnings (1)	I feel cheerful	Not at all	
BMD Data (1)	I can sit at ease and feel relaxed	Not often	
► Lifestyle (4)	I feel as if I am slowed down I get a sort of frightened feeling like 'butterflies' in the stomach	Nearly all the time Quite often	
Risk Factors (1)	I have lost interest in my appearance	Definitely	
Prost Pacities (1)	I feel restless as if I have to be on the move	Not very much	
Hospital Arroiety 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: ctyEH	R Feature Demo 🖌	Shew
► All Events (34)	25-Jun-2002 - Hospital Anxiety and Depression Scale		8 8
Bone Chemistry Results (12)	No annotations recorded - click to add.		
Laboratory Test Results (9)	Anxiety Score 15 Severe		
Medications (1)	Depression Score 13 Moderate	Most of the time	•
Patient Registration (1)	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 thoughts go through my mind I feel cheerful	A great deal of the time Not at all	CIER Hay Dutton
► Lifestyle (4)	l can sit at ease and feel relaxed I feel as if I am stored down	Not often Nearly all the time	to Annotate
 Risk Factors (1) 	I get a sort of frightened feeling like 'butterflies' in the stomach	Quite often	to Annotate
 Hospital Anxiety and Depression Scale (1) 25-Jun-2012 Hospital Anxiety and Depression 	I have lost interest in my appearance I feel restless as if I have to be on the move I look forward with enjoyment to things	Definitely Not very much Definitely less than I used to	
Scale	I get sudden feelings of panic	Quite often	
► DAS 28 (1)	I can enjoy a good book or radio or TV program	Not often	
Medication (1)			
► Body Mass Index (1)			
	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			Dashboa	ard Patient Search	Patient Cohorts In	Quit Admin I-Tray Registration	city EHR
Events Hide	Events Summaries Forms Letters Pa	thways Care Setting: cityEH	R Feature Demo 🗸				Show
▼ All Events (34)	08-Jul-1983 - Hospital Anxiety and Dep	pression Scale					0 2
08-Jul-1983 Allergies and Warnings	Click to add new annotation Created	Type	Comments	Date	Action	Notify Effecti	ve Time
08-Jul-1983 Lifestyle	X 10:16:09 on 27-Aug-2020 Alert		as a high level of anxiety		o notification	27-8-2020	
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 somethin	ng awful is about to happen	Definitely as much Very definitely and quite bad	ly			
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 could A great deal of the time				
28-Oct-1982 Lifestyle	I feel cheerful I can sit at ease and feel relaxed		Not at all Not often				
31-Oct-1981 Lifestyle	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 "butterflie I have lost interest in my appearance	s' in the 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 look forward with enjoyment to things I get sudden feelings of panic		Definitely less than I used to Quite often				
	I can enjoy a good book or radio or TV program		Not often				
15-Oct-1981 Medications							
21-Sep-1981 Bone Chemistry Results							
21-Sep-1981 Laboratory Test Results							
30-Jul-1981 Bone Chemistry Results							
14-Jul-1981 Bone Chemistry Results ctpDrR Vesion Number - V1.7-2020-07-02-5 User ctb	yBHR Administrator / cityBHR Feature Demo Logged on: 09:54	k:10 on Thursday, 27th August 2020 Las	t logged on: 00:52:24 on Thursday, 27th 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 Pa	othways Care Setting:	cityEHR Feature Demo 🐱				Show
► All Events (34)	25-Jun-2002 - Hospital Anxiety and De	epression Scale					
Bone Chemistry Results (12)	Click to add new annotation Created		Comments	Date	Action	Notify	Effective Time
► Laboratory Test Results (9)	Created X 13:24:05 on 08-Dec-2021	Type Alert ~	Comments This patient has a Moderate Level of Depression		Action Notify Role ~	Administrator V	08-12-2021 Z
Medications (1)	13.23.35 on 08-Dec-2021	Alert	This patient has a High level of anxiety	2021-12-07			2021-12-08Z
► Patient Registration (1)			The party as a reprint a second				
 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 frightened feeling as if somethin	a and is about to become	Definitely as much Very definitely and quite badly				
► Risk Factors (1)	I can laugh and see the funny side of things Worning thoughts go through my mind	g america accorr to napper	As much as I always could A great deal of the time				
Hospital Anxiety and Depression Scale (1)	I feel cheerful		Not at all				
	I can sit at ease and feel relaxed		Not often				
25-Jun-2002 Hospital Anxiety and Depression Scale	I feel as if I am slowed down I get a sort of frightened feeling like 'butterfliet	the stewark	Nearly all the time Quite often				
	I get a sort or rightened reeing like butternet I have lost interest in my appearance	s in the stomach	Quite offen Definitely				
► DAS 28 (1)	I feel restless as if I have to be on the move		Not very much				
Medication (1)	I look forward with enjoyment to things		Definitely less than I used to				
Body Mass Index (1)	I get sudden feelings of panic		Quite often				
 Doby Mass moex (1) 	I can enjoy a good book or radio or TV program	m	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).

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	Cohort Search		Specialty Elfn 2 v
	New term v Select Search Type - v	T	
	All None Ref 1 Search Term		Cohort (0)
		Click this	
otyEXR Version Number - V1 7-2021-12-08-1	User: ohyEHR Administrator / Elfin 2 / en-gib Logged on: 09 20.19 Thursday, 9th December 2021 Last logged on: 09 20 56 Thursday, 9th 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.

My Searches Shared Searches Hi	Search Cohort	
	Cohort Search	Specialty cityEHR Feature Demo 🗸 🔍
	New term Centographics Description Gender v Male v Scope Al data v	
	All None Ref 1 Search Ferm	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.

Wy Searches Shared Searches	Search Cohort	
Patient Cohort 2021-12-08T14-45-29.019Z	Cohort Search :: Search rise: 712 3165 New term: v) Description Gender: v) equal to: v) Female: v) Scope	Specially ColyDER Feature Demo v Cohort search Patient Cohort 2021-12-4 4 🕢 😢 🕲 🖉 🕲
	Arri Nom Ref 1; Search Ferm t Gender equal to Male	Cohort (9) (2)
	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**.

Ny Searches Shared Searches Hide	Search Colort	
Patient Cohort 2021-12-08T14-45-29.019Z	Cohort Search :: Search time: PT0.3185	Specialty cityEHR Feature Demo 🗸 Cohort search Patient Cohort 2021-12-1 😰 🖨 🗂 5 Ø Q
	New turm Demographics V Gender V Repuil to V Scope All data V	
	All None Ref 1 Search Term	Cohort (0)
	1 Gender equal to Male	(2)
	Select this	

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).

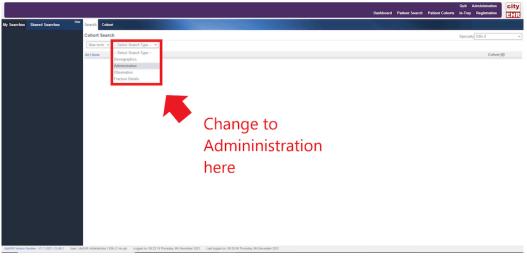
My Cohorts	Shared Cohorts	Fide Search Cohort	- <u>-</u>				
		Cohort Search : 6	1. Navigate he	re		Cohort search P	abient Cohort 2021-12-1 😨 🖬 🥍 🖨 🛤
		Displaying 1 to 2 of 2 p	patients				
		Patient Id	Sumame	Forename	Gender	Date of Birth	Age
		K5310150	Hobson	Brian	Male	29-Mar-1957	64
		38703301	Gibson	Howard	Male	17-Mar-1976	45
							
			View 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.



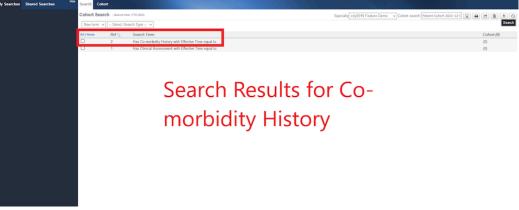
Searching for Cohorts Using Administration

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	
Wy Searches Shared Searches	Mea Sand Calent		
	Cohort Search : Revol Ime PRI 2003 Spread (style): Tenture Demo	👻 Cohort search Patient Cohort 2022-04-257	s o a
	New Item Advisation V Description Author v call to v Celored Stored Record v		
	All Nume Seaf () Seaf-(b) Term	Cohort (II)	
	S His Testore Norm in Andre equito le géril de Alexianter Ins Lifesjé Assessment with Andre equito le géril de Alexianter Ins Lifesjé Assessment with Andre equito le géril Adventator Instance and a la geril de Alexianter	(2) (9) (2)	
	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	
Ny Searches Shared Searches ^{Hide} Search Coh	м				
Cohort Sea	rch : Search See: P70 000	Spec	cialty cityEHR Feature Demo	V Cohort search Patient Cohort 2022-04-251	5 0 Q
New term	+)[Administration	v Description			
	Author	v equal to v Context Stored Records v Fracture Record v			
Al None		Search Term		Cohort (I)	
•		Has Fracture Record with Author equal to obyERR Administrator		(2)	
		Has Lifestyle Assessment with Author equal to chyEIR Administrator		(1)	
	1	Has Fracture Record with Author equal to objOR Admenistrator			
CIT 1		enteren de la contracta de la contracta de contracta de la contracta de la contracta de la contracta de la contr		This cohort contains two	
Click	one of these	e boxes. Ideally select one that returns several patients		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.

Wy Searches	Shared Searches	Hile Search Cohort		
		Cohort Search		Specialty_cityCHR Feature Demo Q
		New term V Observation V	Description	
		Fracture	Effective time Any time Patient age Any age V	
		- Theorem	Scope All data	
		Current V equal to V Yes V	Context Stored Records V Any context V	
		All None 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.

ches Shared Searches	More Search Cohort	
	Cohort Search : Search time: PT0 6025	Specialty CityEHR Feature Demo 🔹 Cohort search (Patient Cohort 2021-12-4) 🔛 🖨 🛤 🔹
	Newterm V - Select Search Type - V	
	W1None Ref 1 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 Hi	Search Cobe	art			
Patient Cohort 2021-12-08T14 45:29 019Z	Cohort Sear	ch : Search Se	e PT0 3565	Specially cityEHR Feature Demo 🔹 Cohort search Patient Cohort 2021-12-4	280
	New term v	- Select S	arch Type — 🐱		Search
	All None	Ref †	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.

My Searches	Shared Searches	Search Co	hort			
Patient Colo	ort 2021-12-08T14:45:29.019Z	Cohort Sea	arch : Search tim	e: PT0.3865	Specialty cityEHR Feature Demo 🗸 Cohort search Patient Cohort 202	
		New term	v - Select Se	arch Type		Search
		All Nome	Ref 1	Search Term		Cohort (8)
			2	Gender equal to Fernale		(6)
			1	Gender equal to Male		(2)
				ect Lists that you It to combine		

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.

My Searches Shared Searches Hid	Search Cohort		
Patient Cohort 2021-12-08T14-45-29.019Z	Cohort Search : Search Sime: PT0 2055	Specially cityEHR Feature Demo 🗸 Cohort search Patient Cohort 2021-12-6 💽 🖬 🥍	
	1. Select Combine Selecte 2. Choose an operator 3. Click Search	ed Cohorts	Search Button

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.

Specially cityEHR Feature Demo 🗸 Cohort search Patient Cohort 2021-12-1 📓 🖬 🍬 🖨 🔳 🍮 🔕
Search
Cohort (8)
(8)
(6)
(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.

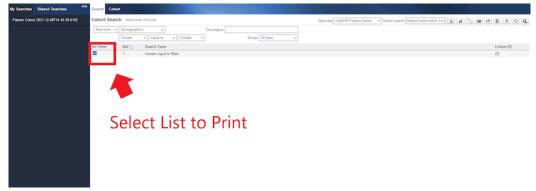
ly Cohorts Shared Cohorts	Hide Search Cohort		and the second		and the second second	
	Cohort Search : Search the	e: PT0.0165			Cohort search Patier	t Cohort 2021-12-1 🖳 🖬 🥍 😝 🖆
	Displaying 1 to 8 of 8 patients					Starch
	Patient Id	Sumame	Forename	Gender	Date of Birth	Age
	K4954485	Borras	Amber	Female	19-Oct-1944	77
	K5454519	Littlemore	Jane	Female	13-Nov-1966	55
	K9963545	Borras	Angela	Female	28-Oct-1944	77
	K9810298	Needham	Helen	Female	25-Oct-1972	49
	K1021025	Felows	Nina	Female	16-Dec-1952	68
	K4948505	Neale	Nina	Female	30-Mar-1973	48
	K5310150	Hobson	Brian	Male	29-Mar-1957	64
	38703301	Gibson	Howard	Male	17-Mar-1976	45

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.



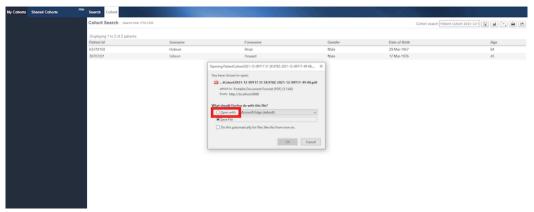
Selecting the Cohort List(s) for Printing

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



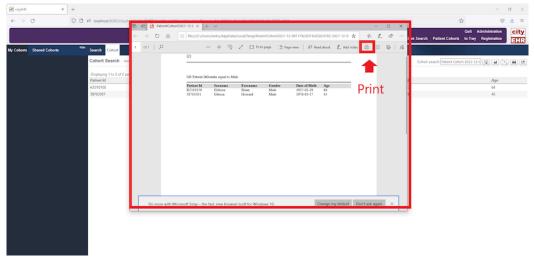
Printing the Selected Cohort List(s)

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			Orde	r by Hospital Number 🗸 🍳 S
	Patient Id N	Sumame Forenan	ne			
	Gender - Select Value	V				
	Day of Birth - Select Value	V Month - Select Value - V Ye	ar Date 🗷			
	Consultant					
	Constant					
	Displaying 1 to 10 of 20 patient	s 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	
	K6497515	Walters	Amber	Female	12-Jul-1986	
	K5453100	Neale	Heston	Male	08-Mar-1973	
	K5397545	Collymore	Bridget	Female	23-Apr-1946	
		ect a Pati	ont			
	.	ect a rati	EIIL			

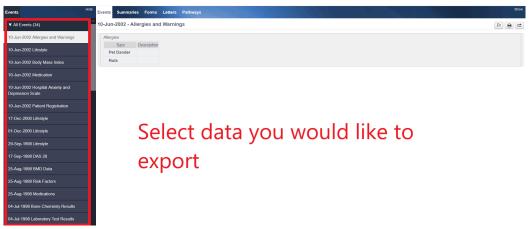
Selecting a Patient for Record Export

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

Events	Events Summaries Forms Letters Pathways	Silow
▼ All Events (34)	10-Jun-2002 - Allergies and Warnings	2 8 4
10-Jun-2002 Allergies and Warnings	Allergies	
10-Jun-2002 Lifestyle	Type Pet Dander	
10-Jun-2002 Body Mass Index	1. Navigate to Events Page	
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.



Selecting Patient Event to Export

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

$\leftarrow \ \rightarrow \ G$	○ 🗅 🕫 localh	ost:8080/cityehr/e	hr/cityEHRFol	der-Events/?use	ld=admin&sessionId=bfaceb43a053e6c569d376608ft	58689	80%	☺ ± 🗎 👙 ≡
BORRAS, Angela (Ms) Born: 15-Nov-1 Patient Id K9897575 NHS Number 756362		Female					Dashboard Patient Search Patient C	Quit Administration
vents Aznotations Hi	de Events Summaries	Forms Letters Pa	thways Care S	etting: cityENR F	ature Demo 🗸			Stor
▼ AllEvents (35)	04-Apr-2022 - Lifes	style Assessment						P 8 C
04-Apr-2022 Lifestyle Assessment	Of event: 04-Apr-2	022 Lifestyle Asse	ssment					
Lifestyle	Lifestyle Level Of Mobil	litu			Smoking Habits			
Lifestyle Scale Questionnaire Body Mass Index	Walking for a gua	rter of a mile		ome difficulty	Smoking Habits Examoker			
10-Jun-2002 Allergies and Warnings	Stooping, crouchi Doing chores arou			iome difficulty iome difficulty				
10-Jun-2002 Lifestyle	Lifestyle Scale (Questionnaire						
10-Jun-2002 Body Mass Index		ns of fruit and vege	ables per day	Not applicable			Click Expor	τ
10-Jun-2002 Medication		hours sleep each nij 0 mins twice or moi		Not applicable Not applicable				
10-Jun-2002 Hospital Aroviety and Depression Scale		te amounts of alcoh e truth in lifestyle qu		Not applicable			Record ico	n (4th
10-Jun-2002 Patient Registration	Body Mass Inde:		esponnaires	ног аррисарие			Recordined	
17-Dec-2000 Lifestyle	Body Mass Index Measurement date		BMI Interpreta	10.0			icon from t	h la a
01-Dec-2000 Lifestyle	10-Jun-2002	Height 173 cm Weight 87 kg	Low marginess				ICON TROM I	ine
29-Sep-1998 Lifestyle	13-Sep-2001	Height 173cm						
17-Sep-1998 DAS 28	01-Dec-2000	Weight 82 kg Height 173 cm					left)	
25-Aug-1998 BWD Data		Weight 85 kg					ierey	
25-Aug-1998 Risk Factors								
25-Aug-1990 Hedications								
04-Jul-1993 Bone Chemistry Results								
04-Jul-1998 Laboratory Test Results								
09-Mar-1998 Bone Chemistry Results								
01-Feb-1996 Bone Chemistry Results								
01-Feb-1996 Laboratory Test Results								
02-Jan-1998 Bone Chemistry Results								
10-Oct-1997 Bone Chemistry Results								
10-May-1997 Laboratory Test Results	v							~
Selecting F	Patient	Event	t to E	Ехроі	t			

Exporting Data for a Cohort of Patients

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	
► System	User: cityEHR Administrator (admin) V Cohort type: All V	Role: Administrator
► Database	Patient Cohort 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.

Hide	cityEHR - Administration - Manage Cohort Searches	Store
▶ System	User: cityEHR Administrator (admin) V Cohort type: All V	Role: Administrator v
► Database	Patient Cohort 2021-12-08T14:45:29.019Z	Patient Cohort 2021-12-06T14:45:29.019Z
► Information Model		
► Directory		▲
Users and Care Teams		
Knowledge Sources		Clickthic
 Patient Records 		Click this
▼ Cohort Searches		
Manage Cohort Searches		
Import Cohort Search		
Export Data Sets		
Redirect Notifications		
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.

	e cityEHR - Administration - Manage Cohort Searches	
► System		u u
► Database	User: cityEHR Administrator (admin) V Cohort 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		Click to
► Knowledge Sources		Export
 Patient Records 		Export
▼ Cohort Searches		
Manage Cohort Searches		
Import Cohort Search		
 Export Data Sets 		
Redirect Notifications		
My User Account		
Manage Patient Access		
Test Web Senice		

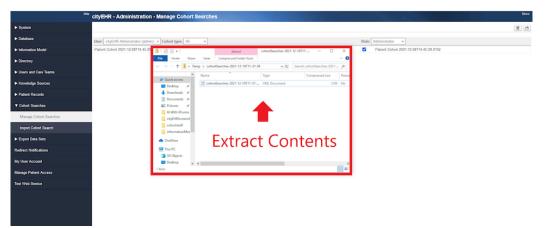
Exporting Desired Cohort Search

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

			Quit Ad Dashboard Patient Search Patient Cohorts In-Tray	Registration City
	Hide cityEHR - Administration - Manage Cohort Se	arches		Shor
► System				
► Database	User: cityEHR Administrator (admin). V Cohort type: All	v	Role: Administrator.	
Information Model	Patient Cohort 2021-12-08T14:45:29.019Z		Patient Cohort 2021-12-08T14:45:29.019Z	
► Directory				
► Users and Care Teams		Opening cohortSearches-2021-12-10711-37-39.zip X		
Knowledge Sources		You have chosen to open: cohortSearches-2021-12-10T11-37-39.zip		
Patient Records		which is: Compressed (ripped) Folder (2.8 kB) from: http://localhost8000		
▼ Cohort Searches		What should Firefox do with this file?		
Manage Cohort Searches		What should invetor do with this file? Open with Windows Explorer (default)		
Import Cohort Search		Save File Do this automatically for files like this from now on.		
Export Data Sets		U to this gutomatically for files size this from now on.		
Redirect Notifications		OK Cancel		
My User Account				
Manage Patient Access				
Test Web Senice				

Cohort Export Dialogue Box

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



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.

rstumks/AppDetalL × [
nl version="1.0" encoding="UTF-8"?>	and the second	
ortSearches xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:x2="http: s:msexcel="http://schemas.openxmlformats.org/spreadsheetml/2006/main" xmlns:rdf="http://www.w3.org/1999/02/22-rd		ules 12606 - Thitsu / Junior les and lice.
5.mszer="http://scients.open.informas.org/spreadsreedin/2000/main_xmax.org/2001/Xinclude"xmas.org/575/0/2210		
s:xsl="http://www.w3.org/1999/XSL/Transform" xmins:xhtml="http://www.w3.org/1999/xhtml" xmins:xsi="http://www.w3		
s:office="urn:oasis:names:tc:opendocument:xmlns:office:1.0" xmlns:xxi="http://orbeon.org/oxf/xml/xinclude" xmlns:office200		
s:owl="http://www.w3.org/2002/07/owl#" xmlns:widget="http://orbeon.org/oxf/xml/widget" xmlns:cda="urn:hl7-org:v3" xn	nins:xforms="http://www.w3.org/2002/xforms" xmins:ss="urn:schemas-mi	icrosoft-com:office:spreadsheet*>
<pre>ccohortSearch xmlns:math='http://exslt.org/math' xmlns:exf='http://www.exforms.org/exf/1-0' xmlns:fr="http://orbeon.org/ </pre>	oxf/xml/form-runner">	
<id>admin2021-12-08T14-46-10.975Z</id> <origin>#CityEHR:Role:Administrator</origin>		
<pre><cohortname>PatientCohort 2021-12-08114:45:29.019Z</cohortname></pre>		
<cohortpatientstring></cohortpatientstring>		
<cohortpatientcount></cohortpatientcount>		
<cohortanalysis></cohortanalysis>		
<searchterms></searchterms>		
 <term></term> cparameters> 		
<pre>> <graph decimalprecision="0" hovercapbg="FFFFDD" hovercapborder="000000" numbersuffix="" numdivlines="0" pre="" xaxisnai<=""></graph></pre>	mea"' vaxisnamea"' vaxisminvaluea"0" vaxismaxvaluea"0" subCantiona"' captio:	in="" hocolor="e1f5ff">
<set color="FFFFFF" name="Template" value="10"></set>		
- <trendlines></trendlines>		
line color="FFFFFF" isTrendZone="0" thickness="1" displayValue="" startvalue="10"/>		
 - <enumeratedclassselection></enumeratedclassselection>		
centante actors settors		
<class></class>		
<entrynode></entrynode>		
<classdisplayname></classdisplayname>		
<selectednode "="" code="" displayname="/></td><td></td><td></td></tr><tr><td><suppDataSetId/> <suppDataSet/></td><td></td><td></td></tr><tr><td><pre><supplations/set // - <supplations/set // - <supplations/set</td><td></td><td></td></tr><tr><td><I 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><1 Template query element for the Supplementary Data></td><td></td><td></td></tr><tr><td>- <query>
<id/></td><td></td><td></td></tr><tr><td> <ui><ui><ui><ui><ui><ui><ui><ui><ui><u</td><td></td><td></td></tr><tr><td><comparatorType/></td><td></td><td></td></tr><tr><td><searchEntry displayName=" type=""></selectednode>		
<searchterm2 code="" displayname="" type=""></searchterm2>		
<searchterm3 "="" code="" displayname="" type=""></searchterm3> <searchterm5 code="" displayname="" type=""></searchterm5>		
<pre><search@perator1.diplayname=""selection=""></search@perator1.diplayname=""selection=""> <search@perator1.diplayname=""selection=""></search@perator1.diplayname=""selection=""></pre>		
<pre><searchoperator2 displayname="">selection="/></searchoperator2></pre>		
- <suppdataquery></suppdataquery>		
Set of <query elements made for all supplementary data sets in the entry (may be more than one)>		
<pre><pre>septement displayName="" type="" clusterDisplayName="" clusterId="" elementType="" elementDisplayName="" elementIRI</pre></pre>	terr identi/s	
 <elementselection></elementselection> 		
<element id=** displayName="* elementIRI="* elementDisplayName="* type="* elementType=** clusterId=** d</td <td>:lusterDisplayName=**/>></td> <td></td>	:lusterDisplayName=**/>>	
- <elementvalueor></elementvalueor>		
- <query></query>		

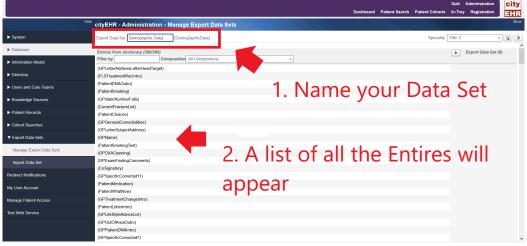


- 1. Navigate to the *Administration* screen in the Purple system navigation.
- 2. Navigate to **Export Data Sets** in the menu on the left side of the screen.

	Here cityEHR - Administration - Manage Export Data Sets	
▶ System	Export Data Set:	Specialty: cityEHR Feature Demo
► Datebase		
 Information Model 		
► Directory		
Users and Care Teams		
Knowledge Sources		
► Patient Records		
▶ Cohort Searches		
▼ Export Data Sets		
Manage Export Data Sets		
Redirect Notifications		
Manage Patient Access		
Tost Web Senice		

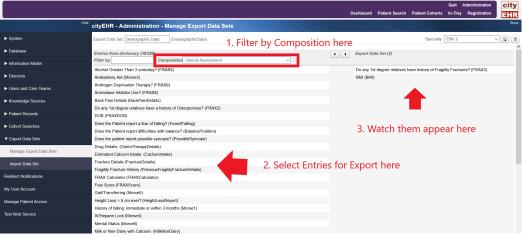
Manage Export Data Sets Page

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

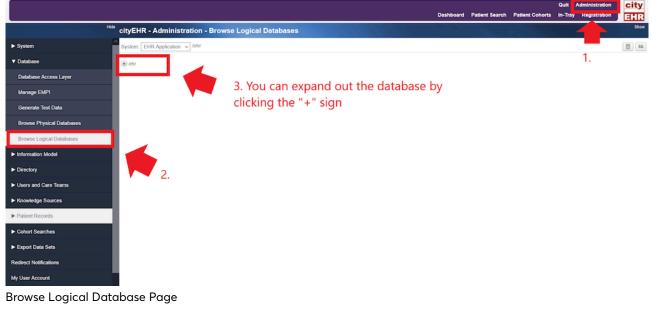
5. Click the **Save** button at the top right of the display window.

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.



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*.

	How cityEHR - Administra	ation - Browse Physical Databases			
► System	System: EHR Application	Database: Built in Database 👻 Node: builtin basic	EHR v Version: 1.4.1dev		
▼ Database	(Idb/ehr				Show BTUs D Sort by: Type V II Filter.
Database Access Layer	Name	Type	Size	Last Modified	
Manage EMPI	xmistore auditiog	collection collection	2	2021-12-08T10:25:09.893Z 2021-12-08T10:25:46.71Z	
Generate Test Data	auditog	conection	1	2021-12-08110:26:46.712	
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.

nten	tion cityEHR - Administration - Brown	se Physical Databases				EHP
aten					A CONTRACTOR OF	
	System ENR Application V Database	Bull-in Database v Node: builtin-basicEHR v W	maion: 1.4.1dev		0	
slabane	Adb/eh/tomistore				Show BTUs) Sort by: Type v 11 Filter:	
alabase Access Layer	Name	Type	Size	Last Modified		
anage EMPL	system	collection	2	2021-12-06704 39:50 959-05:00		
	applications	collection	10	2021-09-17T11:32:06:218-04:00		
ienerate Test Data	users	collection	2	2021-09-17711 32:51 429-04 00		
rowse Physical Databases						
rowse Logical Databases						
formation Model						
rectory						
eers and Care Teams						
nowledge Sources						
dient Records						
short Searches						
port Data Seta						
rect Notifications						
iser Account						
age Patient Access						
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.

	cityEHR - Administration - Browse Physical Databases				Show .
► System	System: EHR Application 👻 Database: Built-in Database 👻 Node: builtin-basicE	EHR Version: 1.4.1dev			
▼ Database	/db/ehr/smistore/users/admin/credentials				Show BTUs Sort by: Type V If Filter:
Database Access Layer	Name	Type	Size	Last Modified	1
Manage EMPI	recentPatients	resource	4096	2021-12-08T14:42:15.353Z	
warage com	credentials	resource	4096	2021-12-08T10:26:46.507Z	Click to view XML
Generate Test Data	session-parameters	resource	4096	2021-12-08T15:02:25.438Z	Click to view Ame
Browse Physical Databases	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.

Hide	cityEHR - Administration - E	rowse Physical Databases	Show
► System	System: EHR Application 👻 Database	XML Document Viewer - credentials	A C U
▼ Detabase	(db/ehr/xmistore/users/admin/crede		Show BTUs Sot by: Type V II Filter
Database Access Layer	Name	Download Close	
Manage EMPI	recentPatients	Â	
Generate Test Data	credentials session-parameters htmlCache	<pre>cure: id="EliyEBBIVer:sdmin" smlms:rdf="http://www.vd.org/1999/02/22-sdf-syntax-nef" xmlms:safor coredentials) cpassword_dateSet="2021-12-082" seedExy="su2thrurky:2021-12-08710124:04.992">>26089552718747</pre>	
Browse Physical Databases		<pre><usello>dins/usello> <logenlins <br="">clogenlins/ cusername>cityEMR Administrator</logenlins></usello></pre>	
Browse Logical Databases		<pre><code></code> <specialtycode></specialtycode></pre>	XML Dialogue
 Information Model 		<pre><jobtitle></jobtitle></pre>	Ame Blaiogue
Directory		<pre><corganiastion></corganiastion> <mail></mail> <th>Вох</th></pre>	Вох
► Users and Care Teams		<pre>capplications> <iso-13606:eer extract="" id="#ISO-13606:EER ExtracticityEER"></iso-13606:eer></pre>	DOX
► Knowledge Sources		<iso-13606:Folder 1de##/	
► Patient Records			
► Cohort Searches			
Export Data Sets		<pre>crestictPatientAccess value*** displayMame*All Patients*/> <role administrator*="" displaymame*system="" value***cityemr:role:system:administrator*=""></role> <!-----> <!-----> Set as 'carefeas' to restrict to patients in user's care team(s)><!-- </pre--></pre>	
Redirect Notifications		<pre></pre> det as 'carelean' to restrict to patients in user's care team(s)> <pre></pre> <pre>(role displayBame=** value=**/> <pre>>></pre></pre>	
My User Account			
Manage Patient Access		(Jane 2	
Test Web Senice		<	

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 - Administration - Browse Physic	cal Databases				Show
► System	System: EHR Application 👻 Database: Built-in Database	v Node: builtin-basicEHR v Version: 1.4.1dev				
▼ Detabase	Back Button				Show BTUs 🗋 Sot by Type 👻 🚺 Filter	
Database Access Layer	Namo	Type	Size	Last Modified		
Manage EMPI	stera	collection	1	2021-12-08T10-26:46:507Z		
Generate Test Data	applications	collection	1	2021-12-08T10:25:09.893Z		
Browse Physical Databases						
Browse Logical Databases	-					
► Information Model	Navigate to appl	ications				
Directory	Navigate to appl	ications				
Users and Care Teams						
Knowledge Sources						
Patient Records						
Cohort Searches						
► Export Data Sets						
Redirect Notifications						
My User Account						
Manage Patient Access						
Test Web Senice						

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.

Hde	cityEHR - Administration - Browse Physical Databases						Show
► System	System: EHR Application v Database: Built in Database v Node: builtin-basicE	EHR Version: 1.4.1dev					
▼ Database	/db/ehr/xmlstore/applications/ISO-13606-EHR_Extract-cityEHR				Show BTUs D Sort by: Type	v II Filter	
Database Access Layer	Name	Type	Size	Last Modified			
Manage EMPI	data	collection	1	2021-12-08T13:30:56:011Z			
	informationModel	collection	2	2021-12-08T10.25:09.895Z			
Generate Test Data	languagePack	collection	1	2021-12-08T12:47:33.952Z			
	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			
► 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 Service							

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.

		about 6	and and Countries	Patient Cohorts	Quit Administr	010
	*** cityEHR - Administration - Browse Physical Databases				annoy nagaa	ation EH
▶ System	System: EHR Application 🗸 Database: Built in Database 🗸 Node: builtin basicEHR 🗸 Version: 1.4.1dev					
▼ Database	/db/ehr/umistore/applications/ISO-13666-EHR_Extract-cityEHR/records/K1025710		Show BTUs	Sort by. Type	/ It Filter:	
Database Access Layer	Name	Type	Size	Last Modified		
Manage EMPI	2021-12-08T12-26-35.1822-1996-03-28T10-44-20.610474-CityEHR-Message-LabData-admin	resource	12288	2021-12-08T12		
	2021-12-08112-26-35-1822-1995-12-20114-04-16-955571-CeytEHR Message BoneChemistry admin	resource	16384	2021-12-08112		
Generate Test Data	2021-12-08T12-26-35.182Z-1995-11-19T22-14-38.606899-CityEHR Message LabData-admin	resource	12288	2021-12-08T12		
Browse Physical Databases	2021-12-08T12-26-35.1822-1996-11-19T22-14-38.606899-CityCHR-Message-BoneChemistry-admin	resource	12288	2021-12-08T12		
Crowser Projectal Databases	2021-12-08T12-26-35.1822-1995-10-25T06-33-06-519234-CeyEHR Message BoneChemistry-admin	resource	8192	2021-12-08T12		
Browse Logical Databases	2021-12-08T12-26-35.1822-1995-08-15T13-38-38-0825-Cty/EHR-Message-BoneChemistry-admin	resource	8192	2021-12-08T12		
	2021-12-08T12-26-35.1822-1995-04-08T01-08-56-078924-CkyEHR Message-LabOata-admin Timestamp example. Click any of these	resource	12288	2021-12-08T12		
Information Model	2021-12-08T12-26-35-1822-1995-03-24T00-44-37-295901-CityEHR-Message-LabData-admin	resource	12288	2021-12-08T12		
Directory	2021-12-08T12-26-35.1822-1995-03-24T00-44-37.295901-CeyEHR Message BoneChemistry-admin	resource	16384	2021-12-08T12		
	2021-12-08T12-26-35.1822-1995-01-04T04-36-58.685029-CeyEHR-Message-LabData-admin	resource	12288	2021-12-08T12		
Users and Care Teams	2021-12-08T12-26-35.182Z-1995-01-04T04-36-58.685029-ChyEHR-Message-BoneChemistry-admin	resource	16384	2021-12-08T12		
	2021-12-08T12-26-35.1822-1994-06-27T23-29-00.766735-CeyEHR-Message-BoneChemistry-admin	resource	16384	2021-12-08T12		
Knowledge Sources	2021-12-08T12-26-35.182Z-1994-04-30T18-54-47-98252-CityEHR-Message-LabData-admin	resource	12288	2021-12-08T12		
Patient Records	2021-12-08T12-26-35.1822-1994-04-30T18-54-47.98252-CityEHR-Message-BoneChemistry-admin	resource	20480	2021-12-08T12		
	2021-12.08T12-26-35.1822-1993-07-30T02-30-04.409719-ChyEHR-Message-LabData-admin	resource	12288	2021-12-08T12		
Cohort Searches	2021-12-08T12-26-35.1822-1993-07-30T02-30-04.409719-CityEHR-Message-BoneChemistry-admin	resource	16384	2021-12-08T12		
	2021-12.08T12-26-35.1822-1993-06-27T13-37-23.713169-CtyEHR-Message-BoneChemistry-admin	resource	12288	2021-12-08T12		
Export Data Sets	2021-12-08T12-26-35.1822-1993-06-27T13-37-23.713169-CbyEHR-Message-LabData-admin	resource	8192	2021-12-08T12		
direct Notifications	2021-12.08T12-26-35.1822-1993-05-01T15-05-12.494206-CityEHR-Message-BoneChemistry-admin	resource	16384	2021-12-08T12		
	2021-12-08T12-26-35.1822-1993-05-01T15-05-12.494206-CbyEHR-Message-LabData-admin	resource	12288	2021-12-08T12		
User Account	2021-12-08T12-26-35,182Z-1999-07-28T18-32-32.18143-CityEHR-Form-Allergies/Warnings-admin	resource	8192	2021-12-08T12	26:35.2232	
	2021-12-08T12-26-35.1822-1998-04-13T12-41-55.238694-CityEHR-Form-Lifestyle-admin	resource	16384	2021-12-08T12	26:35.254Z	
inage Patient Access	2021-12-08T12-26-35.182Z-1996-05-30T21-13-20.542938-CityEHR Form-DAS28-admin	resource	90112	2021-12-08T12	26:35.286Z	
st Web Senice	2021-12-08T12-26-35:1822-1999-07-28T15-59-49.114666-CityEHR Form-Lifestyle-admin	resource	12288	2021-12-08T12	26:35.332Z	
	2021-12-08T12-26-35.182Z-1998-04-27T06-38-32-128365 CityEHR Form Lifestyle-admin	resource	16384	2021-12-08T12	26:35.363Z	
	2021-12-08T12-26-35.1822-1999-07-28T15-48-09.748967-CityEHR-Form-Medication-admin	resource	16384	2021-12-08T12	26:35.395Z	
	2021-12-08T12-26-35-182Z-1999-07-28T15-47-33-173468-CityEHR-Form-HADS-admin	resource	40960	2021-12-08T12	26:35.426Z	

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 - B	rowse Physical Databases					Show
► System	System: EHR Application 👻 Databas	XML Document Viewer - 2021-12-08 T12-26-35.1822-1	996-03-28T10-44-20.610474-CityEHR-Message-LabData-admin				∧ = ₩
▼ Database	(db/ehr/xmlstore/applications/ISO-	Download Close		Sho	w BTUs 🗖 S	ort by: Type 👻 🔰 Filter.	
Database Access Layer	Name		^	Туре	Size	Last Modified	i i
Manage EMPI	2021-12-06T12-26-35.182Z-1996-03-28T1 2021-12-06T12-26-35.182Z-1995-12-20T1	<clinicaldocument #cityeer:nessage:labdate<="" th="" xmlns:rdf="http://www.w3.org
<typeId extension="><th>//1999/02/22-rdf-syntax-ns#" xmlns:fr="http://orbeon</th><th>resource</th><th>12288</th><th>2021-12-08T12-26-35.772Z 2021-12-08T12-26-35.814Z</th><th>•</th></clinicaldocument>	//1999/02/22-rdf-syntax-ns#" xmlns:fr="http://orbeon	resource	12288	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	<pre><templateid extension="*#ISO-13606:Folder:R</pre"></templateid></pre>	beumatlogy" root="#ISO-15606:ENR_Extract:cityENR"/> 96-03-28T10-44-20.610474-CityENR-Message-LabData-adm	résource	12288	2021-12-08712-26:35.85921, Click bir 2021-12-08712-26:35.9222	noculars icon
Browse Physical Databases	2021-12-08712-26-35.1822-1995-10-2570	<pre><code <="" <effectivetime="" code="" codesystem="cityERR" display="" pre="" value="1996-03-28T10:44:20.0"></code></pre>		resource	8192	2021-12-08T12-26-35-955Z	
Browse Logical Databases	2021-12-08T12-26-35.1822-1995-08-15T 2021-12-08T12-26-35.1822-1995-04-08T0	<pre><recordtarget></recordtarget></pre>	2. Dialogue Box that	resource	8192 12288	2021-12-08T12:26:36 2021-12-08T12:26:36.048Z	
Information Model Directory	2021-12-08T12-26-35.1822-1995-03-24T0 2021-12-08T12-26-35.1822-1995-03-24T0	<pre><pre>cpatient></pre></pre>	appears after clicking	resource	12288 16384	2021-12-08T12-26:36.094Z 2021-12-08T12-26:36.141Z	
Users and Care Teams	2021-12-08T12-26-35.182Z-1995-01-04T0 2021-12-08T12-26-35.182Z-1995-01-04T0	<pre><qiven>Zara</qiven> <family>French</family></pre>	binoculars icon	resource	12288 16384	2021-12-08T12-26:36.187Z 2021-12-08T12-26:36.235Z	
► Knowledge Sources	2021-12-08T12-26-35.1822-1994-06-27T2 2021-12-08T12-26-35.1822-1994-04-30T1	 <administrativegendercode 1970-03-11"="" code="
<birthTime value="></administrativegendercode>	<pre>female* codeSystem*cityEEE* displayName=*Female*/></pre>	resource resource	16384 12288	2021-12-08T12-26:36.297Z 2021-12-08T12-26:36.343Z	
► Patient Records	2021-12-08T12-26-35.1822-1994-04-30T 2021-12-08T12-26-35.1822-1993-07-30T0	 <providerorganization></providerorganization>		resource	20480 12288	2021-12-08T12-26:36.389Z 2021-12-08T12-26:36.437Z	
Cohort Searches	2021-12-08T12-26-35.182Z-1993-07-30T0 2021-12-08T12-26-35.182Z-1993-06-27T1	<pre><id <="" extension***="" providerorganization="" root**2.16.840.3=""> </id></pre>	1.113003.2.1.4.3*/>	resource resource	16384 12288	2021-12-08T12-26:36.483Z 2021-12-08T12-26:36.514Z	
Export Data Sets	2021-12-08T12-26-35.182Z-1993-06-27T1 2021-12-08T12-26-35.182Z-1993-05-01T1	 <component></component>		resource resource	8192 16384	2021-12-08T12-26:36.576Z 2021-12-08T12-26:36.622Z	
Redirect Notifications My User Account	2021-12-08T12-26-35-182Z-1993-05-01T1 2021-12-08T12-26-35-182Z-1999-07-28T1	<structuredbody> <component></component></structuredbody>		resource	12288	2021-12-08T12-26:36.652Z 2021-12-08T12-26:35.2232	-
Manage Patient Access	2021-12-08T12-26-35.1822-1999-01-001 2021-12-08T12-26-35.1822-1998-04-13T1 2021-12-08T12-26-35.1822-1996-05-30T2	<pre><title>Other Labs</title></pre>	<pre>> tion:OsteoporosisOtherLabs* root=*cityTER*/> </pre>	resource	16384	2021-12-08712-26-35-254Z 2021-12-08712-26-35-254Z 2021-12-08712-26-35-286Z	
Test Web Senice	2021-12-08T12-26-35.182Z-1999-07-28T1		>	resource	12288	2021-12-08T12:26:35.332Z	
	2021-12-08T12-26-35.182Z-1999-07-28T15	5-38-32. 128365-CityEHR-Form-Lifestyle-admin 5-48-09. 748967-CityEHR-Form-Medication-admin		resource	16384	2021-12-08T12-26-35-3632 2021-12-08T12-26-35-3952	

HL7 CDA Document for Selected Event

15. Continue exploring the database, such as the **ISO-13606-EHR_Extract-cityEHR** 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

- 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.

HE	²⁶ cityEHR - Administration - Manage Information Model		Shaw
► System	Specialty: Summary - all specialties v Information Model: Summary - All Models	×	
► Database	Specialties (2)	Information Models (6)	
▼ Information Model Manage Information Model Import Information Model	cityERR Common Model (#ISO-13806 Folder.cityERRBase)	#ChyEHR Class Drugs Class Drugs / Applications/SO-13066 EHR_Estract-chyEHRUntomationModelChyEHR-Class-CommonModelDrugs-1 xml	
Import Language Pack		850-1966 Folder colfe-PRIese Specially ch/ER Common Model Applications SIGNE DER Extract-ch/ERRInformationModel ch/ERR-Specially-CommonModel 9 xml	
Manage Media Manage Image Maps ▶ Directory	chyEHR Feature Demo (IRSO-13666 Folder FeatureDemo)	#SD-1306 Frider FastunDerno Specialy crybElf Fasture Denso Applications SD-1306 FERE_Entract-ckyDR-foldmentionModelickyDR-Specially Feature Denso-171.xml RXD=RFET (Status Leffret	
Users and Care Teams Knowledge Sources		RUDyner Cuast Labolet Casts Jacob (1996) Application/SSO-1996-EHR Extract-objeTRRHommitionModel/chj:EHR Class-LabTent 6 xml	
Patient Records Cohort Searches		ROS-BER Class Drugs Class Drugs AngeledamisSO 15065-EHR_Ebrack-thjEHRInformationModel/chjEHR-Class-Drugs 2.xml	
Export Data Sets Redirect Notifications My User Account		#ChyEHR Class Diagnosis Class Dagnosi JagnicationuSO-1806-EHR_Entract-chyEHRUntomationModelichyEHR-Class-Clagnosis-21 xml	
Manage Patient Access Test Web Service			

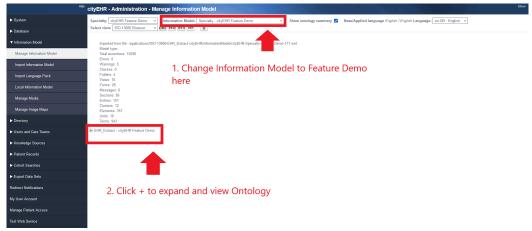
Base Manage Information Model screen

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	v U
► Database		ormation Models (4)
▼ Information Model	styEHR Feature Demo (#ISO-13606:Folder:FeatureDemo)	#ISO-19606-Folder FeatureDemo Socialty
Manage Information Model	Summary of models contained	Spiciarly cityEHF Feature Demo / rappications/ISO-13906/EHR Extract-cityEHR/r/ormationModel/cityEHR-Spociality-Feature-Demo-171 xml
	within Feature Demo	Polyceta Class 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		Drugs /applications/ISO-13606-EHR_Extract-cityEHR/informationModel/cityEHR-Class-Drugs-2.xml
► Directory		#CityEHR Class Diagnosis Class
► Users and Care Teams		Diagnosis //applications/ISO-13606-EHR Extract-cityEHR/informationModel/cityEHR-Class-Diagnosis-21.xml
► Knowledge Sources		
 Patient Records 		
► Cohort Searches		
► Export Data Sets		
Redirect Notifications		
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.



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 - Manage Information Model	
► System	Specially: [chyERF Feature Demo 🗸 Information Model: Epocially - chyEHR Feature Demo 🤟 Show ontology summary 🖉 BaselApplied language English / English Language: [en.GB - English 🗸	
► Database	Select view: [SC-13865 Browser • ow [ISO-Imm] cori	
Information Model	Imported from file: /applications/ISO-13606 EHR_Extract-chyEHR/information/Model/chyEHR.Specialty-Feature-Deno-111.xml Model type:	
Manage Information Model	Total assertions: 12590	
Import Information Model		
Import Language Pack	Folders: 4 Venes: 10	
Local Information Model	Forms: 26 Massages: 6 Buttons	
Manage Media	Entries: 151	
Manage Image Maps	Clutters 12 Elements: 357	
► Directory	Units: 10 Terms: 943	
► Users and Care Teams	EMR_Estract - cityEHR Feature Demo	
► Knowledge Sources		
► Patient Records		
► Cohort Searches		
► Export Data Sets		
Redirect Notifications		
My User Account		
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: ISD-15000 Browser 🔹 owi ISD mm oor 🔳
▼ Information Model Manage Information Model	Imported from file: /applications/SO-15066 EHR_Extract-oh/EHR/information/Modelicity/EHR-Specialty-Feature-Demo-171 xoni Model type Trad assertmenters: 1530
-	Errors: 0
Import Information Model	Classes 0
Import Language Pack	Folders: 4 To Area cristentino Speri Vens: 10 50:1305-1646-r5atureDemo-2021-12-08115-48-28.2p
Local Information Model	Form: 26 which is Compressed type(f) folder Message: 6 form: http://spikubil.0300
Manage Media	Section: 85 Entries: 151 What adout Ferfore do with the Ret
Manage Image Maps	Cluster: 12 which dead relative as which this har Elements: 3/7 Open white Windows Depleter (default)
► Directory	Units: 10 @Spire File Terms: 543 D this patromatically for Hits like this from now on.
Users and Care Teams	EHR Estrat - cityEHR Feature Demo
► Knowledge Sources	OK Cancel
► Patient Records	
► Cohort Searches	
► Export Data Sets	
Redirect Notifications	
My User Account	
Manage Patient Access	
Test Web Senice	

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.

		Dashboard Patient Search Patient Cohorts In-Tray Registration	HR
٢	* cityEHR - Administration - Manage Application Parameters		Show
▼ System	Application cityEHR v	Debug Info: Startup Log 🗸 🗸	Edit []
Manage Application Parameters			
Manage System Parameters	lame: chyEHR .anguage: en-G8		
Import Language Pack	Version: V17-2022-03-24-1 Date: 2022-03-28T10 55:41.162-04:00		
Apply All Language Packs	Jsers: 1		
View Audit Log	Speciallies: 3		
New Application	nformation Models: 14 Records: 49		
Inspect Spreadsheet	Compositions: 1617		
► Database			
► Information Model			
► Directory			
► Users and Care Teams			
► Knowledge Sources			
► Patient Records			
Cohort Searches			
Export Data Sets			
Redirect Notifications			
My User Account			
Manage Patient Access			

Administration Page

Manipulating the information model as an ontology is quite difficult and it is easy tomake 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.

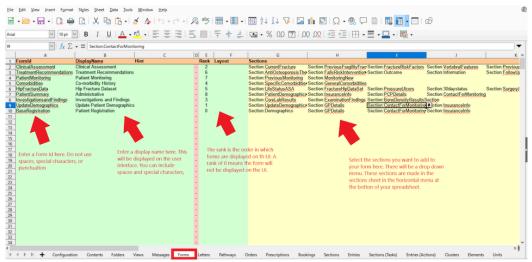
To get around these issues, and to create tooling that clinical users are able to work with more easily, the information model for cityEHR can also be created and modified using a standard spreadsheet package.

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-ZO-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	× +										
$\leftarrow \ \ \rightarrow \ \ \mathbb{C}$	0	🗅 localh	ost:8080/cityehr1-7-RC2/el	r/cityEHRAdmin/?userIc	d=admin&sessionId=dd8aaa516	2906c31403af7	92d3e82c24		☆		. ≡
						Dashboard	Patient Search	Patient Cohorts		dministration Registration	city EHR
		Hide city	EHR / ISO-13606-Fo	lder-Elfin2 - Adm	inistration - Manage Ap	plication Pa	arameters				Show
▼ System		Appl	ication cityEHR v				Debug Info: S	itartup Log		~	ani> Edit 🗌
Manage Application Parame	tors	Nam	e: cityEHR								
Manage System Parameters		Vers	ion: V1.7-RC2 : 2021-09-22T12:46:53.402-0	7:00							
View Audit Log		User	rs: 1								
New Application		Spec	cialties: 3								
Inspect Spreadsheet			mation Models: 7 ords: 1								
► Database			positions: 2								
Information Model											
Directory											
Users and Care Teams											
Knowledge Sources											
Patient Records											
Cohort Searches											
Export Data Sets											
Redirect Notifications											
My User Account		ľ									
Manage Patient Access cityEHR Version Number - V1.7-RC2	User: cityl	EHR Administrate	or / Elfin 2 Logged on: 09:41:18 o	n Monday, 18th October 2021	Last logged on: 08:00:24 on Monday, 18	8h 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.
- 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:



cityEHR log on page loading

3. Click "Start"



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".

		Ouit Administration City Dashboard Patient Search Patient Cohorts In-Tray Registration
	Hise cityEHR - Administration - Manage Application Parameters	Show
▼ System	Application cityEHR V	Debug Info: Startup Log
Manage Application Parameters		Click "Administration"
Manage System Parameters	Name: cityEHR Language: en-GB	Click Administration
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 Information Models: 6	
► Database	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.

		Dashboard	Patient Search	Patient Cohorts	Administration	city
ни	° cityEHR - Administration - New Application	Dusinouru	T uterit ocuron	T ducint bonions	 	EHR
▼ System	waiting					
	naung					
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	~					

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
	Hee cityEHR - Administration - New Application	and the second
▼ System	myEHR / waiting	
Manage Application Parameters	Enter identifier for the new application	
Manage System Parameters	Application 1d: myEHR	1. Click the check button called "Verify Application Id"
View Audit Log		Verity Application to
New Application		
Inspect Spreadsheet		
► Database		
Information Model		
Directory		
 Users and Care Teams 		
Knowledge Sources		
 Patient Records 		
Cohort Searches		
Export Data Sets		
Redirect Notifications		
My User Account		
Manage Patient Access		

Verifying the Application ID

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

	Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration	City Elik
	eityEHR - Administration - New Application	Show
▼ System	myEHR / application-parameters built You can change the display name here	5 \$
Manage Application Parameters		
Manage System Parameters	Application Configuration (application)	
View Audit Log	iso-1366EHR_Extract id HISO-13606EHR_Extract.myEHR display/lame myEHR baseLanguageCode en-GB commonModel defaulSpecially.	
New Application	city	
Inspect Spreadsheet	Application fogo hint: 60 x 60 px value: /applications/ISO.13608-EHR_Extrat-catyEHR/images/cityEHR/logoTall-Small prg	
▶ Database	Application favicon hint: 16 x 16 px value: /applications/ISO-13606-EHR_Extract-cityEHR/images/cityEHRLogoTall-Small.ico 🖬 here here	
Information Model	Splash page header logo hint: Recommended width is 720px value. Browse No file selected.	
Directory		
Users and Care Teams		
Knowledge Sources		
 Patient Records 	ЕЦР	
Cohort Searches	Splash page image, fort hint: Recommended with 300pt or 180pt vitite / applications150-13005-EHR Extract-chyEHRUnapes/shpEHRLogsTall.Medium prg	
Export Data Sets	Splash page image, right hint: Recommended width 300px or 190px value: /applications/sc/-1900e-env_extract-appenromageschipervict.agorain-Medium.png	
Redirect Notifications		
My User Account		

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.

Hide	cityEHR - Administration - New Application	Show
▼ System	myB/R / application-parameters-bulk	5 5
Manage Application Parameters		_
Manage System Parameters	Application Configuration (application)	
	lau-1300/EHR_Extract id: #ISO-1300/EHR_Extract.myEHR_daplay/lame: myEHR_baseLarguage/Code en GB_commonModel_defaultSpecially: /mages	
New Application	inty city	
Inspect Spreadsheet	Application logo hnt. 60 x 60 px value: /applicationsISO-13665-EHR_Extract-chyEHR/images/city/EHR.ogo1all/Small.png 🗙 🖽 R	
▶ Database	Application favicon / hint. 16 x 16 px value: /applicationsISO-13006EHR_Estract-cityEHR/Images/cityEHRLogsTall-Small.ko 🗙 🚟	
 Information Model 	Splash page header logo hint: Recommended width is 720px value; Browse, Ito file selected.	
Directory		
Users and Care Teams		
Knowledge Sources	city E H R	
Patient Records	ЕНО	
Cohort Searches	Splash page Image, left hint: Recommended width 300px or 100px - value: /applications/ISO-13006-EHR Extract-chyEHR/images/chyEHRLopoTail-Medium prog	
▶ Export Data Sets	spread program in the second s	
Redirect Notifications		
My User Account		
Manage Patient Access		
Test Web Service		

Creating a new application ID

11. A Dialogue Box will appear. Click Confirm.

	Out Administration City
tide	Dashboard Patient Search Patient Cohorts In-Tray Registration
104	cityEHR - Administration - New Application
▼ System	nyEHR / application-parameters-built
Manage Application Parameters	
Manage System Parameters	Application Configuration (application)
View Audit Log	lao-1306/EBR_Extract id: #ISO-1306/EBR_Extract.myEBR_displaylame: [myEBR_baseLarguageCode;]en-CBcommonNeded: _defaultSpecially: images
New Application	city
Inspect Spreadsheet	Application logo hint: 60 x 60 pc value: /applications/ISO-13666-EHR_Extract-chyEHR/images/chyEHRLogoTail-Small pro
► Database	Application fuvicon hint: 16 x 16 px value: /applications/15:0-13606 mail.ico 🗙 🗮
► Information Model	Splash page header logo hint: Recommended width is 720px value: Create new aplication
► Directory	
Users and Care Teams	Create a new ckyBR applicator with the id:
Knowledge Sources	Continu Concer
► Patient Records	
▶ Cohort Searches	Splash page image, Mr. Int. Recommended with 36pc or 105pc. value: Application/500-150/6EPR.Explash/bellR.Explash.Modum pr
► Export Data Sets	opene program moderning on the internet control of the State of the St
Redirect Notifications	
My User Account	
Manage Patient Access	
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 Search Patient Schorts In-Tyre Registration	»
Hide	chyEHR - Administration - New Application	
	sanade/R/ compiled-oranit-application	
	2023-32715-224.413-6407973-153 (1/) (1/) ends-application/ expansion/application/ application/	
Manage System Parameters	(20) (https://web.web.inter.entropy.com/article/com/a	
View Audit Log		
New Application		
Database		
Information Model		
Directory		
Users and Care Teams		
Knowledge Sources		
Patient Records		
Cohort Searches		
Export Data Sets		
edirect Notifications		
anage Patient Access		
est Web Service		

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 chyf/HR Administrator	
Select myEHR from dropdown	
Select myEHR from dropdown	
and click Start	and the second secon
city/EVR. Electronic X-easth Record	
O 2013-2020 John Chelson Oper Health Informatics Research Programme	

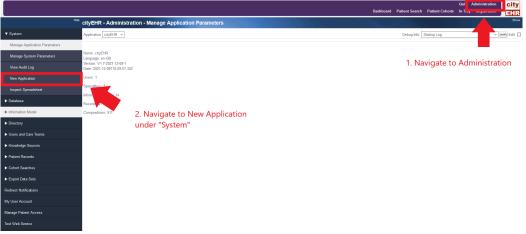
Selecting alternative application on cityEHR log on page

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.



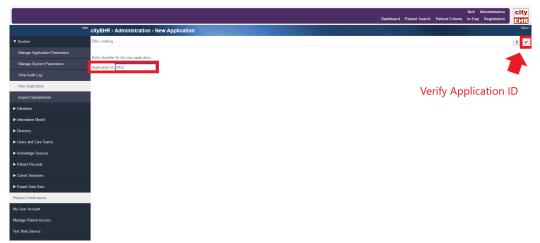
Navigating to New Application in Administration

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

						Administration	city
		Dashboard	Patient Search	Patient Cohorts	In-Tray	Registration	EHR
	Kite cityEHR - Administration - New Application						
▼ System	Elfin / waiting						5 🗸
Manage Application Parameters	Enter identifier for the new application						
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							
My User Account							
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.

	Quit Administration Cfty Dashboard Patient Search Patient Cohorts In: Tray Registration
Hide	cityEHR - Administration - New Application
	Elin / application parameters-bult
	^
	Application Configuration (application)
View Audit Log	iso-1000/EMR_Entract id: WSO-13006 EMR_Estract EMI displayName EMI baseLanguageCode: en-GB commonModel: WSO-13006 Falder.NOC defaultSpecially: WSO-13006 Falder.NOC integration and the second se
New Application	
	Application logo hnt: 60 x 60 pc value: /applications/SO-13006-EVR_ExtractEffinimages/ultin.com pg 🗙 🀨
	Application function hint: 16 x 15 px value:
	Create new aplication
	Create a new chyEHR application with the id:
	Splash page header logo - Init: Recommended width is 720pc - value: /applications/ISO-13605EHR_ExtractEthv/mages/eth/Splash.png 🗙
	Splack page image, left hrit: Recommended with 360pr or 180pr value / applications180-13066EHR EstraceEth/imagesleft-logo or 🛪 🕀 elfin
	FRIDE

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.

	¹⁴⁶ cityEHR - Administration - New Application	Show
▼ System	Porseti / application-parameters-built	5
Manage Application Parameters		^
Manage System Parameters	Application Configuration (application)	
View Audit Log	Iso-1300:EHR_Extract id: #ISO-13000EHR_Extract Ponseti displayName: dubFOOT Database baseLanguageCode: en-GB commonModed: defaultSpecialty: #ISO-13000Folder Pons Images	eti
New Application	images Club	
Inspect Spreadsheet	Application logo hint: 60 x 60 px value: /applicatione/ISO-13806/EHR_Extract-Penset/imagesclub/FootDBlcon png	
► Database	Application favicon hint: 16 x 16 px value: /applications/ISO-13666-EHR_Extract-chyEHR/mages/chyEHR.ogoTall-Small i.co 🗙 🚟	
Information Model		
► Directory	clubFOOT	
 Users and Care Teams 	Splash page header logo hint. Recommended width is 720ex value: /applications/ISO-13006-EHR Extract-Ponseti/images/clubFootDBBanner.png	
Knowledge Sources		
 Patient Records 	1	
Cohort Searches		
 Export Data Sets 		
Redirect Notifications		
My User Account	Splash page image, left hint: Recommended width 360px or 180px value: /applications/ISO-13808 EHR_Extract Ponset/images/BootsAndBar jpg 🗶	

Shipped application, Ponseti configuration page

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

	👓 cityEHR - Administration - New Application	
System	Elfin / completed create application	(
Manage Application Parameters	2021-12-10T13-33-29.80227 (PT7M31.096S)	
Manage System Parameters	(1/32) create-application / createApplication-saveParameters / PT2.391S (2/32) create-application / createApplication-import / 2020-10-15-03-Elfin-Specialty-NOC.xml / PT18.384S	
	(3/2) import-information/Model / importinformation/Model-ane/P / PT1-10/S (4/32) import-information/Model / importinformation/Model-ane/P / PT0-912S (5/2) import-information/Model / importinformation/Model-ane/P / PT11SS	
New Application	(3/2) import-information/kode/ / importint/mation/kode/ approx10/17/18/17/8 (6/22) import-information/kode/ / importint/mation/kode/-approx10/17/8 (7/2) import-information/kode/ / importint/mation/kode/-approx10/17/8 (1/5)	
Inspect Spreadsheet	(132) import-information/Model / importinformation/Model-rebuild/Directories / PT25.551S (8/22) import-information/Model / importinformation/Model-rebuild/Directories / PT25.551S (8/22) import-information/Model / importinformation/Model-updateLanguagePacks / PT14.49S	
Database	(10/2) import-informationModel / importInformationModel-clearFormCache / PT1.0285 (11/2) create-aprication / create/aprication-import / 2019 5-14-1-Elins Sociativ-FLS-0B-2018 xml / PT7.9525	
Information Model	(12/32) import-informationModel / importInformationModel-verify / PT1.042S (13/32) import-informationModel / importInformationModel-merge / PT10.783S	
Directory	(14/32) import-informationModel / importInformationModel-saw / PT9.715S (15/32) import-informationModel / importInformationModel-generateDictionary / PT27.807S	
Users and Care Teams	(16/32) import-informationModel / importInformationModel-createCompositions / PT1M9.448S (17/32) import-informationModel / importInformationModel-rebuildDirectories / PT24.112S	
Knowledge Sources	(18/32) import-informationModel / importInformationModeI-updateLanguagePacks / PT1.081S (19/32) import-informationModel / importInformationModeI-clearFormCache / PT0.941S	
Patient Records	(2022) reade-application / createApplication-impon/ / 2020-20-47-EBn-Specialty-FLS-DB-2020cm/ / PT7.457S (2132) import-informationModel / impontinformationModel-weilty / PT1.023S (2232) import-informationModel / impontinformationModel-weilty / PT7.45S	
Cohort Searches	(2012) import-informationModel / importinofmationModel-awa / PT3 9395 (23/32) import-informationModel / importinformationModel-awa / PT3 9395 (24/32) import-informationModel / importingformationModel-awa/ PT28 137S	
Export Data Sets	(24/2) import-informationModel / importinformationNodel-rentedEcompositions / FT149.349S (25/32) import-informationNodel / importinformationNodel-rentedEcompositions / FT1M9.349S (25/32) import-informationNodel / importinformationNodel-rentedEcompositions / FT1M9.349S	
direct Notifications	(27/32) import-information/Model / importinformation/Model-updateLanguagePacks / PT1 234S (28/32) import-information/Model / importinformation/Model-Logar formCache / PT0 595S	
/ User Account	(29/32) create-application / createApplication-import/Aedia / PT0.8655 (30/32) create-application / createApplication-import/Directories / PT1.0195	
, anage Patient Access	(31/32) create-application / createApplication-setApplication.ist / PT3.534S (32/32) create-application / createApplication-setUserPermissions / PT1.738S	
st 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:

1	• 볼 🗟 👒 📝 🚦	🗟 🖴 🔍 👑 🚾 🖌 🛍 🛍 •	🎽 🗐 - (C) - 💩 🛃 🕹 🔒 🕢	🏙 🖉 💼 🗟 🔍 🔞 📘 Find	u 💽 🖑 🕆 🖕	
92	Arial	■ 10 ■ B <i>I</i> <u>U</u>	≝ ≝ ≡ ≡ ≡ ≡ ≝ 4 ‱	🐰 ∉ 🤄 🗆 • 🖄 • 🔺 🖕		
B15	•	βx Σ = allow				
	A	В	С	D	E	F
	Parameter	Values				
	Application	cityEHR	cityEHR Base Application	City University, London		
3	Specialty	FeatureDemo	cityEHR Feature Demo			
4	Layout	Ranked	Unranked	Ascending	Descending	
	CRUD	R	CRU	CRD	CRUD	
	Occurrence	Single	MultipleEntry			
7	InitialValue	Empty	Pre-filled	Default		
	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						
	•)•) Configuration C et 1 / 21	Contents / Folders / Views Defai		STD	Sum=0) •) ⊝ — _ ● _ ⊕ 11

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-Co	ommonModel-9.ods - LibreOffice (Cale		(
File Edit View	Insert F	format Sheet Data Tools Wi	indow Help					
🖬 • 📇 • 🔒	• 🖪 (🗃 🔯 🐇 🐁 💼 • 🏄 🛛	S · C · 🛠 🐄 🎟 • 🖩	• 🕸 🖟 🕅 🗗 🕯 🛛 🛛 🗎	🤰 Ω 🐖 🦻 📰 🗋	· 🚍 🔛		
	• 10		∎·∋≑∃ ⊒ = ©	📄 📄 🔳 • % 0.0 🔯	號 🚅 🔲 🎟 🔚 • 🕞 • 🕻	🖬 • 🗮 • 🧮 💷		
82	• 1×	Σ = vancouverEHR						· ·
A		8	с	D	E	F	G	н
1 Paramete	r v	aluae						
Application	n 🔽	ancouverEHR	tyEHR Base Application	City University, London				<u>a</u>
3 Specialty		tyEHRBase	cityEHR Common Model					6
4 Layout	R	lanked	Unranked	Ascending	Descending			
5 CRUD	R		CRU	CRD	CRUD	UL	L	0
6 Occurrenc		ingle	MultipleEntry					5
7 InitialValue		mpty	Pre-filled	DistinctValues	Default			
8 DataType	b	oolean	date	dateTime	time	dayTimeDuration	yearMonthDuration	double
9 EntryType		ct	Encounter	Observation	Procedure	RegionOfInterest	SubstanceAdministration	Supply
10 ValueRequ		ptional	Required					
11 ViewType	F	older	Composition					
12 Rendition		orm	ImageMap	Denoted	Enumerated	Standalone	Chart	Highlighted
13 ElementTy		nemo	media	patientMedia	calculatedValue	staticValue	enumeratedValue	enumeratedClass
14 CohortSea		rimarySearch	Searchable	NotSearchable				i
15 RBACtype		llow	deny					
16 Roles		linician	administrator					
17 Scope		ull	Defined	Expanded	Hidden			
18 FormLayo		orm	Section	Entry				
19 PathSepar								
20 Language	Code e	n-GB (han	ge this to	NOUR				
21		Chun	ge tins to	y your				
22								
23		Annli	cation ID					
24 25		Appli						
25								
27		Make sure you are o	on the					
28		Configuration Page						
_	onfigurat			vs Orders Prescriptions B	okings Sections Sections (Task	s) Entries Entries (Actions)	Clusters Elements Units	
	omgurat				weings aecounts Sections Lask	av Encres Encres (Accord)	Cousters crements Units	
X Find		🔻 🔗 🧄 Find All	Formatted Display Match Cas	• <u>44</u>				

Changing the Application ID within the information model

- 9. Save your changes (File # Save)
- 10. 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.

	Format Sheet Data Tools							
irial 💌 1	• • a <i>a</i> <u>a</u> • <u>a</u> •	• 🖻 • 🖶 🗧 🗄	📪 🖮 🗐 🖃 📮 🜲 - % 0.0 🔯 號 🚅 🔚 🔚	• 🕞 • 🛄 • 🧮 • 🚆 🛍				
-	Σ = vancouverEHR		Save			_		
A		Name: vancouverE	HR-Specialty-CommonModel-9					н
Parameter	Values							
Application	vancouverEHR	습 Home				1		
Specialty	cityEHRBase	🗎 Desktop	Name		Size	Modified		
Layout	Ranked	D Documents	VancouverEHR-Specialty-CommonModel-9.ods		57.4 kB	10 Mar		
CRUD	R		vancouverEHR-Specialty-CommonModel-9.xml		2.7 MB	10 Mar		
Occurrence	Single	Downloads						
InitialValue	Empty	d Music						
DataType	boolean	Pictures					ation	double
EntryType	Act	i∎ Videos					ninistration	Supply
ValueRequired		Videos						
ViewType	Folder	+ Other Locations						
Rendition	Form							Highlighted
ElementType	memo						lue	enumeratedClass
CohortSearch	PrimarySearch							
RBACtype	allow							
Roles	clinician							
Scope	Full			All Formats				
FormLayout	Form			ODF Spreadsheet (.ods)				
PathSeparator								
LanguageCode	en-GB			ODF Spreadsheet Template (.ots)				
				Flat XML ODF Spreadsheet (.fods)			-	
				Unified Office Format spreadsheet (.u	os)			
				Microsoft Excel 2007-2013 XML (.xlsx			-	
-			I	Microsoft Excel 2003 XML (.xml)				
-		Save with passwor						
-		save with passwork		MICIOSOIL EXCH 97-2005 EXIST				
		1		Microsoft Excel 97-2003 Template (.xl	t)			
· · · + Configu	ration Folders Views M	essages Forms Lette	rs Pathways Orders Prescriptions Bookings Sections Se	tions Data Interchange Format (.dif)			nts Units	
Find		All Formatted Display		dBASE (.dbf)			June June	

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 x +									
← → ♂ ☆	localhost:808	0/cityehr/ehr/cityEHRA	dmin/?userId=admin&sessionId=cf9d9a60c7ef4d4	a84962e8dfb7a914f		90%	… ⊠ ☆	III\ 🖸	:8* ≡
								Quit Administration	my
				File Upload		earch Pa	tient Cohorts	In-Tray Registration	EHR
н	vancouverEHR		4 🏠 scabrera22 🚡 Desktop 🛛 vancouverEHR	>					Show
► System	The model must confo	☆ Home	Name vancouverEHR-Specialty-CommonModel-9.ods		 Size Modified 57.4 kB 10 Mar 				
► Database	Ontology - OWL/XML Graph - graphML (crea Spreadsheet - MS 200		vancouverEHR-Specialty-CommonModel-9.xml		2.7 MB 10 Mar				
▼ Information Model	Information model for								
Manage Information Model		di Music							
Import Information Model		Pictures							
Local Information Model		⊨∎ Videos							
Manage Media		+ Other Locations							
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 🔛 Oper				

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 x +				
(←) → C* @	I 💿 localhost: 8080/cityehr/ehr/cityEHRAdmin/?userid=admin&sessionid=cf9d9a60c7ef4d4a84962e8dfb7a914f	30% ···· 🖂 🕁	lin 🖽	® ≡
		Q Dashboard Patient Search Patient Cohorts In	uit Administration n-Tray Registration	my EHR
Hide	vancouverEHR - Administration - Import Information Model			Show
► System	The model must conform to the cityEHR specification in one of the following formats. Ontelogy - OWL/X08L			
► Database	Grandh - graphthi Grandh - graphthi 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-temcat-9.0.56/temp/sforms_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)			
Manage Media	Input model is a spreadsheet - converting to OWL/XML. Transformed uploaded file to OWL/XML.	Click this b	u utto in	
Manage Image Maps	Filename: vancouverEHP-Specialty-CommonModel-9.xml		outtor	
Directory	Type: text/xml 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 Usloaded file contains:			
Patient Records	Common information model			
► Cohort Searches	#ISO-13606.EHR_ExtractivancouverEHR #ISO-12606.Folder.cityEHRBase			
▶ Export Data Sets	en-g8 0 errors.			
Redirect Notifications	l 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"

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	my		
► Knowledge Sources	EHR		
► Patient Records	зрнази реди инади, им пис несепиненось инал зосух и технух чаки. инадизитерсти сузнанновали риз		
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	Language Pacita (anguagePacita)		
Redirect Notifications	Angeurge code: en-Cil deplayMane: Englah		
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Manage Patient Access	Home Page - Accredition (accredition)		
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	X Ana E 2013-2020 John Chelson		
	I line 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 $ C	🛇 🗋 🕫 🕶 localhost:8080/dtyehr/ehr/dtyEHRAdmin/?userId=admin8isessionId=8c679885188257e18919f4547ec7f2bf	80% 🟠 😇 🗋 🌻 🗏
		Guit Administration Dushboard Patient Search Patient Cohorts In-Tray Registration EHR
н	* trial1 - Administration - Manage Application Parameters	Store
▼ System	Specialities. CityEHR Base Model v	Debug info: Startup Log v 🛶 Edit 🖬
Manage Application Parameters	parameters en-gb - English / en-gb - English v	
Manage System Parameters	Application Configuration (application)	
Import Language Pack	iso-13605:EHR_Extract id: #60-13806:EHR_Extract trial1 displaylisme: Trial 1 beset_anguageCode: en-GB con	monNodet #SD-156067-bider-otyEHRBase v faultSpecialty:Select Value
Apply All Language Packs	images	
View Audit Log	Application logo hint 60 x 60 px value: //moges/invCPRLogoTal-Smallans X	
New Application	Application regional: ou X ou pi value: Images/mythRLog/tai-brink.pp	
Inspect Spreadsheet	Splash page headler logo hint: Recommended width is 723px value: Browse No file selected.	
Information Model		
► Directory	my	Ensure
► Users and Care Teams		LIISUIC
► Knowledge Sources		HICO 12COCIE al damaita FLID
► Patient Records	Sprlash paga imaga, feft hint: Recommended width 360px or 180px value: ImagesImyEHRLogoTal-Intellum.png	#ISO-13606:Folder:cityEHR
► Cohort Searches	Splash page Image, right hint Recommended with 300px or 100px value [trowse] No file selected.	· · · · · ·
► Export Data Sets	Language Pacis (languagePacis) A Innyunge	Base is selected
Redirect Notifications	/anguage code: en <8 display/lame: English	base is selected
My User Account	X Annguage code: ex-ES displayliame Spanish	
Manage Patient Access	Home Page - Accreditation (accreditation)	
Test Web Service		
	Mine (ctr)/ER Bectronic Health Rec Mine (ctr)/ER 2013-2020 John Chelsom	
	Ime Open Health Informatics Res	

Selecting the cityEHR Base folder

28. Click Save and Navigate to Quit

$\leftarrow \ \ \rightarrow \ \ G$	🛇 🗅 🛤 🗠 locahost:8080/cityehr/ehr/cityEHRAdmin/TuserId=admin8usessionId=8c679885188257e1891944547ec7f2bf	80%	☆ 🛛 🗎 🌻 =
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▼ System	Speciation: Cot/CII/R Base Model v	Debug Info: Startup Log	- 🗸 🖉 🖉
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Manage System Parameters	Application Configuration (application)		A
Import Language Pack	No-TMRKERM_Catrects's RSG-13000 DPR_Datastinist deploylane [Init] DeskLarguageCode: en-GB commonNote! RSG-130027364rc3ty11RDesk = defut[Secaty	•	
Apply All Language Packs	Imagaa		
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Inspect Spreadsheet	Application ferican hit: 16 x 16 px value, imageshrychtRisophia-Ferican to: X 🗰 Splash page header fogo hit: Recommended with is 720px value (Recess.) to file selected.		button
► Database			DULLON
Information Model	my		
► Directory			
Users and Care Teams			
 Knowledge Sources 	EHR		
► Patient Records	арлаан раду ликади, жислин. несонинанаса маш закрх он нацрх чаше, лицевкически сорнанизации рид		
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	untgeschniedzummerzuuse verlus cele Schyffer Nale Stuffe Subgeschied ode/System: chyffilli valus displayferne - Sefect Yalus		

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:

	x +	
)→ C* @	0 localhost: 8080/cityehr/ehr/cityEHRPatientSearch/?userId=admin&sessionId=cf9d9a60c7ef4d4a84962e8dfb7a914f	995 ···· 🖓 🏠 🕅 🖬 📽
		Quit Administration Dashboard Patient Search Patient Cohorts In-Tray Registration
nt Care Team		
	Patient Search	Order by Hospital Nun
	Patient Id Surname Forename	
	Gender Select Value	
	Day of Birth - Select Value - • Month - Select Value - • Year Date	
	Consultant	
	Enter search criteria to find patient.	

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.

Patient Demogra INS Number Title Gender Address GP Details	Hooghal Mander Byrea Oversease Addreft Find Demographics Formanne Bat Sommere Bat Date of Serie DemoCity Detated Ford st ThemCity Detated	22-Mar-2022 - Patient Registration * Patient Demographics Mod Number 123 Nonpel 1937e Overness Atlent Find Demographics Nod Number 123 Nonpel 1937e Overness Atlent Find Demographics Carden Indu Date of March 1937e Induced Ind	Patient Demographics NHE Rumber 123 Hospital Number (9576 Tille Nr Forename (16.5 - 10.70 - 10.5 - 10.70 - 10.5 - 10.70 - 10.5 - 10.70 - 10.5 - 10.70 - 10.5 - 10.70 - 10.5 - 10.70 - 10.5 - 10.70 - 10.5 - 10.5 - 10.70 - 10.5
Patient Demogra NHS Number Title Gender Address GP Details		Matter Description NoS Number 12.3 Hospital Number End Demographics Table Main Forename Bat Overnos Autort Summer Main Gender Main Date of Serie (Lo.3.1070-10) Address 228 Softed Ht TownOff Onferd	Patient Demographics Iroptal Number 100 R/65 Number 122 Iroptal Number 100 Title Iror Forename Bat Gender Nation Date of Birth 16-9-31970 10 Address 2765 Orderd st 10 10
Patient Demogra NHS Number Title Gender Address GP Details		Matter Description NoS Number 12.3 Hospital Number End Demographics Table Main Forename Bat Overnos Autort Summer Main Gender Main Date of Serie (Lo.3.1070-10) Address 228 Softed Ht TownOff Onferd	Patient Demographics Iroptal Number 100 R/65 Number 122 Iroptal Number 100 Title Iror Forename Bat Gender Nation Date of Birth 16-9-31970 10 Address 2765 Orderd st 10 10
NHS Number Tille Gender Address GP Details	Formanie Bat Sommere Main Date of Series 160-3-3276 If Media ReservCity Outlend ReservCity	Alfor Rumber Tag Repair Rumber Space Port Demographic Trial In Personing Base Summer Main Gender Table of Shifts Summer Main Address Table of Shifts Table Office Postcoder Address Table of Shifts Table Office Postcoder	NGS Rumber 123 Anopolity Number (9876) Title Inr - Forestane (Bate Gender Male Date of Simh (16-3:1970) - Address 2765 Onlined st - -
Title Gendor Address GP Details	Formane Bat Summe Man Date of Setting 2000 of Setting Bat ReservCity Contract deter dit ReservCity Contract Postcode Contract Contract	Title Int Summer Man Gender Male Date of Birth Gender Male Address 2769 Oxfard at Team/City Oxfard at Pastcole OP Details Control at Team/City Control at Pastcole	Title Mr Forename Bat Gender Male Date of Birth 10-3-1970 III Address 2765 Oxford st 10-3-1970 III III
Gender Address GP Details	Date of Series (16:9-3-3-370) Tevel (16:9-3-3370) Tevel (16:9-3-3370) Tevel (16:9-3370) Tevel (16:9-3370)	Oceader Index of String [10.9.1.3770]] Address Zriks oxford st PointColly PointColly OF Openation PointColly	Gender Male Date of Birth 10-3-1970 III Address 2765 Oxford st III IIII IIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
Address GP Details	ferd st Town/Cly [Oxford Postcode [Oxf. 9C2]	Address Z765 Oxford st Tom/City Oxford PostCode Oxford City Oxford PostCode Oxford Acc2	Address 2765 Oxford st
GP Details		GP Details	
		GP Details	
	Practice rewrite Find GP		
Code 8989			Code 8989 Dr Applesauce Practio
Address 1111 Lo	Town/City London Postcode Over 700 CIICK REGISTER	Address 1111 London St TomyCity London Postcode Ov6 7EN CLICK RECOIS	Address Address Transfel
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Address 1111 Lo	Town/City London Postcode OV6 7EN CITCK NEUTSLE	Address 1111 London St Town/City London Postcode Over ZEN	

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
не	* cityEHR - Administration - Manage Application Parameters	ussilutaru Palent search Palent conorts	In-Tray Registration EHI
▼ System	Application ColyDIR V	Debug Info: Startup Log	v anni Edit
Manage Application Parameters			
Manage System Parameters	Name objetRP Language en-G8		
View Audit Log	Versiter, V1.7.2821-12.05-1 Dete: 2821-12.07714.46:55.082		
New Application	Users 1		
Inspect Spreadsheet	Specialities: 3		
► Database	hformalen Kodek: 14 Recentik: 1		
► Information Model	Compositions: 231		
► Directory			
Users and Care Teams			
► Knowledge Sources			
► Patient Records			
► Cohort Searches			
► Export Data Sets			
Redirect Notifications			
My User Account			
Manage Patient Access			
Test Web Service			

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" drop-down 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	
	Hite Elfin2 - Administration - Manage Directory		Stox
► System	Adverse Effects (OstesAdverseEffects) 💽 9	Specialty [Ellin 2 v] Directory Type [Element Directory [Adverse Effects (DebouldverseEffects) v 2	60
► Dotabase	Display Name (required)	Varlaw (default in Display Nama)	
Information Model	Pruritus	portius	
▼ Directory	Angloedens Urticaria (Rash)	angbadama urticoria	
Manage Directory	Pain at Infusion Site	print-Size	
Import Directory	Redness	redites	
	Naurea	reuses	
 Users and Care Teams 	Voniting Swelling	venting swelling	
Knowledge Sources	No Adverse Effects	no-doverset fiteds	
► Patient Records			
► Cohort Searches			
Export Data Seta			
Redirect Notifications			
My User Account			
Manage Patient Access			
-			
Test Web Service			

Selecting the desired directory from the drop-down 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.

	Hide Elfin2 - Administration - Manage Directory						
System	Adverse Effects (OstesAdverseEffect 💽 9	Add directory	/ element 👘 👘	ipecialty: Elfin 2	V Directory Type: Element V Directory: Ad	erse Effects (OstesAdverseEffects)	- E C
Database	Display Name (required)				Value (default is Display Name		
nformation Model	Pruritus				pruribus		
	Angioedena]			angloedema		
Wrectory	Lirticaria (Rash)	Edit .	directory directly	in the III	urticaria		
lanage Directory	Pain at Infusion Site		unectory unectry	in the Or	painAtSite		
sport Directory	Redness				rechess		
	Neutritia				venting		
ers and Care Teams	Veniting				sweling		
nowledge Sources	No Adverse Effects				noAdverseEffects		
dent Records	[www.bsebiets						
irect Notifications							
ege Patient Access							
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.

	Hole cityEHR - Administration - Manage Directory		2
► System	BMI Interpretation Text (BitlinterpretationText) 💽 4	Specialty: Ethin 2 v Directory Type (Ethernet v Directory: Ethiliterpretation Text)	~ E
► Datatose	Display Name (required)	Value (default in Display Name)	
Information Medal	Underweight	underweight	
Directory Manage Directory	Normal BME Overweight Obese	econaBiu everwanyt acces Click the	e icon
Import Directory	Cose	"Rebuild	
Users and Care Tearns		Director	y" to
Knowledge Sources		save and	d rebuild
Patient Records		directori	ies into
Cohort Searches		your ap	plication
Export Data Sets			
Redirect Notifications			
Ny User Account			
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.

		Out Administration <mark>city</mark>
		Dashboard Patient Search Patient Cohorts In-Tray Registration
	eityEHR - Administration - Manage Directo	bry Stow
► System	Clinic Code (ClinicCode) 💽 0	Speciałty: cityEHR Feature Demo 🕥 Directory Type: Element 💙 irectory: Clinic Code (ClinicCode) 💙 🖆 🚺
► Database	Display Hame (required)	Value (default la Display Name) Element Entry
► Information Model		Liny
▼ Directory		
Manage Directory		
Import Directory		
Users and Care Teams		Calant Entry in Disastery Tura
Knowledge Sources		Select Entry in Directory Type
 Patient Records 		Drop-down
Cohort Searches		
Export Data Sets		
Redirect Notifications		
Manage Patient Access		
Test Web Service		
cityEHR Version Number - V1.7-2021-12-08-1	1 User: cityEHR Administrator / Elfin 2 / en-gb Logged on: 09:23:19 Thursday, 9th Dec	amber 2021 Laat logod on: 09.29.56 Thursday, 9h December 2021

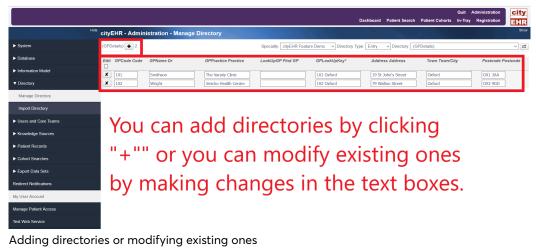
Selecting the type of directory

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

						Da	shboard F	Patient Sear	rch Patient Cohorts In-Tray Registration	Elty
Hide	cityE⊦	HR - Admin	istration - Manage D	Directory			16 J			Show
► System	(GPDeta	ails) 🔸 2			Specialty: cityEHR Featur	e Demo 🗸 Directory Type:	Entry v	Directory:	(GPDetails)	~ 2
► Database		3PCode Code	GPName Dr	GPPractice Practice	LookUpGP Find GP	GPLookUpKey*	Address	ddress	(GPDetails) (Demographics)	
► Information Model	□ ★ 1	101	Smithson	The Varsity Clinic		101 Oxford	19 St Joh	's Street	(ClinicDetails) Registration Configuration (RegistrationConfiguration)	
▼ Directory	X 1	102	Wright	Jericho Health Centre		102 Oxford	79 Walto	-		-
Manage Directory										
Import Directory										
Users and Care Teams										
Knowledge Sources										
 Patient Records 					Select	which entr	v dir	ecto	ry you would like to	0
Cohort Searches					modify		,		.,,,	-
Export Data Sets					mouny	/				
Redirect Notifications										
My User Account										
Manage Patient Access										
Test Web Service										

Selecting the directory to modify

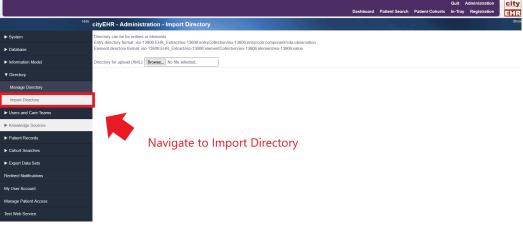
3. You can make changes in the existing directories or add new ones.



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	×	- 0 ×
$\leftarrow \rightarrow \vee$ 1 📕 « webapps > cityehr > 1	WEB-INF > resources > apps > ehr > resources > applications > ISO-13606-EHR_Extract-cityEHR > directories v 0 0 0 Search directories	⊚ ≡
Organize - New folder	Admini	
Pictures ^ Name	Date modified Type Size	
🔍 exist-data 🗌 GPDetails	4/3/2021 2:55 PM XML Document 7 KB	stration EHR Show
🤊 This PC		Silow
3D Objects	1. Navigate to this folder from	
Desktop		
Documents Downloads	your Tomcat folder	
Music		
	2. Select this file	
Videos		
関 Windows (C:)		
Alahuark Y		
File name:	All Files V	
	Open Cancel	
Patient Records		
Cohort Searches		
 Export Data Sets 		
Redirect Notifications		
My Lloor Account		

Selecting GP details file for import

4. Select the file "GP Details".

5. Click the import button.

	🕬 cityEHR - Administration - Import Directory	Show
► System	Directory can be for entries or elements Entry directory format: iso-13606 EHR Extract/iso-13606 entryCollection/iso-13606 entry/cda component/cda observation	
► Database	Element directory format: iso-13606 EHR_Extract/iso-13606 elementCollection/iso-13606 element/iso-13606 value	
Information Model	Directory for upload (XML): GPDetails xml 6.6 KB X Specialty [Elftn 2	
▼ Directory	Loaded file to: file./C:/Program%20Files%20(x86)/Apache%20Software%20Foundation/Tomcat%209.0. Tomcat%SC/temp/xforms_upload_7264020527020095563.tmp	
Manage Directory	Laadeb inte to intercon royaninzer interazione zazoonimale zazo oninasion romanzera o nonasionempiconing oppositional zazonezo zazonezo oninasionempiconing oppositional zazonezo zaz Data file is XML with root. EHR_Extract	1
Import Directory	Filename: GPDetails.xml	
Users and Care Teams	Type: text/kml Size: 6741	Import Button
Knowledge Sources	Content: file:/C:/Program%20Files%20(x86)/Apache%20Software%20Foundation/Tomcat%209.0_Tomcat%SC/temp/xforms_upload_7264020527020095563.tmp	
 Patient Records 	Root Element: EHR_Extract	
Cohort Searches	Uploaded file contains: entryCollection:	
► Export Data Sets	entry-Gelector:	
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 - Patient Registration * Page load time:

Patient Demograp	nics
NHS Number	8372675093 Hospital Number Overseas Patient Find Demographics
Title	Select Value v Forename Surname
Sex Assigned at Birth	Select Value v 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	Demogra	nhics

Fatient Demographics			
NHS Number 8372675093	Hospital Number 15444231	Overseas Patient 🔲 🛛 Find Dem	ographics 🗹 8372675093
Title Mr	✓ Forename Corey	Surname Collymore	
Sex Assigned at Birth Male	✓ Gender Identity Male	V Date of Birth 13-1-199	5 📰
Address 16 Sandy Lane	Та	bwn/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	1943 (78 years) Gender: Unspecified	1				Out Administration city
Patient Id 86085254 NHS Number 96 🛕					Dashboard Patient Search Patient Cohorts In	-Tray Registration EHR
in Progress New Hide	Eventa Summaries Forms Letters	a Pathways Care Setting: ctyEl	HR Feature Demo 🗸			Show
▼ cityEHR Feature Demo (3)	Care Pathways					
	Select a template to create a care pathway f	for this patient.				

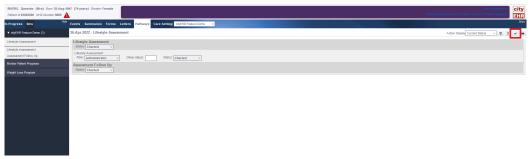
patient pathways page in cityEHR

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

STRANGE, Susan (Miss) Born: 26-Aug	3 (78 years) Gender: Unspecified Gut Admentation	
Patient Id 86085254 NHS Number 96	Clayers) Gender: Unspecified Catabaseration Catabaseratio	
n Progress New His	vedis Summaries Forms Letters Publicage Letters	l
▼ cityEHR Peature Demo (3)	aro Pathways	
Lifestyle Assessment	Existent a template to create a care publicity for bits polarit.	
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.



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- Patient id 81082506 NHS Number 9809		Guil Administration Guil Administration Guil Administration Gity Gits Guilt Administration
In Progress New Ho	Events Summarkes Forms Letters Puthways Care Setting CogEnt Posture Deno 🗸	Shoe
▼ ctytHR Peature Demo (3)	26 Apr 2922 - Lifestyle Assessment	Action Display Current Status 🗸 🕱 🕨 🖨
Unityle Assessment Dinging Assessment Assessment Fallen Up Monter Patter Program Norget Lass Program	Manufactoreset Marine Lances Marine Lances Marin	

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-19 Patient Id 81082506 NHS Number 9809		Guit Adminis Dashtacard Patient Search Patient Cohorts In-Tray Regis	E I I I
In Progress New Hole	Events Summaries Forms Letters Pullways Care Setting Offen Fastur Deno 🤜		Show
▼ citytDiR Feature Demo (3)	25 Apr. 2922 - Lifestyle Assessment	Action 🛄 Isplay Current Status 🗸 1	U 5 • 0
Lifestyle Assessment	Lifestyle Assessment Stator in Progress v		
Lifestyle Assessment Assessment Follow Up	Cestup Assessment Role: Administrator v Deby (doys): Statur: In Progress v		
Manitor Patient Progress	Assessment Follow Up		
Weight Loss Program	Satur Charled v		

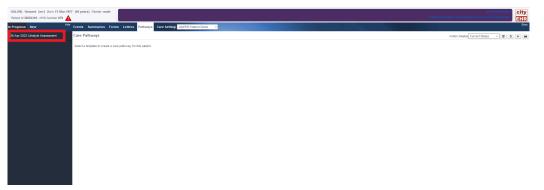
Action button for Lifestyle assessment

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

RIVERS, Queenie (Mrs) Born: 25-Aug-1947 (74 years) Gender: Female	Guit Administration City
Patient Id 81082506 NHS Number 9809	Out Admentation City Catabased Patient Search Patient Catabase Search Patient Search Patient Catabase Search Patient Search Pa
n Progress New Hide Events Summaries Forms Letters Pathways Care Setting: CityEHR Feature D	
26-Apr-2022 - Lifestyle Assessment *	Nghight Entries - None - V 🕻 🕲 🖉 🖉
Fuffils care pathway action:	
Lifestyle	^
Level Of Mobility	Smoking Habits
Walking for a quarter of a mile Select Value v	Smoking Hebits
Walking up 10 steps without resting - Select Value - v	
Stopping, crouching or kneeling - Select Value	
Doing chores around the house - Select Value	
Walking from one room to another on the same level - Select Value - v	
Getting in or out of bed Select Value	
Lifestyle Scale Questionnaire Pesuts	
Total 0	
Questions applicable 0	
Average score Piesce answer all the questions.	
Lifestyle Questions	
I eat five portions of fruit and vegetables per day Not applicable	
I get at least 8 hours sleep each night Not applicable	
I exercise for 30 mins twice or more each week. Not applicable	
The apprende	
Luci abbatant	
I tend to tell the truth in lifestyle questionnaires Not applicable	~
Body Mass Index	
Body Mass 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 Clini	c 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 check box 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

- 1. Letter Templates can be imported from the Administration page by selecting the option for 'Manage Letters' then 'Manage Letter Templates' within the cityEHR Administration page.
- 2. 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 wish to import.
- 3. 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 City Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Registration
	Note cityEHR - Administration - Manage Letter Templates
► Directory	
Users and Care Teams	Letter Template Name Template File Content Type
Knowledge Sources	Patient Asvice Template Patient Asvice Template.odt 🗱 Shipped template
Knowledge sources	Attachment Template cityEHRAttachmentTemplate.docx 🗶 MS Word
 Patient Records 	ODF Default Template ODF Default Template.odt X Shipped template
▼ Manage Letters	Ms Word Default Template MS Word Default Template.docx 🗙 Shipped template
	GP Letter Template GP Letter Template .odt 🗙 Shipped template
Manage Letter Templates	Patient Letter Template Patient Letter Template.odt 🗶 Shipped template
Associate Templates	
► Cohort Searches	
► Export Data Sets	
► Manage Scheduling	
 Order Communications 	
► Manage Interfaces	
attar tamplatar	

Letter templates

4. Once your chosen template is loaded you can associate it with one or more Compositions in the clinical information model by selecting 'Manage Letters' then 'Associate Templates' within the cityEHR Administration page.

	Dashkaas	d Patient Search Patient Cohorts In-Tra	Quit Administration	city
Hid		u Patient Search Patient Conorts In-Ira	y clinics orders Registration	EHR
	^e cityEHR - Administration - Associate Templates			
Directory	Specialty: cityEHR Feature Demo v Letter Template Name Patient As	vice Template 🗸		Ø
► Users and Care Teams	Template Variables	Associated Compositions		
► Knowledge Sources	#ISO-13606:Section:LetterHeadLeft #ISO-13606:Section:LetterHeadRight	All Compositions		
Patient Records	#ISO-13606:Section:LetterHeadTarget #ISO-13606:Section:LetterHeadSupplement	X 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:Element:patientLetterCalciumAdvice	ISO-13606:Entry:patientLetterCalciumAdvice/ ISO-13606:Element:patientLetterCalciumAdvice		
► Cohort Searches	#ISO-13606:Ehrty:patientLetterVitamindAdvice/ #ISO-13606:Element:patientLetterVitamindAdvice #ISO-13606:Entry:patientLetterExerciseAdvice/			
► Export Data Sets	#ISO-13606:Element:patientLetterExerciseAdvice #ISO-13606:Element:patientLetterExerciseAdvice			
► Manage Scheduling	#ISO-13606:Element:patientLetterSmokingAdvice #ISO-13606:Entry:patientLetterAlcoholAdvice/			
 Order Communications 	#ISO-13606:Element:patientLetterAlcoholAdvice #ISO-13606:Entry:LetterSignatureBlock/#ISO-13606:Element:SignatoryName			
Manage Interfaces				
Associating letter t	emplates with compositions			

Using a Template with a Letter

After your letter template has been uploaded into cityEHR, you can now navigate back to the patient you would like to complete a letter for.

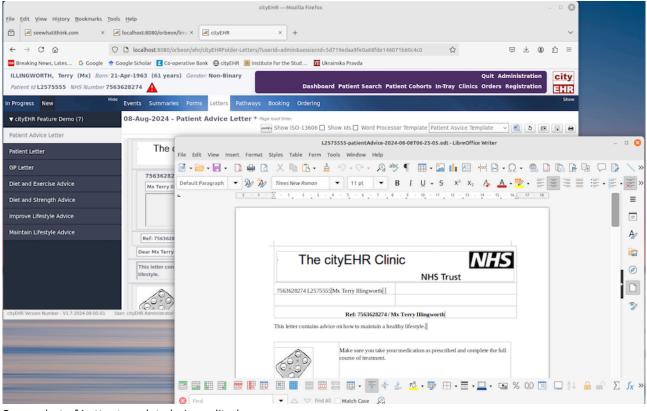
 Once you have completed your desired letter within cityEHR, select your desired print template from the drop-down 'Word Processor Template' list *Note:* The templates associated with a Letter are available to select after editing has begun.

Progress New	^{Hide} Events Summaries Forms Letters Pathways Booking Ordering
cityEHR Feature Demo (7)	08-Aug-2024 - Patient Advice Letter * Page load time:
atient Advice Letter	Show ISO-13606 🗋 Show Ids 🗋 Word Processor Template Patient Asvice Template 🗸 🗐 🕭 📧 🔛
atient Letter	The cityEHR Clinic NHS
P Letter	NHS Trust
et and Exercise Advice	7563628274 L2575555 Mx Terry Illingworth Clinic Code Select Value v
et and Strength Advice	
nprove Lifestyle Advice	Town/City
aintain Lifestyle Advice	
	Ref: 7553628274 / Mx Terry Illingworth
	Dear Mx Terry Illingworth
	This letter contains advice on how to maintain a healthy

Patient advice letter template

2. Click the word processor button on the right of the drop-down list and open the newly download file.

Note: The name of the downloaded file is set to 'PatientId-letterName-date.odt'



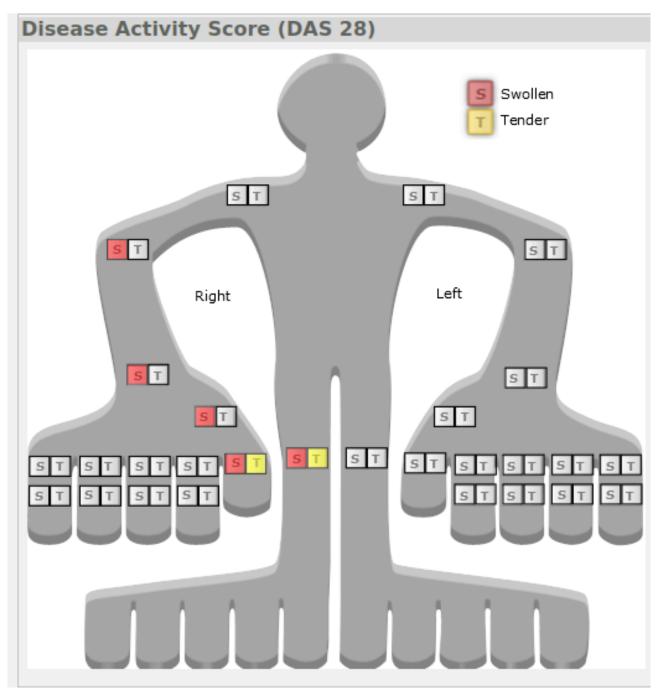
Screenshot of Letter template being edited

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

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.



Family History - Image Map Linked to a Multiple Entry

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 Administrat	
Hi	Dashboard Patient Search Patient Cohorts In-Tray Registrat	ion EHR Show
	^{ae} newEHR - Administration - Manage Application Parameters	Snow
▼ System	Specialties: HIV Data Collection 🗸 Debug Info: Startup Log	✓ ami/s
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	Innguage	
Import Language Pack	language code: en-GB displayName: English	
Apply All Language Packs	X language code: es-ES displayName: Spanish	
View Audit Log	X language code: uk-UA displayName: Ukrainian	
New Application		
Inspect Spreadsheet		
▶ Database		
Information Model		

Create new language pack

Enable user selection of language

	Quit Administration my
	Dashboard Patient Search Patient Cohorts In-Tray Registration
Hide	newEHR - 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
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 Admir Dashboard Patient Search Patient Cohorts In-Tray Clinics Orders Reg	0.1.5			
Hide cityEHR - Administration - Manage System Parameters					
▼ System) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1			
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 cityEHR Default application IRI prefix: #ISO-13606:EHR_Extract: value: #ISO-13606:EHR_Extract:cityEHR language code: language				
Show Wireframe					
► Database					
► 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>
```

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