



# Usability Test Report



**eOMIS<sup>®</sup> Healthcare Management**  
**Version 2015.1**  
**Ambulatory Edition**

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## Executive Summary

A usability test of the electronic Offender Management Information System (eOMIS) Healthcare Management Version 2015.1 was conducted on December 19, 2017 through January 9, 2018 by Corizon staff members. The purpose of this study was to test and validate the usability of the interface and provide evidence of usability in the EHR Under Test (EHRUT).

During the usability test, fifteen Corizon staff served as participants and used the EHRUT in simulated tasks that are representative of the tasks performed in an ambulatory environment.

This study collected performance data on 28 tasks from a prioritized list based on risk to patient safety from known use errors:

1. Enter a Computerized Provider Order Entry (CPOE) drug order
2. Change drug order via CPOE
3. Verify prescription drug order is added to patient medication list
4. Enter a CPOE lab test order
5. Change lab test order via CPOE
6. Verify lab test order is changed
7. Enter a CPOE diagnostic imaging order
8. Change diagnostic imaging order via CPOE
9. Verify diagnostic imaging order is changed
10. Add a problem to a patient's problem list
11. Change problem on the patient's problem list
12. Display active patient problem list
13. Display historical patient problem list
14. Add a medication to a patient's record
15. Change medication on the patient's record
16. Display active patient medication list
17. Display historical patient medication list
18. Add a medication allergy to a patient's record
19. Change medication allergy on the patient's record
20. Display active patient medication allergy list
21. Display historical patient medication allergy list
22. Add a CDS intervention and/or reference resource for Problem List
23. Add a CDS intervention and/or reference resource for Medication List
24. Add a CDS intervention and/or reference resource for Medication Allergy List
25. Add a CDS intervention and/or reference resource for Lab Test

26. Add a CDS intervention and/or reference resource for Vital Signs
27. Enter symptoms during a patient encounter and receive clinical decision support based on Problem list and Vital Signs
28. Enter patient demographic (age) and symptoms during a patient encounter and receive clinical decision support based on the combination of age and symptoms

The test administrator explained the test, how results would be recorded, and instructed participants to complete a series of tasks using the EHRUT. During the testing, the administrator timed the tasks. The participants received no assistance on how to complete the tasks from the test administrator. The system logs that include a record of screens, methods, data and the time spent on each object were saved for further analysis.

The following categories of data were collected for each participant:

#### Effectiveness

- Number of tasks successfully completed within the allotted time without assistance (pass)
- Percentage of task successes
- Number of tasks not completed within the allotted time (fail)
- Percentage of task failures
- Number and types of errors

#### Efficiency

- Time to complete the tasks
- Path deviations
- Number and types of errors
- Participant's rating of task difficulty

#### User Satisfaction



- Participant's satisfaction ratings of the system under test (system usability scale)
- Participant's comments during test

Following the conclusion of the testing, participants were asked to complete a post-test questionnaire. Various recommended metrics set forth in the NIST Guide to the Processes Approach for Improving the Usability of Electronic Health Records were used to evaluate the usability of the EHRUT. Following is a summary of the performance and rating data collected from the EHRUT:

**Table 1: Performance & Rating Data**

Summary Results	MEASURE						
	TASK	#	Task Success Rate	Path Deviation Rate	Task Time in Minutes		Task Failure Rate
				Mean Time	Time Deviation		Mean Rating
Enter a Computerized Provider Order Entry (CPOE) drug order	1a	93.4%	66.7%	5.42	3.35	6.7%	3.9
Change drug order via CPOE	1b	100%		1.94	2.2		4.9
Verify prescription drug order is added to patient medication list	1c	100%		0.71	.49		5
Enter a CPOE lab test order	2a	100%	13.3%	2.37	1.21		4.6
Change lab test order via CPOE	2b	100%	6.7%	1.15	1.16		4.7
Verify lab test order is changed	2c	100%		.50	.53		4.9
Enter a CPOE diagnostic imaging order	3a	100%	13.3%	2.91	2.29		4.1
Change diagnostic	3b	100%		.63	.51		4.9

imaging order via CPOE							
Verify diagnostic imaging order is changed	3c	100%		.44	.51		4.9
Add a problem to a patient's problem list	6a	93.3%	13.3%	2.44	1.51	6.7%	4.5
Change problem on the patient's problem list	6b	100%	6.7%	.88	.52		4.6
Display active patient problem list	6c	100%	6.7%	.59	.47		4.8
Display historical patient problem list	6c	100%	6.7%	.59	.47		4.8
Add a medication to a patient's record	7a	100%	6.7%	2.93	2.22		4.6
Change medication on the patient's record	7b	100%		.73	.44		4.8
Display active patient medication list	7c	100%		.66	1.19		4.9
Display historical patient medication list	7c	100%		.66	1.19		4.9
Add a medication allergy to a patient's record	8a	100%		.99	.50		4.8
Change medication	8b	100%		.63	.48		4.9

allergy on the patient's record							
Display active patient medication allergy list	8c	100%		.65	1.18		4.9
Display historical patient medication allergy list	8c	100%		.65	1.18		4.9
Add a CDS intervention and/or reference resource for Problem List	9a	86.7%	33.33%	2.27	1.41	13.3%	3.2
Add a CDS intervention and/or reference resource for Medication List	9b	66.6%	46.6%	1.36	1.30	33.33%	3.6
Add a CDS intervention and/or reference resource for Medication Allergy List	9c	86.7%	20%	.90	1.21	13.3%	4.2
Add a CDS intervention and/or reference resource for Lab Test	9d	100%	26.6%	6.34	3.26		3.1
Add a CDS intervention and/or reference	9e	100%		1.10	1.18		4.7



resource for Vital Signs							
Enter symptoms during a patient encounter and receive clinical decision support based on Problem list and Vital Signs	9f	100%		.94	1.16		4.9
Enter patient demographic (age) and symptoms during a patient encounter and receive clinical decision support based on the combination of age and symptoms	9g	100%	13.3%	4.83	2.90		3.8

## Introduction

The eOMIS® Enterprise Software Solution provides departments of correction with the industry leading offender management capabilities, including Inmate Management, Healthcare Management, and Community Supervision. Functional support includes automation of prison operations, community supervision and inmate health services delivery through the integrated eOMIS Healthcare Management modules.

The EHR Under Test (EHRUT) consisted of the version 2015.1 eOMIS Healthcare Management modules. Designed to present medical information to healthcare providers in state prison facilities running a walk-in clinic, the EHRUT consists of

modules which contain screens, forms and reports to support ambulatory meaningful use objectives. The usability testing represents functions carried out by clinicians through realistic exercises and conditions. The test exercises include the type of functions that would be demonstrated during Office of the National Coordinator for Health IT (ONC) certification testing to meet the following criteria:

§170.314(a)(1) Computerized provider order entry

§170 314(a)(6) Medication list

§170 314(a)(7) Medication allergy list

§170.314(a)(8) Clinical decision support (CDS)

The purpose of this test was to validate the usability of the current user interface and provide evidence of usability in the EHR Under Test (EHRUT). To this end, measures of effectiveness, efficiency and user satisfaction, such as number of successful tasks completed, deviations from standard path to complete functions, task time, errors and difficulty rating of the task tested were captured during the usability testing.

## Method

### *Participants*

A total of fifteen licensed/credentialed providers, clinical ancillary staff and technical staff tested the eOMIS EHR modules. Participants in the test consisted staff working for Corizon Healthcare. Corizon is a leading provider of health care staff to correctional facilities.

The following is a table of participants by characteristics, including demographics, professional experience and computing experience. Participant names were replaced with Participant IDs to isolate that individual's data from the individual's identity.

**Table 2: Clinical Participant Characteristics**

Part ID	Gender	Age	Education	Occupation /Months	Professional Experience	Computer Experience /Months	Product Experience /Months
1	Female	30-39	Masters	RN	156	96	16
2	Female	50-59	Bachelors	RN	18	18	16
3	Female	40-49	Associate	Administrator	336	108	16
4	Female	60-69	Some College	Administrator	144	120	16
5	Female	40-49	Associate	LPN	192	132	16
6	Male	50-59	Bachelors	Healthcare Administrator	60	18	16
7	Male	30-39	Bachelors	RN	48	18	16
8	Female	30-39	Associate	LPN	72	18	16
9	Female	40-49	Bachelors	Administrator	30	144	16
10	Female	30-39	Associate	LPN	72	12	16
11	Female	30-39	Bachelors	RN/Administrator	18	60	16
12	Male	20-29	Bachelors	RN	36	18	16
13	Female	40-49	Bachelors	RN	48	24	16
14	Female	60-69	Associate	RN	18	18	16
15	Male	20-29	Bachelors	RN/Director	18	48	16

## Study Design

The overall objective of this test was to uncover areas where the application performed well (effectively, efficiently, and with user satisfaction) and areas where the application failed to meet the needs of the participants. The data from this test may serve as a baseline for future tests with an updated version of eOMIS and/or comparison with other EHRs provided the same tasks are used. This testing serves to record or benchmark current usability and to identify areas where improvements must be made.

During the usability test, participants interacted with the eOMIS EHR. Each participant was provided with the same instructions. The system was evaluated for effectiveness, efficiency and user satisfaction as defined by measures collected and analyzed for each participant:

#### Effectiveness

- Number of tasks successfully completed within the allotted time without assistance (pass)
- Percentage of task successes
- Number of tasks not completed within the allotted time (fail)
- Percentage of task failures
- Number and types of errors

#### Efficiency

- Time to complete the tasks
- Path deviations
- Number and types of errors
- Participant's rating of task difficulty

#### User Satisfaction

- Participant's satisfaction ratings of the system under test (system usability scale)
- Participant's comments during test

Additional information about the various measures can be found in the Usability Metrics section.

## **Tasks**

A number of test exercises were constructed that would be realistic and representative of the kinds of tasks and activities a user might perform with this EHR including:

1. Enter a medical encounter for a patient
2. Enter a Computerized Provider Order Entry (CPOE) drug order \*
3. Verify prescription drug order is added to patient medication list \*
4. Enter a CPOE lab test order \*
5. Enter a CPOE diagnostic imaging order (X-ray, Computer Tomography or Magnetic Imaging Resonance)
6. Access, add & change a medication allergy interaction in patient's allergy list \*
7. Enter symptoms during a patient encounter and receive clinical decision support based on Problem list and Vital Signs \*
8. Enter patient demographic (age) and symptoms during a patient encounter and receive clinical decision support based on the combination of age and symptoms \*

Tasks were selected based on their frequency of use, criticality of function, risk associated with user errors, level of difficulty and contribution to meeting 2014 meaningful use objectives. As part of the task construction, tasks were prioritized in accordance with the risk associated with use errors. Tasks marked with an asterisk (\*) in the list above were identified to have the highest priority based on risk to the patient from known use errors.

## **Procedures**

Participants were given an overview of the purpose of the test and the types of tasks they would be asked to perform. The importance of accurate timekeeping and results documentation was stressed.

The administrator monitored the testing. Participants received no assistance on how to complete the tasks from the test administrator. The system logs that include a record of screens, methods, data and the time spent on each object were saved for further analysis and verification of the results recorded during the test session.

Participants were instructed to perform the tasks:

As they would as part of their everyday work activities,

As quickly as possible while making as few errors and deviations as possible,

Without assistance; test administrators were allowed to give immaterial guidance and clarification on tasks, but not instructions on use of the EHRUT, and

Using the text exercises and help button within the EHRUT as the sole sources for answers to questions on how to use the EHRUT.

Participants' demographic information, task success rate, time on task, errors, deviations, and post-test questionnaire were recorded into spreadsheets.

Following the session, the administrator gave the participant the post-test questionnaire based on the System Usability Scale (Please see Appendix 5).

### ***Test Location***

Testing was conducted at various Corizon offices across the United States.

### ***Test Environment***

The EHRUT would typically be used in a healthcare walk-in clinic within a prison facility. The environment provided was a copy of a production environment, pre-loaded with test patients.

The eOMIS EHR is a thin-client application, so the connection to the application server was made via the internet using Internet Explorer. The system performance (i.e., response time) was representative of what actual users would experience in a production implementation. Additionally, participants were instructed not to change any of the default system settings (such as control of font size or colors).

### ***Test Forms & Tools***

During the usability test Moderator's Guide was used to instruct the participants.

Example of this document can be found in Appendices 2. The Moderator’s Guide was devised to capture required data.

## ***Participant Instructions***

Participants were given twenty-eight test exercises to complete. Test exercises are summarized in the moderator’s guide included in Appendix 2.

## ***Usability Metrics***

According to the NIST Guide to the Processes Approach for Improving the Usability of Electronic Health Records, EHRs should support a process that provides a high level of usability for all users. The goal is for users to interact with the system effectively, efficiently, and with an acceptable level of satisfaction. To this end, metrics for effectiveness, efficiency and user satisfaction were captured during the usability testing.

The goals of the test were to assess:

1. Effectiveness of eOMIS Healthcare Management modules by measuring participant success rates, failure rates and errors
2. Efficiency of eOMIS Healthcare Management modules by measuring the average task time and path deviations
3. Satisfaction with eOMIS Healthcare Management modules by measuring ease of use ratings

## **Data Scoring**

The following table (Table 3) details how tasks were scored, errors evaluated, and the time data analyzed.

**Table 3: Details of How Data Were Scored**

<b>Measures</b>	<b>Rationale &amp; Scoring</b>
-----------------	--------------------------------

<p>Effectiveness: Task Success</p>	<p>A task was counted as a “Success” if the participant was able to achieve the correct outcome, without assistance, within the time allotted on a per task basis.</p> <p>The total number of successes were calculated for each task and then divided by the total number of times that task was attempted. The results are provided as a task success rate percentage.</p> <p>Task times were recorded for successes. Task times divided by the optimal time for each task is a measure of optimal efficiency.</p> <p>Optimal task performance time, as benchmarked by expert performance under realistic conditions, is recorded when constructing tasks. Target task times used for task times in the Moderator’s Guide were operationally defined by taking multiple measures of optimal performance and multiplying by the factor 1.25 to allow a 25% time buffer for participants who are presumably not trained to expert performance working with a new version of the application. For example, if an expert’s optimal performance on a task averaged 4 minutes; allotted task time performance is calculated at 4 minutes x 1.25 for a total of 5 minutes.</p>
<p>Effectiveness: Task Failures</p>	<p>If the participant abandoned the task, did not reach the correct answer or performed it incorrectly, the task was counted as a “Failure.”</p> <p>The total number of failures were calculated for each task and then divided by the total number of times that task was attempted. The results are provided as a percentage.</p>
<p>Efficiency: Task Deviations</p>	<p>Optimal paths (i.e., procedural steps) are recorded when constructing tasks. The participant’s path (i.e., steps) through the application was recorded. Deviations occurred if the participant went to a wrong screen, clicked on an incorrect menu item, followed an incorrect link, or interacted incorrectly with an on-screen control. This path was compared to the optimal path. The number of extra steps in the observed path</p>



	<p>is divided by the number of optimal steps to provide a percentage of path deviation.</p> <p>Task path deviations are aggregated and reported by each task.</p>
<p>Efficiency: Task Time</p>	<p>Each task was timed by the tester. If he or she failed, the time was stopped when the participant stopped performing the task. Average time per task was calculated for each task. A variance measure (standard deviation) was also calculated for each task.</p>
<p>Satisfaction: Task Rating</p>	<p>Participant’s subjective impression of the ease of use of the application was measured by administering both a simple post-task question as well as a post-session questionnaire. After each task, the participant was asked to rate “Overall, this task was:” on a scale of 1 (Very Difficult) to 5 (Very Easy). This data was averaged across participants for each task. Common convention is that average ratings for systems judged easy to use should be 3.3 or above.</p>

## Results

### *Data Analysis & Reporting*

The results of the usability test were calculated according to the methods specified in the Usability Metrics section above. The results for the EHRUT are summarized in the tables below. The results have been analyzed using the objectives and goals outlined in the Study Design section with conclusions provided in the Discussion of Findings section below the tables.

**Table 4: Participant Performance Summary**

TASK	#	Task Success No Deviations	Task Success with Path Deviation	Task Success Total	Task Fail
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Enter a Computerized Provider Order Entry (CPOE) drug order	1a	33.3%	66.7%	93.3%	6.7%
Change drug order via CPOE	1b	100%	0%	100%	0%
Verify prescription drug order is added to patient medication list	1c	100%	0%	100%	0%
Enter a CPOE lab test order	2a	86.7%	13.3%	100%	0%
Change lab test order via CPOE	2b	93.3%	6.7%	100%	0%
Verify lab test order is changed	2c	100%	0%	100%	0%
Enter a CPOE diagnostic imaging order	3a	86.7%	13.3%	100%	0%
Change diagnostic imaging order via CPOE	3b	100%	0%	100%	0%
Verify diagnostic imaging order is changed	3c	100%	0%	100%	0%
Add a problem to a patient's problem list	6a	86.7%	13.3%	93.3%	6.7%
Change problem on the patient's problem list	6b	93.3%	6.7%	100%	0%
Display active patient problem list	6c	93.3%	6.7%	100%	0%
Display historical patient problem list	6c	93.3%	6.7%	100%	0%
Add a medication to a patient's record	7a	93.3%	6.7%	100%	0%
Change medication on the patient's record	7b	100%	0%	100%	0%
Display active patient medication list	7c	100%	0%	100%	0%
Display historical patient medication list	7c	100%	0%	100%	0%

Add a medication allergy to a patient's record	8a	100%	0%	100%	0%
Change medication allergy on the patient's record	8b	100%	0%	100%	0%
Display active patient medication allergy list	8c	100%	0%	100%	0%
Display historical patient medication allergy list	8c	100%	0%	100%	0%
Add a CDS intervention and/or reference resource for Problem List	9a	66.7%	33.3%	86.7%	13.3%
Add a CDS intervention and/or reference resource for Medication List	9b	53.4%	46.6%	66.7%	33.3%
Add a CDS intervention and/or reference resource for Medication Allergy List	9c	80%	20%	86.7%	13.3%
Add a CDS intervention and/or reference resource for Lab Test	9d	73.4%	26.6%	100%	0%
Add a CDS intervention and/or reference resource for Vital Signs	9e	100%	0%	100%	0%
Enter symptoms during a patient encounter and receive clinical decision support based on Problem list and Vital Signs	9f	100%	0%	100%	0%
Enter patient demographic (age) and symptoms during a patient encounter and receive clinical decision support based on the	9g	86.7%	13.3%	100%	0%

combination of age and symptoms					
Average (Mean)		90%	10%	97%	3%

## ***Discussion of the Findings***

Findings will be presented within the major area tested.

### **EFFECTIVENESS**

Participants were able to successfully complete tasks on average 97% of the time (please see Tables 1 & 4 for summary results). The task failures were due to unfamiliarity with the new clinical support functions which are the most complex functions within the EHR (tests 22 through 28).

### **EFFICIENCY**

Task completion with deviations from the optimal path occurred on average in 10% of the tasks. Task failures always involved a deviation from the script path. Deviations resulting in task failure occurred when tester’s results did not match script expectation.

The largest task time standard deviations occurred while entering a new CPOE drug order and performing the new clinical decision support functions (please see Table 1 & 4 for summary results). The test details revealed nurses attempting to complete doctor tasks took longer. These testers were still able to successfully complete the tasks in most cases; it just took much longer than average.

The time deviations for the new clinical decision support functions were not surprising given the effectiveness scores in this area (tests 22 & 28). Based on these results, a logical workflow and detailed training will be developed for clinical decision support that includes step-by-step scripts to ensure users understand how to get to each step and the expected results at step completion.

### **SATISFACTION**

Each participant rated the difficulty of the task using a 1 to 5 scale with 1 representing a very difficult task and 5 representing a very easy task (please see Table 1 for summary results). The mean task rating was 4.5 meaning the system was overall “easy” or “very easy” to use.



Even though the overall eOMIS application rates “easy to use” by the participants. Marquis will need to improve the workflow and guidance scripts for the new clinical decision support functions, entering a drug CPOE.

## MAJOR FINDINGS

The eOMIS graphical user interface (GUI) includes helpful icons and maximizes drop-down lists using standard codes to allow participants to easily complete tasks with a high rate of success (97%). Divergence from the optimal path and task failures were more prevalent when testing the most complex functions, such as the new clinical decision support functions, creating a drug CPOE.

## AREAS FOR IMPROVEMENT

Opportunities to improve efficiency and satisfaction include developing logical work flows for the new clinical decision support functions, entering a drug CPOE. eOMIS allows customized work flows that will guide a user screen by screen through process. These were not provided for the user centered design testing, but the test results have shown they must be in place prior to implementation at a client site. Additional work flow documentation and training scripts that stress not only how to perform each step in the clinical decision support process, but also explain why each is important will be used to train users prior to having them attempt these new functions. These work flows and training scripts will also be incorporated into the eOMIS online help to give users instant access should they ever need a refresher after formal training has been completed.

Similar documentation and training improvements will also be made for entering a drug CPOE. These functions both require a large quantity of information and CPOE provides more than one way to acquire the information to complete the drug order (more than one optimal path). Detailed guidance for these functions should improve efficiency and user satisfaction.

## Appendices

The following appendices include supplemental data for this usability test report. Following is a list of the appendices provided:



1. Participant demographics
2. Example Moderator's Guide

## Appendix 1 – Participant Demographics & Experience

The following is a high-level overview of the participants' demographics and experience.

<b>Gender</b>	<b>Count</b>
Male	4
Female	11
Total Participants	15

<b>Age</b>	<b>Count</b>
20 to 29	2
30 to 39	5
40 to 49	4
50 to 59	2
60 to 69	2
75 and older	
Total Participants	15

<b>Ethnic Background</b>	<b>Count</b>
Not Hispanic or Latino	15
Hispanic or Latino	
Total Participants	15

<b>Race</b>	<b>Count</b>
White (Caucasian)	13
Asian	
Black or African-American	1
American Indian or Alaska Native	
Native Hawaiian or Other Pacific Islander	1
Total Participants	15

<b>Occupation/Role</b>	<b>Count</b>
LPN	3
RN	7
Nurse Practitioner	
Physician's Assistant	
Resident: Specialty	
Physician	
Administrator	5
Other	
<b>Total Participants</b>	<b>15</b>

<b>Education</b>	<b>Count</b>
Some college,	1
2-Yr. college graduate	5
3-Yr. RN program graduate	
4-Yr. college graduate	8
Master's degree	1
PhD	
MD	
Other (explain)	
<b>Total Participants</b>	<b>15</b>

<b>Computer Experience</b>	<b>Count</b>
No computer experience	
Computer User	14
Have experience designing & developing web sites	
Have experience programming	
Have experience as a data analyst	1
Have technical experience as a DBA, system programmer, network support, etc.	
Other (explain)	
<b>Total Participants</b>	<b>15</b>



<b>Time on Computer Per Week</b>	<b>Count</b>
0 to 10	
11 to 25	1
26 to 40	3
40 + hours per week	11
Total Participants	15

<b>Platform</b>	<b>Count</b>
Windows	15
Mac	
Unix	
Other	
Total Participants	15

<b>Browser</b>	<b>Count</b>
Internet Explorer	7
Google Chrome	12
Firefox	
AOL	
Other	
Total Participants (some use multiple browsers)	15

<b>EHR Patient Records</b>	<b>Count</b>
On paper	
Some paper, some electronic	12
All electronic	3
Total Participants	15



## Appendix 2 – Moderator’s Guide

### eOMIS EHR Usability Test Moderator’s Guide

Test Administrator: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Participant #: \_\_\_\_\_

#### Prior to testing

- Confirm schedule with Participants
- Provide test User IDs and passwords to participants
- Ensure eOMIS EHR lab environment is running properly  
URL for G3 User Centered Design testing by Corizon:
- Ensure test data is available and in the proper state

#### Prior to each participant:

- Ensure participant test User ID and password function properly
- Reset test ID password if necessary

#### After all testing

- Ensure all results are properly recorded

### Orientation

The product you will be using today is a new version of the eOMIS EHR modules that will be later tested for ONC EHR certification. Some of the data may not make sense from a clinician’s stand point because it is test data meant to allow you to access all the screens necessary for the test exercise.

*Show the participant the eOMIS EHR by clicking on the “Health” tab within eOMIS.*

Please take a few minutes to explore the menu tree and some of the screens by clicking on the choices located on the left of the screen. All your testing today will be done within the “Health” tab, so there will not be a reason to use the other tabs.



## General Instructions

Enter the following URL to gain access to the Marquis EHR Test Region:

Sign-on as:

### Nurse

User ID = User84

Password = ehr\*cert

### Doctor

User ID = User85

Password = ehr\*cert

Use one of the following test Patients. Every Patient is exactly the same (i.e., a 45 year old white male housed at a facility called Drummond CI who has no Health Service encounters). Once you choose a patient, use this same Patient to perform every exercise list below:

ADC #: 319578	ADC #: 319579	ADC #: 319580
ADC #: 319581	ADC #: 319582	ADC #: 319583
ADC #: 319584	ADC #: 319585	ADC #: 319586
ADC #: 319587	ADC #: 319588	ADC #: 319589
ADC #: 319590	ADC #: 319591	ADC #: 319592
ADC #: 319593	ADC #: 319594	ADC #: 319595
ADC #: 319596	ADC #: 319597	

Retrieve your Patient. Click on the "Health Tab" on the top of the screen. Click on the "Medical" menu choice. Select his Medical Encounters. **If this Patient has any Medical Encounters then he has already been updated by another user. Choose another Patient from the list above until you find a "new" Patient.**

## Test Exercises

### Exercise 1a: Enter a Computerized Provider Order Entry (CPOE) Medication Order

Optimal Path: Tab 'Health' →

Click on the "Medical" menu choice (under the "Health" Tab) to begin this exercise.

- Click on the "Medical Encounters" sub-menu choice.
- Click on the "Prepare to Add" button above the Medical Encounter browse grid.
- In the "Type" dropdown, choose "Provider - Follow-up Care"
- Click "Next Step" (red) arrow.
- Choose "No" for the question, "Are interpreter services needed for this inmate".
- In the "Subjective Notes" container, enter, "Follow up visit for high blood pressure".
- Click the "Continue with Add" button (bottom of screen)
- Locate the "Assessment" section.
- In the Diagnosis/Complaint type ahead field, enter keywords, "Essential (primary) hypertension", and select the diagnosis.
- In the "Current associated SNOMED(s)" dropdown, select "1201005-Benign essential hypertension (disorder)".
- Click the "Add Row" button (right side of screen).
- Locate the "Ordered Drug Prescription Orders" container in the "Plan" section.
- Click on the "Prepare to Add" button.
- Choose "Yes" for the question, "Have you reviewed this patient's allergies?"
- In the Diagnosis Code dropdown, select the "Essential (primary) hypertension [I10]".
- In the "Drug Type" dropdown, select "Metoprolol TART TABS/50 Mg" to treat the condition.
- Click the "Next Step" (red) arrow.
- Note that the equivalent RxNorm Code appears automatically in the National HIE Code(s) container.

- Enter the prescription details:
  - “**Dosage**” field enter “**1**”
  - “**Frequency**” dropdown, select “**BID-TWICE DAILY**”
  - In the “**for**” field, enter “**30**” (days)
  - In the “**Route of Administration**” dropdown, select “**PO- By Mouth**”
  - In the “**Method**” dropdown, select “**Normal Dose**”
  - For “**Pill Call**”, check “**AM**” and “**PM**”
  - In the “**Keep on Person**” dropdown, select “**Yes**”
  - Click “**Add**” button (bottom of screen)
- In the “**Assessment**” section, check the “**I have verified this patient’s Health Problems and Medical Score**” check box.
- In the “**Patient Education Notes**” container, enter “**Patient education given for hypertension**”.
- Choose “**No Review Required**” in the “**Review Type**” dropdown.
- Click on the “**Update**” button (or icon).
- “**Health Services Encounters**” grid displays recently added encounter.
- End of exercise.

- \_\_\_ Correct
- \_\_\_ Minor Deviations / Cycles (describe below in comments)
- \_\_\_ Major Deviations (describe below in comments)

Comments:

Success:

- \_\_\_ Easily completed
- \_\_\_ Completed with difficulty or help (describe below in comments)
- \_\_\_ Not completed

Comments:



Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



## Exercise 1b: **Change Medication via (CPOE) drug order**

Optimal Path: Tab '**Health**' →

Click on the "**Common**" menu choice (under the "**Health**" Tab) Choose the "**Health Records**" submenu option to begin this exercise.

- Click on the "**Drug Prescription Orders**" option.
- Click the hyperlink "**Ordered Date**" associated with the "**Metoprolol TART TABS/50 Mg**" drug order previously entered.
- Click the "**Prepare to Update**" button (pencil).
- In the "**Status**" dropdown, choose "**Discontinued – Other**".
- Choose any provider in the "**Authorized By**" dropdown, by clicking on one of the characters in the alphabet row.
- Click the "**Update**" button.
- Click "**Cancel**" when prompted to re-order medication.
- Drug Prescription Orders grid displays updated status of "**Discontinued – Other**" for the medication.
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed



Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:  
Very Easy (5)  
Easy (4)  
Average effort (3)  
Difficult (2)  
Very Difficult (1)

Administrator / Note taker Comments:





### Exercise 1c: **Display changed CPOE medication order**

Click on the "**Common**" menu choice (under the "**Health**" Tab) Choose the "**Health Records**" submenu option to begin this exercise.

- Click on the "**Drug Prescription Orders**" menu.
- Note that the Drug Prescription changed in Exercise 1a above ("**Metoprolol TART TABS/50 Mg**") appears on the "**Drug Prescription Orders**" browse screen with a Status of "**Discontinued - Other**".
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:

## Exercise 2a: Enter a CPOE Lab order

Optimal Path: Tab 'Health' →

Click on the "Medical" menu choice (under the "Health" Tab) to begin this exercise.

- Click on the "Medical Encounters" sub-menu choice.
- Click on the "Prepare to Add" button above the Medical Encounter browse grid.
- In the "Type" dropdown, Choose "Provider - Follow-up Care".
- Click "Next Step" (red) arrow.
- Choose "No" for the question, "Are interpreter services needed for this inmate".
- In the "Subjective Notes" container, enter "Follow-up exam".
- Click the "Continue with Add" button.
- Locate the "Lab Test Orders" container.
- Click the "Prepare to Add" button.
- In the "Lab Test Ordered" dropdown, select "Hemoglobin A1c".
- Note that the equivalent LOINC Code appears automatically.
- In the "Priority" dropdown, select "Rout (Draw-10 days; Rslts-48hrs)".
- In the "Fasting" dropdown, select "Yes".
- Click "Add" button (bottom of screen).
- In the "Assessment" section, check the "I have verified this patient's Health Problems and Medical Score" check box.
- In the "Patient Education Notes" container, enter "Patient education given for diabetes".
- Choose "No Review Required" in the "Review Type" dropdown.
- Click on the "Update" button (or icon).
- "Health Services Encounters" grid displays recently added encounter.
- End of exercise.



- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

- Overall, this task was:
- Very Easy (5)
  - Easy (4)
  - Average effort (3)
  - Difficult (2)
  - Very Difficult (1)

Administrator / Note taker Comments:



## Exercise 2b: **Change a CPOE lab test order**

Optimal Path: Tab '**Health**' →

Click on the "**Medical**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Lab Test Orders**" sub-menu choice.
- Click on the hyperlink "**Ordered Date**" associated with "**Hemoglobin A1c**".
- Click "**Prepare to Update**" (pencil) icon.
- Change the "**Priority**" dropdown to "**ASAP (Draw-24 hrs; Results-48hrs)**".
- Click on the "**Update**" button (bottom of screen).
- "**Lab Test Orders/Procedures**" grid is displayed.
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_\_ Minutes \_\_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



## Exercise 2c: **Verify changed CPOE lab test order**

Click on the "**Medical**" menu choice (under the "**Health**" Tab) to begin this exercise. Note that the Lab Test Order updated in Exercise 2b above appears on the Lab Test Orders browse screen.

- Click on hyperlink "**Order Date**" for "**Hemoglobin A1c**" row to display lab test order detail.
- Note the "**Priority**" of "**ASAP (Draw-24hrs; Reslts-48hrs)**".
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 3a: Enter a CPOE Diagnostic Imaging order (X-ray)

Optimal Path: Tab 'Health' → "Medical" menu.

Click on the "Medical" menu choice (under the "Health" Tab) to begin this exercise.

- Click on the "Medical Encounters" sub-menu choice.
- Click on the "Prepare to Add" button above the Medical Encounter browse grid.
- In the "Type" dropdown, choose "Provider - Follow-up Care".
- Click "Next Step" (red) arrow.
- Choose "No" for the question, "Are interpreter services needed for this inmate".
- In the "Subjective Notes" container, enter "Follow-up exam".
- Click the "Continue with Add" button.
- Locate the "Assessment" section.
- In the "Diagnosis/Complaint" type ahead field, enter keywords, "Low Back Pain", and select the diagnosis.
- In the "Current associated SNOMED(s)" dropdown, select "267982002-Pain in lumbar spine (finding)".
- Click the "Add Row" button (right side of screen).
- Locate the "X-Ray Orders" container.
- Click the "Prepare to Add" button.
- In the "Diagnosis Code" dropdown, select "Low back pain [M54.5]".
- In the "X-Ray Ordered" dropdown, select "Lumbar, 2V".
- In the "Priority" dropdown select "Routine (X-Ray10 days; Results-48hrs)".
- Note that the equivalent CPT Code appears automatically.
- Click the "Add" button (bottom of screen).
- Check the "I have verified this patient's Health Problems and Medical Score" checkbox.
- Locate the "Patient Education" section.
- Enter "Education on back pain given to patient" in the "Patient Education Notes" container.
- Locate the "Encounter Orders Review" section.
- In the "Review Type" dropdown, select "No Review Required".
- Click on the "Update" button (bottom of screen).



- **“Health Services Encounters”** grid loads with encounter added to row.
- End of exercise.

- \_\_\_ Correct
- \_\_\_ Minor Deviations / Cycles (describe below in comments)
- \_\_\_ Major Deviations (describe below in comments)

Comments:

Success:

- \_\_\_ Easily completed
- \_\_\_ Completed with difficulty or help (describe below in comments)
- \_\_\_ Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

- Overall, this task was:
- Very Easy (5)
  - Easy (4)
  - Average effort (3)
  - Difficult (2)
  - Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 3b: **Change a CPOE Diagnostic Imaging order (X-ray)**

Optimal Path: Tab 'Health' →

Click on the "**Medical**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**X-Ray Orders**" sub-menu choice.
- Click on the hyperlink "**Ordered Date**" for "**Lumbar, 2V**" row in the browse grid.
- Click "**Prepare to Update**" (pencil) button.
- In the "**Priority**" dropdown, select "**STAT (X-Ray- Immediately, Results-24hrs)**".
- Click on the "**Update**" button (bottom of screen).
- The "**X-Ray Orders**" browse grid loads.
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 3c: **Verify changed CPOE Diagnostic Imaging order (X-ray)**

Click on the "**Medical**" menu choice (under the "**Health**" Tab), and "**X-Ray Orders**" submenu to begin this exercise.

- Click on hyperlink "**Ordered Date**" associated with the "**Lumbar- 2V**" x-ray order to view the details.
- Notice the Priority of "**STAT (X-Ray- Immediately, Results- 24hrs)**".
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:  
Very Easy (5)  
Easy (4)  
Average effort (3)  
Difficult (2)  
Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 6a: **Add a problem to patient's Problem List**

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Medical Problems**" menu option.
- The "**Health Problems/Conditions**" browse screen loads.
- Click on the "**Prepare to Add**" button above this browse grid.
- In the "**Category**" dropdown, choose "**Functional Limitation**".
- In the "**Type**" dropdown, choose "**Legally Blind**".
- In the "**SNOMED Code**" type-ahead field, enter "**Blind**".
- Select "**Blind (finding) [277675000]**" from the list.
- In the "**Onset Date**" date selector, select/enter the current date.
- Verify the "**Status**" is "**Assessed**".
- Click on the "**Add**" button (bottom of screen).
- The "**Health Problems/Conditions**" browse screen loads with another row added.
- Click on the "**H/S Encounters**" submenu.
- Note that a corresponding encounter called "**Medical Records-Chart Review**" was added automatically for this problem.
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds



Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:





### Exercise 6b: **Change a problem in patient's problem list**

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" sub-menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Functional Limitation**" sub-menu choice.
- The "**Health Problems/Conditions**" browse screen loads.
- Click on the "**ID Number**" associated with "**Legally Blind**" in the row of the grid.
- Click on the "**Prepare To Update**" (pencil) button.
- In the "**Status**" dropdown, change the status to "**Resolved**".
- Click on the "**Update**" button (bottom of screen).
- The "**Health Problems/Conditions**" grid is loaded.
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:



Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 6c: **Display problem Active List and Historical List**

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Functional Limitations**" menu choice.
- The "**Health Problems/Conditions**" browse screen loads.
- Notice the screen is displaying all problems for the patient.
- Click on the "**Show Active Problems/Conditions Only**" check box.
- Notice the screen is displaying only active problems for the patient and the "**Legally Blind**" entry is removed from the list.
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

- Very Easy (5)
- Easy (4)
- Average effort (3)
- Difficult (2)
- Very Difficult (1)

Administrator / Note taker Comments:

## Exercise 7a: Medication List- Record a Medication to the Medication List

Optimal Path: Tab 'Health' →

Click on the "Medical" menu choice (under the "Health" Tab) to begin this exercise.

- Click on the "Medical Encounters" sub-menu choice.
- Click on the "Prepare to Add" button above the Medical Encounter browse grid.
- In the "Type" dropdown, choose "Provider - Follow-up Care"
- Click "Next Step" (red) arrow.
- Choose "No" for the question, "Are interpreter services needed for this inmate"
- In the "Subjective Notes" container, enter "Follow up visit for high blood pressure".
- Click the "Continue with Add" button (bottom of screen)
- Locate the "Ordered Drug Prescription Orders" container in the "Plan" section.
- Click on the "Prepare to Add" button.
- Choose "Yes" for the question, "Have you reviewed this patient's allergies?"
- In the "Diagnosis Code" dropdown, select the "Essential (primary) hypertension [I10]".
- In the "Drug Type" dropdown, select "Lisinopril (1/2 TAB) TABS/1/2 Of 2.5 Mg" to treat the condition
- Click the "Next Step" (red) arrow.
- Note that the equivalent RxNorm Code appears automatically in the "National HIE Code(s)" container.
- Enter the prescription details:
  - Check the box for the label "Profile Only"
  - "Dosage" field enter "1"
  - "Frequency" dropdown, select "BID-TWICE DAILY"
  - In the "for" field, enter "30" (days)
  - In the "Route of Administration" dropdown, select "PO- By Mouth"
  - In the "Method" dropdown, select "Normal Dose"
  - For "Pill Call", check "AM" and "PM"
  - In the "Keep on Person" dropdown, select "Yes"
  - Click "Add" button (bottom of screen)



- In the “**Assessment**” section, check the “**I have verified this patient’s Health Problems and Medical Score**” check box.
- In the “**Patient Education Notes**” container, enter “**Additional Patient education given for hypertension**”.
- Choose “**No Review Required**” in the “**Review Type**” dropdown.
- Click on the “**Update**” button (or icon).
- “**Health Services Encounters**” grid displays recently added encounter.
- End of exercise.

- \_\_\_ Correct
- \_\_\_ Minor Deviations / Cycles (describe below in comments)
- \_\_\_ Major Deviations (describe below in comments)

Comments:

Success:

- \_\_\_ Easily completed
- \_\_\_ Completed with difficulty or help (describe below in comments)
- \_\_\_ Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:



Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



## Exercise 7b: **Change Medication on the medication list.**

Optimal Path: Tab '**Health**' →

Click on the "**Common**" menu choice (under the "**Health**" Tab) Choose the "**Health Records**" submenu option to begin this exercise.

- Click on the "**Drug Prescription Orders**" menu.
- Click the hyperlink "**Ordered Date**" associated with the "**Lisinopril (1/2 TAB) TABS/1/2 Of 2.5 Mg**" drug order previously entered.
- Click the "**Prepare to Update**" button (pencil).
- In the "**Status**" dropdown, choose "**Discontinued – Other**".
- Choose any provider in the "**Authorized By**" dropdown, by clicking on one of the characters in the alphabet row.
- Click the "**Update**" button.
- Click "**Cancel**" when prompted to re-order medication.
- Drug Prescription Orders grid displays updated status of "**Discontinued – Other**" for the medication.
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed



Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:





Exercise 7c: **Display Active Medication Order list and Historical Medication Order list.**

Click on the "**Common**" menu choice (under the "**Health**" Tab). Choose the "**Health Records**" submenu option to begin this exercise.

- Note that the Drug Prescription added in Exercise 1a above ("**Lisinopril (1/2 TAB) TABS/1/2 Of 2.5 Mg**") appears on the Drug Prescription Orders browse screen with a "**Status**" of "**Discontinued - Other**".
- Click the "**Show Active Medications Only**" check box above the grid.
- Note the drug with the status of "**Discontinued – Other**" is removed from the list.
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:



Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



## Exercise 8a: **Add a medication allergy interaction in patient's allergy list**

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" sub-menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Medication Allergies**" sub-menu choice.
- The "**Health Problems/Conditions**" browse screen is loaded.
- Click on the "**Prepare to Add**" button above this browse grid.
- In the "**Category**" dropdown, choose "**Allergies - Medication**".
- In the "**Type**" dropdown, choose "**Penicillin G**".
- Note that the equivalent RxNorm Code appears automatically.
- In the "**Reaction/Intolerance**" dropdown, select "**Rash**".
- In the "**Onset Date**" field, enter/select the current date.
- In the "**Severity**" dropdown, select "**Mild**".
- In the "**Status**" dropdown, choose "**Assessed**".
- Click on the "**Add**" button (bottom of screen).
- The "**Health Problems/Conditions**" browse screen loads with another row added.
- Click on the "**H/S Encounters**" sub-menu.
- Note that a corresponding encounter called "**Medical Records- Chart Review**" was added automatically to document the entry of this problem.
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 8b: **Change a medication allergy interaction in patient's allergy list**

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" sub-menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Medication Allergies**" sub-menu choice.
- The "**Health Problems/Conditions**" browse screen loads.
- Click on the hyperlink "**ID Number**" associated with "**Penicillin G**" row in the grid.
- Click on the "**Prepare To Update**" (pencil) button.
- In the "**Status**" dropdown, change the status to "**Resolved**".
- Click on the "**Update**" button (bottom of screen).
- The "**Health Problems/Conditions**" browse screen loads.
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

- Overall, this task was:
- Very Easy (5)
  - Easy (4)
  - Average effort (3)
  - Difficult (2)
  - Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 8c: **Display medication allergy Active List and Historical List**

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" sub-menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Medication Allergies**" sub-menu choice.
- The "**Health Problems/Conditions**" browse screen loads.
- Note the screen is displaying all Medication Allergies for the patient.
- Click on the "**Show Active Problems/Conditions Only**" check box.
- Notice the screen is displaying only active Medication Allergies for the patient and the "**Penicillin G**" is removed from the list.
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

- Overall, this task was:
- Very Easy (5)
  - Easy (4)
  - Average effort (3)
  - Difficult (2)
  - Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 9a: Add a CDS intervention and/or reference resource for Problem List

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Functional Limitations**" menu option.
- The "**Health Problems/Conditions**" browse screen loads.
- Click the "Get Info" button (blue "i" icon) in the "**National HIE Code(s)**" container for the health problem "**Legally Blind**".
- "**eOMIS Info Button Results**" browser window is opened.
- Click the "**GO TO TABLE OF CONTENTS**" hyperlink.
- In the "**Primary Care Medicine**" section, click "**Ophthalmology**".
- In the "**Anatomy and Exam Findings**" section, click "**Decreased Vision**".
- Close the "**eOMIS Info Button Results**" browser window for this page by clicking the "x" in the tab description.
- User is returned to the "**Health Problems/Conditions**" screen.
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:



Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:





Exercise 9b: **Add a CDS Intervention and/or reference resource for medication list**

Optimal Path: Tab 'Health' →

Click on the "Common" menu choice (under the "Health" Tab) Choose the "Health Records" submenu option to begin this exercise.

- Click on the "Drug Prescription Orders" menu.
- Click the "Get Info" button (blue "i" icon) in the "National HIE Code(s)" column for the medication "METOPROLOL TART TABS/50 Mg".
- "eOMIS Info Button Results" browser window is opened.
- Click the "GO TO TABLE OF CONTENTS" hyperlink.
- Note the reference information displaying for the medication selected.
- Close the "eOMIS Info Button Results" browser window for this page by clicking the "x" in the tab description.
- User is returned to the "Health Problems/Conditions" screen.
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



**Exercise 9c: Add a CDS Intervention and/or reference resource for medication allergy list.**

Click on the "**Common**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Health Records**" sub-menu choice.
- Click on the "**Health Problems/Conditions**" sub-menu choice.
- Click on the "**Medication Allergies**" sub-menu choice.
- The "**Health Problems/Conditions**" browse screen loads.
- Click the "Get Info" button (blue "i" icon) in the "**National HIE Code(s)**" column for the medication allergy, "**Penicillin G**".
- "**eOMIS Info Button Results**" browser window is opened.
- Note the reference information displaying for the medication selected.
- Close the "**eOMIS Info Button Results**" browser window for this page by clicking the "x" in the tab description.
- User is returned to the "**Health Problems/Conditions**" screen
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds



Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:

Exercise 9d: **Enter symptoms during a patient encounter and receive clinical decision support based on the combination of patient age and symptoms**

Optimal Path: Tab 'Health' →

Click on the "**Medical**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Medical Encounters**" menu choice.
- Click on the "**Prepare to Add**" button above the Medical Encounter browse grid.
- In the "**Type**" dropdown, choose "**Provider- Sick Call- Scheduled**".
- Click the "**Next Step**" (red) Arrow.
- Choose "**No**" in the "**Are interpreter services needed for this inmate**" dropdown.
- In the "**Subjective Notes**" container, enter "**Patient complains of stomach ache.**"
- Click the "**Continue with Add**" button.
- Locate the "**Vital Signs**" container.
- Click the "**Prepare to Add**" button.
- In the "**Reason**" dropdown, select "**Prepare for Doctor Call**".
- In the "**Weight**" field, enter "**205**".
- In the "**Body Temperature**" field, enter "**98.8**".
- In the "**Pulse Rate**" field enter "**80**".
- In the "**BP- Systolic**" field, enter "**150**".
- In the "**Diastolic**" field, enter "**110**".
- In the "**Position**" dropdown, select "**Sitting- Right Arm**".
- In the "**Respiration Rate**" field, enter "**20**".
- Click "**Add**" button (bottom of screen).
  
- In the "**Objective Notes**" container, enter "**Hyperactive bowel sounds with pain in right lower quadrant**".
- Click on the "**Stethoscope**" icon in the Patient Header.
- Disclaimer screen loads (if accessing for the first time use).
- Note the "**Funding Source**" (PEPID) and "**Release**" (Version 15.11) information at the bottom of the screen.
- Scroll to the bottom of screen and click the "**Accept**" button.
- The "**eOMIS Differential Diagnostic Checker**" (DDX) screen loads in a new browser window.

- Note that the SNOMED Code for “**Benign essential hypertension (disorder [1201005])**” automatically appears in the “**Symptoms**” container because that Problem/Condition was identified in Exercise #2 above, and that the radio button for “**[High] Diastolic Blood Pressure**” also appears in the “**Latest Vital Signs**” container.
- In the “**SNOMED CT:**” type-ahead field, enter symptom “**Suprapubic pain**”.
- Select “**Suprapubic pain (finding) [162053006]**” from the drop-down list.
- Click the “**Append**” button.
- Click “**Age of Patient**” check box.
- Click the “**Submit**” button (top or bottom of screen).
- The “**eOMIS Differential Diagnostic Checker**” (DDX) screen, provided by PEPID, loads with a list of suggested diagnoses.
- Click on the “**Get Info**” button (blue “**i**” icon) to view more diagnosis information.
- The “**eOMIS Info Button Results**” screen displays in a new browser with links to additional information.
- Close the “**eOMIS Info Button Results**” browser window for this page by clicking the “**x**” in the tab description.
- User is returned to the “**eOMIS Differential Diagnostic Checker**” screen.
- Note one of the suggested diagnosis in the list is “**Myocardial Infarction**”.
- Click the “**Return to Symptoms**” button (bottom of screen).
- In the “**SNOMED CT**” type-ahead field, enter **Myocardial Infarction**”.
- Select “**Myocardial infarction [233824008]**”.
- Click on the “**Append**” button.
- Click the “**Submit**” button (top or bottom of screen).
- The “**eOMIS Differential Diagnosis Checker**” (DDX) screen loads with a smaller refined list of diagnosis codes.
- Scroll to bottom of screen and click the “**Cancel**” button to return to the encounter.
- Locate the “**Assessment**” section.
- Check the “**I have verified patient Health Problems and Medical Score**” checkbox.
- Locate the “**Patient Education**” section.
- Enter education note, “**Patient given info for lower abdominal pain**”.
- In the “**Review Type**” dropdown, select “**No Review Required**”.
- Click on the “**Update**” button (bottom of screen).
- The “**Health Services Encounters**” browse grids loads with another encounter row added.
- End of exercise.



- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

- Overall, this task was:
- Very Easy (5)
  - Easy (4)
  - Average effort (3)
  - Difficult (2)
  - Very Difficult (1)

Administrator / Note taker Comments:



### Exercise 9e: **Add a CDS Intervention and/or reference resource for a Lab test**

Optimal Path: Tab '**Health**' →

Click on the "**Medical**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Lab Test Orders**" sub-menu choice.
- Click on the hyperlink "**Ordered Date**" associated with "**Hemoglobin A1c**".
- The "**Lab Test Orders/Procedures**" browse screen loads.
- Click the "Get Info" button (blue "i" icon) in the "**National HIE Code(s)**" column for the lab test, "**Hemoglobin A1c**".
- "**eOMIS Info Button Results**" browser window is opened.
- Note the reference information displaying for the lab test selected.
- Close the "**eOMIS Info Button Results**" browser window for this page by clicking the "**x**" in the tab description.
- User is returned to the "**Lab Test Orders/Procedures**" screen
- End of exercise.

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:





Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:



## Exercise 9f: Add a CDS Intervention and/or reference resource for vital signs

Optimal Path: Tab 'Health' →

Click on the "Medical" menu choice (under the "Health" Tab) to begin this exercise.

- Click on the "Vital Signs History" sub-menu choice.
- Click on the "Prepare to Add" button above the "Vital Signs" grid.
- In the "Reason" dropdown, select "Prepare for Doctor Call".
- In the "Weight" field, enter "205".
- Locate the "Glucose" container.
- In the "Blood Sugar Level" field, enter "121" (mg/dl).
- Note that the field has an alert that notifies the user of an abnormal value. This applies to values greater than "120" and less than "70".
- Click the "Add" button (bottom of screen).
- User is returned to the "Vital Signs" grid.
- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:



Task Time: \_\_\_\_ Minutes \_\_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

Overall, this task was:

Very Easy (5)

Easy (4)

Average effort (3)

Difficult (2)

Very Difficult (1)

Administrator / Note taker Comments:

## Exercise 9g: Enter symptoms during a patient encounter and receive Clinical Decision Support (CDS) based on Problem list, and Vital Signs

Optimal Path: Tab 'Health' →

Click on the "**Medical**" menu choice (under the "**Health**" Tab) to begin this exercise.

- Click on the "**Medical Encounters**" sub-menu choice.
- Click on the "**Prepare to Add**" button above the Medical Encounter browse grid.
- In the "Type" dropdown, choose "**Provider - Sick Call - Scheduled**".
- Click "Next Step" (red) Arrow.
- Choose "**No**" for the question, "**Are interpreter services needed for this inmate**".
- In the "**Subjective Notes**" container, enter "**Patient complains of fever, and nausea**".
- Click the "**Continue with Add**" button (bottom of screen).
- Locate the Objective section.
- Click the "**Prepare To Add**" button above "**Vital Signs**" grid.
- In the "**Reason**" dropdown, select "**Prepare for Doctor Call**".
- In the "**Weight**" field, enter "**200**".
- In the "**Body Temperature**" field, enter "**102**" [degrees].
- In the "**Pulse Rate**" field, enter "**80**".
- In the "**BP-Systolic**" field, enter "**140**".
- In the "**Diastolic**" field, enter "**92**".
- For "**Position**", select "**Sitting- Right Arm**".
- In the "**Respiration Rate**" field, enter "**20**".
- Click "**Add**" button (bottom of screen).
- Locate the Assessment section.
- Check the "**I have verified this patient's Health Problems and Medical Score**" checkbox.
- Click on the "**Stethoscope**" icon in the Patient Header.
- Disclaimer screen loads (if accessing for the first time use).
- Note the "**Funding Source**" (PEPID) and "**Release**" (Version 15.11) information at the bottom of the screen.
- Scroll to the bottom of screen and click the "**Accept**" button.
- The eOMIS Differential Diagnostic Checker (DDX) screen loads in a new browser window.

- Note that the SNOMED Code for **Hypertension** automatically appears in the “**Symptoms**” container because that Problem/Condition was identified in Exercise #2 above, and that the radio button for “[**High**] **Temperature**” also appears in the “**Latest Vital Signs**” container.
- In the “**SNOMED CT**” field (top of screen), enter “**Chill**” and select “**Chill (finding) [43724002]**” from the drop-down list.
- Click the “**Append**” button.
- “**Chill (finding) [43724002]**” appears in the “**Symptoms**” grid.
- Click the “**Submit**” button (top or bottom of screen).
- The “**eOMIS Differential Diagnosis Checker**” browser screen is displayed.
- Note that the Differential Diagnosis Checker (DDX), provided by PEPID, lists suggested diagnosis codes based on patient symptoms.
- Click on the “**Get Info**” Button (blue “**i**” icon) to view information for any of the potential diagnoses.
- The “**eOMIS Info Button Results**” information browser screen loads with links to additional documentation for the condition selected.
- Close the “**eOMIS Info Button Results**” browser window for this page by clicking the “**x**” in the tab description.
- User is returned to the “**eOMIS Differential Diagnostic Checker**” screen.
- Note one of the suggested diagnosis codes displayed is “**Heat, Stroke [71677004]**”
- Click the “**Cancel**” button (bottom of screen) to return to the encounter.
- Locate the “**Assessment**” section.
- In the “**Diagnosis/Complaint**” type-ahead, enter “**heatstroke**”
- Select “**Heatstroke and sunstroke, initial encounter [T67.0XXA]**”
- In the “**Current associated SNOMED(s)**” dropdown, select “**Heat stroke and sunstroke disorder- 212937007**”.
- Click the “**Add Row**” button.
- Check the “**I have verified this patient’s Health Problems and Medical Score**” checkbox.
- Note the new diagnosis and SNOMED code appear in the “**Related Allergies/Health Problems/Conditions**” container.
- Locate the “**Patient Education**” container.
- Enter note, “**Patient given information on sun over-exposure**”.
- Locate the “**Encounter Orders Review**” container.
- In the “**Review Type**” dropdown, choose “**No Review Required**”.
- Click on the “**Update**” button (bottom of screen).
- The “**Health Services Encounters**” browse grids loads with another encounter row added.



- End of exercise.

- Correct
- Minor Deviations / Cycles (describe below in comments)
- Major Deviations (describe below in comments)

Comments:

Success:

- Easily completed
- Completed with difficulty or help (describe below in comments)
- Not completed

Comments:

Task Time: \_\_\_ Minutes \_\_\_ Seconds

Observed Errors, Comments & Verbalizations:

Rating:

- Overall, this task was:
- Very Easy (5)
  - Easy (4)
  - Average effort (3)
  - Difficult (2)
  - Very Difficult (1)

Administrator / Note taker Comments: