



EHR Usability Test Report

Doctorsoft EHR Version 3.0

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EHR Usability Test Report of Doctorsoft EHR Version 3.0

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Doctorsoft EHR Version 3.0

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EXECUTIVE SUMMARY

A usability test of Doctorsoft EHR Version 3.0 was conducted between December 10 and December 19, 2018 in Reseda, CA by Doctorsoft Corporation. The purpose of this test was to test and validate the usability of the current user interface and provide evidence of usability in the EHR Under Test (EHRUT). During the usability test, 10 healthcare provider team members matching the target demographic criteria served as participants and used the EHRUT in simulated, but representative tasks. All participants had prior experience with the EHR. This study collected performance data on 58 tasks required for 2015 edition certification of an EHR.

Prior to the usability test, each participant watched a 40 minute series of videos demonstrating the features being tested. These videos consisted of a review of some existing features and training on some new functionality. During the approximately 90 minute one-on-one usability test, each participant was given an orientation by the administrator and asked to review and sign an informed consent/release form (included in Appendix); they were instructed that they could withdraw at any time. The administrator introduced the test and instructed participants to complete a series of tasks (given one at a time) using the EHRUT. Each user had a patient data sheet (included in Appendix) sorted by task # and containing reference information for entry into the EHR. During the testing, the administrator timed the test and, along with the data logger(s) recorded user performance data on paper and electronically. The administrator did not give the participant assistance in how to complete the task but did repeat the task instructions in case of difficulty.

Participant screens, head shots and audio were recorded for subsequent analysis.

The following types of data were collected for each participant:

- Number of tasks successfully completed within the allotted time without assistance
- Time to complete the tasks
- Number and types of errors
- Path deviations
- Participant's verbalizations
- Participant's satisfaction ratings of the system

All participant data was de-identified – no correspondence could be made from the identity of the participant to the data collected. Following the conclusion of the testing, participants were asked to complete a post-test questionnaire. Various recommended metrics, in accordance with the examples 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 on the EHRUT.

Task #	Task Name	Task Success - Mean (%)	Task Path Deviation - Observed #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Errors Mean(%)	Task Rating 5=Easy
1	Record a patient's preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity	100	32	196	68	0.0	4.9
2	Change the patient's preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity	100	19	99	27	0.0	4.8
3	Display the patient's changed preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity	100	1	21	17	0.0	4.7
4	Incorporate a CCDA	100	13	56	31	0.0	4.8
5	Create visit and check in patient	100	13	26	14	0.0	4.8
6	CDS Popup: At least one Demographic	100	1	3	2	0.0	5.0
7	Access the following attributes for one of the triggered CDS interventions/resources: bibliographic citation, developer, funding source, release/revision date	100	1	12	10	0.0	4.8
8	Record a medication to the medication list	100	9	53	42	0.0	4.8
9	Change a medication on the medication list	100	5	26	20	0.0	5.0
10	Import CCDA: Reconcile medications	50	7	21	8	50.0	4.5
11	Infobutton lookup: medication list	100	3	18	9	0.0	4.9
12	Infobutton detail lookup based on demographics	100	3	7	4	0.0	5.0
13	Display the active medication list	100	2	6	4	0.0	5.0
14	Display the historical medication list	100	2	5	5	0.0	5.0
15	Trigger CDS Popup from CCDA file: Reconcile medications	100	1	4	3	0.0	5.0
16	Record a medication allergy	90	21	86	40	10.0	4.2
17	Change a medication allergy	100	5	18	16	0.0	5.0
18	Import CCDA: Reconcile allergies	70	15	44	16	30.0	4.1

19	Display the active medication allergy list	100	2	3	1	0.0	5.0
20	Display the historical medication allergy list	100	2	4	4	0.0	4.8
21	Trigger CDS Popup: Medication Allergy List	100	1	5	4	0.0	4.9
21.5	Trigger CDS Popup from CCDA file: Reconcile allergies	100	1	7	17	0.0	5.0
22	Record a problem to the problem list	90	7	33	16	10.0	4.9
23	Change a problem on the problem list	100	7	41	25	0.0	4.6
24	Infobutton detailed information lookup: problem list	100	5	18	11	0.0	4.9
25	Import CCDA: Reconcile problems	80	12	39	30	20.0	4.0
25.5	Trigger CDS Popup from CCDA file: Reconcile problems	100	1	4	8	0.0	5.0
26	Enter Condition for CDS Popup: Laboratory Test	100	6	31	20	0.0	4.9
27	Trigger CDS Popup: Problem list	100	8	20	12	0.0	4.9
28	Trigger CDS Popup : combination of at least 2 of the elements listed above	100	2	13	12	0.0	4.8
29	Enter Condition for CDS Popup: Vital Signs	100	6	19	11	0.0	4.9
30	Trigger CDS Popup: Laboratory Test	100	1	5	3	0.0	5.0
31	Trigger CDS Popup: Vital Signs	100	1	2	2	0.0	5.0
32	Display the active problem list	100	2	5	3	0.0	5.0
33	Display the historical problem list	100	2	3	3	0.0	5.0
34	Record Imaging order via CPOE	100	8	16	12	0.0	4.9
35	Change Imaging order via CPOE	100	4	10	11	0.0	5.0
36	Display changed CPOE Imaging order	100	1	13	31	0.0	5.0
37	Record medication via CPOE	100	9	60	20	0.0	4.9
38	Change medication via CPOE	100	5	17	9	0.0	5.0
39	Display changed CPOE medication order	100	2	14	21	0.0	5.0
40	Using CPOE, trigger a drug-allergy interaction by entering a new medication order	100	4	19	4	0.0	5.0
41	Create new prescription	100	7	42	20	0.0	4.8
42	Change prescription (dosage or duration)	100	5	18	8	0.0	5.0
43	Using CPOE, trigger a drug-drug interaction by entering a new medication order	100	3	18	4	0.0	5.0
44	Adjust the severity level of a displayed drug-drug interaction	100	3	17	15	0.0	4.3
45	Request and receive medication history information	100	2	16	10	0.0	4.9
46	Receive fill status notification	100	1	12	6	0.0	4.7
47	Cancel prescription	100	1	17	12	0.0	4.5

48	Refill prescription	100	1	16	14	0.0	4.7
49	Record UDI	100	12	70	49	0.0	4.7
50	Change UDI Status	100	3	5	3	0.0	5.0
51	Access UDI, device description, identifiers, and attributes	100	2	8	9	0.0	5.0
52	Record Lab order via CPOE	100	7	20	11	0.0	5.0
53	Change Lab order via CPOE	100	4	10	10	0.0	5.0
54	Display changed CPOE Lab order	100	1	10	23	0.0	5.0
55	Smoking status, Sign chart and check out patient	100	10	34	26	0.0	4.8
56	Generate a new CCDA with reconciled data	100	4	15	13	0.0	4.6
57	Trigger CDS Popup: Medication list	100	5	19	15	0.0	4.9
58	Trigger CDS Popup: Medication list	100	1	3	2	0.0	4.9

The results from the System Usability Scale scored the subjective satisfaction with the system based on performance with these tasks to be: 85.5

In addition to the performance data, the following qualitative observations were made:

MAJOR FINDINGS

Participants were pleased overall with new functionality, particularly the Infobutton. Participants also liked the new clinical information reconciliation capabilities after learning more about them. Interestingly, participants struggled with reconciling info from CCDA files until they had practiced the process to do so. This could be risky for patients if important information from CCDA files is available but users can not figure out how to import it. The CCDA file import steps could also be streamlined. The most difficulty, and therefore the most likely **risk prone errors** were found when users were inputting medications and allergies. As predicted during test planning, all tasks that were marked as failures were in the highest risk category 1. This is because inaccurate medications or allergies can be life-threatening and the possibility of data entry errors actually affecting patient safety can not be overlooked. Some of the confusing aspects of eRx design hamper users that are

not familiar with eRx-related workflows. Doctorsoft is limited to minor improvements on the integration between the EHR and eRx because of the use of an outside vendor for eRx services. Up until now, Doctorsoft was unable to change the interface or redesign the integration workflow.

AREAS FOR IMPROVEMENT

Reducing as many steps as possible in the longer workflows and more visual cues for what the user should do next were identified as the areas for improvement. It was apparent that some of the workflows related to eRx and allergies would benefit from a reduction in steps to minimize chance of path deviations/errors and increase workflow efficiency. Doctorsoft will look into improving the integration with the third party eRx service to decrease risk. Doctorsoft will also look at ways to streamline the process of importing from CCDA files that remain compliant with 2015 edition requirements.

INTRODUCTION

The EHRUT tested for this study was Doctorsoft EHR Version 3.0. Designed to present medical information to Ophthalmology clinics/practices the EHRUT consists of web-based software tailored to Ophthalmology patient workflows. The usability testing attempted to represent realistic exercises and conditions. The purpose of this study was to test and 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 steps to completion, time to completion) were captured during the usability testing.

METHOD

PARTICIPANTS

A total of 10 participants were tested on the EHRUT(s). Participants were recruited from customer sites for Doctorsoft EHR. Participants in the test were clinical staff and clinical support staff. Recruited participants had a mix of backgrounds and demographic characteristics similar to other actual users of Doctorsoft. In addition, participants had no direct connection to the development of or organization producing the EHRUT(s). Participants were given the opportunity to have the same orientation and level of training as the actual end users would have received.

The following is Table 1 of participants by characteristics, including demographics, professional experience, computing experience and user needs for assistive technology. Participant names were replaced with Participant IDs so that an individual’s data cannot be tied back to individual identities.

Participant Identifier	Participant Gender	Participant Age	Participant Education	Participant Occupation/Role	Participant Professional Experience	Participant Computer Experience	Participant Product Experience	Participant Assistive Technology Needs
P1	Female	20-29	Trade/technical/vocational training	Medical Assistant	24	48	24	No
P2	Female	20-29	Trade/technical/vocational training	Medical Assistant	36	50	36	No
P3	Female	20-29	Trade/technical/vocational training	Medical Assistant	28	48	28	No
P4	Female	20-29	Trade/technical/vocational training	Reception	24	36	24	No
P5	Female	20-29	High school graduate	Reception	18	22	18	No
P6	Female	20-29	Trade/technical/vocational training	Medical Assistant	10	60	8	No
P7	Female	20-29	Some college credit, no degree	Back Office	84	84	60	No
P8	Male	20-29	Some college credit, no degree	IT support	84	84	3	No
P9	Female	30-39	Trade/technical/vocational training	Medical Assistant	12	4	1	No
P10	Female	20-29	Some college credit, no degree	Clinic support	60	108	60	No

Table 1

Fifteen participants (matching the demographics in the section on Participants) were recruited and 10 participated in the usability test. Five participants were not available during the study time period.

Participants were scheduled for 90 minute sessions with 15 minutes in between each session for debrief by the administrator(s) and data logger(s), and to reset systems to proper test conditions. A shared calendar was used to keep track of the participant schedule and web conference info.

STUDY DESIGN

Overall, the objective of this test was to uncover areas where the application performed well – that is, effectively, efficiently, and with 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 the same EHR and/or comparison with other EHRs provided the same tasks are used. In short, this testing serves as both a means to record or benchmark current usability, but also to identify areas where improvements must be made.

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

- Number of tasks successfully completed within the allotted time without assistance
- Time to complete the tasks
- Number and types of errors
- Path deviations
- Participant's verbalizations (comments)
- Participant's satisfaction ratings of the system

Additional information about the various measures can be found in Section 3.9 on Usability Metrics.

TASKS

58 tasks were constructed that would be realistic and representative of the kinds of activities a user might do with this EHR, including: (See Appendix for all tasks)

1. Entering medications
2. Ordering labs
3. Maintaining a problem list
4. Refilling prescriptions

Tasks were selected based on requirements for 2015 edition EHR certification. Tasks were ordered by risk and typical workflow within customer clinics.

PROCEDURES

Upon arrival, participants were greeted. They were asked if they had any questions about the training videos they had already seen. Each participant was then assigned a participant ID. Participants then heard an orientation script and were asked to review and sign an informed consent and release form (See Appendix). A representative from the test team witnessed the participant's signature and collected the consent.

To ensure that the test ran smoothly, two staff members participated in this test, the usability administrator and the data logger. The usability testing staff conducting the test was experienced usability practitioners with 2 years of experience conducting usability testing and holding a Master of Science in Health Communication. The administrator moderated the session including administering instructions and tasks. The administrator also monitored task times, obtained post-task rating data, and took

notes on participant comments. A second person served as the data logger and took notes on task success, path deviations, number and type of errors, and comments.

Participants were instructed to perform the tasks (see specific instructions below):

- As quickly as possible making as few errors and deviations as possible.
- Without assistance; administrators were allowed to give immaterial guidance and clarification on tasks, but not instructions on use.
- Without using a think aloud technique.

For each task, the participants were given a written copy of the patient data required in the task. Task timing began once the administrator finished reading the question and said “begin”. The task time was stopped once the participant said “done” or “ok” (indicating they had successfully completed the task). Scoring is discussed below in Section 3.9.

Following the session, the administrator gave the participant the post-test questionnaire System Usability Scale, (see Appendix), and thanked everyone for their participation.

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

TEST LOCATION

The test room included a quiet testing room with a desk, computer for the participant, chair for the participant and seating for the administrator. Only the participant and administrator were in the

test room. All observers and the data logger worked from a separate room where they could see the participant's screen and face shot and listen to the audio of the session. To ensure that the environment was comfortable for users, noise levels were kept to a minimum with the ambient temperature within a normal range. All the safety instruction and evacuation procedures were valid, in place, and visible to the participants.

TEST ENVIRONMENT

The EHRUT would be typically be used in a healthcare office or facility. In this instance, the testing was conducted in an exam room of a healthcare facility. For testing, the computer used a Dell computer running Windows 10. The participants used a mouse and keyboard when interacting with the EHRUT. Doctorsoft EHR was loaded on a 24" monitor with 1960x1080 resolution in full color. The application was set up by the administrator according to the vendor's documentation describing the system set-up and preparation. The application itself was running on Mozilla Firefox browser using the Certification test instance on a LAN connection. Technically, the system performance (i.e., response time) was representative to what actual users would experience in a field implementation. Additionally, participants were instructed not to change any of the default system settings (such as control of font size).

TEST FORMS AND TOOLS

During the usability test, various documents and instruments were used, including:

1. Informed Consent
2. Moderator's Guide
3. Patient data sheets
4. Post-test Questionnaire

Examples of these documents can be found in Appendices. The Moderator's Guide was devised to be able to capture required data. The participant's interaction with the EHRUT was captured and recorded digitally with screen capture software running on the test machine. A web camera recorded each participant's facial expressions synced with the screen capture, and verbal comments were recorded with a built-in microphone. The test sessions were electronically transmitted to a nearby observation room where the data logger observed the test session.

PARTICIPANT INSTRUCTIONS

The administrator read the orientation script aloud to the participant (see Appendix). Participants were then given 58 tasks to complete. Tasks are listed in the Appendix.

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** by measuring participant success rates and errors
2. **Efficiency** by measuring the average task time and path deviations
3. **Satisfaction** by measuring ease of use ratings

DATA SCORING

The following Table 2 details how tasks were scored, errors evaluated, and the time data analyzed.

Measures	Rationale and Scoring
<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 percentage.</p> <p>Task times were recorded for successes. Observed 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 must be operationally defined by taking multiple measures of optimal performance and multiplying by a factor of 1.25 that allows some time buffer because the participants are presumably not trained to expert performance. Thus, if expert, optimal performance on a task was 20 seconds then allotted task time performance was 25 seconds. This ratio should be aggregated across tasks and reported with mean and variance scores.</p>
<p>Effectiveness: Task Failures</p>	<p>If the participant abandoned the task, did not reach the correct answer or performed it incorrectly, or reached the end of the allotted time before successful completion, the task was counted as a “Failure.” No task times were taken for errors.</p> <p>The total number of errors was calculated for each task and then divided by the total number of times that task was attempted. Not all deviations would be counted as errors. This should also be expressed as the mean number of failed tasks per participant.</p> <p>On a qualitative level, an enumeration of errors and error types should be collected.</p>
<p>Efficiency: Task Deviations</p>	<p>The participant’s path (i.e., steps) through the application was recorded. Deviations occur if the participant, for example, 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 steps in the observed path is divided by the number of optimal steps to provide a ratio of path deviation. It is strongly recommended that task deviations be reported. Optimal paths (i.e., procedural steps) should be recorded when constructing tasks.</p>

Efficiency: Task Time	Each task was timed from when the administrator said “Begin” until the participant said, “Done.” If he or she failed to say “Done,” the time was stopped when the participant stopped performing the task. Only task times for tasks that were successfully completed were included in the average task time analysis. Average time per task was calculated for each task. Variance measures (standard deviation and standard error) were also calculated.
Satisfaction: Task Rating	<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). These data are averaged across participants.</p> <p>Common convention is that average ratings for systems judged easy to use should be 3.3 or above.</p> <p>To measure participants’ confidence in and likeability of the EHR overall, the testing team administered the System Usability Scale (SUS) post-test questionnaire. Questions included, “I think I would like to use this system frequently,” “I thought the system was easy to use,” and “I would imagine that most people would learn to use this system very quickly.” See full System Usability Score questionnaire in Appendix 5.</p>

Table 2. Details of how observed data were scored.

RESULTS

DATA ANALYSIS AND REPORTING

The results of the usability test were calculated according to the methods specified in the Usability Metrics section above. Participants who failed to follow session and task instructions had their data excluded from the analyses. The usability testing results for the EHRUT are detailed below (see Table 3). The results should be seen considering the objectives and goals outlined in Section 3.2 Study Design. The data should yield actionable results that, if corrected, yield material, positive impact on user performance.

Task #	Task Name	Task Success - Mean (%)	Task Path Deviation - Observed #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Errors Mean(%)	Task Rating
1	Record a patient’s preferred language, date of birth, birth sex, race,	100	32	196	68	0.0	4.9

	ethnicity, sexual orientation, gender identity						
2	Change the patient's preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity	100	19	99	27	0.0	4.8
3	Display the patient's changed preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity	100	1	21	17	0.0	4.7
4	Incorporate a CCDA	100	13	56	31	0.0	4.8
5	Create visit and check in patient	100	13	26	14	0.0	4.8
6	CDS Popup: At least one Demographic	100	1	3	2	0.0	5.0
7	Access the following attributes for one of the triggered CDS interventions/resources: bibliographic citation, developer, funding source, release/revision date	100	1	12	10	0.0	4.8
8	Record a medication to the medication list	100	9	53	42	0.0	4.8
9	Change a medication on the medication list	100	5	26	20	0.0	5.0
10	Import CCDA: Reconcile medications	50	7	21	8	50.0	4.5
11	Infobutton lookup: medication list	100	3	18	9	0.0	4.9
12	Infobutton detail lookup based on demographics	100	3	7	4	0.0	5.0
13	Display the active medication list	100	2	6	4	0.0	5.0
14	Display the historical medication list	100	2	5	5	0.0	5.0

15	Trigger CDS Popup from CCDAs file: Reconcile medications	100	1	4	3	0.0	5.0
16	Record a medication allergy	90	21	86	40	10.0	4.2
17	Change a medication allergy	100	5	18	16	0.0	5.0
18	Import CCDAs: Reconcile allergies	70	15	44	16	30.0	4.1
19	Display the active medication allergy list	100	2	3	1	0.0	5.0
20	Display the historical medication allergy list	100	2	4	4	0.0	4.8
21	Trigger CDS Popup: Medication Allergy List	100	1	5	4	0.0	4.9
21.5	Trigger CDS Popup from CCDAs file: Reconcile allergies	100	1	7	17	0.0	5.0
22	Record a problem to the problem list	90	7	33	16	10.0	4.9
23	Change a problem on the problem list	100	7	41	25	0.0	4.6
24	Infobutton detailed information lookup: problem list	100	5	18	11	0.0	4.9
25	Import CCDAs: Reconcile problems	80	12	39	30	20.0	4.0
25.5	Trigger CDS Popup from CCDAs file: Reconcile problems	100	1	4	8	0.0	5.0
26	Enter Condition for CDS Popup: Laboratory Test	100	6	31	20	0.0	4.9
27	Trigger CDS Popup: Problem list	100	8	20	12	0.0	4.9
28	Trigger CDS Popup : combination of at least 2 of the elements listed above	100	2	13	12	0.0	4.8
29	Enter Condition for CDS Popup: Vital Signs	100	6	19	11	0.0	4.9

30	Trigger CDS Popup: Laboratory Test	100	1	5	3	0.0	5.0
31	Trigger CDS Popup: Vital Signs	100	1	2	2	0.0	5.0
32	Display the active problem list	100	2	5	3	0.0	5.0
33	Display the historical problem list	100	2	3	3	0.0	5.0
34	Record Imaging order via CPOE	100	8	16	12	0.0	4.9
35	Change Imaging order via CPOE	100	4	10	11	0.0	5.0
36	Display changed CPOE Imaging order	100	1	13	31	0.0	5.0
37	Record medication via CPOE	100	9	60	20	0.0	4.9
38	Change medication via CPOE	100	5	17	9	0.0	5.0
39	Display changed CPOE medication order	100	2	14	21	0.0	5.0
40	Using CPOE, trigger a drug-allergy interaction by entering a new medication order	100	4	19	4	0.0	5.0
41	Create new prescription	100	7	42	20	0.0	4.8
42	Change prescription (dosage or duration)	100	5	18	8	0.0	5.0
43	Using CPOE, trigger a drug-drug interaction by entering a new medication order	100	3	18	4	0.0	5.0
44	Adjust the severity level of a displayed drug-drug interaction	100	3	17	15	0.0	4.3
45	Request and receive medication history information	100	2	16	10	0.0	4.9
46	Receive fill status notification	100	1	12	6	0.0	4.7
47	Cancel prescription	100	1	17	12	0.0	4.5

48	Refill prescription	100	1	16	14	0.0	4.7
49	Record UDI	100	12	70	49	0.0	4.7
50	Change UDI Status	100	3	5	3	0.0	5.0
51	Access UDI, device description, identifiers, and attributes	100	2	8	9	0.0	5.0
52	Record Lab order via CPOE	100	7	20	11	0.0	5.0
53	Change Lab order via CPOE	100	4	10	10	0.0	5.0
54	Display changed CPOE Lab order	100	1	10	23	0.0	5.0
55	Smoking status, Sign chart and check out patient	100	10	34	26	0.0	4.8
56	Generate a new CCDA with reconciled data	100	4	15	13	0.0	4.6
57	Trigger CDS Popup: Medication list	100	5	19	15	0.0	4.9
58	Trigger CDS Popup: Medication list	100	1	3	2	0.0	4.9

Table 3. Details of Results

The results from the SUS (System Usability Scale) scored the subjective satisfaction with the system based on performance with these tasks to be: 85.5. Broadly interpreted, scores under 60 represent systems with poor usability; scores over 80 would be considered above average.

DISCUSSION OF THE FINDINGS

All participants learned new features from the training videos and then successfully demonstrated them in the usability testing. Due to the specific task requirements some tasks were very simple, and others were very complex/obscure. Findings mostly confirmed the ease of use of Doctorsoft. Participant 9 had the least experience

with Doctorsoft and predictably, was slower and had issues using some features. There was good effectiveness shown as discussed below. The efficiency data introduced some questions about the types of training provided to end users. Finally, satisfaction ratings were very high.

EFFECTIVENESS

Effectiveness is represented in the Task Success and Path Deviations columns. Based on the data, Doctorsoft was very effective. The few tasks that were not 100% successful were related to importing CCDA and inputting into eRx. These do represent risk because missing or incorrect data can lead to poor outcomes for patients. Participant 9 had the least experience with Doctorsoft and failed more tasks than anyone else. The training video contained a significant amount of new material for participant 9 so more failed tasks is not surprising. Other users with additional experience had much higher effectiveness.

EFFICIENCY

Efficiency is represented in the Task Time Mean and Task Time Deviation columns. Based on the task time and deviation data, there were concerns raised about how effective different training methods are. In a busy clinic, there is very little time to stumble through screens to accomplish patient data entry. This also increases the risk of missing or incorrect data. Newer users tended to take more time locating things, especially if they had never used those features before. These participants also clicked into other fields or screens even when they were not important to the task at

hand. This cost time and deviations to path but did not impede them from completing the task. Some features with especially high variance will be looked at again to see if they can be streamlined while staying in compliance with 2015 edition requirements.

SATISFACTION

Satisfaction ratings were found to be very high. Participants found most tasks easy and tended to rate even the simplest tasks lower when they were unsure how to do them. The System Usability Score (SUS) was 85.5, which is a very good score on the scoring scale. According to the SUS, anything above 80 is high and this score validates the focus on ease of use and efficiency Doctorsoft was designed with. Participants only verbalized during the tests to ask for clarification on the instructions.

MAJOR FINDINGS

Most participants found difficulty with parts of the EHR they rarely, if ever, used. Even if completing a task successfully, some tasks had quite large time variance. On tasks like 1 and 49 this was due to the amount of typing and reflected the relative difference in keyboarding skills between participants. On some participants Task 1 was also affected by browser autofill overwriting their data. Fortunately, most customers of Doctorsoft do not manually enter demographics like was done in Task 1 so this will not be a problem.

The most difficulty, and therefore the most likely **risk prone errors** were found when users were inputting medications and allergies.

As predicted during test planning, all tasks that were marked as failures were in the highest risk category 1. This is because inaccurate medications or allergies can be life-threatening. The possibility of data entry errors actually affecting patient safety is miniscule. Some of the confusing aspects of eRx design hamper users that are not familiar with eRx-related workflows. Doctorsoft is limited on improving the integration between the EHR and eRx because of the use of an outside vendor for eRx services. Up until now, Doctorsoft was unable to change the interface or redesign the integration workflow.

Participants were pleased overall with new functionality, particularly the Infobutton. Participants also liked the new clinical information reconciliation capabilities after learning more about them. Interestingly, participants struggled with reconciling info from CCDA files until they had practiced the process to do so. This could be risky for patients if important information from CCDA files is available but users can not figure out how to import it. The CCDA file import steps could also be streamlined.

AREAS FOR IMPROVEMENT

Reducing as many steps as possible in the longer workflows and more visual cues for what the user should do next were identified as the areas for improvement. It was apparent that some of the workflows related to eRx and allergies would benefit from a reduction in steps to minimize chance of path deviation and increase workflow efficiency. Doctorsoft will look into improving the integration with the third party eRx service to decrease risk.

Doctorsoft will look at ways to streamline the process of importing from CCDA files that remain compliant with 2015 edition requirements.

APPENDICES

Appendix 1: Training videos

All participants were shown a series of training videos that provided visual and audio walkthroughs of Doctorsoft functionality used in the usability test. The video script is as follows:

This video is to show usability testers how to use new features in Doctorsoft EHR 3.0. Numerous things were added to Doctorsoft EHR for it to be recertified, and these must be tested by actual users to determine ease of use. Lets begin with new patient demographics.

1. We're going to enter new patient demographics starting from Patient Search screen. This is not usually done in practices using AdvancedMD, but is required for this test. Click New Patient to start entering demographics. We're going to enter all the required fields with a red star. Notice the new fields for gender identity, birth gender, and sexual orientation. In race and ethnicity there are new options for more details. If there is anything that needs to be changed, you can return to this screen at any time to make changes.
2. Upload a file to imported documents from desktop. We're going to upload a file to this patient's imported documents. Simply...and upload the File for usability testing. This file allows EHRs to transfer patient information between doctors. Later we are going to add medication information from this file.
3. Create a visit and check in the patient. Go to the visits screen and...
4. View a CDS popup. A CDS popup is a clinical decision support pop up window that alerts you to available clinical information for the patient.
5. View CDS popup more info. To see more information about this CDS popup, click the more info button. Here, you will see the bibliographic citation, developer, funding source, and release date.
6. Enter a medication. Go to the exam medications screen. Open eRx and input a medication. Click select the move to current meds. Then click exit to close Newcrop and expand the new medication. Click save to medication list to finish entry.
7. Change a medication. To change a medication, click edit and make the necessary changes.
8. Import medications from a CCDA file. To import medications, click on the import medications arrow. Click Add Medications from CCDA, then click the checkboxes and click Send selected to Newcrop. Then return to the Newcrop list tab and expand the new medications. Click save to medications list to save the current medications list.
9. View infobutton. To see more information about something, click the blue infobutton.
10. View infobutton in Spanish. To see more information about something in Spanish, the patient's language must be set to Spanish. The information will show in both English and Spanish
11. View medication list. To view the current medication list, open the medications screen.
12. Filter medication list To filter the medication list, click filter and select active, inactive, or all medications.
13. Enter an allergy To enter an allergy, use Newcrop eRx to add allergy. Choose the severity and onset date if known. Pro tip: You can also type in the reaction in the notes field.
14. Change an allergy - To change an allergy, click on the allergy and make changes to severity, onset date, or reaction.
15. Import an allergy from CCDA file - To import allergies, click on the import allergies arrow. Click Add Allergies from CCDA. Click the checkboxes for what you want to add, then click Send selected to Newcrop. Newcrop will open and you can finish inputting the allergy details here. When you are done, click exit. Then expand the allergy you added and click save to allergy list.
16. View allergy list - To view the allergy list, open the allergy screen.
17. Filter allergy list - To filter the allergy list, click filter and select active, inactive, or all.

18. View CDS popup for allergy to med used by practice - Medications used by the practice include dilation, procedure, or diagnostic test medications. These will be visible on the screen that this is entered. If a patient has an allergy to a dilation medication, a popup will appear on the vision and pressure screen.
19. Enter problem into problem screen - Go to problem screen. Click new. Type in or select problem from favorites. Click save.
20. Change problem on problem screen - Click problem to change. Input new problem. Click save
21. View infobutton on a problem - Click blue infobutton when searching for a problem.
22. Import problem from a CCDA file - To import problems, click on the import problems arrow. Click Add problems from CCDA. Expand the problems and click Add to Current Problem List. When done with all of them, click save.
23. View problem list - To view the problem list, look at the problem/plan screen.
24. Filter problem list - To filter the problem list, click the filters button and choose active, inactive, resolved, and all.
25. Order a diagnostic test - To order a diagnostic test, open the diagnostic testing screen. Click new and input the test name, eye, and type of test. Click save.
26. Change a diagnostic test - To change a diagnostic test, open the diagnostic testing screen. Click the test to be changed and make the necessary change. Click save.
27. Prescribe a medication - Go to Rx screen. Click eRx. Type in the name of the drug and click drug search. Choose the drug dosage. Select the frequency and refills. Click Save Rx. Click Take Complete Rx to Review Page. Click Approve/leave for staff.
28. Change a medication order - To change the medication order, click edit. Make the desired change and click Save Rx.
29. Eprescribe admin tab - Hide all less severe drug interactions - This is an administrative function that we must do for this usability test. Click on the admin tab in the upper right hand corner. Select the checkbox for hide all less severe drug interactions. Click save prescriber settings.
30. View Frank Notch medications provided by Surescripts - To view medications provided by surescripts, go to the medication entry screen in Newcrop. Find the Surescripts Benefit/Drug History line. Click the link to see medications from other providers. Select the timeline and view. Click import to patient record to add to the patient's medication list.
31. View Frank Notch prescribed med info - To see prescription info like fill status notification or to cancel refills, open magnifying glass for the medication. View the fill/refill/cancel info, then click close to return to previous page.
32. View Elizabeth Itasca eRx pharmacy renewal request info - To view a renewal request, open the magnifying glass for the medication and review the pharmacy renewal request information.
33. Enter UDI - UDI is used for implanted devices. Each device gets its own code that is used to track it and give providers information about it. To input a UDI in Doctorsoft, go to the Procedures screen. Click Implanted Devices. Click New, then input the date, UDI number, provider, and status. Click save.
34. Change UDI status and update - To change status, select a different status from the drop down menu. To view the information about an implanted device, click Update. Click Save.
35. Enter a blood test in Lab/Rad screen - To enter a blood test, go to the Lab/Rad screen. Click New. Input the test details. Click save.
36. Change a blood test - To change a blood test, go back to the Lab/Rad screen. Make the necessary changes. Click Save.
37. Input smoking status and Sign the chart - For the purposes of this test, we will need to also enter the smoking status on the social history screen. Then return to the main exam and sign the chart.
38. Export a CCDA file - To export a CCDA file, go to the demographics screen. Click export and download the file.

Appendix 2: PARTICIPANT DEMOGRAPHICS

Participant Identifier	Participant Gender	Participant Age	Participant Education	Participant Occupation/Role	Participant Professional Experience	Participant Computer Experience	Participant Product Experience	Participant Assistive Technology Needs
P1	Female	20-29	Trade/technical/vocational training	Medical Assistant	24	48	24	No
P2	Female	20-29	Trade/technical/vocational training	Medical Assistant	36	50	36	No
P3	Female	20-29	Trade/technical/vocational training	Medical Assistant	28	48	28	No
P4	Female	20-29	Trade/technical/vocational training	Reception	24	36	24	No
P5	Female	20-29	High school graduate	Reception	18	22	18	No
P6	Female	20-29	Trade/technical/vocational training	Medical Assistant	10	60	8	No
P7	Female	20-29	Some college credit, no degree	Back Office	84	84	60	No
P8	Male	20-29	Some college credit, no degree	IT support	84	84	3	No
P9	Female	30-39	Trade/technical/vocational training	Medical Assistant	12	4	1	No
P10	Female	20-29	Some college credit, no degree	Clinic support	60	108	60	No

Appendix 3: NON-DISCLOSURE AGREEMENT AND INFORMED CONSENT FORM

Informed Consent for Doctorsoft Usability Testing

Doctorsoft Corporation would like to thank you for participating in this study. The purpose of this study is to evaluate an electronic health records system. If you decide to participate, you will be asked to perform several tasks using the prototype and give your feedback. The study will last about 60 minutes.

Agreement

I understand and agree that as a voluntary participant in the present study conducted by *Doctorsoft Corporation* I am free to withdraw consent or discontinue participation at any time. I understand and agree to participate in the study conducted and videotaped by *Doctorsoft Corporation*.

I understand and consent to the use and release of the videotape by *Doctorsoft Corporation*. I understand that the information and videotape is for research purposes only and that my name and image will not be used for any purpose other than research. I relinquish any rights to the videotape and understand the videotape may be copied and used by *Doctorsoft Corporation* without further permission.

I understand and agree that the purpose of this study is to make Doctorsoft EHR more useful and usable in the future.

I understand and agree that the data collected from this study may be shared outside of *Doctorsoft Corporation*. I understand and agree that data confidentiality is assured, because only de-identified data – i.e., identification numbers not names – will be used in analysis and reporting of the results.

Non Disclosure

I acknowledge my voluntary participation in today's usability study may bring me into possession of Confidential Information. The term "Confidential Information" means all technical and commercial information of a proprietary or confidential nature which is disclosed by *Doctorsoft Corporation*, or otherwise acquired by the Participant, in the course of today's study.

Any information I acquire relating to this product during this study is confidential and proprietary to *Doctorsoft Corporation* and is being disclosed solely for the purposes of my participation in today's usability study. By signing this form, I acknowledge that I will not disclose this confidential information obtained today to anyone else or any other organizations.

I agree to immediately raise any concerns or areas of discomfort with the study administrator. I understand that I can leave at any time.

Please check one of the following:

- YES, I have read the above statement and agree to be a participant.
 NO, I choose not to participate in this study.

Signature: _____ **Date:** _____

Appendix 4: MODERATOR'S GUIDE

Data Collection Checklist

Administrator:	Date:
Data Logger:	Time:
Location:	Participant #s:

Prior to testing	Prior to each task:
<input type="checkbox"/> Confirm schedule with Participants	<input type="checkbox"/> Reset application to starting point for next task
<input type="checkbox"/> Ensure EHR environment is running properly	<input type="checkbox"/> Read task aloud, say Begin
<input type="checkbox"/> Ensure recording equipment is running properly	<input type="checkbox"/> Start stopwatch
Prior to each participant:	During each task:
<input type="checkbox"/> Reset application	<input type="checkbox"/> Note number of clicks needed to complete task
<input type="checkbox"/> Start session recordings with <i>tool</i>	<input type="checkbox"/> Note deviations by participant
<input type="checkbox"/> Assign Participant ID	<input type="checkbox"/> Note verbalizations by participant
Participant arrives:	After each task:
<input type="checkbox"/> Greet participant & Orientation	<input type="checkbox"/> Stop stopwatch and record time
<input type="checkbox"/> Give Informed Consent	<input type="checkbox"/> Note success/failure status
<input type="checkbox"/> Ask preliminary questions	<input type="checkbox"/> Note number of steps needed to complete task
	<input type="checkbox"/> Note deviations from optimum
After each participant finishes all tasks:	<input type="checkbox"/> Ask satisfaction rating on 1 (low) – 5 (high) scale
<input type="checkbox"/> End session recordings with <i>screen recorder tool</i>	
<input type="checkbox"/> Ask Post Usability Test Questions	
<input type="checkbox"/> Give System Usability Survey	
After all testing	
<input type="checkbox"/> Back up all video and data files	

Orientation Script:

Thank you for participating in this study. Our session today will last 60-90 minutes. During that time, you will be using a prototype version of Doctorsoft EHR Version 3.0, which is in the process of certification by the government.

I will ask you to complete a few tasks using this system and answer some questions. This is a test of the new system, not of you. We are interested in how easy (or how difficult) this system is to use, what you find most useful, and how we could improve it. You will be asked to complete these tasks on your own trying to do them as quickly as possible with the fewest possible errors or deviations. Do not do anything more than asked. Some of the data may not make sense for a real patient as it is data used for testing only. If you get lost or have difficulty, we cannot answer any questions or help you with anything in the system. Please save your detailed comments until the end of a task or the end of the session so we can discuss freely without the clock running.

I will read a task out loud and then say, "Begin". This is when you can begin doing the task. When you are done, say, "Done". I cannot stop the timer until you say, "Done".

We are recording audio and video of our session today, so we can review it later. All of the information that you provide will be kept confidential and your name will not be associated with your comments at any time.

Do you have any questions or concerns?

Please sign this non-disclosure agreement and consent for video recording this test.

For our records, we need to note the following demographic info.

Participant Demographic Questions

1. Gender: Male or Female?
2. Which of the following best describes your age? 20 to 29; 30 to 39, 40 to 49; 50 to 59, 60 to 69, 70 and older
3. What is your highest level of education?
4. What is your current position/role?
5. How many months professional experience in this position/role?
6. How many months of computer experience do you have?
7. How many months have you been using Doctorsoft EHR?
8. What other EHRs are you familiar with?
9. Do you have any Assistive Technology needs?

Post Usability Test Questions

1. What was your overall impression of this system?
2. What aspects of the system did you like most?
3. What aspects of the system did you like least?
4. Were there any features that you were surprised to see?
5. What features did you expect to encounter but did not see? That is, is there anything that is missing in this application?
6. Compare this system to other systems you have used.
7. Would you recommend this system to your colleagues?

Measure: § 170.315 (a.5) Demographics

Task 1: Record a patient's preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity

Take the participant to the starting point for the task: Patient Search

Instructions: Create a new patient. Using the supplied patient data sheet, enter the first name, last name, Address, Phone, email, follow up preference, Date of birth, Gender, Race, Ethnicity, preferred language, billing patient ID, and insurance info.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 231 Seconds

Optimal Path: *Optimal Path: Click New Patient > Enter First Name > Enter Last Name > Enter Address > Enter City > Enter State > Enter zip code > Enter phone type > Enter phone number > Enter email address > Select follow up preference > Enter Date of Birth > Enter Gender > Enter Birth Gender > Enter Sexual Orientation > Enter Gender Identity > Enter Race > Enter Ethnicity > Select Preferred Language > Enter Billing Patient ID > Choose Insurance Category > Click Insurance Details > Enter Self Pay > Click Save and Close > Click Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.5) Demographics

Task 2: Change the patient's preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity

Take the participant to the starting point for the task: Demographics

Instructions: Change patient demographics. Using the supplied data sheet, change the patient demographics to what is shown on this sheet.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 141 Seconds

Optimal Path: *Optimal Path: Change Date of Birth > Change Birth Gender > Change Sexual Orientation > Change Gender Identity > Change Race > Change Ethnicity > Change Preferred Language > Click Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.5) Demographics

Task 3: Display the patient's changed preferred language, date of birth, birth sex, race, ethnicity, sexual orientation, gender identity

Take the participant to the starting point for the task: Demographics

Instructions: View the patient demographics screen. Show the place on the screen where you made changes.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 3 Seconds

Optimal Path: *Optimal Path: Patient Search > Type patient name in Search box > Click demographics*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.2) Clinical Information Reconciliation and Incorporation

Task 4: Incorporate a CCDA

Take the participant to the starting point for the task: Demographics

Instructions: Upload a CCDA file to this patient's imported documents. The file is located on the desktop. The category is "Health Information .XML" and the Title is "file". The name of the file you will upload is file for usability testing

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 31 Seconds

Optimal Path: *Optimal Path: Imported Docs > Yes Save changes > Click New > Select a category > Enter Title > Click Choose Files > Navigate to desktop > Select file > Click Open > Click Upload > Click Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 Admin for purpose of test

Task 5: Create visit and check in patient

Take the participant to the starting point for the task: Imported Documents

Instructions: Create a visit with info from patient data sheet and check in the patient

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 36 Seconds

Optimal Path: *Optimal Path: Click Visits > Click New > Enter office visit location > Enter visit type > Enter provider > Click Check-In > Click Save > Click Main Exam*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 6: CDS Popup: At least one Demographic

Take the participant to the starting point for the task: Visits

Instructions: Go to main exam, view the CDS popup window that asks the user to attest all medications.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Main Exam*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support

Task 7: Access the following attributes for one of the triggered CDS interventions/resources: bibliographic citation, developer, funding source, release/revision date

Take the participant to the starting point for the task: Main Exam

Instructions: Click more info on this popup and point out the bibliographic citation, developer, funding source, release/revision date, AKA source, developer, and date of the popup window information. When you're done, click reviewed.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 15 Seconds

Optimal Path: *Optimal Path: Main Exam > Looking at main screen popups > Click More Info*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.7) Medication list
Task 8: Record a medication to the medication list

Take the participant to the starting point for the task: Main Exam

Instructions: The provider would like you to add to the list of current MEDICATIONS this patient is taking. Please enter the medication as listed on your patient data sheet: Lipitor 10mg 1 tablet daily

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 53 Seconds

Optimal Path: *Optimal Path: Medications > eRx > Type in medication 1 name > Drug Search > Select drug from list > Select Move to Current Meds > Exit/Close > Expand medication 1 > Save to medication List > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.7) Medication list
Task 9: Change a medication on the medication list

Take the participant to the starting point for the task: Medications

Instructions: The provider would like you to make a CHANGE to the patient's MEDICATION LIST. Change Lipitor to twice daily BID.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 50 Seconds

Optimal Path: *Optimal Path: Medications > eRx > Edit medication > Select frequency > Save Rx > Exit/Close> Delete old medication on current medication list > Expand medication with changes made > Save to Medication List > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.2) Clinical Information Reconciliation and Incorporation

Task 10: Import CCDA: Reconcile medications

Take the participant to the starting point for the task: Medications

Instructions: This patient was seen by a different doctor and has a list of medications to import from a CCDA file. Import medications from that file and add them to the Current Medications List.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 30 Seconds

Optimal Path: *Optimal Path: Medications > Import External Medications > Add Medications from CCDA > Select medication checkboxes > Click Send selected to NewCrop > Click NewCrop Medication List tab > Expand new Medications > Click Save to Medications List > Click save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 11: Infobutton lookup: medication list

Take the participant to the starting point for the task: Medications

Instructions: Look up detailed information on Metformin by clicking the blue infobutton and then click the link in English.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 19 Seconds

Optimal Path: *Optimal Path: Medications > Expand Metformin > Click infobutton > Click Ok*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 12: Infobutton detail lookup based on demographics

Take the participant to the starting point for the task: Medications

Instructions: Look up detailed information on Metformin in Spanish by clicking the blue infobutton and then click the link for Spanish language.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 13 Seconds

Optimal Path: *Optimal Path: Medications > Expand Metformin > Click infobutton > Click Ok*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.7) Medication list
Task 13: Display the active medication list

Take the participant to the starting point for the task: Medications

Instructions: The provider would like you to filter and display only the patient's Active Medication List

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 10 Seconds

Optimal Path: *Optimal Path: Medications > Filters > Active*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.7) Medication list
Task 14: Display the historical medication list

Take the participant to the starting point for the task: Medications

Instructions: The provider would like you to filter and display ALL the patient's Medications including discontinued.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Medications > Filters > All*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 15: Trigger CDS Popup from CCDA file: Reconcile medications

Take the participant to the starting point for the task: Medications

Instructions: Return to Main Exam to see the CDS popup for Diabetes medication resulting from importing external medications from CCDA file. Stop when you see the popup.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Main Exam*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.8) Medication allergy list

Task 16: Record a medication allergy

Take the participant to the starting point for the task: Main Exam

Instructions: The provider would like you to RECORD a LIST of MEDICATION ALLERGIES for this patient. Enter the following medication allergies: Vigamox with mild reaction of hives. Tropicamide with severe reaction of hives.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 85 Seconds

Optimal Path: *Optimal Path: Allergies > eRx > Click Allergy/Intolerance > Type in name of allergic substance 1 > Click Search > Select Allergy > Select Severity > Type reaction > Save Allergy/Add additional allergy > Type in name of allergic substance 2 > Search For Allergy > Select Allergy > Select Severity > Type reaction > Save Allergy > Click Exit/ Close > Expand Allergy 1 > Save to Allergies List > Expand Allergy 1 > Expand Allergy 2 > Save to Allergies List > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.8) Medication allergy list
Task 17: Change a medication allergy

Take the participant to the starting point for the task: Allergies

Instructions: The provider would like you to make a CHANGE to the patient's MEDICATION ALLERGY LIST. Change Vigamox to a severe reaction severity.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 53 Seconds

Optimal Path: *Optimal Path: Allergies > eRx > Click Allergy name > Change severity > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.2) Clinical Information Reconciliation and Incorporation

Task 18: Import CCDA: Reconcile allergies

Take the participant to the starting point for the task: Allergies

Instructions: This patient was seen by a different doctor and has a list of allergies to import from a CCDA file. Import allergies from that file and add them to the Current Allergies List with reaction hives.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 53 Seconds

Optimal Path: *Optimal Path: Allergies > Import External Allergies > Add Allergies from CCDA > Select Allergy checkboxes > Send selected to New Crop > Click Imported Allergy > Click name of allergy from search selection > Select severity > Save Allergy > Click Exit/Close > Click NewCrop Allergy List tab > Expand Allergy > Click Save to Allergies List > In bottom Current Allergies List expand the Allergy > Select reaction > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.8) Medication allergy list
Task 19: Display the active medication allergy list

Take the participant to the starting point for the task: Allergies

Instructions: The provider would like you to filter and display only the patient's Active Medication Allergy List

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Allergies > Filters > Active*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.8) Medication allergy list
Task 20: Display the historical medication allergy list

Take the participant to the starting point for the task: Allergies

Instructions: The provider would like you to filter and display ALL the patient's Medication Allergies including inactive.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Allergies > Filters > All*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 21: Trigger CDS Popup: Medication Allergy List

Take the participant to the starting point for the task: Allergies

Instructions: Go to the vision and pressure screen to see the allergy to medication used by practice popup. Stop when you see it.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Vision and Pressure screen*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 21.5: Trigger CDS Popup from CCDA file: Reconcile allergies

Take the participant to the starting point for the task: Vision & Pressure

Instructions: View the CDS popup window that results from importing external allergies from CCDA file

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 3 Seconds

Optimal Path: *Optimal Path: Vision & Pressure*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.6) Problem List
Task 22: Record a problem to the problem list

Take the participant to the starting point for the task: Main Exam

Instructions: The provider would like you to enter a problem into the patient's problem list. Enter Glaucoma Suspect H40.0, Both eyes OU exactly as shown on patient data sheet.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 45 Seconds

Optimal Path: *Optimal Path: Problem > New > Minimize Entered Findings > Favorites/Search box > Select Problem from List > Close> Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.6) Problem List
Task 23: Change a problem on the problem list

Take the participant to the starting point for the task: Problem & Plan

Instructions: The provider would like you to change a problem on the patient's problem list. Please change Glaucoma suspect H40.0 to Pregelaucoma, unspecified H40.00, exactly as shown

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 31 Seconds

Optimal Path: *Optimal Path: Problem > Favorites/Search box > Select changed Problem from List > Close> Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 24: Infobutton detailed information lookup: problem list

Take the participant to the starting point for the task: Problem & Plan

Instructions: Look up detailed information on Measles by searching for a new problem and clicking the blue infobutton.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 23 Seconds

Optimal Path: *Optimal Path: Problems > Click New > Type Measles > Click infobutton > Click ok*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.2) Clinical Information Reconciliation and Incorporation

Task 25: Import CCDA: Reconcile problems

Take the participant to the starting point for the task: Problem & Plan

Instructions: This patient was seen by a different doctor and has a list of problems to import from a CCDA file. Import E08.311 Diabetic Retinopathy in Both Eyes OU from that file and add to the Current Problems List. Stop when you click save.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 26 Seconds

Optimal Path: *Optimal Path: Problems > Import External Problems > Add Problems from CCDA > Expand Problems > Click Add to current problem list > Click Problem List tab > Select Eye > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 25.5: Trigger CDS Popup from CCDA file: Reconcile problems

Take the participant to the starting point for the task: Problem & Plan

Instructions: View the CDS popup window that results from importing external problems from CCDA file

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 1 Seconds

Optimal Path: *Optimal Path: Problem*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 26: Enter Condition for CDS Popup: Laboratory Test

Take the participant to the starting point for the task: Problem & Plan

Instructions: The provider would like you to enter a new diagnosis of E10.311 for this patient in both eyes OU.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 28 Seconds

Optimal Path: *Optimal Path: Problem > New > Minimize Entered Findings > Favorites/Search box > Select Problem from List > Close> Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 27: Trigger CDS Popup: Problem list

Take the participant to the starting point for the task: Problem & Plan

Instructions: View the CDS popup for Severity of Retinopathy and Presence or absence of Macular Edema and input Nonproliferative diabetic retinopathy and Macular edema absent. Stop when you click Save.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 1 Seconds

Optimal Path: *Optimal Path: View popup*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support

Task 28: Trigger CDS Popup : combination of at least 2 of the elements listed above

Take the participant to the starting point for the task: Problem & Plan

Instructions: View the CDS Popup for Communicate to PCP Dilated Macular Exam. Input “Communicate Dilated Macular/Fundus Exam to Diabetes Managing Physician”

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Main Exam > Vision and Pressure screen > Click Dilate left > Click Dilate right > Click Save > Click Main Exam > Click Problem > View Popup*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: “Very Difficult” (1) to “Very Easy” (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 29: Enter Condition for CDS Popup: Vital Signs

Take the participant to the starting point for the task: Problem & Plan

Instructions: The provider would like you to enter a new diagnosis of I10 Hypertension for the patient.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 16 Seconds

Optimal Path: *Optimal Path: Problem > New > Minimize Entered Findings > Favorites/Search box > Select Problem from List > Close> Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 30: Trigger CDS Popup: Laboratory Test

Take the participant to the starting point for the task: Problem & Plan

Instructions: Return to the main exam and see the CDS popups for Hemoglobin A1c, then click Reviewed

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 21 Seconds

Optimal Path: *Optimal Path: Main Exam > View Popup*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 31: Trigger CDS Popup: Vital Signs

Take the participant to the starting point for the task: Main Exam

Instructions: See the CDS popup for Blood Pressure Vital Signs then click Reviewed

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 9 Seconds

Optimal Path: *Optimal Path: Main Exam > View Popup*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.6) Problem List
Task 32: Display the active problem list

Take the participant to the starting point for the task: Problem Screen

Instructions: The provider would like you to filter and display only the patient's Active Problem List

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 9 Seconds

Optimal Path: *Optimal Path: Problem > Filters > Select Active*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.6) Problem List
Task 33: Display the historical problem list

Take the participant to the starting point for the task: Problem Screen

Instructions: The provider would like you to filter and display ALL the patient's Problems including active and inactive problems.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 9 Seconds

Optimal Path: *Optimal Path: Problem > Filters > Select All*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.3) CPOE – Diagnostic Imaging
Task 34: Record Imaging order via CPOE

Take the participant to the starting point for the task: Main Exam

Instructions: The provider would like you to RECORD the following diagnostic test. Please order the following test: OCT MAC OS

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 21 Seconds

Optimal Path: *Optimal Path: Dx Test > New > Select test > Select eye > Select test type > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: “Very Difficult” (1) to “Very Easy” (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.3) CPOE – Diagnostic Imaging
Task 35: Change Imaging order via CPOE

Take the participant to the starting point for the task: Dx Test

Instructions: The provider would like you to CHANGE the Diagnostic Imaging Order. Please change OCT MAC to OCT ON OS

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 14 Seconds

Optimal Path: *Optimal Path: Dx Test > Expand test > Highlight current test > Backspace > Input new test > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: “Very Difficult” (1) to “Very Easy” (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.3) CPOE – Diagnostic Imaging
Task 36: Display changed CPOE Imaging order

Take the participant to the starting point for the task: Dx Test

Instructions: The provider would like you to expand and display the diagnostic test that was changed.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 3 Seconds

Optimal Path: *Optimal Path: Dx Test > Expand test > View details*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.1) CPOE –Meds
Task 37: Record medication via CPOE

Take the participant to the starting point for the task: Main Exam

Instructions: After examining the patient, the provider decides to order the following medication. Please RECORD the MEDICATION ORDER as shown on your test data page for task 37. Pazeo 0.7% 1 drop in both eyes BID twice a day. 1 Milliliter with 0 refills. Finish by clicking Approve/Leave for staff

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 60 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Type in drug name > Click Drug Search > Select drug from list> Select Frequency > Save Rx > Take complete Rx to review page> Click Approve / Leave for staff > Exit/close.*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: “Very Difficult” (1) to “Very Easy” (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.1) CPOE –Meds

Task 38: Change medication via CPOE

Take the participant to the starting point for the task: Rx screen

Instructions: After ordering the medication the doctor decided to CHANGE the MEDICATION ORDER. Please CHANGE the frequency of the Pazeo eye drops to once daily. Finish by clicking Approve/Leave for staff.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 29 Seconds

Optimal Path: *Optimal Path: Rx> eRx> Locate the medication> Edit> Frequency > then change the frequency from QID to TID> Save Rx> Take complete Rx to Review Page>Approve & Leave for staff> Exit/Close*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: “Very Difficult” (1) to “Very Easy” (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.1) CPOE –Meds
Task 39: Display changed CPOE medication order

Take the participant to the starting point for the task: Rx screen

Instructions: The Provider would like you to Display the changed MEDICATION ORDER for Pazeo.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 13 Seconds

Optimal Path: *Optimal Path: Rx> View the details.*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.4) Drug-drug, drug-allergy interaction checks for CPOE

Task 40: Using CPOE, trigger a drug-allergy interaction by entering a new medication order

Take the participant to the starting point for the task: Rx screen

Instructions: The provider would like you to place a MEDICATION ORDER. This medication will have a drug-allergy interaction. Vigamox 0.5% eye drops. Stop when the interaction popup appears.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 19 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Type in drug name > Drug Search > Select drug from list > Confirm route > Select Frequency > Confirm # > Select Refills > Save Rx > Take complete Rx to review page > ALLERGY WARNING will display > Acknowledge > Close > Approve Leave For Staff > Click Exit/Close*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.3) e-Prescribing

Task 41: Create new prescription

Take the participant to the starting point for the task: Rx screen

Instructions: After examining the patient, the provider decides to order the following medication. Please RECORD the Prescription-MEDICATION ORDER for Xanax XR 2 mg tablet, extended release, 1 tablet by mouth daily, 30 Tablet, 0 refills. Finish by clicking Approve/Leave for Staff

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 50 Seconds

Optimal Path: *Optimal Path: Rx> eRx> Type in drug name> Drug Search> Select drug from list> Confirm route (Both eyes)> Select Frequency> Select packaging> Select Refills> Save Rx> Take complete Rx to review page> approve & leave for staff> Exit close.*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.3) e-Prescribing
Task 42: Change prescription (dosage or duration)

Take the participant to the starting point for the task: Rx screen

Instructions: After ordering the medication the doctor decided to CHANGE the MEDICATION ORDER. Please CHANGE the Xanax prescription by adding a refill. Finish by clicking Approve/Leave for Staff

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 24 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Locate the medication > Edit > Change the refills from 0 to 1 > Save Rx > Click Take complete Rx to Review Page > Click Approve & Leave for staff > Click Exit/Close*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.4) Drug-drug, drug-allergy interaction checks for CPOE

Task 43: Using CPOE, trigger a drug-drug interaction by entering a new medication order

Take the participant to the starting point for the task: Rx screen

Instructions: The provider would like you to place a MEDICATION ORDER. This medication will have a drug-drug interaction. Place the order to trigger the Drug-Drug intervention warning and stop when the popup appears. Crixivan 400 mg capsule.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 21 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Type in drug name > Drug Search > Select drug from list > ALLERGY WARNING will display > Acknowledge > Close > Confirm route (Both eyes) > Select Frequency > Select packaging > Select Refills > Save Rx > Take complete Rx to review page > Select Drug > Approve/Leave for Staff > Exit/Close.*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.4) Drug-drug, drug-allergy interaction checks for CPOE

Task 44: Adjust the severity level of a displayed drug-drug interaction

Take the participant to the starting point for the task: Rx screen

Instructions: Please click admin to go to the administrative screen for Eprescribe and change the checkbox setting for "Hide All Less Severe Drug Interactions (Show Only Contraindicated)

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 15 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Admin tab > Account Settings > Click Hide all Less Severe Drug interactions checkbox > Click Save Prescriber Settings > Exit/Close*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.3) e-Prescribing
Task 45: Request and receive medication history information

Take the participant to the starting point for the task: Rx screen

Instructions: For this next task, we are going to look at a different patient. Go to the patient list screen and choose patient Frank Notch. View the medications screen. Display the Surescripts benefit and drug history for the last 4 months.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 25 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Click Fill History:Surescripts > Click Request Prescription History > Click Add to Current Meds > Switch tabs*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.3) e-Prescribing
Task 46: Receive fill status notification

Take the participant to the starting point for the task: Rx screen

Instructions: Look at the magnifying glass details for Simvastatin 20mg prescribed 11/2/2017. Locate the Fill detail section and point it out with the mouse.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 21 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Click magnifying glass >*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.3) e-Prescribing
Task 47: Cancel prescription

Take the participant to the starting point for the task: Rx screen

Instructions: Look at the magnifying glass details for Catapres 0.1 mg tablet prescribed 11/2/2017. Locate the "Notify pharmacy: cancel previously authorized refills" button. Then locate the Cancel Detail section showing previous cancel activity and point it out and then say done.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 13 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Click magnifying glass > Click Notify pharmacy:cancel previously authorized refills*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.3) e-Prescribing

Task 48: Refill prescription

Take the participant to the starting point for the task: Rx screen

Instructions: For this task, we are going to look at a different patient. Return to the patient search screen. Search for patient Elizabeth Itasca. Locate her eRx medication list and view the details for Lanoxin prescribed on 11/2/2017 with 1 refill. Locate the Pharmacy Renewal request information and point it out and then say done.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 13 Seconds

Optimal Path: *Optimal Path: Rx > eRx > Click magnifying glass >*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.14) Implantable Device List
Task 49: Record UDI

Take the participant to the starting point for the task: Main Exam

Instructions: Return to the patient you entered. Input the supplied Implantable Device number from the Patient data sheet into this patient's chart.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 50 Seconds

Optimal Path: *Optimal Path: Procedures > Implantable devices > New > Input Implant date > Input UDI > Input eye > Input Provider > Click Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.14) Implantable Device List
Task 50: Change UDI Status

Take the participant to the starting point for the task: Implantable Device

Instructions: Change the Implanted device status to Removed

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Click status drop down menu > Change selection to removed > Click Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.14) Implantable Device List
Task 51: Access UDI, device description, identifiers, and attributes

Take the participant to the starting point for the task: Implantable Device

Instructions: Expand and click update for the Implanted device information to see description and other information. Stop after clicking save.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 8 Seconds

Optimal Path: *Optimal Path: Click Update > Click Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.2) CPOE – Labs

Task 52: Record Lab order via CPOE

Take the participant to the starting point for the task: Main Exam

Instructions: The provider would like you to order a lab test for this patient. Please enter a lab order for CBC W Auto Differential panel - Blood. Test type is Lab.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 25 Seconds

Optimal Path: *Optimal Path: Lab & Rad Test > New > Input Test > Input test type > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.2) CPOE – Labs
Task 53: Change Lab order via CPOE

Take the participant to the starting point for the task: Lab/Rad test

Instructions: The provider would like to make CHANGES to the LABORATORY ORDER. Please change the test type to Hemoglobin A1c in Blood

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 9 Seconds

Optimal Path: *Optimal Path: Lab & Rad Test > Locate lab order > Expand Lab Order > Highlight the name of lab order> Backspace > Input changed test order > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: “Very Difficult” (1) to “Very Easy” (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.2) CPOE – Labs
Task 54: Display changed CPOE Lab order

Take the participant to the starting point for the task: Lab/Rad test

Instructions: The provider would like to you to Expand and Display the changed laboratory order.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 4 Seconds

Optimal Path: *Optimal Path: Lab & Rad Test > Expand Lab order*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 Admin for purpose of test
Task 55: Smoking status, Sign chart and check out patient

Take the participant to the starting point for the task: Main Exam

Instructions: Enter smoking status of Never smoker, then Sign the chart and check out the patient.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 31 Seconds

Optimal Path: *Optimal Path: Click Social History > Select Smoking status > Click Save > Click Main Exam > Click Sign Chart > Click OK > Click Patient name in Patient list > Click Check Out > Click Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (b.2) Clinical Information Reconciliation and Incorporation

Task 56: Generate a new CCDA with reconciled data

Take the participant to the starting point for the task: Patient List

Instructions: Export a new CCDA file for this patient containing overall visits. Stop after clicking download.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 19 Seconds

Optimal Path: *Optimal Path: Demographics > Click Export > Click Export Patient Record (CCDA) > Click Download > Save to computer desktop*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*

Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 57: Trigger CDS Popup: Medication list

Take the participant to the starting point for the task: Rx screen

Instructions: For the last task we are going to switch patients to Susanne Adirondack in the Patient List. Save to current medications list Metformin ER 750 mg tablet, extended release 24 hr.

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 53 Seconds

Optimal Path: *Optimal Path: Medications > eRx > Type in medication 1 name > Drug Search > Select drug from list > Select Move to Current Meds > Exit/Close > Expand medication 1 > Save to medication List > Save*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Measure: § 170.315 (a.9) Clinical Decision support
Task 58: Trigger CDS Popup: Medication list

Take the participant to the starting point for the task: Rx screen

Instructions: Return to Main Exam to see the CDS popup for Diabetes medication

Success:

- Easily completed
- Completed with difficulty or help :: Describe below
- Not completed

Comments:

Task Time: _____ Seconds

Optimal Task Time: 6 Seconds

Optimal Path: *Optimal Path: Main Exam*

- Correct
- Minor Deviations / Cycles :: Describe below
- Major Deviations :: Describe below

Comments:

Observed Errors and Verbalizations:

Comments:

Rating: *Show participant written scale: "Very Difficult" (1) to "Very Easy" (5)*
Overall, this task was: _____

Administrator / Notetaker Comments:

Appendix 5: SYSTEM USABILITY SCALE QUESTIONNAIRE

Post-Test System Usability Survey

Participant # _____

Strongly
disagree

Strongly
agree

1. I think that I would like to use this system frequently

1	2	3	4	5

2. I found the system unnecessarily complex

1	2	3	4	5

3. I thought the system was easy to use

1	2	3	4	5

4. I think that I would need the support of a technical person to be able to use this system

1	2	3	4	5

5. I found the various functions in this system were well integrated

1	2	3	4	5

6. I thought there was too much inconsistency in this system

1	2	3	4	5

7. I would imagine that most people would learn to use this system very quickly

1	2	3	4	5

8. I found the system very cumbersome to use

1	2	3	4	5

9. I felt very confident using the system

1	2	3	4	5

10. I needed to learn a lot of things before I could get going with this system

1	2	3	4	5

Appendix 6: Task Patient Data

Task 1: Patient to enter

First Name: PartXXXXX (where XXXXX is spelled out participant number)

Last Name: Usability

Address: 17750 Sherman Way, Reseda, CA 91335

Phone type: Home

Phone number: 818-342-8000

Email address: info@doctorsoft.com

Follow up preference: Phone

Date of Birth: 01/31/1978

Gender: Female

Birth Gender: Female

Sexual orientation: Straight or heterosexual

Gender identity: Identifies as Female

Race: Decline to state

Ethnicity: Decline to state

Preferred language: English

Billing Patient ID: 1000123

Insurance: Self Pay

Insurance Company Name: Self Pay

Task 2: Change patient

Change to Date of Birth: 01/21/1978

Remains the same Gender: Female

Change to Birth Gender: Male

Change to Sexual orientation: Don't know

Change to Gender identity: Genderqueer, neither exclusively male or female

Change Race: White European

Change Ethnicity: Hispanic or Latino

Preferred language: Spanish; Castillian

Task 4: Upload CCDA file to imported documents

Category: Health Information .XML

Title: File

Filename: File for usability testing

Task 5: Create a visit and check in patient with

Office: ClinicOne1

Visit Type: Exam

Provider: Anna Bates

Referrer: None

Task 8: Enter medication

Lipitor 10mg, 1 tablet daily, leave all other fields as is

Task 9: Change medication
Change Lipitor to twice daily BID

Task 16: Record Medication Allergy
Patient is allergic to Vigamox, Mild reaction with hives
Patient is allergic to Tropicamide, Severe reaction with hives

Task 17: Change Medication Allergy
Change Vigamox to Severe reaction

Task 18: Import External Allergies
Save both Allergies to Current Allergies List with reaction-Hives.

Task 22: Record Problem to Problem List
H40.0 Glaucoma suspect in Both eyes OU

Task 23: Change Problem on Problem list
Change to H40.00 Proliferative, unspecified in Both eyes OU

Task 24: Search for Measles and view Infobutton

Task 25: Import Problem from CCDA file
E08.311 in Both eyes OU

Task 26: Record Problem to Problem List
E10.311 in Both eyes OU

Task 27: View CDS Popup and input info
Nonproliferative Diabetic Retinopathy in Both eyes
Macular Edema Absent in Both eyes
Then click Save

Task 28: View CDS popup and input info
Input "Communicate Dilated Macular/Fundus Exam to Diabetes Managing Physician"

Task 29: Record Problem on Problem List
I10 Hypertension N/A

Task 34:
Order test OCT MAC OS, Rad/Imaging

Task 35:
Change OCT MAC to OCT ON OS

Task 37: Write Prescription and Approve/Leave for Staff
Pazeo 0.7% BID 1 drop in both eyes twice a day. 1 Milliliter with 0 refills. Finish by clicking Approve/Leave for Staff

Task 38: Change Written Prescription
Edit Pazeo frequency to Daily

Task 40: Write Prescription and Approve/Leave for Staff
Enter a prescription for Vigamox 0.5%

Task 41: Enter a prescription
Enter a prescription for Xanax XR 2 mg tablet, extended release, 1 tablet by mouth daily, 30
Tablet, 0 refills

Task 42: Change prescription
Add a refill to Xanax

Task 43: Prescribe medication that triggers drug-drug interaction alert
Prescribe Crixivan 400 mg capsule

Task 49: Record UDI:
Implant Date: 04/21/2015

UDI: (01)00643169007222(17)160128(21)BLC200461H

Eye: OS

Provider: Anna Bates

Status: Active

Task 50: Change UDI
Change status to Removed

Task 52: Record Lab Order
CBC W Auto Differential panel – Blood

Task 53: Change Lab Order
Hemoglobin A1c in Blood

Task 55
Enter “Never smoker” into the Social History screen

Task 57
On patient Susanne Adirondack, save Metformin ER 750 mg tablet, extended release 24 hr to
medications list.

Task 58
Return to main exam to view CDS popup for diabetes medication