Usability Test Report

Medical Office Force V1.0

Report based on NISTIR 7742 Format for Usability Test Reports

Date of Test: February 17-19, 2025

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1. Executive Summary

A usability test of Medical Office Force Version 1 was conducted between February 17 and February 19 of 2025. It was performed remotely by Medical Office Force Health, LLC. The NISTIR 7742 User Centre Design Process was utilized in the design of the usability test and its report. **NIST Interagency Report (NISTIR) 7742** provides a comprehensive definition and implementation considerations for **Attribute-Based Access Control (ABAC)**, a security model that grants or denies access based on attributes (user, resource, environment, etc.), rather than predefined roles or identities. This is the common industry standard for a usability test report. The purpose of the exercise was to test and validate the usability of the current user interface and provide evidence of usability in the EHR User Test (EHRUT). The ten participants tested and matched target demographic criteria as prospective users of the EHR. The EHRUT utilized simulated but representative tasks of necessary health care job performances.

Medical Office Force Version 1 was developed with a goal of creating a new way to experience, interact, and deliver care while meeting the specific requirements of an ONC Certified Electronic Health Record. A unique task architecture was implemented on how users capture, modify, and interact with patient health information. With this in mind, the EHRUT provided limited to no explanations to our test user participants with limited to no prior experience. This was done to specifically grade new user EHR usability. Throughout the entire User Cantered Design process, we prioritized safety-enhanced design.

Ten participants with limited to no experience was tasked with completing the following tasks to be frequently used in the Medical Office Force EHR.

Table 1 – Testing Scenarios

Task 1	§ 170.315 (a)(5) Demographics	Add\Edit
Task 2	§170.315 (a)(1) Computerized provider order entry (CPOE) – medications	Add\Edit
Task 3	§ 170.315 (a)(2) Computerized provider order entry (CPOE) – laboratory	Add\Edit
Task 4	§ 170.315 (a)(3) Computerized provider order entry (CPOE) – diagnostic imaging	Add\Edit
Task 5	§ 170.315 (a)(4) Drug-drug, drug-allergy interaction checks for CPOE	Add\Edit
Task 6	§ 170.315 (a)(14) Implantable device list	Add\Edit

Each participant was greeted and thanked by the Moderator for participating and introduced to the experienced Data Collector. The participant joined virtually and was briefed that the session would last approximately 45 minutes. Each participant was asked to complete tasks utilizing the EHR system and then to complete questions indicating the ease or difficulty of functionality, likes or dislikes, and suggestions for possible improvements. The Moderator clarified no assistance would be given during the test for questions about or suggestions in the use of the system itself.

The test sessions were recorded, and the experienced Data Collector timed tasks and documented user performance. Key metrics tracked included task success, task errors, path deviations, task time, task rating, and System Usability Scale (SUS) score.

2. INTRODUCTION

The EHRUT tested for this study was MOF V1. Medical Office Force is designed to support and streamline healthcare providers' workflow in the Post Acute/Long Term Care (PALTC) and clinic/ambulatory settings. The usability testing focused on realistic tasks performed on a daily basis around collecting, modifying, and writing different actions related to demographics, labs, and medications. The Medical Office Force workflow is designed to prioritize efficiency while providing care with unified views of patient information.

The purpose of this study was to test and validate the usability of the current user interface and provide evidence of usability in the EHRUT. To this end, measures of effectiveness, efficiency, and user satisfaction were captured during the usability testing.

3. METHOD

3.1 PARTICIPANTS

A total of 10 participants were tested on the EHRUT Medical Office Force. Participants in the test included Physicians, NP, RN, LPN, and medical office staff. Participants had no direct connection to the development of or the organization producing the EHRUT Medical Office Force. Participants were NOT given the opportunity to have the same orientation and level of training as the actual end users would have received.

Participants had a mix of backgrounds and demographic characteristics as noted below.

Table - Participant Demographics

Gender	Age Range	Education	Occupation /Role	Prof. Exp. (Months)	Comp. Exp. (Months)	Product Experience	Assistive Technology Needs
Male	20-29	Some College Credit- No Degree	Medical Office Staff	48	180	0	no
Male	30-39	Bachelor's degree	Medical Office Staff	36	180	0	no
Male	30-39	Some college credit, no degree	Medical Office Staff	12	204	0	no
Male	20-29	Trade/technical/vocational training	Medical Office Staff	19	144	0	no
Male	30-39	Bachelor's degree	Medical Office Staff	36	180	0	no
Female	50-59	Bachelor's degree	Medical Office Staff	360	120	0	no
Male	60-69	Doctorate degree (e.g., MD, DNP, DMD, PhD)	Medical Office Staff	360	240	0	no
Male	30-39	Trade/technical/vocational training	Medical Office Staff	240	480	0	no
Male	70-79	Doctorate degree (e.g., MD, DNP, DMD, PhD)	Medical Office Staff	480	360	0	no
Male	60-69	Trade/technical/vocational training	Radiologist	480	360	0	no

Ten participants took part in the usability test with no participants failing to show up for the study. Participants were scheduled for 45-minute sessions. Time was allotted to set systems for proper testing conditions as well as to debrief the tester after completion of the test. Standardized forms were used to collect and organize the testers' demographics.

3.2 STUDY DESIGN

The objective of this test was to discover areas where the system performed well in effectiveness, efficiency and in user satisfaction while noting areas where the system fell short or failed in the usability by the test participant. Data collected from the test may be used in future tests as a baseline when new versions of the EHR may be written.

During the usability test, only Medical Office Force EHR was tested. Each participant performed the test on their own equipment, in a place of their choosing, and with the same provided instructions. The system was evaluated as noted above by observing and recording the participants' test for:

- Tasks completed successfully in the allotted time
- Time to complete the task
- Number and type of errors performed by the participant
- Number of deviations from the task performance path
- Comments from the participants
- Rating for ease/difficulty in performing the task
-

3.3 TASKS

Tasks were created that would be representative of the activity and work a user might do with Medical Office Force EHR. Each participant was given the set of tasks below. The tasks were chosen because of their importance with regard to safety and the frequency of use in the system. The participants were welcomed to ask questions prior to and after the timed tasks, and to refer to the written instructions. Below are the scenarios that are related to the ONC Criteria tested.

Task 1: Enter Demographics

Navigated to the menu for creating a new patient.

Optimal Path: Login to Medical Office Force-> Navigate to the Add Patient Menu

Enter First Name, Last Name, Gender, DOB, Ethnicity, Race and other details.

Success:

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*
3. *Not Completed []*

Comments: We have been doing this very frequently and looks easy for me

Task Time: 120 secs

Task 2: Modify Demographics

Navigated to the menu for modifying an existing patient.

Optimal Path: Login to Medical Office Force-> Navigate to Patient Dashboard-> Click on the patient Name to go to Patient Profile -> Click on Patient Details button

Change the DOB and Ethnicity and save. Check the data to see the change.

Success:

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*

3. *Not Completed []*

Comments: The navigation was quite easy and no problem faced

Task Time: 60 secs

Task 3: Enter Implantable Device

Navigated to the menu for adding implantable device.

Optimal Path: Navigate to Patient Dashboard-> Click on the patient Name to go to Patient Profile-> Click on Patient Details button-> Click on Implantable Device Icon

Add an implantable Device and save. Check the data to see if batch number, serial number, expiration date and Device Identifier has got added. Also check to see the SNOMED CT Code and Description

Success:

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*
3. *Not Completed []*

Comments: The icon may be made more user friendly

Task Time: 50 secs

Task 4: Enter Allergies

Created an Encounter to navigate to the chart.

Optimal Path: Navigate to Appointments Dashboard-> Go to the overflow menu-> Click on Office Note Visit

Navigate to the SOAP tab and enter Allergies with Onset Date.

Enter Penicillin as one of the Allergies.

Success:

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*
3. *Not Completed []*

Comments: Very easy search screen to enter allergies.

Task Time: 200 secs

Task 5: Enter Diagnosis

Optimal Path: Navigate to Appointments Dashboard-> Go to the overflow menu-> Click on Office Note Visit

Navigate to the SOAP tab and enter Diagnosis.

Enter Penicillin as one of the Allergies.

Success:

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*
3. *Not Completed []*

Comments: The diagnosis module works very well.

Task Time: 50 secs

Task 6: Enter and Modify Medications

Optimal Path: Navigate to Appointments Dashboard-> Go to the overflow menu-> Click on Office Note Visit

Navigate to the SOAP tab and click on Medications link. Open RCOPIA.

Add GLUCOPHAGE (500 mg), Sig: One tablet by mouth every 12 hour for 4 days. Save and check the data showing on RCOPIA. Close RCOPIA and check the data is showing on MedicalOfficeForce EHR.

Open RCOPIA again Edit the medication that have just been entered. Change the Sig: One tablet every 6 hours for 4 days. Close RCOPIA and check the data is showing on MedicalOfficeForce EHR.

***Success*:**

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*
3. *Not Completed []*

Comments: The Medication is entered through RCOPIA. The workflow seamlessly integrates with the EHR.

Task Time: 180 secs

Task 7: View Drug - Drug allergy interactions

Optimal Path: Navigate to Appointments Dashboard-> Go to the overflow menu-> Click on Office Note Visit

Navigate to the SOAP tab and click on Medications link.

Try to enter Amoxicillin as a medication and check the alert due to the Allergy entered in Step 4.

***Success*:**

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*
3. *Not Completed []*

Comments: The task completed without any help. The alert was shown clearly

Task Time: 40 secs

Task 8: Enter and Modify Radiology and Lab Orders

Optimal Path: Navigate to Appointments Dashboard-> Go to the overflow menu-> Click on Office Note Visit

Navigate to the SOAP tab and click on Orders link. Search for CPT Code 70450 and add Ct head/brain w/o dye, choose the ICD code for the test and put order date as 2/19/2025.

Edit the same order and search for 74022 and add X-ray exam complete abdomen, choose ICD Code for the test. Save the order and print the requisition to check both the orders on the printed slip.

Choose Accureference as the Lab and choose Blood Culture as a test and save. Edit the same order and choose Accureference as the lab and choose Lipid Panel as a test and save. Print the requisition to check both the orders on the printed slip.

Check for the Results of Blood Culture entered on the last visit 5 days ago in the Lab Results Panel.

***Success*:**

1. *Easily Completed [X]*
2. *Completed with Difficulty or help []*
3. *Not Completed []*

Comments: The Radiology Order Search works very well.

Task Time: 240 secs

PROCEDURE

Upon initiation of the testing session, participants were greeted and their identity was confirmed. They were asked to review the Consent for Research and Development document and return via Dropbox Sign.

Two staff members participated in the test, one to moderate and one to log data. The Moderator ran the testing session including administering instructions and tasks. The Data Logger took notes on task success, error, path deviations, timing of the task, and recording the session through shared video. Participants were instructed to perform the tasks (Appendix 4) as quickly as possible making as few errors and deviations as possible; without assistance from the staff members; and without comments while performing the task.

For each task, the participants were given a written copy of the task. Task timing began once the administrator stated to begin the task, and timing stopped once the participant indicated s/he had finished and/or the task was completed.

Following the entire testing session, the participant was asked to fill out a post-test questionnaire and the System Usability Scale (SUS). (Appendix 5)

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

Participants were thanked for their time, recording was stopped, and the testing session was concluded.

3.5 TEST LOCATION & ENVIRONMENT

The tests were performed in the participants' location of choice. Locations were representative of and simulated the environment they would normally perform their work activities in an EHR. The test was performed utilizing video technology while monitoring the participant's screen and recording the audio. The equipment used by the participant was their normal work computer or laptop and mouse or keyboard. The screen magnification was set to no more than 100% for optimal EHR viewing. Video invitation was sent to the participant by the Moderator or Data Collector and assistance was given as needed to arrive at the test starting point. The EHR was accessed through Google Chrome or Microsoft Edge browser. Assistance was given to the participant to gain access and navigate through security measures.

3.6 TEST FORMS & TOOLS

Various documents and electronic platforms were used to perform and record this test as well as

participant demographic data and test data.

Documents:

- Consent for Research and Development (Appendix 2)
- Post Test Questionnaire (Appendix 5)
- System Usability Scale SUS (Appendix 5)
- Participant Demographic Questionnaire (reference results on demographic chart)
- Moderator Script (Appendix 3)

Platforms:

- Jitsi, Google Chrome or Microsoft Edge Browser

3.7 PARTICIPANT INSTRUCTIONS

The participants were emailed a Volunteer User Packet prior to their individual testing session. This included the orientation and instructions which were read to the participants by the Moderator. Audio and video were recorded for each participant's session. Samples of the written instructions are available in Appendix (3) and Appendix (4).

3.8 USABILITY METRICS

According to the *NIST Guide to the Processes Approach for Improving the Usability of Electronic Health Records*, EHRs should support a process that provides a high level of usability for all users. The goal is for users to interact with the system effectively, efficiently, and with an acceptable level of satisfaction.

To this end, metrics for effectiveness, efficiency, and user satisfaction were captured during the usability testing.

The goals of the test were to assess:

1. Effectiveness of Medical Office Force by measuring participant success rates and errors

2. Efficiency of Medical Office Force by measuring path deviations and task time

3. Satisfaction with Medical Office Force by measuring ease of use ratings and SUS score

3.9 DATA SCORING

The following table [3] details how we scored tasks, evaluated errors, and analysed time data.

Table 3: Details of Rationale and Scoring

Measures	Rationale and Scoring
Effectiveness: Task Success	A task was counted as a "success" if the user was able to achieve the correct outcome within target task time. The total number of successes are calculated for each task and then divided by the total number of times that task was attempted. The results are provided as a percentage. Task times were recorded for successes. Observed task times divided by the optimal time for each task is a measure of optimal efficiency. Optimal task performance was generated by timing experienced users executing the same steps/tasks as participants. Target task times used for the task times in the instructions are defined by taking the optimal performance and multiplying it by 1.25 allowing for some buffer time because participants lack experience in task architecture performed.
Effectiveness: Task Failures	If the participant abandoned the task, or could not perform the overall task, or reached the end of the allotted time without successful completion, the task was counted as a "Failure." No task times were taken for failures. Errors were counted if the overall task was successful but the task was not executed properly. The total number of errors was calculated for each task and then divided by the total number of participants. This should also be expressed as how error-prone the task is.
Efficiency: Task Deviations	The participant's path through the application is recorded. Deviations occur if the participant, for example, visits an incorrect screen, clicks on an incorrect menu item, follows an incorrect link, or interacts incorrectly with an on-screen control. This path is 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.
Efficiency: Task Time	Each task is timed from when the administrator says "Begin: until the participant says "Done" or when the participant stopped performing the task. Only times for tasks that are successfully completed are included in the average task time analysis. Average time per task is calculated for each task. Variance measures (standard deviation and standard error) are also calculated. Optimal task time, as benchmarked by experienced users, is recorded when constructing tasks. Target task times used for the times in the instructions are defined by taking the optimal performance and multiplying it by 1.25 allowing for some buffer time because participants lack experience in tasks performed. The task completion time of the observed task recordings was divided by the optimal task performance time to provide a ratio of the task time.
Satisfaction: Task Rating	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. To measure participants' confidence in and likeability of the EHRUT overall, the testing team administered a series of post-test questions included in Appendix (5) as well as the System Usability Scale (SUS) questionnaire

4. RESULTS

4.1. DATA ANALYSIS AND REPORTING

The results of the usability test were calculated according to the methods specified in the Usability Metrics section above. The results should be seen in light of the objectives and goals outlined in the Study Design. The data should yield actionable results that, if corrected, yield material, positive impact on user performance.

Table 4: Results of Each Measure

Task Description	No Of Participants	Task Success Mean %	Path Deviation			Task Time						
			Path Deviations Observed/ Optimal	Optimal No. Of Steps	Observed No. of Steps	Mean SD Secs	Deviations Observed	Optimal Time (secs)	Task Errors - Standard Deviation (%)	Errors %	Ratings Easy =5	Task Rating Standard Deviation
Task 1: Enter Demographics	10	98	2	26	27	165	67	120	2.5	2.2	4	0
Task 2: Modify Demographics	10	95	5	5	5	60	23	60	9.5	4.5	4	.63
Task 3: Enter Implantable Device	10	96	4	10	11	96	42	50	0	0	5	0
Task 4: Enter Allergies	10	96	4	10	11	97	47	50	4.7	3.6	4	.56
Task 5: Enter Diagnosis	10	96	4	6	7	66	34	50	6.9	4.2	4	.42
Task 6: Enter and Modify Medications	10	93	7	13	14	97	42	180	6.6	7.3	4	.84
Task 7: View Drug - Drug allergy interactions	10	95	5	13	14	81.7	29	40	5.5	4.8	4	.87
Task 8: Enter and Modify Radiology and Lab Orders	10	93	7	15	16	144	74	240	6.9	6.9	4	1.13

4.2. DISCUSSION OF THE FINDINGS

A.1 Medications

Efficiency

- Overall users finished tasks within allotted time and did not experience any burden of data entry. The deviations experienced were a result of unfamiliarity with the task architecture.

Effectiveness

- Despite varying degrees of previous digital technology experience, users had a > 90% success rate and felt they were informed and understood exactly how to enter the prescription. The error experienced was a result of lack of familiarity with reviewing a medication order.

Satisfaction

- Out of a scale of 1 = very hard, 5 = easy, user satisfaction scored 4 or above for each task

A.2 LAB Orders and A3 Diagnostic Imaging

Efficiency

- Overall users finished tasks within allotted time having initial difficulty in searching the tests. The process eased out with time and familiarity.

Effectiveness

- Despite the initial difficulty with search, users had a > 95% success rate and the module is easy to use.

Satisfaction

- Out of a scale of 1 = very hard, 5 = easy, user satisfaction scored 4 or above for each task

A.5 Demographics

Efficiency

- The task was familiar to the users and everyone finished the task within the time.

Effectiveness

- The familiarity with the task led to a 98% success rate with minimal error.

Satisfaction

- Out of a scale of 1 = very hard, 5 = easy, user satisfaction scored 4 or above for each task.

A.14 Implantable Device

Efficiency

- The task was not familiar to the users but the workflow became familiar and the tasks were completed with minor deviations.

Effectiveness

- The task was completed with a >90% success rate with no error.

Satisfaction

- Out of a scale of 1 = very hard, 5 = easy, user satisfaction scored 4 or above for each task.

Major Takeaways

The volunteer user participants were purposefully selected to have minimal, if any experience with the new EHR functionality. A common theme of “easy to learn”, “intuitive product”, “user friendly”, and “now I’ve learned what to do'' were made by multiple participants in the Post Test Questionnaire.

This helped to validate the system developers' goal of quick learning and easy system utilization by its users.

Volunteer user participants also expressed liking the organization of the task and system functionality such as “Favourites Panel for all the components”, “important patient data was upfront and readily seen”, and “able to navigate multiple places from the main summary page as well as the top bubble”.

Areas for Improvement

Volunteer user participants expressed concerns regarding “the icons in the patient profile” and issues related to “searching of radiology orders”. Suggestions were taken for possible improvements in future versions. Occasional path deviations were noted by the testing staff due to the patient task header and will be taken to the developers for improvements in future versions.

4.3. SUS Score

SUS Questions and Score

Question	Type	Score
1. I think that I would like to use this system frequently	Positive	5
2. I found the system unnecessarily complex	Negative	1
3. I thought the system was easy to use	Positive	5
4. I think that I would need the support of a technical person	Negative	1
5. I found the various functions in this system were well integrated	Positive	4
6. I thought there was too much inconsistency in this system	Negative	2
7. I would imagine that most people would learn to use this system very quickly	Positive	4
8. I found the system very cumbersome to use	Negative	2
9. I felt very confident using the system	Positive	4
10. I needed to learn a lot of things before I could get going	Negative	3

*SUS Score = (5-1+5-1+4-1+4-1+4-1)+(5-1)+(5-1)+(5-2)+(5-2)+(5-3) =33 * 2.5=82.5*

5. APPENDICES

5.1 Appendix 1. PARTICIPANT DEMOGRAPHICS

5.2 Appendix 2. INFORMED CONSENT

Informed Consent

Medical Office Force EHR would like to thank you for participating in this study. The purpose of this study is to evaluate an electronic health records system. You will be asked to perform several tasks using the prototype and give your feedback. The study will last about 30 minutes.

Agreement

I understand, that the study is being conducted by HealthWealthSafe on behalf of MedicalOfficeForce, and agree that as a voluntary participant in the present study conducted by HealthWealthSafe, 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 HealthWealthSafe.

I understand and consent to the use and release of the videotape by HealthWealthSafe. 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 HealthWealthSafe without further permission.

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

I understand and agree that the data collected from this study may be shared with others outside of HealthWealthSafe. I understand and agree that data confidentiality is assured, because only deidentified data i.e., identification numbers not names – will be used in analysis and reporting of the results.

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

I understand that I am volunteering for this study and no monetary or other compensation is being offered.

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: _____

5.3 Appendix 3. EXAMPLE OF MODERATOR'S GUIDE

Orientation by Moderator and Task 1

Moderator: (Read Orientation)

Thank you for participating in this study. Our session today will last approximately 30 minutes. During that time, you will be looking at an electronic health record system. I will ask you to complete a few tasks using this system and answer some questions. We are interested in how easy or difficult this system is to use, what you like in the system, and how we could improve it. You will be asked to complete these tasks independently, trying to do them as quickly as possible and with the fewest possible errors or deviations.

Do not do anything more than asked. If you get lost or have difficulty, I cannot answer or help you with the system itself. Please save your comments until the end of a task or the end of the session. At that point, we can discuss your comments or questions freely. Please be as honest as you can in your comments. This test is not a reflection of you but of the EHR. Any positive or negative comments will only help to improve the system. The product you will be using today is Medical Office Force. Some of the data may not make sense as it is demo data. We are recording the audio and screenshots of our session today. The information that you provide will be kept confidential and your name will not be associated with your comments at any time. Please have your instructions printed and at your fingertips or a blank piece of paper. Do you have any questions or concerns?

Moderator: We will now begin with *Task 1: First Impression*

I will navigate you to the EHR Medical Office Force your demo patient's chart, but do not click on anything once we have arrived. Please notice the patient demographic summary at the top and review the patient 's detailed information. You will have 1 minute to record your comments about what you notice. Include likes/dislikes, what you expect to do from this page, its organization, the ease of understanding for how to possibly navigate the EHR, etc.

Moderator: (Navigate the test user to their demo patient) Please start your 1 minute First Impression now. Remember, do not click on anything. Remove your hands from the keyboard.

1-minute lapses, and Moderator will call "Time". Please read your comments for our recording.

Task 2: *Demographics a5*

Moderator: Please refer to the directions for completing Task 2 in your handout. There are two sections to this task. Each section will be timed separately. I will give you a few seconds to review the instructions for each section before timing starts. After completion of each section, you will have a few seconds to grade the section by ease/difficulty of completion.

Please write and state your grade. Please review directions for the first section and let me know when you are ready to proceed. (give about 30s) Please start (and begin timing) (User calls Done or set time elapses and Moderator will call “Time”)

Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section. Please review directions for the second section and let me know when you are ready to proceed. (give about 30s) Please start (and begin timing) (User calls Done or set time elapses and Moderator will call “Time”)

Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section.

Task 3: Implantable Device a14

Moderator: Please refer to the directions for completing Task 3 in your handout. Please refer to the directions for completing Task 3 in your handout. There are one sections to this task. After completion of the task grade the section by ease/difficulty of completion.

Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section.

Task 4: Medications a1

Moderator: Please refer to the directions for completing Task 4 in your handout. There are three sections to this task. Each section will be timed separately. I will give you a few seconds to review the instructions for each section before timing starts. After completion of each section, you will have a few seconds to grade the section by ease/difficulty of completion. Please write and state your grade. Please review directions for the first section and let me know when you are ready to proceed (give about 30s). Please start (and begin timing) (User calls Done or set time elapses and Moderator will call “Time”)

Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section. Please review directions for the second section and let me know when you are ready to proceed. (give about 30s) Please start (and begin timing) (User calls Done or set time elapses and Moderator will call “Time”)

Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section. Please review directions for the third section and let me know when you are ready to proceed. (give about 30s) Please start (and begin timing) (User calls Done or set time elapses and Moderator will call “Time”) Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section.

Taks 5: Laboratory and Diagnostic Imaging a2 and a3

Moderator: Please refer to the directions for completing Task 5 in your handout. There is three sections to this task. I will give you a few seconds to review the instructions for this section before timing starts. After completion of each section, you will have a few seconds to grade the section by ease/difficulty of completion. Please write and state your grade. Please review directions for the section and let me know when you are ready to proceed. (give about 30s) Please start (and begin timing) (User calls Done or set time elapses and Moderator will call "Time").

Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section.

Taks 6: Electronic prescribing b3

Moderator: Please refer to the directions for completing Task 5 in your handout. There is one section to this task. I will give you a few seconds to review the instructions for this section before timing starts. After completion of each section, you will have a few seconds to grade the section by ease/difficulty of completion. Please write and state your grade. Please review directions for the section and let me know when you are ready to proceed. (give about 30s)

Please start (and begin timing) (User calls Done or set time elapses and Moderator will call "Time").

Moderator: Please rate this section using the 1 to 5 scale, write and state your answer. Then we will proceed to the next section.

Please refer to the link you were sent earlier and sign the Consent for Research and Development as well as fill out the Post Test Questionnaire.

5.4 Appendix 4: SYSTEM USABILITY SCALE & POST TEST QUESTIONNAIRE

System Usability Scale (SUS)

1. I think that I would like to use this system frequently
2. I found the system unnecessarily complex
3. I thought the system was easy to use
4. I think that I would need the support of a technical person to be able to use this system
5. I found the various functions in this system were well integrated
6. I thought there was too much inconsistency in this system
7. I would imagine that most people would learn to use this system very quickly
8. I found the system very cumbersome to use
9. I felt very confident using the system
10. I needed to learn a lot of things before I could get going with this system

Post Testing Questions

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