REAL WORLD TESTING

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REAL WORLD TESTING PLAN

Plan Report ID Number: 20221111MDT

September 2022

RWT For Period Jan-Dec 2023

PRODUCT

Developer Name: MDToolbox

Product Name: MDToolbox Rx

Version Number: 5

Certified Health IT CHPL Number: 15.02.05.1832.MDTB.01.01.1.211105

REAL WORLD TESTING APPROACH (Usability Testing)

Product Summary

MDToolbox Rx is a specialized electronic prescribing application that allows tracking patients, patient records and writing and sending electronic prescriptions. Real World Testing is conducted annually and on an as needed basis to make sure the product is compliant and user friendly for all target end users.

Scope of Certification

170.315(b)(3) Electronic prescribing

Relied upon software: Multum/Lexi (Drug Database), SQL Server (Data Storage Product)

Justification

Usability testing with current active users of varying experience and background is the best way to identify any usability problems, collect qualitative and quantitative data and determine our user's satisfaction with the product. Direct communication during this process will allow for understanding any suggestions, frustrations, or improvements from our user-base.

Target Settings

MDToolbox Rx target market is small private ambulatory practices. Typical clients have 1 to 5 providers and typically range from family practice, small walk-in clinics, psychiatry, and other small ambulatory settings.

Real World Testing Test Method

MDToolbox Rx Real World Testing will include the following steps:

1. Create test script / end user task list with goals
2. Per remote session with participants, MDToolbox QA/Staff person initiates one on one sessions with each participant in their Care Setting / Real World setting, asking them to perform each task/goal and observing/rating each task (a fictious/test patient will be used in the Real World setting for patient privacy/no PHI).
3. MDToolbox Administrator will Compile all data points, build final report – Report is then submitted to Product Managers for evaluation of future improvements.

Real World Testing will involve 1 to N participants from:

- Settings: Family practice, Mental Health/Psychiatrist, Small Clinic
- Credentialed End User: MD, NP, MA
- Computer skilled: entry level user, seasoned user
- Age: 20-40, 40-65, 65+

Real World Testing will at minimum include scope:

- Electronic sending of prescription
- RELIED UPON SOFTWARE: Drug Database Lookup and SQL Server (data storage/retrieval from product)

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 are captured during the real world testing. The goals of the test are to assess:

- Effectiveness of MDToolbox-Rx by measuring participant success rates and errors
- Efficiency of MDToolbox-Rx by measuring the average task time and path deviations
- Satisfaction with MDToolbox-Rx by measuring ease of use ratings

Data Scoring will be analyzed, reported on and used for future potential improvements in software.

Real World Test Data Scoring

The following table details how tasks are scored, errors evaluated, and the time data analyzed.

Actual Tasks will be defined in the TEST SCRIPT/REAL WORLD TESTING GOALS SCRIPT REPORT in Q1 2022 as determined by product Real World Testing scope. Below shows the Data Scoring for each test.

Measures	Rationale and Scoring

Effectiveness: Task Success	A task is 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 in Real World Setting. The total number of successes is 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 are recorded for successes. Observed task times divided by the optimal time for each task is a measure of optimal efficiency. Optimal task performance time, as benchmarked by expert performance under realistic conditions, is recorded when constructing tasks. Target task times are operationally defined by taking multiple measures of optimal performance and multiplying by 2, 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 40 seconds. This ratio was aggregated across tasks and reported with mean and variance scores.
Effectiveness: Task Failures	If the participant abandoned the task, did not reach the correct goal or performed it incorrectly, or reached the end of the allotted time before successful completion, the task was counted as an "Failures." No task times are taken for errors. The total number of errors are calculated for each task and then divided by the total number of times that task was attempted. Not all deviations are counted as errors. Task failures are expressed as the mean number of failed tasks per participant. On a qualitative level, an enumeration of errors and error types are collected.
Efficiency: Task Deviations	The participant's path (i.e., steps) through the application is 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 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." If he or she failed to say "Done," the time is stopped when the participant stopped performing the task. Only task times for tasks that were successfully completed are included in the average task time analysis. Average time per task iscalculated for each task. Variance measures (standard deviation and standard error) are also calculated.
Satisfaction: Task Rating	Participant's subjective impression of the ease of use of the application is measured by administering a simple post-task question. After each task, the participant is asked to rate "Overall, this task was:" on a scale of 1 (Very Difficult) to 5 (Very Easy). These data are averaged across participants.

STANDARDS UPDATES PLAN

MDToolbox Rx performs standards updates as required by certification. MDToolbox updated the e-prescribing module to the latest SCRIPT version as required (2070101) in previous years. When new script standard is released, it will be evaluated and road mapped. After completed, internal testing verified, then Real World Testing is completed.

MEASURES USED IN OVERALL APPROACH AND EXPECTED OUTCOMES

Measurement/Criteria	Description/Justification/Care Settings	Expected Outcome
Electronic Prescribing	**e-Send allows preview of the order, and seamless sending for the end user to the pharmacy. Used by all care settings.**	**Compliant with Certification. Works as expected in target setting End user satisfaction Data Points met**

SCHEDULE OF KEY MILESTONES

Key Milestone	Care Setting	Date/Timeframe
Q1 Real World QA Test Planning	**All in Scope**	**Q1 2023**
Build Test Scripts/Goal list	**All in Scope**	**Q2 2023**
Perform Real World Testing & Gather Data	**All in Scope**	**Q3 2023**
Create final reports and submit	**All In Scope**	**Q4 2023**

ATTESTATION

This Real-World Testing Plan is complete with all required elements, including measures that address all certification criteria and care settings to the best of my knowledge. All information in this plan is up to date and fully addresses the health IT developer's Real World Testing requirements.

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Signed Douglas Tiegs