The CONSORT-EHEALTH checklist is intended for authors of randomized trials evaluating web-based and Internet-based applications/interventions, including mobile interventions, electronic games (incl multiplayer games), social media, certain telehealth applications, and other interactive and/or networked electronic applications. Some of the items (e.g. all subitems under item 5 - description of the intervention) may also be applicable for other study designs.

The goal of the CONSORT EHEALTH checklist and guideline is to be
a) a guide for reporting for authors of RCTs,
b) to form a basis for appraisal of an ehealth trial (in terms of validity)

CONSORT-EHEALTH items/subitems are MANDATORY reporting items for studies published in the Journal of Medical Internet Research and other journals / scientific societies endorsing the checklist.

Items numbered 1., 2., 3., 4a., 4b etc are original CONSORT or CONSORT-NPT (non-pharmacologic treatment) items.
Items with Roman numerals (i., ii, iii, iv etc.) are CONSORT-EHEALTH extensions/clarifications.

As the CONSORT-EHEALTH checklist is still considered in a formative stage, we would ask that you also RATE ON A SCALE OF 1-5 how important/useful you feel each item is FOR THE PURPOSE OF THE CHECKLIST and reporting guideline (optional).

Mandatory reporting items are marked with a red *.
In the textboxes, either copy & paste the relevant sections from your manuscript into this form - please include any quotes from your manuscript in QUOTATION MARKS, or answer directly by providing additional information not in the manuscript, or elaborating on why the item was not relevant for this study.

YOUR ANSWERS WILL BE PUBLISHED AS A SUPPLEMENTARY FILE TO YOUR PUBLICATION IN JMIR AND ARE CONSIDERED PART OF YOUR PUBLICATION (IF ACCEPTED).
Please fill in these questions diligently. Information will not be copyedited, so please use proper spelling and grammar, use correct capitalization, and avoid abbreviations.

DO NOT FORGET TO SAVE AS PDF _AND_ CLICK THE SUBMIT BUTTON SO YOUR ANSWERS ARE IN OUR DATABASE !!!

Citation Suggestion (if you append the pdf as Appendix we suggest to cite this paper in the caption):
Eysenbach G, CONSORT-EHEALTH Group
CONSORT-EHEALTH: Improving and Standardizing Evaluation Reports of Web-based and Mobile Health Interventions
Your name *
First Last
Dr. Michael R. Gionfriddo

Primary Affiliation (short), City, Country *
University of Toronto, Toronto, Canada
Duquesne University, Pittsburgh, United States

Your e-mail address *
abc@gmail.com
gionfriddom@duq.edu

Title of your manuscript *
Provide the (draft) title of your manuscript.
Evaluation of a Web-Based Medication Reconciliation Application Within a Primary Care Setting: Cluster-Randomized Controlled Trial
| Question                                                                 | Answer      |
|-------------------------------------------------------------------------|-------------|
| Name of your App/Software/Intervention *                               | MedTrue     |
| Evaluated Version (if any)                                              |             |
| e.g. "V1", "Release 2017-03-01", "Version 2.0.27913"                   |             |
| Language(s) *                                                           | English     |
| What language is the intervention/app in? If multiple languages are     |             |
| available, separate by comma (e.g. "English, French")                 |             |
| URL of your Intervention Website or App                                |             |
| e.g. a direct link to the mobile app in appstore (itunes, Google Play), |             |
| or URL of the website. If the intervention is a DVD or hardware, you   |             |
| can also link to an Amazon page.                                        |             |
| URL of an image/screenshot (optional)                                   |             |
Accessibility *
Can an enduser access the intervention presently?

- access is free and open
- access only for special usergroups, not open
- access is open to everyone, but requires payment/subscription/in-app purchases
- app/intervention no longer accessible
- Other:

Primary Medical Indication/Disease/Condition *
e.g. "Stress", "Diabetes", or define the target group in brackets after the condition, e.g. "Autism (Parents of children with)", "Alzheimers (Informal Caregivers of)"

Medication Reconciliation

Primary Outcomes measured in trial *
comma-separated list of primary outcomes reported in the trial

Medication List Accuracy

Secondary/other outcomes
Are there any other outcomes the intervention is expected to affect?

Your answer
Recommended "Dose" *

What do the instructions for users say on how often the app should be used?

- Approximately Daily
- Approximately Weekly
- Approximately Monthly
- Approximately Yearly
- "as needed"
- Other:

Approx. Percentage of Users (starters) still using the app as recommended after 3 months *

- unknown / not evaluated
- 0-10%
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71%-80%
- 81-90%
- 91-100%
- Other:
Overall, was the app/intervention effective? *

- yes: all primary outcomes were significantly better in intervention group vs control
- partly: SOME primary outcomes were significantly better in intervention group vs control
- no statistically significant difference between control and intervention
- potentially harmful: control was significantly better than intervention in one or more outcomes
- inconclusive: more research is needed
- Other:

Article Preparation Status/Stage *

At which stage in your article preparation are you currently (at the time you fill in this form)

- not submitted yet - in early draft status
- not submitted yet - in late draft status, just before submission
- submitted to a journal but not reviewed yet
- submitted to a journal and after receiving initial reviewer comments
- submitted to a journal and accepted, but not published yet
- published
- Other:
Journal *
If you already know where you will submit this paper (or if it is already submitted), please provide the journal name (if it is not JMIR, provide the journal name under "other")

- not submitted yet / unclear where I will submit this
- Journal of Medical Internet Research (JMIR)
- JMIR mHealth and UHealth
- JMIR Serious Games
- JMIR Mental Health
- JMIR Public Health
- JMIR Formative Research
- Other JMIR sister journal
- Other:

Is this a full powered effectiveness trial or a pilot/feasibility trial? *

- Pilot/feasibility
- Fully powered

Manuscript tracking number *
If this is a JMIR submission, please provide the manuscript tracking number under "other" (The ms tracking number can be found in the submission acknowledgement email, or when you login as author in JMIR. If the paper is already published in JMIR, then the ms tracking number is the four-digit number at the end of the DOI, to be found at the bottom of each published article in JMIR)

- no ms number (yet) / not (yet) submitted to / published in JMIR
- Other: 33488
TITIE AND ABSTRACT

1a) TITLE: Identification as a randomized trial in the title

1a) Does your paper address CONSORT item 1a? *
I.e does the title contain the phrase "Randomized Controlled Trial"? (if not, explain the reason under "other")

○ yes
○ Other:

1a-i) Identify the mode of delivery in the title
Identify the mode of delivery. Preferably use "web-based" and/or "mobile" and/or "electronic game" in the title. Avoid ambiguous terms like "online", "virtual", "interactive". Use "Internet-based" only if Intervention includes non-web-based Internet components (e.g. email), use "computer-based" or "electronic" only if offline products are used. Use "virtual" only in the context of "virtual reality" (3-D worlds). Use "online" only in the context of "online support groups". Complement or substitute product names with broader terms for the class of products (such as "mobile" or "smart phone" instead of "iphone"), especially if the application runs on different platforms.

1 2 3 4 5
subitem not at all important ○ ○ ○ ○ ○ essential
Clear selection

Does your paper address subitem 1a-i? *
Copy and paste relevant sections from manuscript title (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Evaluation of a Web-Based Medication Reconciliation Application
Within a Primary Care Setting: Cluster-Randomized Controlled Trial

https://docs.google.com/forms/d/e/1FAIpQLSfZBSUjtbwOc_OimqcS64RdfIAFvMrTSkZQL2-3O8O9hrL5Sw/viewform?hl=en_US&formkey=dGIKdZZ...
1a-ii) Non-web-based components or important co-interventions in title
Mention non-web-based components or important co-interventions in title, if any (e.g., “with telephone support”).

1 2 3 4 5

subitem not at all important ○ ○ ○ ○ ○ essential

Clear selection

Does your paper address subitem 1a-ii?
Copy and paste relevant sections from manuscript title (include quotes in quotation marks “like this” to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

This intervention was web-based and did not have other co-interventions

1a-iii) Primary condition or target group in the title
Mention primary condition or target group in the title, if any (e.g., “for children with Type I Diabetes”)
Example: A Web-based and Mobile Intervention with Telephone Support for Children with Type I Diabetes: Randomized Controlled Trial

1 2 3 4 5

subitem not at all important ○ ○ ○ ○ ○ essential

Clear selection
Evaluation of a Web-Based Medication Reconciliation Application
Within a Primary Care Setting: Cluster-Randomized Controlled Trial

1b) ABSTRACT: Structured summary of trial design, methods, results, and conclusions
NPT extension: Description of experimental treatment, comparator, care providers, centers, and blinding status.

1b-i) Key features/functionalities/components of the intervention and comparator in the METHODS section of the ABSTRACT
Mention key features/functionalities/components of the intervention and comparator in the abstract. If possible, also mention theories and principles used for designing the site. Keep in mind the needs of systematic reviewers and indexers by including important synonyms. (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

Due to space limitations in the abstract key features of the tool vs the comparison are not listed in the methods section of the abstract. Full details are provided in the full methods section of the manuscript
1b-ii) Level of human involvement in the METHODS section of the ABSTRACT

Clarify the level of human involvement in the abstract, e.g., use phrases like “fully automated” vs. “therapist/nurse/care provider/physician-assisted” (mention number and expertise of providers involved, if any). (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

subitem not at all important ☐ ☐ ☐ ☐ ☐ essential Clear selection

Does your paper address subitem 1b-ii?

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks “like this” to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Due to space limitations in the abstract the level of human involvement is not listed in the methods section of the abstract. Full details are provided in the full methods section of the manuscript

1b-iii) Open vs. closed, web-based (self-assessment) vs. face-to-face assessments in the METHODS section of the ABSTRACT

Mention how participants were recruited (online vs. offline), e.g., from an open access website or from a clinic or a closed online user group (closed usergroup trial), and clarify if this was a purely web-based trial, or there were face-to-face components (as part of the intervention or for assessment). Clearly say if outcomes were self-assessed through questionnaires (as common in web-based trials). Note: In traditional offline trials, an open trial (open-label trial) is a type of clinical trial in which both the researchers and participants know which treatment is being administered. To avoid confusion, use “blinded” or “unblinded” to indicated the level of blinding instead of “open”, as “open” in web-based trials usually refers to “open access” (i.e. participants can self-enrol). (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

subitem not at all important ☐ ☐ ☐ ☐ ☐ essential Clear selection
Does your paper address subitem 1b-iii?

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Patients were recruited from primary care practices with our primary outcome assessed by pharmacists at the clinic

---

1b-iv) RESULTS section in abstract must contain use data

Report number of participants enrolled/assessed in each group, the use/uptake of the intervention (e.g., attrition/adherence metrics, use over time, number of logins etc.), in addition to primary/secondary outcomes. (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

Subitem not at all important: 1

Essential: 5

Clear selection

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Does your paper address subitem 1b-iv?

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Due to space limitations, overall use data is not reported in the abstract as it was a secondary outcome
1b-v) CONCLUSIONS/DISCUSSION in abstract for negative trials

Conclusions/Discussions in abstract for negative trials: Discuss the primary outcome - if the trial is negative (primary outcome not changed), and the intervention was not used, discuss whether negative results are attributable to lack of uptake and discuss reasons. (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

Does your paper address subitem 1b-v?

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We discuss how future studies should examine the effect of the implementation strategies used on the effectiveness of the tool

INTRODUCTION

2a) In INTRODUCTION: Scientific background and explanation of rationale
2a-i) Problem and the type of system/solution

Describe the problem and the type of system/solution that is object of the study: intended as stand-alone intervention vs. incorporated in broader health care program? Intended for a particular patient population? Goals of the intervention, e.g., being more cost-effective to other interventions, replace or complement other solutions? (Note: Details about the intervention are provided in “Methods” under 5)

1 2 3 4 5
subitem not at all important ☐ ☐ ☐ ☐ ☐ essential

Clear selection

Does your paper address subitem 2a-i? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Medication reconciliation has been recognized as problematic across a variety of health care settings, including primary care...To address the limitations of existing tools and improve medication reconciliation within our primary care environment, we developed an EHR-integrated web-based reconciliation application, MedTrue (MT), to facilitate the process of reconciling EHR medication lists with other sources, including patient-reported medications within a primary care environment. We designed this tool to have both staff- and patient-facing interfaces."

2a-ii) Scientific background, rationale: What is known about the (type of) system

Scientific background, rationale: What is known about the (type of) system that is the object of the study (be sure to discuss the use of similar systems for other conditions/diagnoses, if appropriate), motivation for the study, i.e. what are the reasons for and what is the context for this specific study, from which stakeholder viewpoint is the study performed, potential impact of findings [2]. Briefly justify the choice of the comparator.

1 2 3 4 5
subitem not at all important ☐ ☐ ☐ ☐ ☐ essential

Clear selection
2b) In INTRODUCTION: Specific objectives or hypotheses

"The goal of this paper is to present the results of an evaluation study aimed at assessing the impact of the application MT on medication list accuracy and patient and staff satisfaction. Using mixed methods, we aimed to evaluate the effectiveness of and satisfaction with MT."

METHODS

3a) Description of trial design (such as parallel, factorial) including allocation ratio

"We conducted a mixed methods evaluation of MT, including a pragmatic cluster-randomized controlled trial (cRCT), along with patient and provider surveys and semistructured interviews. MT was implemented in 3 clinics."
3b) Important changes to methods after trial commencement (such as eligibility criteria), with reasons

Does your paper address CONSORT subitem 3b? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

" Prior to recruitment, due to unforeseen challenges, 1 UC site was substituted for a different clinic with similar baseline characteristics...During data collection, we conducted an interim look to verify our sample size assumptions and found that our initial assumptions regarding the proportion of completely accurate medication lists (no discrepancies), which were based upon previous studies [21-23], were overly optimistic (~50% in previous studies vs 4% in our interim analysis). As a result, we were underpowered to detect our primary outcome; however, we were powered to detect a secondary composite outcome based on a count of discrepancies. Later, due to feasibility, namely difficulties in recruitment, the trial was stopped."

3b-i) Bug fixes, Downtimes, Content Changes

Bug fixes, Downtimes, Content Changes: ehealth systems are often dynamic systems. A description of changes to methods therefore also includes important changes made on the intervention or comparator during the trial (e.g., major bug fixes or changes in the functionality or content) (5-iii) and other "unexpected events" that may have influenced study design such as staff changes, system failures/downtimes, etc. [2].

1 2 3 4 5

subitem not at all important ○ ○ ○ ○ ○ essential

Clear selection
4a) Eligibility criteria for participants

Patients were eligible to participate if they were 18 years of age or older, able to speak English, and seen at a participating site by a member of the primary care team.

4a-i) Computer / Internet literacy

Computer / Internet literacy is often an implicit "de facto" eligibility criterion - this should be explicitly clarified.

1  2  3  4  5
subitem not at all important ☐  ☐  ☐  ☐  ☐ essential

We did not address literacy as the provider could walk through the application with the patient.
4a-ii) Open vs. closed, web-based vs. face-to-face assessments:

Open vs. closed, web-based vs. face-to-face assessments: Mention how participants were recruited (online vs. offline), e.g., from an open access website or from a clinic, and clarify if this was a purely web-based trial, or there were face-to-face components (as part of the intervention or for assessment), i.e., to what degree got the study team to know the participant. In online-only trials, clarify if participants were quasi-anonymous and whether having multiple identities was possible or whether technical or logistical measures (e.g., cookies, email confirmation, phone calls) were used to detect/prevent these.

Does your paper address subitem 4a-ii? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Patients with an upcoming visit at 1 of the intervention sites had access to MT through our online patient portal up to 2 weeks prior to their visit. If the patient did not complete MT through the patient portal prior to their visit, they were provided with a tablet computer (iPad® ) by patient access representatives upon check-in and were asked to complete MT while waiting for their appointment...MT was available to staff through a direct link (access tab) within the EHR as a web-based application. During the intake process and normal workflow of rooming a patient, staff (ie, nurses and medical assistants) accessed MT when assessing medication use....Trained pharmacists approached a convenience sample of patients exposed to MT as well as a convenience sample of patients in the UC arm to collect a best-possible medication history (BPMH)..."
4a-iii) Information giving during recruitment

Information given during recruitment. Specify how participants were briefed for recruitment and in the informed consent procedures (e.g., publish the informed consent documentation as appendix, see also item X26), as this information may have an effect on user self-selection, user expectation and may also bias results.

![Rating Scale]

subitem not at all important ☐ ☐ ☐ ☐ ☐ essential

Clear selection

Does your paper address subitem 4a-iii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Pharmacists approached eligible patients after their visit and asked whether they would be interested in participating in a study. If a patient was agreeable, the pharmacist brought them to a private room for consent and to conduct the BPMH"

4b) Settings and locations where the data were collected

Does your paper address CONSORT subitem 4b? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

All data was collected in the primary care sites or through the application (which could be accessed by patients from home)
4b-i) Report if outcomes were (self-)assessed through online questionnaires

Clearly report if outcomes were (self-)assessed through online questionnaires (as common in web-based trials) or otherwise.

1 2 3 4 5

subitem not at all important  Oczywiście, essential

Does your paper address subitem 4b-i? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

Outcomes were assessed through the BPMH with a pharmacist as well as through surveys and interviews. Patient surveys were administered through the tool.

4b-ii) Report how institutional affiliations are displayed

Report how institutional affiliations are displayed to potential participants [on ehealth media], as affiliations with prestigious hospitals or universities may affect volunteer rates, use, and reactions with regards to an intervention. (Not a required item – describe only if this may bias results)

1 2 3 4 5

subitem not at all important .Clear selection
Does your paper address subitem 4b-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

The tool was accessed through an interface which contained other patient surveys routinely administered by our institution, but was not present prominently on the interface. A more detailed description was available under the terms and conditions.

5) The interventions for each group with sufficient details to allow replication, including how and when they were actually administered.

5-i) Mention names, credential, affiliations of the developers, sponsors, and owners

Mention names, credential, affiliations of the developers, sponsors, and owners [6] (if authors/evaluators are owners or developer of the software, this needs to be declared in a "Conflict of interest" section or mentioned elsewhere in the manuscript).

1  2  3  4  5
subitem not at all important   ○  ○  ○  ○  ○  essential

Does your paper address subitem 5-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

"Funding was provided by Merck Sharp & Dohme Corp, a subsidiary of Merck & Co, Inc, Kenilworth, NJ, USA."
5-ii) Describe the history/development process

Describe the history/development process of the application and previous formative evaluations (e.g., focus groups, usability testing), as these will have an impact on adoption/use rates and help with interpreting results.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
|    |    |    |    |   essential |

subitem not at all important

Does your paper address subitem 5-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"The application was developed using an iterative design process. First, meetings were held with key stakeholders (eg, informatics, clinic staff, and pharmacy) to determine the necessary functionalities of the tool. Based on these initial requirements, we created a minimally viable prototype. We then iteratively improved upon this prototype by implementing it in 2 sites not involved in the later evaluation. These sites would use the tool and provide feedback to the study team. Additionally, study team members would observe the use of the tool in those sites to gather additional insight into how the tool was performing and what adjustments needed to be made. From the feedback received, we created a list of potential improvements, which was prioritized based on necessity and feasibility. The tool tested in this study is the result of several rounds of improvements."
5-iii) Revisions and updating
Revisions and updating. Clearly mention the date and/or version number of the application/intervention (and comparator, if applicable) evaluated, or describe whether the intervention underwent major changes during the evaluation process, or whether the development and/or content was “frozen” during the trial. Describe dynamic components such as news feeds or changing content which may have an impact on the replicability of the intervention (for unexpected events see item 3b).

1  2  3  4  5
subitem not at all important  ○  ○  ○  ○  ○  essential

Clear selection

Does your paper address subitem 5-iii?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks “like this” to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The tool did not change during the evaluation study.

5-iv) Quality assurance methods
Provide information on quality assurance methods to ensure accuracy and quality of information provided [1], if applicable.

1  2  3  4  5
subitem not at all important  ○  ○  ○  ○  ○  essential

Clear selection

https://docs.google.com/forms/d/e/1FAIpQLSfZBSUp1bwOc_OimqcS64Rdf1AFvmrTSkZQL2-3O8O9hrL5Sw/viewform?hl=en_US&formkey=dGIlZ2… 23/61
Does your paper address subitem 5-iv?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The purpose of our study was to compare the accuracy of the information presented in the tool, compared to a BPMH

5-v) Ensure replicability by publishing the source code, and/or providing screenshots/screen-capture video, and/or providing flowcharts of the algorithms used

Ensure replicability by publishing the source code, and/or providing screenshots/screen-capture video, and/or providing flowcharts of the algorithms used. Replicability (i.e., other researchers should in principle be able to replicate the study) is a hallmark of scientific reporting.

1 2 3 4 5
subitem not at all important ○ ○ ○ ○ ○ essential
Clear selection

Does your paper address subitem 5-v?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Screenshots of the patient and provider interfaces are provided as figures.
5-vi) Digital preservation

Digital preservation: Provide the URL of the application, but as the intervention is likely to change or disappear over the course of the years; also make sure the intervention is archived (Internet Archive, webcitation.org, and/or publishing the source code or screenshots/videos alongside the article). As pages behind login screens cannot be archived, consider creating demo pages which are accessible without login.

1 2 3 4 5

subitem not at all important ○ ○ ● ○ ○ essential

Does your paper address subitem 5-vi?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Our tool is proprietary and not available

5-vii) Access

Access: Describe how participants accessed the application, in what setting/context, if they had to pay (or were paid) or not, whether they had to be a member of specific group. If known, describe how participants obtained “access to the platform and Internet” [1]. To ensure access for editors/reviewers/readers, consider to provide a “backdoor” login account or demo mode for reviewers/readers to explore the application (also important for archiving purposes, see vi).

1 2 3 4 5

subitem not at all important ○ ○ ○ ○ ● essential

Clear selection
Does your paper address subitem 5-vii? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

Patients with an upcoming visit at 1 of the intervention sites had access to MT through our online patient portal up to 2 weeks prior to their visit. If the patient did not complete MT through the patient portal prior to their visit, they were provided with a tablet computer (iPad®) by patient access representatives upon check-in and were asked to complete MT while waiting for their appointment. MT was available to staff through a direct link (access tab) within the EHR as a web-based application.

5-viii) Mode of delivery, features/functionalities/components of the intervention and comparator, and the theoretical framework

Describe mode of delivery, features/functionalities/components of the intervention and comparator, and the theoretical framework [6] used to design them (instructional strategy [1], behaviour change techniques, persuasive features, etc., see e.g., [7, 8] for terminology). This includes an in-depth description of the content (including where it is coming from and who developed it) [1], whether [and how] it is tailored to individual circumstances and allows users to track their progress and receive feedback" [6]. This also includes a description of communication delivery channels and – if computer-mediated communication is a component – whether communication was synchronous or asynchronous [6]. It also includes information on presentation strategies [1], including page design principles, average amount of text on pages, presence of hyperlinks to other resources, etc. [1].

1 2 3 4 5

subitem not at all important ☐ ☐ ☐ ☐ ☐ essential

Clear selection
Does your paper address subitem 5-viii? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Patients with an upcoming visit at 1 of the intervention sites had access to MT through our online patient portal up to 2 weeks prior to their visit. If the patient did not complete MT through the patient portal prior to their visit, they were provided with a tablet computer (iPad®) by patient access representatives upon check-in and were asked to complete MT while waiting for their appointment. The patient is asked to review their list of medications, remove medications they are not currently taking, and enter additional medications missing from the list, such as medications purchased over the counter or medications they take that belong to a friend or family member. Additionally, patients are asked about their adherence to their medications over the past month using a Likert-type scale (ranging from 0% for "never" to 100% for "always"). MT was available to staff through a direct link (access tab) within the EHR as a web-based application. During the intake process and normal workflow of rooming a patient, staff (ie, nurses and medical assistants) accessed MT when assessing medication use. The interface was presented in an embedded browser within the EHR. For the staff interface, MT displayed all the medications the patient was presented with as well as those the patient entered (Figure 2). Discrepancies (ie, patient-suggested removals and additions or pharmacy-dispensed differences) were displayed alongside the EHR-listed medications that were not flagged as discrepant. For each medication adherence, calculated as the proportion of days covered from pharmacy-dispensed data [15], patient-reported medication adherence, captured from the patient-completed Likert-type item, was also displayed.

5-ix) Describe use parameters

Describe use parameters (e.g., intended “doses” and optimal timing for use). Clarify what instructions or recommendations were given to the user, e.g., regarding timing, frequency, heaviness of use, if any, or was the intervention used ad libitum.

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subitem not at all important

essential

Clear selection
Does your paper address subitem 5-ix?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Patients with an upcoming visit at 1 of the intervention sites had access to MT through our online patient portal up to 2 weeks prior to their visit. If the patient did not complete MT through the patient portal prior to their visit, they were provided with a tablet computer (iPad®) by patient access representatives upon check-in and were asked to complete MT while waiting for their appointment"

5-x) Clarify the level of human involvement
Clarify the level of human involvement (care providers or health professionals, also technical assistance) in the e-intervention or as co-intervention (detail number and expertise of professionals involved, if any, as well as "type of assistance offered, the timing and frequency of the support, how it is initiated, and the medium by which the assistance is delivered"). It may be necessary to distinguish between the level of human involvement required for the trial, and the level of human involvement required for a routine application outside of a RCT setting (discuss under item 21 – generalizability).

subitem not at all important ○ ○ ○ 4 5 essential
Clear selection

Does your paper address subitem 5-x?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Patients were not given any training in the use of the tool, since during prototyping, we found that most patients were able to navigate the tool without assistance....Staff at the intervention sites had access to paper and audiovisual training materials but also attended an in-person meeting where MT was introduced and reviewed by members of the study team. Study team members were available for consultation and guidance throughout the study"
5-xi) Report any prompts/reminders used

Report any prompts/reminders used: Clarify if there were prompts (letters, emails, phone calls, SMS) to use the application, what triggered them, frequency etc. It may be necessary to distinguish between the level of prompts/reminders required for the trial, and the level of prompts/reminders for a routine application outside of a RCT setting (discuss under item 21 – generalizability).

Does your paper address subitem 5-xi? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

This was a one time use application. "Patients with an upcoming visit at 1 of the intervention sites had access to MT through our online patient portal up to 2 weeks prior to their visit. If the patient did not complete MT through the patient portal prior to their visit, they were provided with a tablet computer (iPad® ) by patient access representatives upon check-in and were asked to complete MT while waiting for their appointment”

5-xii) Describe any co-interventions (incl. training/support)

Describe any co-interventions (incl. training/support): Clearly state any interventions that are provided in addition to the targeted eHealth intervention, as ehealth intervention may not be designed as stand-alone intervention. This includes training sessions and support [1]. It may be necessary to distinguish between the level of training required for the trial, and the level of training for a routine application outside of a RCT setting (discuss under item 21 – generalizability.

Clear selection
Does your paper address subitem 5-xii? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this” to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

There were no co-interventions

6a) Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed
Does your paper address CONSORT subitem 6a? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Primary Outcome
The primary outcome of the study was the accuracy of the medication list. We defined accuracy by counting discrepancies between the medication list gathered through MT or UC and the list gathered by the pharmacist conducting the BPMH. A perfectly accurate medication list would be a list with 0 identified discrepancies.

Secondary Outcomes
We secondarily measured accuracy using a composite numerical assessment of accuracy, where each medication in a list could contribute either 0 or 1 discrepancy, and all discrepancies were totaled per patient. This endpoint included all of the following medication discrepancies: not taking the listed medication, needing the medication to be modified (eg, change in dose or frequency), or having the medication added to their list. Although taking a medication differently was included in our list of discrepancies, this was not included in the composite accuracy list, since this discrepancy would in of itself not necessitate a change in the actual prescription as written, and if the list needed to be modified by the BPMH, 1 of the other listed discrepancies would have been selected over this discrepancy, as per BPMH instructions. We reported individual types of discrepancies identified per group (ie, adding, modifying, removing, or taking a medication differently) on a medication level. To determine the rate of medication discrepancies per patient, we calculated the percentage of the patients’ medications that had discrepancies. Finally, we conducted a sensitivity analysis based on the pharmacists’ confidence in their BPMH, including only those patients where the pharmacist conducting the BPMH was confident in having an accurate medication list. Patient and staff satisfaction with MT, as measured by surveys and qualitative interviews, was also reported."
6a-i) Online questionnaires: describe if they were validated for online use and apply CHERRIES items to describe how the questionnaires were designed/deployed

If outcomes were obtained through online questionnaires, describe if they were validated for online use and apply CHERRIES items to describe how the questionnaires were designed/deployed [9].

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Does your paper address subitem 6a-i?

Copy and paste relevant sections from manuscript text

Both patients and staff answered questions regarding the usability of the tool, but these questions were not validated.

6a-ii) Describe whether and how “use” (including intensity of use/dosage) was defined/measured/monitored

Describe whether and how “use” (including intensity of use/dosage) was defined/measured/monitored (logins, logfile analysis, etc.). Use/adoption metrics are important process outcomes that should be reported in any ehealth trial.

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| subitem not at all important | ● | 〇 | 〇 | 〇 | 〇 | essential |

Does your paper address subitem 6a-ii?

Copy and paste relevant sections from manuscript text

Use was collected through logs documenting access to the tool
6a-iii) Describe whether, how, and when qualitative feedback from participants was obtained

Describe whether, how, and when qualitative feedback from participants was obtained (e.g., through emails, feedback forms, interviews, focus groups).

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Subitem not at all important ☐ ☐ ☐ ☐ ☐ Essential

Clear selection

Does your paper address subitem 6a-iii?

Copy and paste relevant sections from manuscript text

"The interviews were guided by a qualitative descriptive approach [20]. Patients in the intervention arm were invited to participate in interviews about their experience using MT through convenience sampling. After a visit where MT was used, patients were approached by a research assistant, who invited them to participate in a brief interview. Consenting patients were interviewed using a semistructured interview guide (Multimedia Appendix 1). The research assistant underwent brief training in qualitative interviewing from 1 of the investigators with experience in qualitative interviewing. The interviews lasted no more than 30 minutes, and patients were compensated US $10 for their time in the form of a gift card.

Rooming staff who used MT during the study period were also given an opportunity to voluntarily participate in semistructured interviews to discuss their experience using MT. The interviews were conducted by an investigator with experience in qualitative interviewing using a semistructured interview guide (Multimedia Appendix 1). The interviews lasted no more than 30 minutes, and staff were not offered compensation."

6b) Any changes to trial outcomes after the trial commenced, with reasons
Does your paper address CONSORT subitem 6b? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We did not change the trial outcomes

7a) How sample size was determined
NPT: When applicable, details of whether and how the clustering by care provides or centers was addressed

7a-i) Describe whether and how expected attrition was taken into account when calculating the sample size
Describe whether and how expected attrition was taken into account when calculating the sample size.

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subitem not at all important ○ ○ ● ○ ○ essential

Does your paper address subitem 7a-i?
Copy and paste relevant sections from manuscript title (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We did not account for attrition as it was not possible.

7b) When applicable, explanation of any interim analyses and stopping guidelines
Does your paper address CONSORT subitem 7b? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"During data collection, we conducted an interim look to verify our sample size assumptions and found that our initial assumptions regarding the proportion of completely accurate medication lists (no discrepancies), which were based upon previous studies [21-23], were overly optimistic (~50% in previous studies vs 4% in our interim analysis). As a result, we were underpowered to detect our primary outcome; however, we were powered to detect a secondary composite outcome based on a count of discrepancies. Later, due to feasibility, namely difficulties in recruitment, the trial was stopped."

8a) Method used to generate the random allocation sequence
NPT: When applicable, how care providers were allocated to each trial group

Does your paper address CONSORT subitem 8a? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"In total, 6 sites were chosen in collaboration with primary care leadership and randomized to the intervention or the control arm using a random number generator in Microsoft Excel (Microsoft Corporation). Prior to recruitment, due to unforeseen challenges, 1 UC site was substituted for a different clinic with similar baseline characteristics."

8b) Type of randomisation; details of any restriction (such as blocking and block size)
Does your paper address CONSORT subitem 8b? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"In total, 6 sites were chosen in collaboration with primary care leadership and randomized to the intervention or the control arm using a random number generator in Microsoft Excel (Microsoft Corporation). Prior to recruitment, due to unforeseen challenges, 1 UC site was substituted for a different clinic with similar baseline characteristics."

9) Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned

Does your paper address CONSORT subitem 9? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"In total, 6 sites were chosen in collaboration with primary care leadership and randomized to the intervention or the control arm using a random number generator in Microsoft Excel (Microsoft Corporation). Prior to recruitment, due to unforeseen challenges, 1 UC site was substituted for a different clinic with similar baseline characteristics."

10) Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions
Does your paper address CONSORT subitem 10? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The sequence was created by the first author using a random number generator, participants were assigned based on clinic and enrolled via the pharmacists.

11a) If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how
NPT: Whether or not administering co-interventions were blinded to group assignment

11a-i) Specify who was blinded, and who wasn’t
Specify who was blinded, and who wasn’t. Usually, in web-based trials it is not possible to blind the participants [1, 3] (this should be clearly acknowledged), but it may be possible to blind outcome assessors, those doing data analysis or those administering co-interventions (if any).

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subitem not at all important ○ ○ ○ ○ ● essential

Does your paper address subitem 11a-i? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Neither patients nor clinicians were blinded due to the nature of the intervention; however, there were steps taken to blind the pharmacists conducting the BPMH (as described in the Data Collection section). During the analysis, the statistician was blinded as to which arm was intervention and which was control."
11a-ii) Discuss e.g., whether participants knew which intervention was the “intervention of interest” and which one was the “comparator”

Informed consent procedures (4a-ii) can create biases and certain expectations - discuss e.g., whether participants knew which intervention was the “intervention of interest” and which one was the “comparator”.

![Rating Scale](https://docs.google.com/forms/d/e/1FAIpQLSfZBSUp1bwOc_OimqcS64RdfIAFvmrTSkZQL2-3O8O9hrL5Sw/viewform?hl=en_US&formkey=dGlKd2)

1 2 3 4 5

- subitem not at all important
- essential

Clear selection

Does your paper address subitem 11a-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Patients nor clinicians were blinded

11b) If relevant, description of the similarity of interventions

(this item is usually not relevant for ehealth trials as it refers to similarity of a placebo or sham intervention to a active medication/intervention)

Does your paper address CONSORT subitem 11b? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Usual care accessed the medication information as normal. The intervention facilitated the collection of patient reported medication data and the presentation of that data along with dispense data to the providers.
12a) Statistical methods used to compare groups for primary and secondary outcomes
NPT: When applicable, details of whether and how the clustering by care providers or centers was addressed

Does your paper address CONSORT subitem 12a? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"To understand the representativeness of our sample, we compared the demographics of patients seen at the clinics during the intervention period to those who received a BPMH. We described continuous variables using means and SDs as well as medians and IQRs. Categorical variables were described using frequencies and percentages. Wilcoxon rank-sum tests were used to compare the differences between 2 groups for skewed continuous outcomes; chi-square tests were used to evaluate the independence of categorical outcomes between MT and UC, where odds ratios (ORs) were presented. A mixed effects model with Poisson regression was performed to model the impact of MT on count data (number of medication discrepancies) after adjusting for age, sex, and Charlson comorbidity index, with the total number of medications as the offset variable. Incidence rate ratios (IRRs) and 95% CIs were estimated from Poisson regression models. Sensitivity analyses were performed with or without considering cluster-level covariates for cRCTs. P<.05 was considered statistically significant. Statistical analyses were performed using RStudio version 1.2.1335 (RStudio, PBC, Boston, MA, USA) [25]. Additionally, we conducted sensitivity analyses including only those patients for whom the pharmacist rated that they were confident in the history they gathered from the patients; histories where the pharmacist was either somewhat confident or not confident were excluded."
12a-i) Imputation techniques to deal with attrition / missing values

Imputation techniques to deal with attrition / missing values: Not all participants will use the intervention/comparator as intended and attrition is typically high in ehealth trials. Specify how participants who did not use the application or dropped out from the trial were treated in the statistical analysis (a complete case analysis is strongly discouraged, and simple imputation techniques such as LOCF may also be problematic [4]).

Does your paper address subitem 12a-i? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We did not adjust for missing data or attrition as we did not have follow-up

12b) Methods for additional analyses, such as subgroup analyses and adjusted analyses
To understand the representativeness of our sample, we compared the demographics of patients seen at the clinics during the intervention period to those who received a BPMH. We described continuous variables using means and SDs as well as medians and IQRs. Categorical variables were described using frequencies and percentages. Wilcoxon rank-sum tests were used to compare the differences between 2 groups for skewed continuous outcomes; chi-square tests were used to evaluate the independence of categorical outcomes between MT and UC, where odds ratios (ORs) were presented. A mixed effects model with Poisson regression was performed to model the impact of MT on count data (number of medication discrepancies) after adjusting for age, sex, and Charlson comorbidity index, with the total number of medications as the offset variable. Incidence rate ratios (IRRs) and 95% CIs were estimated from Poisson regression models. Sensitivity analyses were performed with or without considering cluster-level covariates for cRCTs. P<.05 was considered statistically significant. Statistical analyses were performed using RStudio version 1.2.1335 (RStudio, PBC, Boston, MA, USA) [25]. Additionally, we conducted sensitivity analyses including only those patients for whom the pharmacist rated that they were confident in the history they gathered from the patients; histories where the pharmacist was either somewhat confident or not confident were excluded.

X26) REB/IRB Approval and Ethical Considerations [recommended as subheading under "Methods"] (not a CONSORT item)
X26-i) Comment on ethics committee approval

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subitem not at all important ○ ○ ○ ○ ○ essential

Does your paper address subitem X26-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"This study was approved by the institutional review board."

x26-ii) Outline informed consent procedures

Outline informed consent procedures e.g., if consent was obtained offline or online (how? Checkbox, etc.?), and what information was provided (see 4a-ii). See [6] for some items to be included in informed consent documents.

1 2 3 4 5

subitem not at all important ○ ○ ○ ○ ○ essential
Does your paper address subitem X26-ii?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Pharmacists approached eligible patients after their visit and asked whether they would be interested in participating in a study. If a patient was agreeable, the pharmacist brought them to a private room for consent and to conduct the BPMH"

X26-iii) Safety and security procedures
Safety and security procedures, incl. privacy considerations, and any steps taken to reduce the likelihood or detection of harm (e.g., education and training, availability of a hotline)

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subitem not at all important ○ ○ ○ ○ ○ essential

Does your paper address subitem X26-iii?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

This was a minimal risk intervention. Patients' data however, was stored within a secure environment

RESULTS
13a) For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome

NPT: The number of care providers or centers performing the intervention in each group and the number of patients treated by each care provider in each center

13b) For each group, losses and exclusions after randomisation, together with reasons

MT was implemented in 3 clinics from July 10, 2018, through August 1, 2019. Over this time frame, MT was accessed 10,835 times by 7342 distinct patients. Overall, 224 patients were recruited and underwent a BPMH with the pharmacist (n=106 [47.3%] MT, n=118 [52.7%] UC).

There were no losses to follow-up, however only a small percentage of patients who accessed the tool were assessed for the primary outcome
13b-i) Attrition diagram

Strongly recommended: An attrition diagram (e.g., proportion of participants still logging in or using the intervention/comparator in each group plotted over time, similar to a survival curve) or other figures or tables demonstrating usage/dose/engagement.

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subitem not at all important ○ ○ ○ ○ ○ essential

Clear selection

Does your paper address subitem 13b-i?

Copy and paste relevant sections from the manuscript or cite the figure number if applicable (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

There was no loss to follow-up or attrition.

14a) Dates defining the periods of recruitment and follow-up

Does your paper address CONSORT subitem 14a? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

"MT was implemented in 3 clinics from July 10, 2018, through August 1, 2019."
14a-i) Indicate if critical “secular events” fell into the study period

Indicate if critical “secular events” fell into the study period, e.g., significant changes in Internet resources available or "changes in computer hardware or Internet delivery resources"

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subitem not at all important ○ ○ ● ○ ○ essential

Clear selection

Does your paper address subitem 14a-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

No secular events impacted the trial

14b) Why the trial ended or was stopped (early)

Does your paper address CONSORT subitem 14b? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Later, due to feasibility, namely difficulties in recruitment, the trial was stopped"

15) A table showing baseline demographic and clinical characteristics for each group

NPT: When applicable, a description of care providers (case volume, qualification, expertise, etc.) and centers (volume) in each group
Does your paper address CONSORT subitem 15? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

For this information please see Table 1

15-i) Report demographics associated with digital divide issues

In ehealth trials it is particularly important to report demographics associated with digital divide issues, such as age, education, gender, social-economic status, computer/Internet/ehealth literacy of the participants, if known.

Does your paper address subitem 15-i? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

For this information please see Table 1

16) For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups
16-i) Report multiple “denominators” and provide definitions

Report multiple “denominators” and provide definitions: Report N's (and effect sizes) “across a range of study participation [and use] thresholds” [1], e.g., N exposed, N consented, N used more than x times, N used more than y weeks, N participants “used” the intervention/comparator at specific pre-defined time points of interest (in absolute and relative numbers per group). Always clearly define “use” of the intervention.

1 2 3 4 5

subitem not at all important  ○  ○  ○  ○  ● essential

Clear selection

Does your paper address subitem 16-i? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

This information can be found in the results tables

16-ii) Primary analysis should be intent-to-treat

Primary analysis should be intent-to-treat, secondary analyses could include comparing only "users", with the appropriate caveats that this is no longer a randomized sample (see 18-i).

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subitem not at all important  ○  ○  ●  ○  ○  essential

Clear selection
Does your paper address subitem 16-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

Randomization was at the clinic level, but primary outcome was based on a convenience sample.

17a) For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)

Does your paper address CONSORT subitem 17a? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

"For our primary outcome of medication list accuracy (defined as 0 discrepancies), we did not detect a statistically significant difference between MT and UC (OR=1.01, 95% CI 0.38-2.70, P=.98). Pharmacists completing the BPMH reported being confident in the medication history for 200 (89.2%) of 224 patients (91 [85.8%] MT, 109 [92.4%] UC). The primary outcome remained the same upon conducting a sensitivity analysis limited to those BPMHs in which the pharmacist was confident (OR=1.08, 95% CI 0.39-3.02, P=.88)." Additional details can be found in Tables 2-4.
17a-i) Presentation of process outcomes such as metrics of use and intensity of use

In addition to primary/secondary (clinical) outcomes, the presentation of process outcomes such as metrics of use and intensity of use (dose, exposure) and their operational definitions is critical. This does not only refer to metrics of attrition (13-b) (often a binary variable), but also to more continuous exposure metrics such as “average session length”. These must be accompanied by a technical description how a metric like a “session” is defined (e.g., timeout after idle time) [1] (report under item 6a).

Does your paper address subitem 17a-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks “like this” to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"MT was implemented in 3 clinics from July 10, 2018, through August 1, 2019. Over this time frame, MT was accessed 10,835 times by 7342 distinct patients."

17b) For binary outcomes, presentation of both absolute and relative effect sizes is recommended

Does your paper address CONSORT subitem 17b? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Please see Table 1 for these results
18) Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory

Does your paper address CONSORT subitem 18? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Pharmacists completing the BPMH reported being confident in the medication history for 200 (89.2%) of 224 patients (91 [85.8%] MT, 109 [92.4%] UC). The primary outcome remained the same upon conducting a sensitivity analysis limited to those BPMHs in which the pharmacist was confident (OR=1.08, 95% CI 0.39-3.02, P=.88)...A Poisson regression model indicated that the MT and UC arms were comparable regarding the rate of discrepancies (IRR=1.22, 95% CI 0.97-1.55, P=.09). The rate of discrepancies was significantly affected by age (IRR=1.01, 95% CI 1.00-1.01, P=.03), male sex (IRR=0.81, 95% CI 0.71-0.93, P=.003), and Charlson comorbidity index (IRR=0.95, 95% CI 0.92-0.98, P=.001). Sensitivity analyses with or without considering cluster-level covariates confirmed the robustness of findings of the Poisson regression model (data not shown)."

18-i) Subgroup analysis of comparing only users

A subgroup analysis of comparing only users is not uncommon in ehealth trials, but if done, it must be stressed that this is a self-selected sample and no longer an unbiased sample from a randomized trial (see 16-iii).

subitem not at all important: 1 2 3 4 5 essential: Clear selection
Does your paper address subitem 18-i?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

Our secondary analysis of usability assessed users only.

19) All important harms or unintended effects in each group
(for specific guidance see CONSORT for harms)

Does your paper address CONSORT subitem 19? *
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study.

This was a minimal risk intervention and we did not identify any harms or unintended consequences.

19-i) Include privacy breaches, technical problems
Include privacy breaches, technical problems. This does not only include physical "harm" to participants, but also incidents such as perceived or real privacy breaches [1], technical problems, and other unexpected/unintended incidents. "Unintended effects" also includes unintended positive effects [2].

1 2 3 4 5

subitem not at all important ○ ○ ○ ○ ○ essential

Clear selection
Does your paper address subitem 19-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We had no privacy breaches or other technical problems other than the implementation challenges we described

19-ii) Include qualitative feedback from participants or observations from staff/researchers

Include qualitative feedback from participants or observations from staff/researchers, if available, on strengths and shortcomings of the application, especially if they point to unintended/unexpected effects or uses. This includes (if available) reasons for why people did or did not use the application as intended by the developers.

Does your paper address subitem 19-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Qualitative findings can be found in Tables 7 and 10

DISCUSSION

22) Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence

NPT: In addition, take into account the choice of the comparator, lack of or partial blinding, and unequal expertise of care providers or centers in each group
22-i) Restate study questions and summarize the answers suggested by the data, starting with primary outcomes and process outcomes (use)

Restate study questions and summarize the answers suggested by the data, starting with primary outcomes and process outcomes (use).

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| subitem not at all important | | | | |
| essential | | | | |

Does your paper address subitem 22-i? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"The use of MT, a web-based application facilitating medication reconciliation, did not impact the accuracy of medication lists. The application was well received by patients; however, implementation challenges limited usability and acceptance by staff. The failure to improve medication list accuracy reflects both implementation challenges as well as the challenge of reliance on a technology-only solution to obtaining accurate medication lists."

22-ii) Highlight unanswered new questions, suggest future research

Highlight unanswered new questions, suggest future research.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| subitem not at all important | | | | |
| essential | | | | |

Clear selection
20) Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses

20-i) Typical limitations in ehealth trials

Typical limitations in ehealth trials: Participants in ehealth trials are rarely blinded. Ehealth trials often look at a multiplicity of outcomes, increasing risk for a Type I error. Discuss biases due to non-use of the intervention/usability issues, biases through informed consent procedures, unexpected events.

|   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| subitem not at all important |   |   |   |   |   |
| essential                    |   |   |   |   |   |

Clear selection

We discuss how future work should consider how innovations like tool are integrated into the clinical workflow.
"Despite these strengths, a few limitations should be noted. Due to the nature of the intervention, clinicians and, to an extent, patients could not be blinded to the intervention. Fidelity to the use of MT was not always optimal and was variably used among rooming staff. As indicated in the staff survey and interviews, MT was not favorably viewed by the staff and as such they might have failed to use MT consistently, which would reduce observed effectiveness. Technical challenges, such as loading delays and internet connectivity for tablets, also affected the usability of the application in our clinics. Additionally, although the application was implemented within the EHR, it was outside of the existing workflow and required several additional clicks. Finally, we are underpowered to confidently detect the differences we observed in this trial. This was, in part, due to optimistic initial estimates of the effect of MT, as well as recruitment challenges. Our initial estimates of the effect of MT may have been optimistic as by the time the application was implemented, certain features were also available in the EHR, thereby reducing the difference between MT and UC.”

21) Generalisability (external validity, applicability) of the trial findings
NPT: External validity of the trial findings according to the intervention, comparators, patients, and care providers or centers involved in the trial

21-i) Generalizability to other populations
Generalizability to other populations: In particular, discuss generalizability to a general Internet population, outside of a RCT setting, and general patient population, including applicability of the study results for other organizations

1 2 3 4 5

subitem not at all important ○ ○ • ○ ○ essential

Clear selection
Does your paper address subitem 21-i?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We found the tool was not effective and therefore should not be generalized, however some of our lessons learned could be.

21-ii) Discuss if there were elements in the RCT that would be different in a routine application setting
Discuss if there were elements in the RCT that would be different in a routine application setting (e.g., prompts/reminders, more human involvement, training sessions or other co-interventions) and what impact the omission of these elements could have on use, adoption, or outcomes if the intervention is applied outside of a RCT setting.

1 2 3 4 5
subitem not at all important essential
Clear selection

Does your paper address subitem 21-ii?
Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Our trial aimed to be pragmatic, but assessment of accuracy would not routinely occur in regular practice.

OTHER INFORMATION

23) Registration number and name of trial registry
Does your paper address CONSORT subitem 23? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Our study was considered quality improvement and was therefore not registered.

24) Where the full trial protocol can be accessed, if available

Does your paper address CONSORT subitem 24? *

Cite a Multimedia Appendix, other reference, or copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The protocol is available on request from the authors.

25) Sources of funding and other support (such as supply of drugs), role of funders

Does your paper address CONSORT subitem 25? *

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Funding was provided by Merck Sharp & Dohme Corp, a subsidiary of Merck & Co, Inc, Kenilworth, NJ, USA"

X27) Conflicts of Interest (not a CONSORT item)
X27-i) State the relation of the study team towards the system being evaluated

In addition to the usual declaration of interests (financial or otherwise), also state the relation of the study team towards the system being evaluated, i.e., state if the authors/evaluators are distinct from or identical with the developers/sponsors of the intervention.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| subitem not at all important | | | | | essential |

Clear selection

Does your paper address subitem X27-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"Funding was provided by Merck Sharp & Dohme Corp, a subsidiary of Merck & Co, Inc, Kenilworth, NJ, USA"

About the CONSORT EHEALTH checklist

As a result of using this checklist, did you make changes in your manuscript? *

- yes, major changes
- yes, minor changes
- no
What were the most important changes you made as a result of using this checklist?

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How much time did you spend on going through the checklist INCLUDING making changes in your manuscript *

I spent 4 hours going through the checklist

As a result of using this checklist, do you think your manuscript has improved? *

- yes
- no
- Other:

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This would involve for example becoming involved in participating in a workshop and writing an "Explanation and Elaboration" document

- yes
- no
- Other:

Clear selection
Any other comments or questions on CONSORT EHEALTH

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