### CONSORT-EHEALTH (V 1.6.1) -Submission/Publication Form

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 (nonpharmacologic 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

J Med Internet Res 2011;13(4):e126 URL: <u>http://www.jmir.org/2011/4/e126/</u> doi: 10.2196/jmir.1923 PMID: 22209829

\* Required

Your name \*

First Last

Belinda Borrelli

### Primary Affiliation (short), City, Country \*

University of Toronto, Toronto, Canada

Boston University, USA

Your e-mail address \*

abc@gmail.com

belindab@bu.edu

Title of your manuscript \*

Provide the (draft) title of your manuscript.

Interactive Parent-targeted Text Messaging Intervention in Pediatric Clinics to Improve Oral Health Among Urban Children Attending Urban Pediatric Clinics:

Feasibility Randomized Controlled Trial

### Name of your App/Software/Intervention \*

If there is a short and a long/alternate name, write the short name first and add the long name in brackets.

iSmile (interactive Short Message Initiat

### Evaluated Version (if any)

e.g. "V1", "Release 2017-03-01", "Version 2.0.27913"

n/a

### Language(s) \*

What language is the intervention/app in? If multiple languages are available, separate by comma (e.g. "English, French")

English, Spanish

### URL of your Intervention Website or App

e.g. a direct link to the mobile app on 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.

Your answer

### URL of an image/screenshot (optional)

Your answer

### Accessibility \*

Can an enduser access the intervention presently?

### Recommended "Dose" \*

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

|   | Approximately Daily   |
|---|-----------------------|
| 0 | Approximately Weekly  |
| 0 | Approximately Monthly |
| 0 | Approximately Yearly  |
| 0 | "as needed"           |
| 0 | Other:                |

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

- unknown / not evaluated
- 0-10%
- 0 11-20%
- 0 21-30%
- 0 31-40%
- 0 41-50%
- 51-60%
- 0 61-70%
- 0 71%-80%
- 0 81-90%
- 91-100%
- Other: Only one person dropped out during 2-mo program; 85% complete

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: this was a pilot feasibility RCT with promising results

| Article Preparation Status/Stage *<br>At which stage in your article preparation are you currently (at the time you fill in this form) |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| <ul> <li>not submitted yet - in early draft status</li> </ul>  |  |  |  |  |  |  |  |
| <ul> <li>not submitted yet - in late draft status, just before<br/>submission</li> </ul>   |  |  |  |  |  |  |  |
| <ul> <li>submitted to a journal but not reviewed yet</li> </ul>  |  |  |  |  |  |  |  |
| <ul> <li>submitted to a journal and after receiving initial reviewer comments</li> </ul>   |  |  |  |  |  |  |  |
| <ul> <li>submitted to a journal and accepted, but not published yet</li> </ul>   |  |  |  |  |  |  |  |
| ○ published  |  |  |  |  |  |  |  |
| O Other:   |  |  |  |  |  |  |  |
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### 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")

- O 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
- O 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: JMU ms#14247

TITLE AND ABSTRACT

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

1a) Does your paper address CONSORT item 1a? \*

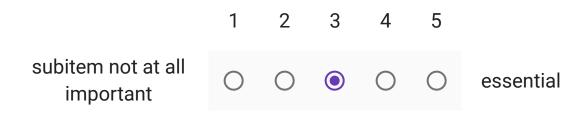
I.e does the title contain the phrase "Randomized Controlled Trial"? (if not, explain the reason under "other")

💽 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 "Internetbased" 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.



### 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

"Interactive Parent-targeted Text Messaging Intervention to Improve Oral Health Among Children Attending Urban Pediatric Clinics: Feasibility Randomized Controlled Trial"

## 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").



### 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

Not applicable; there are no co-interventions. The intervention is solely text messaging

### 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



### Does your paper address subitem 1a-iii? \*

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

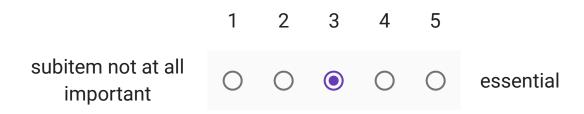
"urban children attending pediatric clinics" and "oral health"

## 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)



### Does your paper address subitem 1b-i?\*

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

"This is a randomized controlled feasibility trial testing effects of oral health text messages (OHT) vs. control (child wellness text messages; CWT)." "Texts were sent twice each/day for 8-weeks. Groups were equivalent on the number of text messages sent, personalization, interactivity, and opportunity to earn electronic badges and 'unlock' animated characters."

# 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)



### 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

"Text messages were fully automated, interactive, and based on Social Cognitive Theory and feedback from stakeholders"

### 1b-iii) Open vs. closed, web-based (self-assessment) vs. face-toface 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)



### Does your paper address subitem 1b-iii?

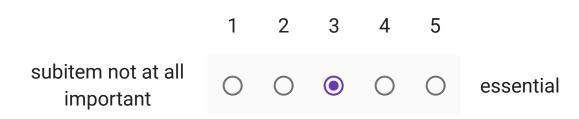
Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your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

"Potential participants were parents or caregivers of children who were patients of pediatric clinics in two community health centers in an urban area of Boston. The majority of patients in these clinics receive Medicaid (>88%). Participants were recruited to participate in child wellness study by research assistants in pediatric and family medicine waiting rooms and by clinic staff referral"

"Surveys were self-administered online at baseline, prior to randomization, and at the two-month follow-up."

### 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)



### 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

N=55 randomized (n=28 OHT; n=27 CWT), n=1 dropped-out; n=24 OHT, n=23 CWT completed follow-up; response rates OHT=69%, CWT=70%; overall satisfaction OHT M=6.3, CWT M=6.2 (t(46)=0.41, P=.70); overall likeability OHT M=5.9, CWT M=6.0 (t(46)=-0.38, P=.70); in OHT group, high perceived program impact scores for brushing M=4.7, motivation to address, and knowledge of, child's oral health M=4.6; at follow-up: OHT (vs CWT) more likely to brush children's teeth 2xd (OR=1.37; 95%CI[0.28, 6.5]), to have improved attitude about fluoride use (OR=3.82; 95%CI[0.9,16.8]) and about regular dental check-ups (OR=4.68, 95%CI[.24, 91.4]); modest changes in motivation (F=0.60, P=.45) and self-efficacy (F=0.24, P=.63) to engage in oral health behaviors favoring OHT (motivation d=.28, self-efficacy d=.16).

### 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

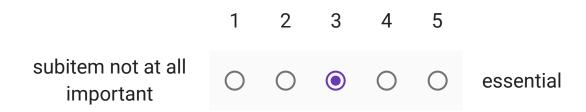
This is not applicable because this was not a negative trial.

### 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)



### 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

"Despite the fact that there are effective preventive treatments for dental decay, caries experience among preschool-aged children has remained relatively unchanged for the past two decades."

# 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 appropiate), 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.



### Does your paper address subitem 2a-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

"Although there are 3 studies of text messages to improve pediatric oral health, they all have small samples, short-term outcomes (1 week to 3 months), and lack rigorous controls. Only one of three was conducted in the US and was limited in that it used text messages as reminders only, and they were sent for only 7 days".

### 2b) In INTRODUCTION: Specific objectives or hypotheses

### Does your paper address CONSORT subitem 2b? \*

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 hypothesized that participant satisfaction would be equivalent between conditions (to preserve internal validity) and that participants randomized to OHT would experience positive changes in relevant Social Cognitive Theory constructs (motivation, self-efficacy, outcome expectations) and report improved oral health behaviors (tooth brushing, sugar sweetened beverages)."



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

### Does your paper address CONSORT subitem 3a? \*

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

"Parents or caregivers who attended the target pediatric clinics and have children under the age of 7 were randomized into the pilot RCT employing a parallel design and using a 1:1 allocation ratio to receive the Oral Health Text messages (OHT) or Child Wellness Text messages (CWT) for two months."

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

There were no changes to trial methods after trial commencement.

### 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].



### Does your paper address subitem 3b-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

Because we did internal testing with staff prior to the pilot RCT launch major bugs and fixes were identified and fixed prior to deploying the text messaging program to participants.

### 4a) Eligibility criteria for participants

### Does your paper address CONSORT subitem 4a? \*

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

"Parents/legal guardians were considered eligible if they: were aged 18 years or older and had a child aged 6 months to 7 years old who received medical care at one of the target community health centers; lived in the greater Boston area and were not planning on moving for eight weeks; spoke, understood, and read either English or Spanish fluently; had a mobile phone with unlimited text messaging; texted at least one time in the past month; adequate ability to read health-related material, were not enrolled in another mobile phone, child health or wellness study; reported no abuse of alcohol or drugs and no previous serious mental illness (bipolar disorder, mania, psychosis, schizophrenia, manic-depressive disorder)".

### 4a-i) Computer / Internet literacy

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



### Does your paper address subitem 4a-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

As described in the eligibility criteria, in order to be eligible for the study, participants needed to have texted at least once in the past month.

### 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

"Participants were recruited by research assistants in pediatric and family medicine waiting rooms and by clinic staff referral. The research assistants administered informed consent to potential participants and those who consented were asked to complete baseline questionnaires."

### 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.



### 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

"Participants were recruited to participate in a child wellness study by research assistants in pediatric and family medicine waiting rooms and by clinic staff referral". The consent stated that participants will be randomized to one of two different text message programs, determined by chance. One program will deliver text messages regarding children's oral health, and the other program will deliver text messages on child wellness issues.

### 4b) Settings and locations where the data were collected

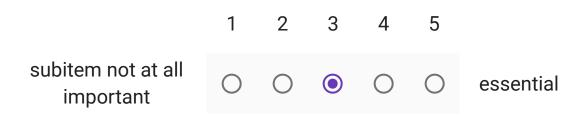
### Does your paper address CONSORT subitem 4b? \*

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

"Potential participants were parents or caregivers of children who were patients of pediatric clinics in two community health centers in an urban area of Boston."

# 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.



### 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

"Surveys were self-administered online at baseline, prior to randomization, and at the two-month follow-up (after the end of the text messages)."

### 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)



### 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 introductory text messages said "Welcome to the Boston University iSmile program."

# 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).



### 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

Scott Werntz is the CEO of Agile Health the company that deployed the text messages described in the current study.

### 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.



### 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

"We developed a text message program focused on motivating adherence to pediatric oral health behaviors. The program content and structure was based on clinical guidelines and we also sought input on program structure and content from providers, focus groups with the target population (parents or caregivers of children less than 7 years old who attend the target CHCs), and a multidisciplinary scientific advisory board. We also interviewed medical assistants, nurses, and pediatricians (n=9) to assess their opinions about the program and how to integrate it into the clinic flow. We conducted 11 focus groups with parents or caregivers (n=63) to develop text message content, match content to participants' literacy levels, assess design program preferences (features, structure, length, badges), incorporate cultural considerations, identify knowledge gaps, and map text message content onto a theoretical model and mediators."

### 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).



### 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

Our program is a text message program and therefore there is no version number. The content was frozen during the trial. There are no dynamic components that could have an impact on the replicability of the intervention.

### 5-iv) Quality assurance methods

Provide information on quality assurance methods to ensure accuracy and quality of information provided [1], if applicable.



### 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

We checked whether text messages were delivered correctly. "Due to a technical problem, there were three CWT text messages that were scheduled to be delivered but were not. Two messages applied only to CWT parents who had toddlers and one message applied only to those who chose the stress management module. Therefore, this technical problem affected <2% of messages. There were no other unintended or harmful effect to participants".

# 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/screencapture 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.



### 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

This section is not applicable because it is a text message program.

### 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, <u>webcitation.org</u>, 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.



### 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

This section is not applicable because it is a text message program.

### 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).



### 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

Potential participants were parents/caregivers of children who were patients of pediatric clinics in 2 community health centers in Boston; Participants were recruited by research assistants (RAs) in pediatric/family medicine waiting rooms and by clinic staff referral; RAs administered informed consent to potential participants, those who consented were asked to complete baseline questionnaires; participants were then randomized by computer to receive either Oral Health Texts (OHT) or Child Wellness Texts (CWT); randomization triggered a text asking subjects to 'opt into' the program; our inclusion criteria state that subjects had to have unlimited texting to be in the program; subjects did not have to pay for the program but they received compensation for completing questionnaires (\$25 for the baseline survey, \$40 for the followup survey), not for participating in the program.

# 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 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].



### 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

"text message content was mapped onto a theoretical model and mediators (Social Cognitive Theory)"; program content/structure based on clinical guidelines & multidisciplinary scientific advisory board, interviews of medical assistants, nurses, pediatricians; 11 focus groups for literacy content, program preferences, cultural considerations; internal pilot testing & usability study; groups matched on duration, dose, program features/interactivity, engagement strategies, feedback & behavior change techniques; OHT goal: brushing 2x every day, CWT: reading every day; OHT topics: brushing/cleaning gums, visit dentist, bedtime routine, bottle/sippy cup, sugary drinks, healthy eating, fluoride, fun facts, CWT: reading, safety, sleep and behavior, child development, physical activity, stress tips for parents, second hand smoke,

### 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.



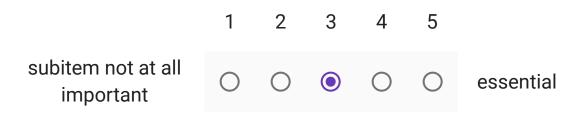
### Does your paper address subitem 5-ix?

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

"OHT and CWT were matched on program duration (8 weeks) and dose (two text messages per day for one month followed by one text message per day for one month)".

### 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).



### 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

There was no human involvement in the intervention.

### 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

Participants were prompted to fill out questionnaires at follow-up via text and email; prompted to answer assessment texts via text message approximately on a weekly basis.

### 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.

|                                 | 1 | 2 | 3 | 4 | 5 |           |
|---------------------------------|---|---|---|---|---|-----------|
| subitem not at all<br>important | 0 | 0 | ۲ | 0 | 0 | essential |

### 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 not co-interventions; There was no training needed.

6a) Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed

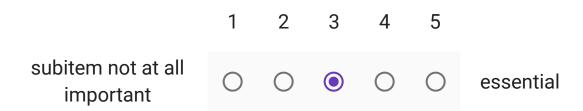
### Does your paper address CONSORT subitem 6a? \*

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

This was a trial to demonstrate feasibility and program satisfaction, degree of program engagement, and preliminary data regarding potential effectiveness (change in motivation, self-efficacy, attitudes, self-reported brushing

### 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].



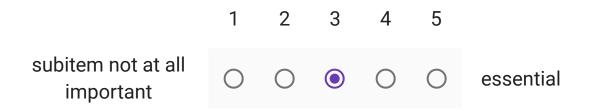
### Does your paper address subitem 6a-i?

Copy and paste relevant sections from manuscript text

We did not administer an online q-aire.

# 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.



### Does your paper address subitem 6a-ii?

Copy and paste relevant sections from manuscript text

Methods--Program Engagement (Pg 14-15). Engagement data obtained automatically through program interaction; dose=M of (n SMS sent to subjects/n sample); tot response rate=n subject-submitted responses to SMS expecting response/n possible responses; assessment response rate=M number of subjects responding to assessment SMS/n sample; 'unsolicited' SMS=n not-expected SMS sent by subjects; n(%) of subjects accepting 'challenge weeks'; OHT only: % choosing 'choice' SMS module=n subjects selecting a 'choice' module when module was available/n potential module choices.

# 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).



### Does your paper address subitem 6a-iii?

Copy and paste relevant sections from manuscript text

program content and structure was based on clinical guidelines; we also sought input on program structure and content from providers, focus groups with the target population (parents or caregivers of children less than 7 years old who attend the target CHCs), and a multidisciplinary scientific advisory board. We also interviewed medical assistants, nurses, and pediatricians (n=9) to assess their opinions about the program and how to integrate it into the clinic flow. We conducted 11 focus groups with parents or caregivers (n=63) to develop text message content, match content to participants' literacy levels, assess design program preferences (features, structure, length, badges), incorporate cultural considerations, identify knowledge gaps, and map text message content onto a theoretical model and mediators.

## 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

There were no changes after the trial began.

### 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.



### 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

Not applicable, because our feasibility/pilot study did not conduct power analyses to determine sample size.

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

n/a

### 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

"Participants were then randomized (using random number functions in the SAS computing package and 1:1 allocation ratio) to receive either Oral Health Text messages (OHT) or Child Wellness Text messages (CWT).

Randomization triggered a text message asking the participant to 'opt into' the program. A permutated randomized block design was used, stratified by clinic, child age, and history of caries."

## 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

"A permutated randomized block design was used, stratified by clinic, child age, and history of caries."

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

"Participants were then randomized (using random number functions in the SAS computing package and 1:1 allocation ratio) to receive either Oral Health Text messages (OHT) or Child Wellness Text messages (CWT). Randomization triggered a text message asking the participant to 'opt into' the program. A permutated randomized block design was used, stratified by clinic, child age, and history of caries. Research assistants were masked to treatment condition. Research assistants were masked to treatment condition, as participants' first text messages were delivered 24 hours after

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

"Participants were recruited to participate in child wellness study by RAs in pediatric and family medicine waiting rooms and by clinic staff referral. The RAs administered informed consent to potential participants and those who consented were asked to complete baseline questionnaires. Participants were then randomized (using random number functions in the SAS computing package and 1:1 allocation ratio) to receive either Oral Health Text messages (OHT) or Child Wellness Text messages (CWT). Randomization triggered a text message asking the participant to 'opt into' the program. A permutated randomized block design was used, stratified by clinic, child age, and history of caries. RAs were masked to treatment condition, as participants' first text messages were delivered 24 hours after enrollment."

# 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).



# 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

"Research assistants were masked to treatment condition, as participants' first text messages were delivered 24 hours after enrollment"; Care providers were not involved in the intervention. Participants could not be masked to the intervention due to the content of the text messages—they would know if they were randomized to OHT or CWT.

# 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".



# 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

"Research assistants were masked to treatment condition, as participants' first text messages were delivered 24 hours after enrollment"; Care providers were not involved in the intervention. Participants could not be masked to the intervention due to the content of the text messages—they would know if they were randomized to OHT or CWT; "In order to prevent participant expectations from unduly influencing the results, assessments of CWT outcomes (reading, safety) and OHT outcomes (Oral health behavior) were given to all participants. Because the main purpose of the study was to report on OHT, we present the measures and results of only those outcomes."

## 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

"OHT and CWT were matched on program duration (8 weeks) and dose (2 SMS per day for 1 month followed by 1 SMS per day for 1 month), engagement strategies (quizzes on fun facts, birthday SMS, ability to earn child-friendly animated badges for goal achievement, and ability to 'unlock' higher levels of animated badges for engaging in the target behavior), and personalization and customization that allowed for the tailoring of message content. SMS in both conditions were interactive, focusing on problem solving barriers to behavior change. For OHT, the target goal was brushing every day, 2x day; for CWT, the target goal was reading every day. Both programs provided feedback on progress via ability to electronically view a 'trophy case' of badges earned so far and motivational SMS. Participants could also participate in 'challenge weeks' during which they were given daily electronic badges for achieving the target behavior."

# 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

Methods--Analytic Plan (Pg 15-16). Changes in oral health attitudes and behaviors from baseline to follow-up in OHT vs CWT: analyzed through models for longitudinal data with a group-by-time interaction representing the intervention effect; binary outcomes: GEE regression for longitudinal data estimated the odds of achieving a behavior at follow-up compared to baseline, for those in OHT vs. CWT; outcome expectations and attitudes towards oral health: GEE regression estimated the odds of strongly vs. not strongly agreeing to each construct at follow-up vs. baseline, for OHT vs. CWT; continuous outcomes: mixed effects linear regression to compare changes in group means from baseline to follow-up, in OHT vs. CWT. Effect sizes for continuous measures: Cohen's d, for binary measures: OR with 95% CI; analyses performed for n=47.

# 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

Aim of feasibility trial was to test recruitment processes, assess participants' use, satisfaction, potential impact of OHT on mediators. Because feasibility trial not powered to detect statistically significant differences, and follow-up data were provided by majority of sample (85%), we did not include multiple imputation analysis for missing values in manuscript. However, we carried out analyses for outcomes: 'child brushing/fluoride use', 'attitudes towards oral health', 'outcome expectations' using multiple imputation of missing values. 10 datasets generated assuming multivariate normal distribution for imputation of data for continuous outcomes (SAS PROC MI) employing group, parent's race/education, child's age and n of children as predictors. Analysis revealed a very similar pattern to complete case analysis, and parameter estimates of effect sizes remained not statistically significant. We are confident that missing follow-up data did not bias our findings.

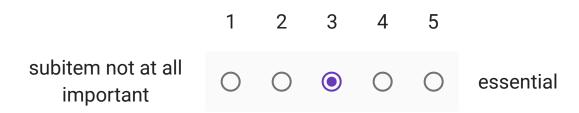
# 12b) Methods for additional analyses, such as subgroup analyses and adjusted analyses

#### Does your paper address CONSORT subitem 12b? \*

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

Because this was a feasibility trial, no additional analyses were planned. Given that the aim was to test recruitment processes, and preliminary impact on theoretical mediators, subgroup or adjusted analyses were not appropriate.

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



### 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

"The study received ethical approval from our institution's human subjects institutional review board as well as review and approval by the ethical committees at the community health centers."

# 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.



### 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

"The research assistants administered informed consent to potential participants and those who consented (signed a paper copy of the consent) were asked to complete baseline questionnaires".

# 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)



#### 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

Text messages were delivered by Agile Health, Inc. Their system is HIPAA compliant and all data are encrypted in transit and at rest.

# 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

### Does your paper address CONSORT subitem 13a? \*

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

Results (Pg 16). 58 individuals randomized, 28 to OHT and 27 CWT; 3 subjects were erroneously randomized before 'opting' into the program (allocation group unknown)-since these 3 never opted into program, they did not receive intervention. 28 of 28 randomized received intended OHT intervention, 27 of 27 randomized received intended CWT intervention; 24 of 28 randomized to OHT, and 23 of 27 randomized to CWT were included in 'child brushing and fluoride use', 'attitudes towards oral health', 'social cognitive constructs' analyses; 25 of 28 randomized to OHT, 23 of 27 randomized to CWT included in the 'program satisfaction', 'program likeability' analyses. 25 of 28 randomized to OHT included in the 'perceived program impact' analysis.

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

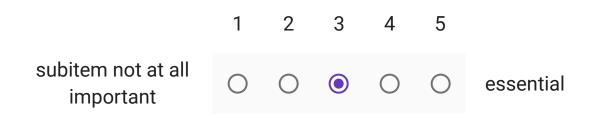
# Does your paper address CONSORT subitem 13b? (NOTE: Preferably, this is shown in a CONSORT flow diagram) \*

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 the CWT group, one participant requested termination of the text message program towards the end of the program (replied 'Stop') without giving reasons, however, the participant completed the follow-up survey. 4 CWT participants did not complete the follow-up survey (n=2 unknown reasons, n=2 phone out of service). In OHT, 4 participants did not complete the follow-up survey (n=1 phone out of service, n=3 unknown reasons). However, 1 out of the 4 participants who did not complete the follow-up survey provided program satisfaction data.

# 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.



### 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

Multimedia Appendix 1, 2. M weekly SMS numbers (dose) comparable between groups (15.3 in OHT vs 15.4 in CWT); aggregating over study period, OHT overall tot response rate=68.8%, CWT=79.8%; Averaging across the study period, OHT assessment response rate=69%, CWT=70%; 16 of 28 OHT participants (57%) opted-into at least 1 of the 2 possible 'challenge weeks'; 17 of 27 CWT participants, 63% opted-into at least 1 out of the 2 possible 'challenge weeks'.

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

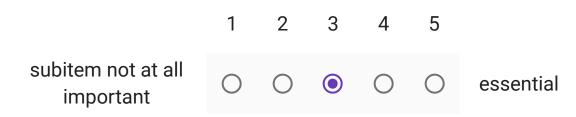
### Does your paper address CONSORT subitem 14a? \*

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

Participant recruitment and follow-up assessment took place March through May of 2017.

# 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"



### 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

There were no critical secular events that fell into the study period.

# 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

Trial did not end early.

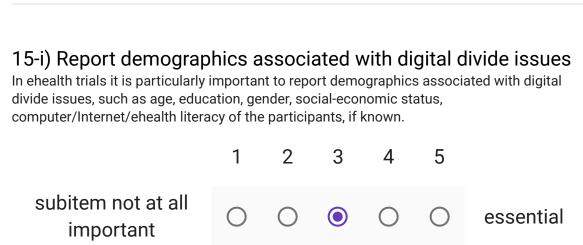
15) A table showing baseline demographic and clinical characteristics for each group

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

Results (Pg 18-19). We have included a table that shows baseline and demographic and clinical characteristics (Table 1).



# 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

Results (Pg 18-19). We report these items in Table 1, to summarize: 79% below poverty line, 15% < high school education, 53% employed, 96% female gender, and 87% minority race-ethnicity.

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.



#### 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

Results (Pg 20-22, 24-25). All relevant data are reported by treatment group in Table 2, Table 3 and Table 4 in the manuscript.

### 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).



#### 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

Aim of feasibility trial was to test recruitment processes, assess participants' use, satisfaction, potential impact of OHT on mediators. Because feasibility trial not powered to detect statistically significant differences, and follow-up data were provided by majority (85%), we did not include multiple imputation analysis for missing values in manuscript. However, we carried out analyses for outcomes: 'child brushing/fluoride use', 'attitudes towards oral health', 'outcome expectations' using multiple imputation of missing values. 10 datasets generated assuming multivariate normal distribution for imputation of data for continuous outcomes (SAS PROC MI) employing group, parent's race/education, child's age and n of children as predictors. Analysis revealed a very similar pattern to complete case analysis, and parameter estimates of effect sizes remained not statistically significant. We are confident that missing follow-up data did not bias our findings.

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

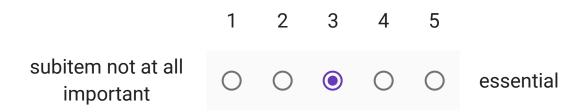
#### Does your paper address CONSORT subitem 17a? \*

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

Results (Pg 19-26). Satisfaction (Table 2), Likeability (Table 3), Perceived impact (OHT); Child brushing and fluoride use (Table 4), attitudes towards oral health (Table 4), and social cognitive theory constructs (Table 4); Program engagement (Multimedia appendix 1).

# 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

Methods--Program Engagement (Pg 14-15). Engagement data obtained automatically through program interaction; dose=M of (n SMS sent to subjects/n sample); tot response rate=n subject-submitted responses to SMS expecting response/n possible responses; assessment response rate=M number of subjects responding to assessment SMS/n sample; 'unsolicited' SMS=n not-expected SMS sent by subjects; n(%) of subjects accepting 'challenge weeks'; OHT only: % choosing 'choice' SMS module=n subjects selecting a 'choice' module when module was available/n potential module choices.

# 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

Results--(Pg 22-23). For the binary outcomes (Child brushing and fluoride use, Attitudes towards oral health, and Outcome expectations), absolute and relative effect sizes are also shown in Table 4 in the manuscript.

18) Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory

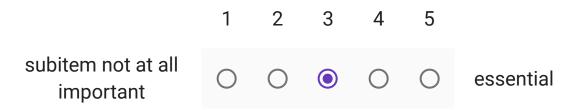
### Does your paper address CONSORT subitem 18?\*

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

Because this was a feasibility trial, no additional analyses were planned. Given that the aim was to test recruitment processes, and describe program satisfaction and preliminary impact on theoretical mediators, subgroup or adjusted analyses were not appropriate.

# 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).



### 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

We did not conduct these analyses because we believe it is beyond the scope of the paper. In addition, we had a very high rate of engagement with the text messaging program.

# 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

There were no harms to participants in the trial.

### 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].



### 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

"Due to a technical problem, there were three CWT text messages that were supposed to be delivered but were not. Two messages applied only to CWT parents who had toddlers and one message applied only to those who chose the stress management module. Therefore, this technical problem affected <2% of messages. There were no other unintended or harmful effects to participants"

#### •

# 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

We did not collect qualitative data in this study.

# 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).



#### 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

"No previous studies have tested text messages to improve the oral health of at-risk children in a RCT, matching for treatment dose and intensity. Our study tested the feasibility, program satisfaction, program engagement, and preliminary effectiveness of an interactive parent-targeted text message program focusing on pediatric oral health. Our pilot study showed proof of concept of our OHT intervention with 4 main findings: 1) OHT was perceived as highly acceptable and satisfactory, 2) participants in both conditions demonstrated a high level of engagement, 3) OHT had an impact on parent's attitudes towards oral health and on social-cognitive mediators, and 4) the program showed preliminary effectiveness at increasing brushing behaviors among those randomized to OHT vs. CWT."

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

Highlight unanswered new questions, suggest future research.



#### Does your paper address subitem 22-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

"Dissemination of text message interventions is highly viable given the high rate of text messaging and lack of disparities by income or race or/ethnicity. Text message interventions could be disseminated into pediatric clinics at low cost and are delivered exactly as designed, resulting in 100% reliable intervention".

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.



# Does your paper address subitem 20-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

"There were several limitations to this study. The primary purpose of the study was feasibility rather than a fully powered clinical trial, so caution should be used when interpreting group differences because of lack of power".

# 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



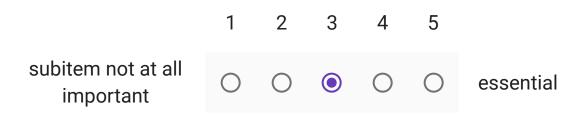
#### Does your paper address subitem 21-i?

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

"The small sample precludes generalization to the larger population, and since the sample was mostly women and those whose income was below the poverty line. Generalizability was also limited by our inclusion and exclusion criteria, which included adequate ability to read health-related material, no previous or current serious mental illness and no current alcohol or drug abuse, Because we recruited from 3 clinics that serve predominantly low income populations, it is unclear if the program would also be acceptable to men and to those having higher incomes".

# 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.



# 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

#### There were none.

# 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

This was a pilot RCT to test recruitment processes and assess participant satisfaction and the potential impact of OHT on putative Social Cognitive Theory mediators and on oral health behaviors. It was powered to address the feasibility questions, not the outcome of an intervention and was therefore not registered. Our funder advised us on this matter.

# 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 full trial protocol can be accessed by requesting it from the first author.

# 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

Funded by NIDCR UH2 DE025492. The sponsor had no role in the collection, analysis, and interpretation of the data, or in the preparation, review, or approval of the manuscript.

# 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.



# 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

Scott Werntz is the CEO of Agile Health the company that deployed the text messages described in the current study.

# 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?

see original manuscript submission.

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

22 hours

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

💽 yes

🔵 no

Other:

# Would you like to become involved in the CONSORT EHEALTH group?

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

🔵 yes

🖲 no

Other:

# Any other comments or questions on CONSORT EHEALTH

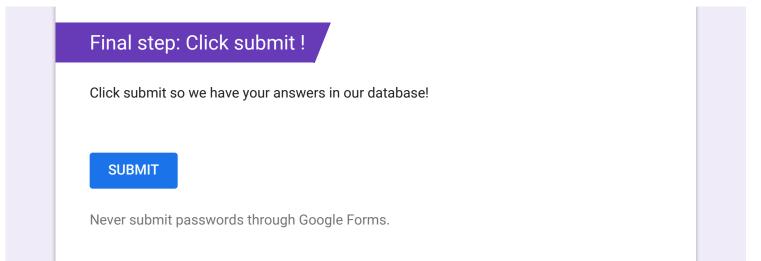
it's way too long, there is quite a lot redundancy among sections. We were unable to save the completed form as pdf file. When about to submit, the system told us that the responses are too large, and cutting them down still wouldn't work. Finally, we were able to 'find out' there is a 1000 characters limit (by the way we don't know if characters count is with or without spaces).

# STOP - Save this form as PDF before you click submit

To generate a record that you filled in this form, we recommend to generate a PDF of this page (on a Mac, simply select "print" and then select "print as PDF") before you submit it.

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