

APPENDIX A. SEARCH STRATEGIES

PubMed search date: December 29, 2016

Set	Terms	Results
#1	("Cell Phones"[Mesh] OR "Text Messaging"[Mesh] OR "Computers, Handheld"[Mesh] OR "Telemedicine"[Mesh] OR "Mobile Applications"[Mesh] OR "mobile applications"[tiab] OR "mobile application"[tiab] OR cellphone[tiab] OR cellphones[tiab] OR ((mobile[tiab] OR cellular[tiab] OR cell[tiab]) AND (phone[tiab] OR phones[tiab] OR device[tiab] OR devices[tiab] OR app[tiab] OR apps[tiab])) OR mobiles[tiab] OR smartphone[tiab] OR smartphones[tiab] OR telephone[tiab] OR telephones[tiab] OR phone[tiab] OR phones[tiab] OR e-health[tiab] OR ehealth[tiab] OR m-health [tiab] OR mhealth[tiab] OR telehealth[tiab] OR telemedicine[tiab] OR video-conference[tiab] OR videoconference[tiab] OR video-conferencing[tiab] OR videoconferencing[tiab] OR "automated telephone"[tiab] OR IVR[tiab] OR "interactive voice response"[tiab] OR sms[tiab] OR skype[tiab] OR (text[tiab] AND (message[tiab] OR messages[tiab]))) OR texts[tiab] OR mms[tiab] OR blackberry[tiab] OR ipad[tiab] OR ipads[tiab] OR android[tiab] OR laptop[tiab] OR laptops[tiab] OR ((tablet[tiab] OR tablets[tiab]) AND (computer[tiab] OR computers[tiab] OR device[tiab] OR devices[tiab])))	144064
#2	women[mesh] OR "Reproductive Health Services"[Mesh] OR "Women's Health"[Mesh] OR "Women's Health Services"[Mesh] OR "Gynecologic Surgical Procedures"[Mesh] OR "Pregnancy"[Mesh] OR "Pregnancy Complications"[Mesh] OR "Pregnant Women"[Mesh] OR "Mammography"[Mesh] OR "Gynecological Examination"[Mesh] OR "Female Urogenital Diseases"[Mesh] OR "Breast Diseases"[Mesh] OR "Breast Feeding"[Mesh] OR "Lactation"[Mesh] OR "Contraception"[Mesh] OR "Contraceptives, Oral"[Mesh] OR "Depression, Postpartum"[Mesh] OR "Uterine Cervical Neoplasms"[Mesh] OR "Papanicolaou Test"[Mesh] OR "Breast Neoplasms"[Mesh] OR "Sex Offenses"[Mesh] OR "Domestic Violence"[Mesh] OR "Intimate Partner Violence"[Mesh] OR "Migraine Disorders"[Mesh] OR "Genetic Counseling"[Mesh] OR "Fibromyalgia"[Mesh] OR women[ti] OR colposcopy[tiab] OR pregnancy[tiab] OR pregnant[tiab] OR breastfeeding[tiab] OR "breast feeding"[tiab] OR lactation[tiab] OR "breast health"[tiab] OR prenatal[tiab] OR "reproductive health"[tiab] OR "family planning"[tiab] OR contraception[tiab] OR contraceptive[tiab] OR contraceptives[tiab] OR "postpartum depression"[tiab] OR "gestational diabetes"[tiab] OR preeclampsia[tiab] OR "pre-eclampsia"[tiab] OR preconception[tiab] OR "pre-conception"[tiab] OR perinatal[tiab] OR maternal[tiab] OR "cervical cancer"[tiab] OR "Papanicolaou Test"[tiab] OR "pap test"[tiab] OR "Breast cancer"[tiab] OR "intimate partner violence"[tiab] OR rape[tiab] OR (sexual[tiab] AND (violence[tiab] OR trauma[tiab])) OR migraine[tiab] OR migraines[tiab] OR "genetic counseling"[tiab] OR fibromyalgia[tiab]	2641700
#3	#1 AND #2	13936
#4	telecolposcopy[tiab] OR "tele-colposcopy"[tiab] OR telegynecology[tiab] OR "telegynecology"[tiab] OR "telemental health"[tiab] OR "tele mental health"[tiab] OR telepharmacy[tiab] OR "tele-pharmacy"[tiab] OR "teleprimary care"[tiab] OR "tele primary care"[tiab] OR "telewellness"[tiab] OR "tele wellness"[tiab] OR "telecare coordination"[tiab] OR "tele care coordination"[tiab]	200
#5	#3 OR #4	14119
#6	(systematic[subset] OR "meta-analysis"[Publication Type] OR "meta-analysis as topic"[MeSH Terms] OR "meta-analysis"[tiab] OR "meta-analyses"[tiab] OR randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR randomly[tiab] OR trial[tiab] OR groups[tiab] OR "Comparative Study"[Publication Type] OR "Controlled Clinical Trial"[Publication Type] OR Nonrandom[tiab] OR non-random[tiab] OR nonrandomized[tiab] OR non-randomized[tiab] OR nonrandomized[tiab] OR non-randomised[tiab] OR quasi-experiment*[tiab] OR quasiexperiment*[tiab] OR quasirandom*[tiab] OR quasi-random*[tiab] OR quasi-	3258507



Set	Terms	Results
	control*[tiab] OR quasicontrol*[tiab] OR (controlled[tiab] AND (trial[tiab] OR study[tiab])) NOT (animals[mh] NOT humans[mh]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp])	
#7	#5 AND #6	5038
#8	#7 NOT (("Adolescent"[Mesh] OR "Child"[Mesh] OR "Infant"[Mesh]) NOT "Adult"[Mesh]) AND English[la]	4486

Embase search date: December 29, 2016

Set	Terms	Results
#1	'mobile phone'/exp OR 'text messaging'/exp OR 'personal digital assistant'/exp OR 'telemedicine'/exp OR 'mobile application'/exp OR 'mobile applications':ab,ti OR 'mobile application':ab,ti OR cellphone:ab,ti OR cellphones:ab,ti OR ((mobile:ab,ti OR cellular:ab,ti OR cell:ab,ti) AND (phone:ab,ti OR phones:ab,ti OR device:ab,ti OR devices:ab,ti OR app:ab,ti OR apps:ab,ti)) OR mobiles:ab,ti OR smartphone:ab,ti OR smartphones:ab,ti OR telephone:ab,ti OR telephones:ab,ti OR phone:ab,ti OR phones:ab,ti OR 'e health':ab,ti OR ehealth:ab,ti OR 'm-health':ab,ti OR mhealth:ab,ti OR telehealth:ab,ti OR telemedicine:ab,ti OR 'video conference':ab,ti OR videoconference:ab,ti OR 'video conferencing':ab,ti OR videoconferencing:ab,ti OR 'automated telephone':ab,ti OR IVR:ab,ti OR 'interactive voice response':ab,ti OR sms:ab,ti OR skype:ab,ti OR (text:ab,ti AND (message:ab,ti OR messages:ab,ti)) OR texts:ab,ti OR mms:ab,ti OR blackberry:ab,ti OR ipad:ab,ti OR ipads:ab,ti OR android:ab,ti OR laptop:ab,ti OR laptops:ab,ti OR ((tablet:ab,ti OR tablets:ab,ti) AND (computer:ab,ti OR computers:ab,ti OR device:ab,ti OR devices:ab,ti))	186383
#2	'female'/mj OR 'maternal health service'/exp OR 'birth control'/exp OR 'women`s health'/exp OR 'prepregnancy care'/exp OR 'prenatal care'/exp OR 'pregnancy'/exp OR 'gynecologic surgery'/exp OR 'pregnancy disorder'/exp OR 'gynecological examination'/exp OR 'mammography'/exp OR 'urogenital tract disease'/exp OR 'breast disease'/exp OR 'breast feeding'/exp OR 'breast feeding education'/exp OR 'lactation'/exp OR 'lactation disorder'/exp OR 'oral contraceptive agent'/exp OR 'puerperal depression'/exp OR 'uterine cervix cancer'/exp OR 'Papanicolaou test'/exp OR 'breast cancer'/exp OR 'sexual crime'/exp OR 'domestic violence'/exp OR 'migraine'/exp OR 'genetic counseling'/exp OR 'fibromyalgia'/exp OR women:ti OR colposcopy:ab,ti OR pregnancy:ab,ti OR pregnant:ab,ti OR breastfeeding:ab,ti OR 'breast feeding':ab,ti OR lactation:ab,ti OR 'breast health':ab,ti OR prenatal:ab,ti OR 'reproductive health':ab,ti OR 'family planning':ab,ti OR contraception:ab,ti OR contraceptive:ab,ti OR contraceptives:ab,ti OR 'postpartum depression':ab,ti OR 'gestational diabetes':ab,ti OR preeclampsia:ab,ti OR 'pre eclampsia':ab,ti OR preconception:ab,ti OR 'pre conception':ab,ti OR perinatal:ab,ti OR maternal:ab,ti OR 'cervical cancer':ab,ti OR 'Papanicolaou Test':ab,ti OR 'pap test':ab,ti OR 'Breast cancer':ab,ti OR 'intimate partner violence':ab,ti OR rape:ab,ti OR (sexual:ab,ti AND (violence:ab,ti OR trauma:ab,ti)) OR migraine:ab,ti OR migraines:ab,ti OR 'genetic counseling':ab,ti OR fibromyalgia:ab,ti	4111241
#3	#1 AND #2	23689
#4	telecolposcopy:ab,ti OR 'tele colposcopy':ab,ti OR telegynecology:ab,ti OR 'tele gynecology':ab,ti OR 'telemental health':ab,ti OR 'tele mental health':ab,ti OR telepharmacy:ab,ti OR 'tele pharmacy':ab,ti OR 'teleprimary care':ab,ti OR 'tele primary care':ab,ti OR 'telewellness':ab,ti OR 'tele wellness':ab,ti OR 'telecare coordination':ab,ti OR 'tele care coordination':ab,ti	250
#5	#3 OR #4	24079
#6	'evidence based medicine'/exp OR 'systematic review':ab,ti OR 'meta-analysis':ab,ti OR 'meta-analyses':ab,ti OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random*:ab,ti OR factorial*:ab,ti OR crossover*:ab,ti OR (cross NEAR/1 over*):ab,ti OR placebo*:ab,ti OR (doubl* NEAR/1 blind*):ab,ti OR (singl* NEAR/1 blind*):ab,ti OR assign*:ab,ti OR allocat*:ab,ti OR volunteer*:ab,ti OR 'clinical study'/exp OR 'clinical trial':ti,ab OR	5462927

Set	Terms	Results
	'clinical trials':ti,ab OR 'controlled study'/exp OR 'comparative study'/exp OR Nonrandom:ab,ti OR non-random:ab,ti OR nonrandomized:ab,ti OR non-randomized:ab,ti OR nonrandomized:ab,ti OR non-randomised:ab,ti OR quasi-experiment*:ab,ti OR quasiexperiment*:ab,ti OR quasirandom*:ab,ti OR quasirandom*:ab,ti OR quasi-control*:ab,ti OR quasicontrol*:ab,ti OR (controlled:ab,ti AND (trial:ab,ti OR study:ab,ti)) AND [humans]/lim AND [english]/lim NOT ('case report'/exp OR 'case study'/exp OR 'editorial'/exp OR 'letter'/exp OR 'note'/exp OR [conference abstract]/lim)	
#7	#5 AND #6	10238
#8	#7 AND ([young adult]/lim OR [adult]/lim OR [middle aged]/lim OR [aged]/lim OR [very elderly]/lim)	7190
#9	#8 AND [embase]/lim NOT [medline]/lim	1110

APPENDIX B. PEER REVIEW COMMENTS

Question Text	Reviewer Number	Comment	Response
Are the objectives, scope, and methods for this review clearly described?	1	Yes	Acknowledged
	3	Yes	Acknowledged
	4	Yes	Acknowledged
	5	No - The inclusions/exclusions criteria for study design are quite rigorous so that few non-RCTs were included. The objectives and scope should be modified to more accurately reflect this very focused review. The study selection and data abstraction sections are likely to be confusing to some readers.	Thank you for this point and the need for clarification. For this evidence map, we used EPOC criteria* to identify study designs that provide higher quality information to inform the guiding question. Of note, EPOC does allow non-RCTs, though admittedly we did not identify many. *Effective Practice and Organisation of Care (EPOC). EPOC Resources for review authors. Oslo: Norwegian Knowledge Centre for the Health Services; 2015. Available at: http://epoc.cochrane.org/epoc-specific-resources-review-authors2015 .
	6	Yes	Acknowledged
	8	Yes	Acknowledged
Is there any indication of bias in our synthesis of the evidence?	1	No	Acknowledged
	3	No	Acknowledged
	4	No	Acknowledged
	5	No	Acknowledged
	6	No	Acknowledged
	8	No	Acknowledged
Are there any <u>published</u> or <u>unpublished</u> studies that we may have overlooked?	1	Yes - The report clearly states that the objective is "to describe the current landscape of telehealth interventions that have been designed specifically for women". However, does it make sense to acknowledge (and perhaps also list/review) the telehealth trials/research that included both men and women veterans? While some health areas in the report are clearly female sex specific, whereas mental health, for example, is not. Some of the extant studies report sex differences in outcomes, which are germane for informing programs and improvements in treatment	This reviewer brings up a key distinction that we gave a significant amount of thought to in the design of this map. There were a couple of reasons that we did not include gender-neutral studies that may have included sex-based analyses. First, this project was developed in response to a question from our operational partners that specifically asked about telehealth interventions "designed specifically for women." If an intervention included both men and women—but was not designed specifically for women or for a female-predominant condition—then we considered it not to be designed for



Question Text	Reviewer Number	Comment	Response
		<p>delivery for both women and men. A rationale for why NOT to include studies with both sexes may be helpful or at least acknowledgement of this limitation.</p>	<p>women in particular. Second, in a previous ESP project, we conducted an evidence map assessing sex and gender-based analysis in trials of depression, diabetes and chronic pain.* In that evidence map, we found that only 10% of eligible reviews including analyses of sex effects. We agree that adding this rationale to the report is important and have done so in the methods section under “topic development” and in the limitations.</p> <p>*Duan-Porter W, et al. Reporting of Sex Effects by Systematic Reviews on Interventions for Depression, Diabetes, and Chronic Pain. <i>Ann Intern Med.</i> 2016 Aug 2;165(3):184-93. doi: 10.7326/M15-2877. Epub 2016 Apr 26. PubMed PMID: 27111355.</p>
	3	No	Acknowledged
	4	No	Acknowledged
	5	<p>Yes - The criteria were strict in terms of study design so that few non-RCTs were included. Care should be taken in stating the objectives and summary to state the effect of these strict criteria on the body of literature included. For example, RCTs are much easier to conduct with randomized patient groups rather than provider or system groups, thus it is not surprising that the findings overwhelmingly include patient groups and not provider or system groups. Likewise RCTs are easier to implement with short-duration interventions and telephone interventions. Thus, the interpretation of the existing literature is likely biased by adhering to this strict criteria. And the studies selected clearly do not reflect the entire literature. I suggest that the authors be a little clearer in stating the conclusions but also the objective of the evidence map - it is a selected evidence map reflecting the most rigorous study designs. This does not lessen its importance, but its strict focus must be made clear and the conclusions should be interpreted in this light.</p>	<p>As noted above, we focused on the inclusion of studies meeting EPOC criteria, which allows for inclusion of non-RCT designs (nonrandomized controlled trials, controlled before-after CBA, interrupted time series, and repeated measures studies). We allowed provider- and system-focused trial designs, but did not find many meeting the EPOC standards. We agree there may be more provider- and system-focused trials that were observational or other designs without a comparator group that we did not include and that much could be learned from this literature. However, as our operational partners were interested in understanding the scope of existing literature that could contribute to our understanding of the effectiveness of telehealth interventions, we limited those studies we included to those that could potentially provide this information. We have added this caveat in the limitations as suggested.</p>
	6	No	Acknowledged

Question Text	Reviewer Number	Comment	Response
	8	No	Acknowledged
Additional suggestions or comments can be provided below. If applicable, please indicate the page and line numbers from the draft report.	1	Please define "virtual visits". This term has several possible meaning these days, including web-based services, virtual reality, and others.	We agree that terms such as “virtual visit” can have many different interpretations. We have replaced this term in the introduction for specific examples of the types of telehealth that the VA supports.
		This is an excellent report. Thank you.	Thank you.
	3		
	4	<p>This was an excellent report. I just had a few minor comments:</p> <p>1) I am not sure how much the length of the intervention matters, it seems like this would depend on the condition/population being targeted so in aggregate isn't too informative. Is there a way to look instead at intensity of the intervention (number of contacts, number of potential contacts, or similar)?</p> <p>2) In the intro you provide a sentence for an overview of telehealth, but it might be helpful to have a more</p>	<p>1) We agree that understanding the dose or intensity of a telehealth intervention might be more informative than the length of the intervention. However, we did not collect this information for a couple of reasons. First, based on prior work on a health coaching systematic review,* we found collecting this kind of information to be tremendously challenging. Interventions often do not report this information consistently or at all and because different interventions may use entirely different modalities (eg, fax vs telephone vs SMS/text messaging) it is not clear how to compare this across modality. Further, we know that publications about interventions rarely describe the dose of an intervention.** In the case of this evidence map, we found that intervention intensity as planned per protocol and adherence to the planned intervention was not commonly reported.</p> <p>* Gierisch JM, et al. The Effectiveness of Health Coaching. VA ESP Project #09-009; 2016 **King H., BOSWORTH (2015). Treatment Fidelity in Health Services Research. In Sanetti L (ed.) Treatment Integrity: Conceptual, Methodological, and Applied Considerations for Practitioners. Washington DC, American Psychological Association. Pp. 15-34.</p> <p>2) Thank you. We have further delineated what telehealth is in the Introduction. We have added the</p>



Question Text	Reviewer Number	Comment	Response
		<p>formal definition and references (inclusion and exclusion criteria do provide this indirectly, but having 1-2 sentences would be helpful.</p> <p>3) on page 44 there is mention made of the challenges for pregnant veterans related to mental health. I think that the references you want are: Shaw, J. G., et al. (2014). "Posttraumatic stress disorder and risk of spontaneous preterm birth." <i>Obstet Gynecol</i> 124(6): 1111-1119. Shaw, J. G., et al. (2017). "Post-traumatic Stress Disorder and Antepartum Complications: a Novel Risk Factor for Gestational Diabetes and Preeclampsia." <i>Paediatr Perinat Epidemiol</i> 31(3): 185-194. and possibly: Katon, J. G., et al. (2017). "Improving Perinatal Mental Health Care for Women Veterans: Description of a Quality Improvement Program." <i>Matern Child Health J</i> 21(8): 1598-1605. Mattocks, K. M., et al. (2017). "Implementing and Evaluating a Telephone-Based Centralized Maternity Care Coordination Program for Pregnant Veterans in the Department of Veterans Affairs." <i>Womens Health Issues</i>.</p> <p>Otherwise there were a few minor typos, but it was an excellent report.</p>	<p>following from HRSA "According to Health Resources and Service Administration (HRSA),* telehealth is defined as "the use of electronic information and telecommunication technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health and health administration."</p> <p>*https://www.hrsa.gov/rural-health/telehealth/index.html</p> <p>3) Thank you for these references, we have added them as suggested in the report.</p>
	5	<p>1) Overall, this is a very well conducted evidence map and report. My comments are largely suggestions to clarify some of the text for the reader.</p> <p>2) Abstract, page 1, line 26 – It would help the reader if a little bit of information is given on what the</p>	<p>1) Thank you</p> <p>2) We appreciate this suggestion and have added content at this location to clarify the criteria used.</p>

Question Text	Reviewer Number	Comment	Response
		<p>predetermined criteria are, since these criteria have a major impact on the evidence map.</p> <p>3) Abstract, page 2, line 33 and elsewhere – IPV should be spelled out since it is not an obvious abbreviation to all readers.</p> <p>4) Study Selection, page 4 – This paragraph is a little confusing. For example, the sentence beginning on line 38 is not clear whether the inter-rater reliability was computed at the title/abstract stage or at an early stage of full-text screening. And it is not clear whether the dual-review process specifically involved the single trained reviewer plus the second review on 20% or something else. Also, it becomes obvious later on that all inclusion criteria needed to be met but this should be explicitly stated and whether missing information on criteria was or was not a reason for exclusion.</p> <p>5) Table 1 is very clear.</p> <p>6) Data Abstraction, page 6 line 36 – Reaching consensus on only 10% of cases does not help with any discrepancies that might have arisen on the remaining 90% had they been reviewed. I completely understand the work involved in this type of undertaking, but the study selection and data abstraction processes largely involved a single person, which could have led to missed literature and/or misstated data and this should be clearly stated as a limitation.</p> <p>7) Results, page 8 and 9 – Figure 1 is clear. The presentation of findings is clearly organized and will be particularly helpful to the reader. Table 2 is a useful summary of the classification of studies.</p> <p>8) Key Question, page 9 line 4 – Since the inclusion</p>	<p>3) This suggestion is appreciated and we have made the recommended changes.</p> <p>4) We understand this section being confusing and have clarified it as suggested. If we could not confirm that a particular study met our inclusion criteria due to missing information, we excluded it. We have added this to the methods description.</p> <p>5) Thank you.</p> <p>6) We have added this as a limitation.</p> <p>7) Thank you. We are glad the reviewer found this helpful.</p> <p>8) We have added this to the limitations. Further, we</p>



Question Text	Reviewer Number	Comment	Response
		<p>criteria were quite rigorous in terms of study sample size and research design, which led to very few non RCTs being included, the findings are really limited to large RCTs. Thus, the Key Question should be modified to reflect that the evidence summarized was the most rigorous of studies.</p> <p>9) Figure 2, page 11 – It will help the reader if all figures of this type are enlarged. I suggest moving Panel IV to follow Panel I. Panel IV includes two items that are more reflective of the sample characteristics and thus will nicely follow Panel I. I suggest that Panel V be labeled “Outcome Level” to be clearer to the reader. Note that Figures 5 and 6 are in the opposite order of Panels III and IV.</p> <p>10) Systematic Review Findings, page 12 – Specific references and findings are provided here but nowhere else, and since this comes early in the report it will likely confuse the reader. I suggest deleting this level of detail. I also suggest moving the systematic review findings section for maternal health to come at the end of this section as you have done in the Intimate Partner Violence section.</p> <p>11) Limitations, page 39, line 8 – This last sentence is very important and should appear in the objectives and be reflected in the Key Question.</p> <p>12) Research Gaps/Future Research, page 39, line 37 – Here is an example of the implication of only including “studies of higher methodological rigor such as RCTs”. RCTs are difficult to conduct and randomizing patients is much easier than randomizing providers or systems.</p>	<p>have clarified that our original intent was to map the literature assessing the effectiveness of telehealth strategies for women in our key question, abstract, and Methods. Thus, inclusion of EPOC studies is most relevant.</p> <p>9) We appreciate these suggestions to improve the usefulness and clarity of our figures and have made the adjustments as noted.</p> <p>10) We appreciate that the reviewer identified this difference in detail for the systematic review sections. We elected to keep this additional detail in these areas as we hoped it would provide a small amount of information about efficacy which was limited by the nature of this evidence map.</p> <p>11) As noted above, we agree that this caveat needs to be acknowledged and have added it to the limitations section. Further, we have clarified our original intent and added language about mapping the literature assessing the effectiveness of interventions approaches to the abstract, Methods and key question.</p> <p>12) As noted, we have added detail in the objectives about the rationale for included studies of higher methodologic rigor, including nonrandomized designs as recommended by EPOC to assess system-level interventions.</p>

Question Text	Reviewer Number	Comment	Response
		<p>13) Also, only including studies with over 100 participants, means that the participants are likely to be patients rather than providers or systems. Also, the fact that the interventions tended to be by phone and of brief duration is likely a result of the studies being RCTs. This results in a chicken-and-egg situation where the inclusion/exclusion criteria were so strict that they drove the type of literature that was included. A reader might interpret the Research Gaps/Future Research section as suggesting that only a small literature on other outcomes and on non-telephone interventions exists, which could be a faulty conclusion. I am not suggesting that this report lacks merit – it is well done and a definite contribution – I am only suggesting that a few statements in the Key Question and Discussion section be qualified more clearly.</p> <p>14) Appendix C was clearly a lot of work – I did not see it discussed anywhere.</p>	<p>13) We acknowledge that this is a valid concern. For clarification, we note that the inclusion criteria was operationalized to mean that studies had to include at least 100 patients participants even if the unit of randomization or study was providers or systems. However, you are right that the unit of analysis was the patient. We have added clarification about the rationale for our approach and strengthened the discussion of this limitation.</p> <p>14) Thank you. The results of this table are discussed in the context of the finding of the focused areas of research. We also direct readers to this table at the beginning of the results section so they can see the individual studies, and some key characteristics, associated with each focused area of research.</p>
	6	<p>1) Regarding potential for overlooked studies, it seems they did a comprehensive search, but I am not sure when I say no to item above on "any published or unpublished studies.</p> <p>2) A more definitive set of suggestions for specific VA sponsored research would be a useful addition perhaps considering the potential power of the VA for multi-institutional trials leveraging the quite ubiquitous telemedicine applications and what levels of participation or design to address the identified gaps</p>	<p>1) Thank you. We sought to do a thorough mapping of this literature.</p> <p>2) We appreciate this suggestion and agree that this would be a useful addition to the report. Thus, we have added content to suggest that given the nature of the large and diverse VA care system and the extent to which the VA has invested in telehealth modalities, there are many opportunities to pursue multi-site trials.</p>

Question Text	Reviewer Number	Comment	Response
		<p>might be considered.</p> <p>3) Also useful would be the age of the publications - what is the spectrum of currency of the literature reviewed?</p>	<p>We cite prior studies that have utilized multi-site approaches to study approaches to care provision as examples that could be considered in developing women's telehealth specific studies.* Specifically we point to infrastructures such as the WH-PBRN as a possible resource for pursuing a multisite trial of telehealth services for women.</p> <p>*Goldstein KM, et al. Practice-based research networks add value to evidence-based quality improvement. Healthc (Amst). 2017.</p> <p>3) As noted in the methods section, our search strategy was limited by the inception date of the databases used. Of those studies found meeting inclusion criteria, the earliest study was published in 1987 and the search is current through December 2016. The publication dates of included studies are listed in Table 2.</p>
	8	<p>1) The topic is very timely and important to the VA, for reasons discussed in the review.</p> <p>2) The review would have benefited from a clear definition (and differentiation) of the various virtual care technologies (e.g., telemedicine, telehealth, eHealth, mHealth) and to use this definition to describe the studies.</p> <p>3) In addition, it would have been helpful to see specific search terms.</p> <p>4) Looking forward, a limitation of the literature (and thus the review) is that 86% of the studies focused on telephone as the telemedicine technology. Thus, relatively little can be concluded about more innovative forms of telemedicine, beyond the telephone</p>	<p>1) Thank you.</p> <p>2) We agree that the term telehealth can be used a number of different ways and clarifying this aspect of our project is key. We have added a clear definition to the topic development section that pulls together the inclusion criteria we used and identifies the terminology that we use throughout the rest of the report.</p> <p>3) Exact search terms are in Appendix A.</p> <p>4) We agree that this is a significant gap in the literature and have added emphasis to this point in the section on "research gaps/future research."</p>

Question Text	Reviewer Number	Comment	Response
		<p>5) Only thrice (page 22 – disease management; page 28 – mental health; page 31 IPV) did the review mention what % of studies were VA studies. Moreover, the location of this information was not consistent. I suggest adding a bullet to each key point stating % of studies conducted with Veterans or VA enrollees.</p> <p>6) The biggest weakness of the review is that while the outcomes measured were reported, no actual intervention effects were reviewed. Where the primary outcomes improved? What was the effect size? Did the secondary outcomes improve and what was the effect size? This is listed as a limitation by the authors, but the justification for not reporting outcomes seemed weak/non-existent. Given that the studies were categorized into fairly homogenous groups, outcomes could have been examined.</p> <p>7) Figures 13-16 seemed redundant with the figures presented earlier.</p>	<p>5) We agree that this is an important point, and have added a bullet in the key points about the number of studies for each section that was conducted in the Veteran population.</p> <p>6) We appreciate and understand the interest in an exploration and meta-analysis of actual intervention effects. However, given the nature of this project as an evidence map rather than a systematic review, this level of analysis was beyond the scope of what was requested by our operations partners. The purpose of an evidence map* is not to provide the summary estimates of effects but to conduct “a systematic search of a broad field to identify gaps in knowledge and/or future research needs that presents results in a user-friendly format, often a visual figure or graph, or a searchable database.” We have added clarification about this intent in the “topic development” section to clarify this approach for readers.</p> <p>* Miake-Lye IM, et al. What is an evidence map? A systematic review of published evidence maps and their definitions, methods, and products. Syst Rev. 2016;5:28.</p> <p>7) Figures 13-16 do provide previously presented information, however organized into a different way to facilitate additional comparisons. In the body of the results, we present study characteristics by focused research area (eg, maternal health, prevention). For the summary, we chose to reorganize this information to allow for synthesis across all the areas of research within women’s telehealth by key study characteristics to offer a user-friendly way to compare across focused areas of research.</p>

APPENDIX C. STUDY CHARACTERISTICS TABLE

This table shows characteristics for the 209 primary studies by the 7 focused areas of research. For full study citations, please refer to the report's main reference list.

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
Maternal Health (n=81)				
Ahmed, 2016 ³⁵	141	Interactive website	Patient	Inpatient
Albright, 2014 ³⁶	311	Phone	Patient	Community
Alemi, 1996 ³⁷	178	Interactive website	Patient	Outpatient
Althuisen, 2013 ³⁸	119	Phone	Patient	Outpatient
Amiri, 2016 ³⁹	100	Phone	Patient	Outpatient
Bagherinia, 2016 ⁴⁰	136	Phone	Patient	Outpatient
Bartholomew, 2015 ¹¹¹	100	Phone	Patient	Inpatient
Brooten, 2001 ⁴¹	173	Phone	Patient, system	Inpatient
Bryce, 1991 ⁴²	1970	Phone	Patient	Outpatient
Bunik, 2010 ⁴³	341	Phone	Patient	Outpatient
Carlsen, 2013 ⁴⁴	226	Phone	Patient, system	Inpatient
Chapman, 2004 ⁴⁵	219	Phone	Patient	Outpatient
Cummins, 2016 ⁴⁶	1173	Phone	Patient	Community
Cupples, 2011 ⁴⁷	343	Phone	Patient	Outpatient
Curry, 2006 ⁴⁸	489	Phone	Patient	Outpatient
Dalfra, 2009 ⁴⁹	276	Phone	Patient	Outpatient
Dennis, 2002 ⁵⁰	256	Phone	Patient, provider	Community
Dennis, 2002 ⁵¹	256	Phone	Patient	Inpatient
Dennis, 2009 ⁵²	701	Phone	Patient	Community
Dodd, 2014 ⁵³	2212	Phone	Patient	Outpatient
Dornelas, 2006 ⁵⁴	105	Phone	Patient, system	Outpatient
Eden, 2014 ⁵⁵	131	Interactive website	Patient	Community

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
Efrat, 2015 ⁵⁶	289	Phone	Patient	Community
Ershoff, 1999 ³³	390	Phone	Patient	Outpatient
Fenwick, 2015 ⁵⁷	339	Phone	Patient	Outpatient
Ferrara, 2016 ⁵⁸	2280	Phone	Patient, system	Outpatient
Frank, 1987 ⁵⁹	343	Phone	Patient	Outpatient
Fu, 2014 ⁶⁰	722	Phone	Patient	Inpatient
Gao, 2015 ⁶⁵	180	Phone	Patient	Inpatient
Gao, 2012 ⁶⁴	194	Phone	Patient	Outpatient
Gao, 2010 ⁶³	194	Phone	Patient	Outpatient
Gagnon, 1997 ⁶¹	183	Phone	Patient	Outpatient
Gamble, 2005 ⁶²	103	Phone	Patient	Outpatient
Giallo, 2014 ⁶⁶	202	Phone	Patient	Community
Gu, 2016 ⁶⁷	352	Phone	Patient	Inpatient
Hannan, 2016 ⁶⁸	129	Phone	Patient, system	Inpatient
Hannover, 2009 ⁶⁹	871	Phone	Patient	Inpatient
Hillesund, 2016 ⁷⁰	606	Phone	Patient	Outpatient
Huang, 2013 ⁷¹	355	Phone	Patient	Outpatient
Janssen, 2006 ⁷³	1459	Phone	Patient	Outpatient
Janssen, 2013 ⁷²	1459	Phone	Patient	Outpatient
Jiang, 2014 ⁷⁴	582	SMS/text messaging	Patient	Community
Jiang, 2014 ⁷⁵	771	Phone	Patient	Community
Jordan, 2015 ⁷⁶	18,186	SMS/text messaging	Patient	Community
Kamalifard, 2013 ⁷⁷	100	Phone	Patient	Community
Lewis, 2014 ⁷⁸	130	Phone	Patient	Community
Lund, 2012 ⁷⁹	2550	SMS/text messaging	System	Outpatient
Mangwi Ayiasi, 2016 ⁸⁰	1385	Phone	Patient, system	Community
Maslowsky, 2016 ⁸¹	178	Phone	Patient	Inpatient
McBride, 2004 ⁸²	583	Phone	Patient	Other

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
Milgrom, 2011 ⁸³	143	Phone	Patient	Outpatient
Mohammad-Alizadeh-Charandabi, 2013 ⁸⁴	366	Phone	Patient	Inpatient
Moore, 1998 ⁸⁵	1544	Phone	Patient, system	Community
Muender, 2000 ⁸⁶	1544	Phone	Patient, system	Community
Naughton, 2012 ⁸⁷	207	SMS/text messaging	Patient	Community
Ngai, 2016 ⁸⁹	397	Phone	Patient	Inpatient
Ngai, 2015 ⁸⁸	397	Phone	Patient	Inpatient
Niela-Vilen, 2016 ⁹⁰	124	Facebook	Patient	Other
Oakley, 1990 ⁹¹	509	Phone	Patient	Outpatient
Odeny, 2014 ⁹²	388	SMS/text messaging	System	Outpatient
O'Reilly, 2016 ⁹³	573	Phone	Patient	Community
Ostbye, 2009 ⁹⁴	450	Phone	Patient	Outpatient
Phelan, 2014 ⁹⁵	401	Phone	Patient	Outpatient
Phelan, 2011 ⁹⁶	401	Phone	Patient	Outpatient
Reeder, 2014 ²¹	1885	Phone	Patient	Community
Sagedal, 2017 ⁹⁹	606	Phone	Patient	Outpatient
Sagedal, 2016 ⁹⁸	606	Phone	Patient	Outpatient
Sagedal, 2017 ⁹⁷	606	Phone	Patient	Community
Seguranyes, 2014 ¹⁰⁰	1598	Video conference to home	Patient, system	Outpatient
Serwint, 1991 ¹⁰¹	251	Phone	Patient	Outpatient
Simmons, 2016 ¹⁷	436	Phone	Patient	Outpatient
Snaith, 2014 ²²	840	Phone	Patient, provider	Community
Srinivas, 2015 ¹⁰²	103	Phone	Patient	Outpatient
Stotts, 2002 ¹⁰³	269	Phone	Patient, system	Community
Surkan, 2012 ¹⁰⁴	679	Phone	Patient	Community
Tahir, 2013 ¹⁰⁵	357	Phone	Patient	Inpatient
Takeuchi, 2016 ¹⁰⁶	161	Mobile application	Patient	Inpatient

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
Toohill, 2014 ¹⁰⁷	339	Phone	Patient	Outpatient
Wang, 2014 ¹⁰⁸	106	Phone	Patient	Outpatient
Wilton, 2013 ¹⁰⁹	132	Phone	Patient, system	Community
Wong, 2007 ¹¹⁰	200	Phone	Patient, provider	Inpatient
Prevention (n=56)				
Annesi, 2016 ¹¹³	107	Phone	Patient	Community
Befort, 2016 ¹¹⁴	172	Phone	Patient, system	Community
Bloom, 2006 ¹¹⁵	157	Phone	Patient	Outpatient
Bullock, 2009 ¹¹⁶	695	Phone	Patient	Community
Cadmus-Bertram, 2016 ¹¹⁷	105	Phone	Patient	Outpatient
Chen, 1998 ¹¹⁸	125	Phone	Patient	Community
Conn, 2003 ³⁰	190	Phone	Patient	Community
Conway, 2004 ¹¹⁹	2781	Phone	Patient	Other
Corkrey, 2005 ¹²⁰	17,008	Phone	Patient	Community
Curry, 2003 ¹²¹	303	Phone	Patient	Outpatient
Demark-Wahnefried, 2015 ¹²²	692	Phone	Patient	Outpatient
Dietrich, 2006 ²⁹	1413	Phone	Patient	Outpatient
Dietrich, 2007 ¹²³	1316	Phone	Patient	Outpatient
Dietrich, 2013 ¹²⁴	2240	Phone	Patient	Outpatient
Eaker, 2004 ¹²⁵	12,240	Phone	Patient	Community
Eakin, 2012 ¹²⁶	143	Phone	Patient	Inpatient
Fjeldsoe, 2015 ¹²⁷	263	SMS/text messaging	Patient	Community
Goodwin, 2014 ¹²⁸	338	Phone	Patient	Outpatient
Gordon, 2016 ¹²⁹	194	Phone	Patient, system	Outpatient
Han, 2017 ¹³⁰	560	Phone	Patient	Community
Harrigan, 2016 ¹³¹	100	Phone	Patient	Outpatient

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
Hayes, 2011 ¹³²	194	Phone	Patient	Community
Hayes, 2013 ¹³³	194	Phone	Patient	Outpatient
Helmes, 2006 ¹³⁴	340	Phone	Patient	Outpatient
Hou, 2005 ¹³⁵	424	Phone	Patient	Inpatient
Kerr, 2008 ¹³⁶	401	Phone	Patient	Outpatient
Keyserling, 2002 ¹³⁸	200	Phone	Patient, provider	Community
Keyserling, 2008 ¹³⁷	236	Phone	Patient	Outpatient, community
Koniak-Griffin, 2015 ¹³⁹	223	Phone	Patient	Community
Lawton, 2008 ¹⁴⁰	1089	Phone	Patient	Outpatient
Lawton, 2009 ¹⁴¹	1089	Phone	Patient, system	Community
Lee, 2001 ¹⁴²	102	Phone	Patient	Community
Lopez-Torres Hidalgo, 2016 ¹⁴³	263	SMS/text messaging	Patient, provider	Community
Manfredi, 2004 ¹⁴⁴	1068	Phone	Patient	Outpatient
Maskarinec, 2003 ¹⁴⁵	220	Phone	Patient	Outpatient
McBride, 1999 ¹⁴⁶	580	Phone	Patient	Outpatient
McClure, 2005 ¹⁴⁷	275	Phone	Patient	Other
Miller, 1997 ¹⁴⁸	395	Phone	Patient	Outpatient
Nies, 2003 ¹⁴⁹	197	Phone	Patient	Community
Parra-Medina, 2011 ¹⁵⁰	266	Phone	Patient	Outpatient
Paskett, 2011 ¹⁵¹	286	Phone	Patient	Outpatient
Peshkin, 2016 ¹⁵²	554	Phone	Patient	Outpatient
Pierce, 2004 ¹⁵⁴	2970	Phone	Patient	Outpatient
Pierce, 2006 ¹⁵³	2922	Phone	Patient	Community
Pinto, 2013 ¹⁵⁵	192	Phone	Patient	Outpatient
Rimer, 1999 ¹⁵⁷	889	Phone	Patient	Community
Rigotti, 2006 ¹⁵⁶	442	Phone	Patient	Outpatient

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
Rock, 2010 ¹⁵⁹	446	Phone	Patient	Inpatient
Rock, 2015 ¹⁵⁸	692	Phone	Patient	NR
Sivarajan Froelicher, 2004 ¹⁶⁰	277	Phone	Patient	Inpatient
Solomon, 2005 ¹⁶¹	330	Phone	Patient	Community
Stein, 2005 ¹⁶²	1140	Phone	Patient, system	Community
Steinberg, 2014 ¹⁶³	194	IVR, brief tailored feedback	Patient	Outpatient
Valanis, 2002 ³²	510	Phone	Patient	Community
Wetter, 2011 ¹⁶⁴	302	Mobile application	Patient	Community
Wilbur, 2016 ¹⁸	288	Phone	Patient	Community
<i>Disease Management (n=43)</i>				
Allard, 2007 ¹⁶⁵	117	Phone	Patient	Outpatient
Aranda, 2006 ¹⁶⁶	105	Phone	Patient	Outpatient
Ashing, 2014 ¹⁶⁷	221	Phone	Patient	Community
Baker, 2011 ²³	450	Interactive website	Patient, provider	Outpatient
Bastani, 2010 ¹⁶⁸	1708	Phone	System	Outpatient
Budin, 2008 ¹⁶⁹	249	Phone	Patient	Other
Caljouw, 2010 ¹⁷⁰	499	Phone	Patient	Outpatient
Crane-Okada, 2012 ¹⁷¹	139	Phone	Patient	Outpatient
Damholdt, 2016 ¹⁷²	157	Interactive website	Patient	Community
Davison, 2002 ¹⁷³	749	Interactive website	Patient	Outpatient
Ell, 2009 ¹⁷⁴	487	Phone	Patient	Outpatient
Freeman, 2015 ²⁰	118	Phone, video conference to home	Patient	Community
Gallagher, 2003 ¹⁷⁵	196	Phone	Patient	Inpatient
Gustafson, 2005 ¹⁷⁶	231	Phone	Patient, system	Outpatient, inpatient
Hageman, 2014 ¹⁷⁷	289	Interactive website	Patient	Community
Hawkins, 2010 ²⁶	434	Phone control, e-health web-	Patient	Outpatient

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
		based CHES, interactive website		
Hawkins, 2011 ³⁴	434	Phone, interactive website	Patient	Outpatient
Hoyer, 2011 ¹⁷⁸	100	Phone	Patient	Outpatient
Kimman, 2011 ²⁴	320	Phone	System	Outpatient
Kimman, 2011 ²⁵	299	Phone	Patient	Outpatient
Kleiboer, 2014 ¹⁷⁹	368	Interactive website	Patient	Outpatient
Kristjansdottir, 2013 ¹⁸⁰	140	Mobile application	Patient	Inpatient
Lin, 2016 ¹⁸¹	115	Phone	Patient	Community
Marcus, 2010 ¹⁸²	304	Phone	Patient	Outpatient, inpatient
Miller, 2013 ¹⁸³	210	Phone	Patient	Outpatient
Mishel, 2005 ¹⁸⁴	509	Phone	Patient	Outpatient, inpatient, community
Parsapure, 2016 ¹⁹⁷	350	Phone	Patient	Outpatient
Pierce, 2007 ¹⁸⁶	3082	Phone	Patient	Other
Pierce, 2007 ¹⁸⁵	3107	Phone	Patient	Outpatient
Rock, 2001 ¹⁹⁶	1010	Phone	Patient	Community
Salonen, 2009 ¹⁸⁸	250	Phone	Patient	Outpatient
Salonen, 2011 ¹⁸⁷	164	Phone	Patient	Inpatient
Samarel, 2002 ³¹	125	Phone	Patient	Outpatient, inpatient
Sandgren, 2007 ²⁸	218	Phone	Patient	Outpatient
Sherman, 2012 ²⁷	249	Phone	Patient	Outpatient
Sjostrom, 2015 ¹⁹⁰	250	Email/secure message	Patient	Community
Sjostrom, 2015 ¹⁸⁹	250	Interactive website	Patient, system	Community
Sjöström, 2015 ¹⁹¹	250	Interactive website	Patient	Other
Skelly, 2009 ¹⁹²	180	Phone	Patient	Outpatient, community

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
Stuifbergen, 2010 ¹⁹³	187	Phone	Patient	Community
Tso, 2015 ¹⁹	6591	Phone	Patient	Other
Wenzel, 2015 ¹⁹⁴	204	Phone	Patient	Other
Ziller, 2013 ¹⁹⁵	181	Phone	Patient	Outpatient
Family Planning (n=11)				
Ayiasi, 2015 ¹⁹⁸	1385	Phone	Patient	Outpatient
Berenson, 2012 ¹⁹⁹	1155	Phone	Patient	Outpatient
Gerris, 2014 ²⁰⁰	123	Patient-generated images	Patient, system	Outpatient
Hameed, 2016 ²⁰¹	1246	Phone	Patient	Outpatient
Ngoc, 2014 ²⁰²	1433	Phone	Patient	Outpatient
Paul, 2015 ²⁰³	731	Phone	Patient	Outpatient
Schover, 2011 ²⁰⁴	300	Phone	Patient	Community
Skiadas, 2011 ²⁰⁸	131	Phone	Patient	Outpatient
Smith, 2015 ²⁰⁵	500	Phone	Patient	Outpatient
Sridhar, 2015 ²⁰⁶	120	Interactive website	Patient	Outpatient
Tsur, 2008 ²⁰⁷	108	Phone	Patient	Community
High-risk Breast Cancer Assessment (n=7)				
Bloom, 2006 ²⁰⁹	163	Phone	Patient	Community
Chang, 2016 ²¹⁰	901	Phone	System	Outpatient
Jenkins, 2007 ²¹¹	111	Phone	Patient	Other
Kinney, 2014 ²¹²	1012	Phone	Patient, system	Other
Kinney, 2016 ²¹³	988	Phone	Patient, system	Community
Schwartz, 2014 ²¹⁴	669	Phone	Patient, system	Outpatient
White, 2014 ²¹⁵	207	Phone	Patient	Outpatient
Mental Health (n=6)				
Beaver, 2009 ²¹⁶	374	Phone	Patient, provider	Outpatient

Study	Study N	Primary Telehealth Modality	Outcome Level(s)	Setting(s)
de Bie, 2011 ²¹⁷	169	Phone	Patient	Outpatient
Gotay, 2007 ²¹⁸	305	Phone	Patient	Outpatient
Ireys, 2001 ²¹⁹	139 ^a	Phone	Patient	Outpatient
Morland, 2015 ²²¹	126	Video conference to other clinic(s)	Patient	Community
Tiwari, 2010 ²²⁰	200	Phone	Patient	Community
<i>Intimate Partner Violence (n=5)</i>				
Abrahams, 2010 ²²⁶	279	Phone	Patient	Community
McFarlane, 2004 ²²²	150	Phone	Patient	Community
Stevens, 2015 ²²⁴	253	Phone	Patient	Outpatient
Saftlas, 2014 ²²³	307	Phone	Patient	Outpatient
Tiwari, 2012 ²²⁵	200	Phone	Patient	Community

^a 139 mothers analyzed of 161 enrolled.

Abbreviations: CHESS=Comprehensive Health Enhancement Support System; IVR=interactive voice response; SMS=short message system

APPENDIX D. PRIMARY OUTCOMES TABLE

Primary outcome	Maternal health (n=81)	Prevention (n=56)	Disease management (n=43)	Family planning (n=11)	High-risk breast cancer assessment (n=7)	Mental health (n=6)	Intimate partner violence (n=5)
Patient-level Outcomes							
Breast feeding	13						
Cancer screening		12	1				
Psychological and mental health assessment	14	3	4	2	3	6	2
Physical health assessment	1	0	9	2			
Cognitive function			1				
Contraceptive use				2			
Dietary change	1	3	1				
Immunization	1						
Infant development	1						
Intimate partner violence							2
Medication adherence			1	4			1
Patient knowledge			1				
Patient satisfaction		1		1	1		
Physical activity		10					
Pregnancy outcomes	12						
Quality of life		3	13				
Shared decision making	1		1				
Smoking cessation	7	9					

Primary outcome	Maternal health (n=81)	Prevention (n=56)	Disease management (n=43)	Family planning (n=11)	High-risk breast cancer assessment (n=7)	Mental health (n=6)	Intimate partner violence (n=5)
Social support	1	1					
Substance use	2						
Treatment adherence	4	1	2				
Weight management	6	6	1				
Provider-level Outcomes (none)							
System-level Outcomes							
Access to care	2						
Cost			1		1		
Economic outcomes	1		1				
Quality of care indicators	1		1				
Utilization	1		1		2		
No Clear Primary Outcome	12	7	4				