Social Media Annotated Bibliography for the CHAPP Rural RFA process

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Purpose: The purpose of the annotated bibliography is to provide the reader with an overview of a selection on peer reviewed journal articles and meta analyses on the use of social media in prevention interventions. The articles reviewed were selected from a list of resources provided by Dr. Sheana Bull at the request of the CDPHE HIV prevention staff. The articles summarized below in Table 1 represent a limited number of resources provided by Dr. Bull and a limited number of articles available for review overall.

Table 1. Complete list of journal articles and meta analysis regarding social media

Citation	Link or Pub MD ID	Included in Table 1
Webb, T., Joseph, J., Yardley, L., Michie, S. 2010. Using the Internet to promote health behavior change : A systematic review and meta-analysis of the impact of theoretical basis, use of behavior change techniques, and mode of delivery on efficacy. JMIR. 12(1):e4.	***http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2836773/***	***Yes***
Noar, S., Black, H., Pierce, L. Efficacy of computer technology-based HIV prevention interventions: a meta-analysis. AIDS. 2009 Jan 2;23(1):107-15.	***PMID: 19050392***	***Yes***
Vodopivec-Jamsek V, de Jongh T, Gurol-Urganci I, Atun R, Car J. 2012. Mobile phone messaging for preventive health care.Cochrane Database Syst Rev. CD007457. doi: 10.1002/14651858.CD007457.pub2.	PMID: 23235643	No
Weber-Buchholz, S., Wilber, J., Ingram, D., Fogg, L. 2013. Physical Activity Text Messaging Interventions in Adults : A Systematic Review. Worldviews on Evidence-Based Nursing. 103:163-173	PMID: 23746267	No
DeJongh, T., Gurol-Urganci, I., Vodopivec-Jamsek, V., Car, J., Atun, R. 2012. Mobile phone messaging for facilitating self-management of long-term illness. Cochrane Database of Systematic Reviews. 12 Art No. CD007459. DOI : 10.1002/14651858.CD007459.pub2	PMID: 23235644	No
Head KJ, Noar SM, Iannarino NT, Grant Harrington N. 2013. Efficacy of text messaging-based interventions for health promotion: a meta-analysis. Social Science and Medicine. 97: 41-48.	PMID: 24161087	No
Turner-McGrievy, G., Tate, D., 2013. Weight loss social support in 140 characters or less: use of an online social network in a remotely delivered weight loss intervention Translational Behavioral Medicine. 3(3):287-294	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3771014/	No
Bull, S., Levine, D., Black, S., Schmiege, S. Santelli, J. 2012. Social Media-Delivered Sexual Health Intervention: A cluster-randomized controlled trial. American Journal of Preventive Medicine. 43(5): 467-474.	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3479665/	No
Maher, C., Lewis, L., Ferrar, K., Marshall, S., De Bourdeauhuij, I., Vandelanotte, C. 2014. Are health behavior change interventions that use online social networks effective? A systematic review. JMIR. 16(2) e40.	***http://www.jmir.org/2014/2/e40/***	***Yes***
Aitken, M. 2013. IMS Institute for Healthcare Informatics: Patient Apps for Improved Healthcare. From Novelty to Mainstream. Industry Report.	http://www.imshealth.com/deployedfiles/imshealth/Global/Content/Corporate/IMS%20Health%20Institute/Reports/Patient_Apps/IIHI_Patient_Apps_Report.pdf	No

Derbyshire, E., Dancy, Smartphone Medical Applications for Women's Health:What Is the Evidence-Base and Feedback? Int J Telemed Appl. 2013;2013:782074. doi: 10.1155/2013/782074. Epub 2013 Dec 18.	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3880694/	No
Baranowski, T., Buday, R., Thompson, D., Baranowski, J. 2008. Playing for real: Video games and stories for health related behavior change. Am J Prev Med. 34(1):74-82.e.10.	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2189579/	No
Daley, A. 2009. Can Exergaming Contribute to Improving Physical Activity Levels and Health Outcomes in Children? Pediatrics124;763-771.	http://pediatrics.aappublications.org/content/124/2/763.long	No
Free C, Phillips G, Watson L, Galli L, Felix L, et al. (2013) The Effectiveness of Mobile-Health Technologies to Improve Health Care Service Delivery Processes: A Systematic Review and Meta-Analysis. PLoS Med 10(1): e1001363. doi:10.1371/journal.pmed.1001363	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3566926/	No
Aranda-Jan, C., Mohutsiwa-Dibe, N., Loukanova, S. 2014. Systematic review on what works, what does not work and why of implementation of mobile health (mHealth) projects in Africa. BMC Public Health 2014, 14:188	http://www.biomedcentral.com/1471-2458/14/188	No
Montana Social Media HIV Prevention Campaign funded through Category C Demonstration Projects*	http://getcheckedmt.org/msm/	No
Bailey JV, Murray E, Rait G, Mercer CH, Morris RW, Peacock R, Cassell J, Nazareth I. 2014 Computer-based interventions for sexual health promotion: systematic review and meta analysis. Int J STD AIDS. 2012 Jun;23(6):408-13. doi: 10.1258/ijsa.2011.011221. *	***PMID:22807534***	***Yes***

* CDPHE provided Resource.

Table 1. Summary of social media journal articles and meta analyses by CDPHE staff (September 2014)

Title	Lead Author	Summary Points	Article Link or Pub Med ID (PMID)
Computer-based interventions for sexual health promotion: systematic review and meta analysis (International Journal of STD & AIDS 2012)	JV Bailey et.al.	Meta Analysis from 2007 to present. Topics searched include 1) randomized controlled trial 2) computer/technology based application 3) sexual health. Total studies included in analysis were 15; total number of participants were 3917; total participants that received a computer based intervention were 1602; eight interventions focused on HIV prevention. Results: Small to moderate effects on sexual health knowledge, self efficacy, intentions and behavior. Compared to face to face interventions, knowledge acquisition was about the same. There was insufficient data to draw conclusions regarding STIs or unwanted pregnancy. Main Finding: Computer based interventions are feasible for a variety of populations and gains in knowledge suggest the computer based interventions can contribute to sexual health education.	PMID:22807534
Using the internet to promote health behavior change: A systematic review and meta-analysis of the impact of theoretical basis, use of behavior change techniques and mode of delivery on efficacy (Journal of Medical Internet Research 2010)	Thomas Webb et.al.	Meta analysis from 2000 – 2008. Topics searched include 1) primary components of the intervention were delivered via the internet 2) participants were randomly assigned to conditions 3) a measure of behavioral health was taken after the intervention. Total studies included in the analysis were 85; total number of participants was 43,236. Cohen's guidelines were used to interpret effect size (small effect = 0.20, medium effect= 0.50, large effect size = 0.80) Results: On average internet based interventions had a small effect (effect = 0.16). Three studies using theoretical basis were examined. Theoretical Basis: Theories included were social cognitive theory (SCT), transtheorectical model (TTM) and theory of reasoned action/planned behavior (TPB). TPB had larger effects on behavior (TPB effect = 0.36, vs TTM effect = 0.20 and SCT effect = 0.15) Behavior Change Techniques: Included consequences of behavior (N=29), prompting self monitoring of behavior (N=28), identifying barriers and problem solving (n=26). The largest effect was observed by those interventions providing stress management (effect = 0.50) or general communication skills training (effect = 0.49). Modeling, relapse prevention/coping planning, facilitating social comparison, goal setting action planning and provision of feedback on performance all had an effect size that exceeded 0.20 (median effect = 0.28). Use of follow up prompts, self monitoring of behavioral outcome, emotional control training and provision of information about others approval had small or non-significant effects overall. Using additional means of communication to provide follow up messaging, such as support or reminders, was also reviewed. The use of text messaging and internet based interventions had a large effect size of 0.81. Internet and phone modes of delivery had small to medium effect 0.35. Internet and email modes of delivery had the smallest effect (0.18)	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2836773/

Are health behavior change interventions that use online social networks effective? A systematic review (Journal of Medical Internet Research, 2014)	Carol A Maher et.al.	Meta Analysis 2000 to present. Search topics included; social media, the internet, relevant health topics (tobacco and alcohol consumption, dietary intake, physical activity, and sedentary behavior). Studies were limited to English language. A total of 10 studies were included, representing a total of 113, 988 participants (83.3% were female). Effect sizes were based on those by Thalheimer and Cook; effect size of ≥ -0.15 and < 0.15 are negligible, ≥0.15 and <0.40 are small, ≥ 0.40 and <0.75 are medium, ≥0.75 to <1.10 are large, ≥1.10 and <1.45 are very large and ≥1.45 are huge. Social Cognitive Theory, Social Learning Theory were used as the basis for 3 studies. Findings: 9 out of 10 studies reported significant improvements in some aspect of health behavior or related outcomes. However the effect size for behavior change was generally small (mean = 0.35, median = 0.39). Results suggest that standalone health focused online social networks (those social networks formed to address the specific health topic) can be effective when participants are retained over time. However retention is a concern (approximately 50% if those that sign up do not complete the intervention, and those that are retained have low engagement). Larger social networking outlets such as Facebook had higher retention (77-96% of users), but not engagement (5-15%). Delivery of interventions on Facebook or Twitter seem to offer promise for sustained engagement due to their levels of retention and despite lower engagement. It should be noted that traditional methods such as flyers and media advertising [radio/ TV] were used to recruit participants.	*http://www.jmir.org/2014/2/e40/*
Efficacy of computer technology-based HIV prevention interventions: a meta analysis (AIDS, 2009)	Seth Noar, et.al.	Studies included ranged from 2002 – 2008. A total of 12 studies were included, representing a total of 4639 participants. In order to be eligible studies had to: 1) test the efficacy of an HIV prevention behavioral intervention focused on changing sexual risk (HIV positive, negative and unknown sero-status) 2) measure condom use or unprotected sex 3) use computer technology in the development or delivery of the intervention 4) Utilize an experimental design where individuals were randomized into conditions. Cohen's guidelines were used to interpret effect size (small effect = 0.20, medium effect= 0.50, large effect size = 0.80) Ten studies were focused on heterosexual risk, two studies were MSM focused. Six studies included mixed gender participants, four studies were female only and two were male only. Mean age across all studies was 22.52 years. Eight studies were delivered on site using a computer, 3 studies were delivered on the internet and 1 using computer generated materials. Nine of 10 studies used behavioral change theories, with the most common being the Transtheoretical Model of behavior change. Results: The results of the meta analysis indicate that increases in condom use are in line with other types of HIV prevention interventions, including face to face interventions (OR 1.54). The effect size on reducing risky sexual behaviors was 0.42 and incident STI infections among participants was 0.14, indicating the interventions studied had an effect on reducing the number of partners and STIs.	PMID: 19050392

Efficacy of computer technology-based HIV prevention interventions: a meta analysis (AIDS, 2009), ***cont.***	Seth Noar, et.al.	Findings also suggest that computer based interventions are more efficacious among samples with fewer men, young people and white participants. Comparisons among heterosexual and MSM studies suggest a slightly greater effect size in the MSM group. However, these finding were not statistically significant. Interventions focused on a single sex were more efficacious than those with mixed gender. Interventions that used individual tailoring were more successful at behavior change than those with virtual decision making or those that were group targeted. The studies included in the meta analysis were diverse in nature, including rural, urban, MSM, men, women, minority and majority populations. Retention was an issue with 2 of the internet based studies.	