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Bluetooth World 2016 Analyst Briefing: Changing Psychology with Bluetooth Wireless Technology: Engaging Users to Adopt mHealth Long-term

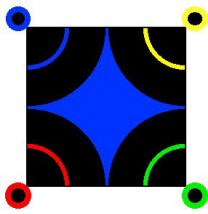
Selected Articles of Interest A really mixed bag of results

74% of Heart Patients Say Activity Trackers Help, But Only 27% Use Them, Found HealthMine Survey (2016)

- DALLAS, Jan. 31, 2016 /PRNewswire/ -- Consumers are beginning to embrace mobile tools for heart health—but not enough. A January HealthMine survey of 501 consumers with known heart disease and/or risk found that just 27% of people are using an activity tracker. Only 16% say they are using their tracker to manage their heart condition/risk. Yet 74% of those who do use an activity tracker report the device is helping them cope with their heart condition.
- <http://www.prnewswire.com/news-releases/74-of-heart-patients-say-a...s-help-but-only-27-use-them-found-healthmine-survey-300212578.html>

Cochrane review demonstrates smoking cessation after six months through mobile phone intervention (2012)

- Study Conclusion:
 - Authors concluded mobile phone based interventions were shown to help people stop smoking. Due to the regular use of mobile phones in patients' lives, smoking cessation methods can be incorporated to help overcome logistics of currently available programs (e.g. face-to-face contact). However, research should be conducted to measure cost- effectiveness of these methods, and the role mobile medical apps will play in the future has yet to be assessed.
- Commentary:
 - Compared to data that was published previously in a review conducted in the 2009 systematic review, which found short term benefits but no long term cessation in smoking, it is pleasant to see results are showing a benefit in mobile technology helping with smoking cessation. [1] The interventions mentioned in this study demonstrated the power of SMS in helping patients, but as noted by the authors, there is no data provided on the potential benefits apps may play. With a myriad number of smoking cessation apps available on the iTunes and Google Play Stores, it would be of interest for developers and researchers to explore whether these may be beneficial. Could an app prescribed by a provider be beneficial? If so, which one? These studies may be of interest to see in the future.
- <http://www.imedicalapps.com/2012/11/cochrane-review-smoking-cessation/>



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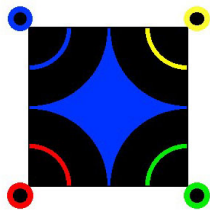


Developing a Framework for Evaluating the Patient Engagement, Quality, and Safety of Mobile Health Applications (2016)

- “Fewer than half of available patient-facing health apps appear likely to be useful to patients”
- Rising ownership of smartphones and tablets across social and demographic groups has made mobile applications, or apps, a potentially promising tool for engaging patients in their health care, particularly those with high health care needs. Through a systematic search of iOS (Apple) and Android app stores and an analysis of apps targeting individuals with chronic illnesses, we assessed the degree to which apps are likely to be useful in patient engagement efforts. Usefulness was determined based on the following criteria: description of engagement, relevance to the targeted patient population, consumer ratings and reviews, and most recent app update. Among the 1,046 health care-related, patient-facing applications identified by our search, 43 percent of iOS apps and 27 percent of Android apps appeared likely to be useful. We also developed criteria for evaluating the patient engagement, quality, and safety of mobile apps.
- <http://www.commonwealthfund.org/publications/issue-briefs/2016/feb/evaluating-mobile-health-apps>

Harnessing the Power of Mobile (2016)

- It’s widely acknowledged that healthcare, as every other industry, is becoming more mobile and that mobile solutions, whether apps, wearable devices or services like remote patient monitoring, hold a lot of promise as digital tools healthcare leaders can use to lower healthcare costs and improve quality of care, which is becoming increasingly important in the ongoing shift from fee-for- service to value-based healthcare delivery. Mobile health (mHealth) and connected health solutions are projected to grow by leaps and bounds in the next five years, with the mHealth solutions market forecasted to rise by 30 percent to hit \$59 billion by 2020, according to MarketsandMarkets, a market intelligence and research firm that covers healthcare IT. There are a number of trends and developments driving this growth, such as the increasing utilization of mHealth apps and connected health devices to help manage chronic diseases, a rising focus on patient-centric care, and the need for more affordable treatment options as healthcare costs continue to rise. Mobile technology in and of itself is simply a tool, and the big question for physicians and health IT leaders at hospitals and health systems is how do you leverage mobile technology and deploy a mobile solution in a way that impacts clinical outcomes and contributes value to healthcare delivery?
- <http://www.healthcare-informatics.com/print/article/harnessing-power-mobile>



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A prospective randomized trial examining health care utilization in individuals using multiple smartphone-enabled biosensors (2016)

- Results & Conclusions. There was little evidence of differences in health care costs or utilization as a result of the intervention. Furthermore, we found evidence that the control and intervention groups were equivalent with respect to most health care utilization outcomes. This result suggests there are not large short-term increases or decreases in health care costs or utilization associated with monitoring chronic health conditions using mobile health or digital
- <https://peerj.com/articles/1554/>

Effectiveness of Remote Patient Monitoring After Discharge of Hospitalized Patients With Heart Failure (2016 JAMA)

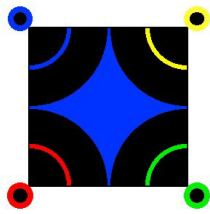
- Conclusions and Relevance: Among patients hospitalized for HF, combined health coaching telephone calls and telemonitoring did not reduce 180-day readmissions.
- <http://archinte.jamanetwork.com/article.aspx?articleid=2488923#Results>

Health App Use Among US Mobile Phone Owners: A National Survey (2015)

- Cross-sectional survey of 1604 mobile phone users throughout the United States
- Many individuals use health apps (58.23%), a substantial proportion of the population does not, and that even among those who use health apps, many stop using them.
- These data suggest that app developers need to better address consumer concerns, such as cost and high data entry burden, and that clinical trials are necessary to test the efficacy of health apps to broaden their appeal and adoption
- <http://mhealth.jmir.org/2015/4/e101/>

Cell phone intervention for you (CITY): A randomized, controlled trial of behavioral weight loss intervention for young adults using mobile technology (2015)

- Randomized, controlled comparative effectiveness trial in 18- to 35-year-olds with BMI ≥ 25 kg/m² (overweight/obese), with participants randomized to 24 months of mHealth intervention delivered by interactive smartphone application on a cell phone (CP); personal coaching enhanced by smartphone self-monitoring (PC); or Control.
- Despite high intervention engagement and study retention, the inclusion of behavioral principles and tools in both interventions, and weight loss in all treatment groups, CP did not lead to weight loss, and PC did not lead to sustained weight loss relative to Control.
- Obesity, Volume 23, Issue 11, pages 2133–2141, November 2015



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More Than Telemonitoring: Health Provider Use and Nonuse of Life- Log Data in Irritable Bowel Syndrome and Weight Management (2016)

- Results:
 - Providers reported using self-monitoring data to enhance provider-patient communication, develop personalized treatment plans, and to motivate and educate patients, in addition to using them as diagnostic and adherence tools. However, limitations associated with current systems and workflows create barriers to regular and effective review of this data. These barriers include a lack of time to review detailed records, questions about providers' expertise to review it, and skepticism about additional benefits offered by reviewing data. Current self-monitoring tools also often lack flexibility, standardized formats, and mechanisms to share data with providers.
- Conclusions:
 - Variations in provider needs affect tracking and reviewing needs. Systems to support diagnosis might require better reliability and resolution, while systems to support interaction should support collaborative reflection and communication. Automatic synthesis of data logs could help providers focus on educational goals while communication of contextual information might help providers better understand patient values. We also discuss how current mobile apps and provider systems do, and do not, support these goals, and future design opportunities to realize the potential benefits of using life-logging tools in clinical care.
- <http://www.jmir.org/2015/8/e203/>