

**Utilizing Health Information Technology to Amplify Public Health Initiatives**

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Following the passage of the 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act, which provided federal grant funding and incentives to promote electronic health record (EHR) infrastructure development in US health care systems, many public health systems still lag in adopting and modernizing documentation. I was expressly interested to explore areas of research that combined the use of Health Information Technology (HIT) with features that relate to public health, and how the use of HIT advances the quality and care for patient and populations correspondingly.

In the research article, Implementing an EHR-based screening and referral system to address social determinants of health in primary care, Buitron de la Vega, et al., (2019) developed an observational study, working with Boston Medical Center to utilize the existing EHR platform and streamline screening and resource connections in clinical settings. The focus of this study was to integrate a low barrier screening tool that assessed primary care patients for social determinants of health (SDOH), while also examining the burden of social needs among patients in the system (Buitron de la Vega, et al., 2019).

The World Health Organization defines social determinants of health as conditions or circumstances in which people are born, grow, live, work, and age. These conditions are shaped by political, social, and economic forces (WHO, 2008). SDOH carry significant value in understanding total patient care, they are the substructure of a person's health, relating genetics, behavior, environmental and physical influences, medical care, and social factors.

In the example of people who don't have access to grocery stores with healthy foods, people are less likely to have good nutrition (U.S. Department of Health and Human Services, 2021). Causal links on the impact of these determinants can help guide reformation at the

community and system level. In the field of public health, professionals have worked extensively to illustrate the importance of assessing SDOH, as they compose aspects that relate to the larger picture of health outcomes. Belief in the importance of the social determinants of health is gaining wide acceptance; this useful development will undoubtedly contribute to better public policy and clinical practice (Adler, et al., 2016).

Despite the recognized impact of SDOH on health and policies to incentivize screening, Buitron de la Vega, et al., (2019) pointed out in their study that, 

there are few electronic health record (EHR)-based systematic clinical strategies for addressing unmet social needs in primary care. Even fewer strategies leverage EHR automation to facilitate both SDOH screening and resource referrals. The limited evidence that exists indicates that utilizing the EHR platform can help streamline screening and resource connections in clinical settings. (p. 133)

Given the opportunity to pilot a SDOH screening tool that tied in with the EHR at Boston Medical Center, this study gained valuable knowledge and insight into the benefits of using this screening process with HIT. Using a low barrier, fast cue process, the results showed that unemployment, food insecurity, and affording medications were the most commonly reported SDOH in the 70% of new patients screened at Boston Medical Center between 2017 and 2018 (Buitron de la Vega, et al., 2019).

Of the many successes augmented through this study, the researchers described four key takeaway points that were integral in the success of implementing SDOH screening through the EHR used at Boston Medical Center. Buitron de la Vega, et al., (2019) identified,

getting support from institutional leadership, adequately leveraging EHR features and workflows to minimize the time required by clinic staff and providers, soliciting and

incorporating feedback from key stakeholders (including patients) before piloting or disseminating, and sharing relevant data with frontline practice managers and staff weekly. (p. 137)

With information related to what SDOH exist in patient populations, providers can insightfully work at the individual level to connect patients to existing resources and social support programs. Through this example, data that is collected on SDOH can be used at both the community and system level to enlighten the needs of populations, and even to comparatively study differences in health equity.

Similar to how Buitron de la Vega, et al., (2019) used the existence of the EHR platform to build in a screening tool that was successful in clinical practice, in a second study reviewed, Talbot et al., (2021) examined the use of electronic health records to manage tobacco screening and treatment in rural primary care. Using a cross-sectional investigation to review 2012-2015 National Ambulatory Medical Care Survey results, Talbot et al., (2021) explored how rurality and use of tobacco-related EHR functions were related to smoking status documentation (SSD) and cessation treatment at adult primary care visits.

Encouraged by prior research that illustrated the successes of using EHR systems to document SSD, one prior study found that where EHRs were routinely used to record smoking status and deliver automated reminders of guidelines, outcomes including SSD, cessation counseling, and prescription of cessation medication were significantly higher than where EHRs were not used (Bae, et al., 2018).

In the study by Talbot et al., (2019) the research inferred that automated reminders do assist rural PCPs in their efforts to increase delivery of cessation treatment, and that the benefits they achieve through reminder use are on a par with those obtained by their urban colleagues.

Using reminder tools, automated alerts, and developing efficient screening tools are all examples of how a well-designed EHR user interface can enhance the delivery of healthcare, and gather data that corresponds with system improvements. In the case of Talbot et al., (2019) the observations suggest that even when smoking-related EHR functions are in place, both rural and urban PCPs must take additional measures to expand their delivery of cessation interventions.

Of the two main research articles reviewed, it was inspiring to learn about the creative connectivity used to develop public health topics like SDOH and tobacco cessation in health information technology. Both studies measured improved connectivity with patients and offered insightful data points back to the healthcare delivery team.

## References

Adler NE, Glymour MM, Fielding J. Addressing social determinants of health and health inequalities. *JAMA*. 2016;316(16):1641-1642.

Bae J, Ford EW, Kharrazi HHK, Huerta TR. Electronic medical record reminders and smoking cessation activities in primary care. *Addict Behav*. 2018;77:203-209.

Buitron de la Vega, P. , Losi, S. , Sprague Martinez, L. , Bovell-Ammon, A. , Garg, A. , James, T. , Ewen, A. , Stack, M. , DeCarvalho, H. , Sandel, M. , Mishuris, R. , Deych, S. , Pelletier, P. & Kressin, N. (2019). Implementing an EHR-based Screening and Referral System to Address Social Determinants of Health in Primary Care. *Medical Care*, 57 , S133-S139. doi: 10.1097/MLR.0000000000001029.

CSDH *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health*. Final Report of the Commission on Social Determinants of Health. Geneva: World Health Organization; (2008).

Talbot, J., Ziller, E., & Milkowski, C. (2022). Use of electronic health records to manage tobacco screening and treatment in rural primary care. *The Journal of Rural Health*, 38(3), 482-492.

U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. (2021, August 2). *Social Determinants of Health*. Social Determinants of Health - Healthy People 2030. <https://health.gov/healthypeople/priority-areas/social-determinants-health>