measured confounders, B symptoms had the strongest relationship with treatment (HR=2.08) and OS (HR=1.38), which was below the E-value. DISCUSSION/SIGNIFICANCE OF FINDINGS: Patients with advanced stage HL who did not receive full chemotherapy regimens had worse 3-year OS, even after adjusting for potential confounders related to the patient and disease. The E-value analysis made explicit the amount of unmeasured confounding necessary to fully explain away the relationship between treatment and OS.

Digital Health/Social Media
Data Science/Biostatistics/Informatics

28561

Optimization of Heart Failure Treatment Using a Novel Application Programming Interface (API)

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ABSTRACT IMPACT: This project will aid in the optimization of treatment for those with heart failure with a reduced ejection fraction in order to both maximize health benefits and minimize financial burdens. OBJECTIVES/GOALS: To evaluate the accuracy and clinical applicability of a novel web-based application programming interface in the optimization of care for patients being treated for heart failure with reduced ejection fraction (HFrEF). The purpose of this validation is to ensure the translatability of this algorithm to a clinical setting using real-world data. METHODS/STUDY POPULATION: This study is a retrospective analysis of a previously created algorithm designed to optimize therapy for patients currently diagnosed with HFrEF. Patients that are seen for HFrEF treatment at Michigan Medicine are enrolled in a heart failure registry and were included in this study. Exceptions include those with heart transplants, LVAD, and those undergoing treatment with chronic inotropes (milrinone/dobutamine). Clinically relevant information (demographics, vital statistics, labs, and medications including dose and frequency) was taken from their respective electronic health record (EHR) and this data was used as the input for the algorithm. The therapy recommendations were collected and manually compared to the 2017 ACC/AHA/HFSA guidelines to verify the accuracy of the algorithm outputs. RESULTS/ANTICIPATED RESULTS: Data is currently being collected and analyzed. At first glance, our algorithm has been successful at detecting patients that are good candidates for therapy optimization. Based on inputs given, the treatment recommendations have been appropriate when compared to the most up-to-date HF treatment guidelines. The algorithm has also correctly identified levels of urgency for therapeutic recommendations. Finally, we have also shown the algorithm to have effectiveness for identifying areas of inappropriately adjusted therapy. Preliminary results have led to changes to the functionality of the algorithm, including how medications are retrieved from the EHR's and how medication doses are identified. Previous iterations created discrepancies in dosing and the algorithm has since been adjusted. DISCUSSION/SIGNIFICANCE OF FINDINGS: By verifying its validity, our algorithm can accurately flag patients with HFrEF that are eligible for therapy optimization and give providers the opportunity to make appropriate changes. Given the high health and financial burdens of HFrEF, our algorithm has the ability to provide significant morbidity, mortality, and financial benefits.

Dissemination and Implementation

95262

Making telehealth accessible for patients who are visually impaired: A scoping review

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ABSTRACT IMPACT: By outlining telehealth access disparities in the vision-impaired population, this scoping review has identified a set of effective and clinically appropriate implementation strategies and interventions for improving the technical, provider-level, and system-level accessibility of telehealth for vision-impaired patients. OBJECTIVES/GOALS: Evidence-based recommendations that ensure telehealth access for vision-impaired patients are critical to reducing health disparities. This review identifies, evaluates, and proposes strategies for public and private sector stakeholders to increase telehealth access for vision-impaired patients during the pandemic and beyond. METHODS/STUDY POPULATION: This scoping review included five steps: 1) the implementation of an iterative search strategy using relevant keywords to query 4 electronic databases (PubMed, Cochrane, Google Scholar, and Europe PMC) for relevant articles, 2) the application of a set of inclusion criteria to filter database results for article evaluation, 3) a quality assessment of the articles retained, 4) the extraction and summary of data from each assessed article, and 5) a narrative synthesis of the qualitative literature reviewed. RESULTS/ANTICIPATED RESULTS: To date, 21 articles that fit the inclusion criteria, published between 2006 and 2020, have been identified. To ensure the most robust collection of existing literature is aggregated, the iterative search strategy and inclusion criteria sorting process will be underway until December 20. The assessment of articles, and extraction and summary of data contained within said articles, will be finalized on January 20. The narrative synthesis will be complete on February 1. The poster and abstract will be complete by February 20. DISCUSSION/SIGNIFICANCE OF FINDINGS: Future research should examine outcomes associated with the implementation of accessible telehealth programs to identify remaining barriers. To improve outcomes for vision-impaired patients, policymakers, providers, payers, and industry must collaborate to promote accessibility in telehealth design and implementation.

Health Equity & Community Engagement

14820

Mental Health Mobile App Use in Integrated Primary Care Settings: Considerations for Serving Underserved Patients

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ABSTRACT IMPACT: Mobile app may help improve the depression symptoms among underserved patients OBJECTIVES/GOALS: Depression is one of most common mental health conditions and the leading cause of disability worldwide, affecting about one in 10 adults in the US. The aim of this study was to explore the factors that affect feasibility of incorporating mobile app self-management

tools for depression in integrated primary care settings. METHODS/ STUDY POPULATION: This was a cross-sectional questionnaire study of depressed patients at two primary care clinics in a Midwest academic medical center. Adult patients (≥19 years) who had an active or previous diagnosis of depression were included in the study. A self-administered survey collected information pertaining to demographics, smartphone ownership, data plan type, smartphone application usage, mobile app self-management interest, health literacy, and patient activation. Chi-square analysis was conducted to compare the patient demographic characteristics, the smartphone ownership, phone plan, smartphone use for health information between two clinics. Multinominal logistic regression analysis was conducted to examine the association between the patient activation and patient characteristics. RESULTS/ ANTICIPATED RESULTS: Over 80% of patients owned a smartphone, 80.5% were willing to use data for depression management, and 68.9% believe an app can help in depression management. A higher literacy level was significantly associated with higher level of patient activation (Chi-square=8.5453; p=0.0360). These results suggest that planning interventions that use mobile apps within this patient population is likely feasible and the intended underserved patients at these clinics have an interest in using depression related apps which is similar to findings found by other studies exploring app interest. DISCUSSION/SIGNIFICANCE OF FINDINGS: Understanding patient activation levels within a given population can help to shape corresponding needs. The use of depression related self-management mobile apps will likely require the development of educational materials to facilitate patient use and engagement which means understanding the literacy needs of this population as well.

58210

Perspectives and Guidance for Mobile Health Self-Management Intervention Developers from Adolescents and Young Adults with Chronic Illnesses: A Qualitative Study

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ABSTRACT IMPACT: The perspectives and guidance from adolescents and young adults (AYA) reported in this study could inform the evidence-based development and delivery of mobile health (mHealth) interventions to improve the health of AYA with chronic diseases. OBJECTIVES/GOALS: To elicit advice from AYA with chronic healthcare needs regarding if and how mHealth interventions could effectively promote illness self-management skills. We selected this goal because including the user perspective from the beginning of the design process could lead to greater future adoption. METHODS/STUDY POPULATION: We purposively recruited AYA patients from a pediatric hospital with heterogeneous chronic illnesses to identify universal chronic disease views rather than condition-specific perspectives. We conducted qualitative face-to-face semi-structured interviews with (N = 19) AYA between 16 and 20 years old (63.2% Latinx; 21.1% Black; 10.5% White; 5.3% Multiracial). Using ATLAS.ti, three coders completed thematic analysis to inform a conceptual framework on how AYA believe mHealth interventions could promote the development and maintenance of self-management skills. Member checking was conducted over the phone to obtain participant feedback on themes to enhance the validity of qualitative results. RESULTS/ANTICIPATED RESULTS: Results suggest that AYA develop self-management skills through several strategies, including 1) getting organized, 2) 'making it work for me' and 3) keeping the 'right' mentality. AYA described developing these strategies through: 1) receiving social support, 2) accessing helpful tools and technologies, and 3) going through a maturation process. They provided recommendations for how mHealth interventions could improve this process, including: 1) 'what' recommendations, describing the content or active ingredients that should be included in mHealth interventions, and 2) 'how' recommendations, describing the technological aspects or style in which the interventions should be delivered. DISCUSSION/SIGNIFICANCE OF FINDINGS: The results suggest that an appealing mHealth intervention could increase the support for AYA patients to proactively acquire self-management skills, avoiding trial-and-error or uneven access to guidance. Improving self-management could prevent poor health outcomes and increase quality of life.

Mechanistic Basic to Clinical

39347

Examining the Potential for Tech-Based HIV interventions for Young Black Women

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ABSTRACT IMPACT: Findings from this study have the potential to improve interventions geared toward YBW, by highlighting the potential for technology-based HIV interventions. OBJECTIVES/ GOALS: A stark disparity in HIV exists for Black American women, with 61% of all new HIV infections among American women occurring in Black women. Using technology to address community-level HIV risk may be beneficial, however few studies have examined the association of tech-based communication and HIV prevention behaviors among Black women. METHODS/STUDY POPULATION: Egocentric social network data from 201 young Black women (YBW) were collected from June 2018 to December 2018 to identify how social media use (e.g., amount of time, type of social media used, health information seeking) and sexual health communication (e.g., talk about condom use via face-to-face, text or phone and talk about HIV testing via face-to-face, text or phone) were associated with condom use, HIV testing and interest in pre-exposure prophylactic (PrEP). Statistical analysis proceeded in two stages, descriptive statistics and multivariate logistic regression modeling. RESULTS/ANTICIPATED RESULTS: Instagram (82%) and Snapchat (79%) were the most used social media platforms for communication with SNMs. About 20% of YBW reported spent 4 or more hours on social media per day, and a majority of YBW spoke to at least one SNM via text (85%), face-to-face (98%), or on the phone (97%). Multivariate logistic regression results indicated that YBW who spoke to their SNMs via Instagram had 3.23 times the odds of using condom during last sex, however if they spoke to SNMs on twitter or spent more then 4 hours on social media they had a decrease in odds of using condoms. YBW had 96% decreased odds of ever being tested for HIV if they spoke to a SNM face-to-face about condom use; and