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Examining Patient Engagement With Clinical Technology: Demographic Patterns of Pediatric Patient Portal Activation

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Purpose:

The patient portal (portal) is a secure online website providing patients 24-hour access to the electronic health record (EHR) and is designed to: (1) facilitate patient engagement, (2) promote self-management, (3) improve patient and health provider communication outside of face to-face visits, (4) increase patient satisfaction from care received, and (5) improve clinical outcomes (Irizarry, DeVito Dabbs, & Curran, 2015; Sieck et al., 2017; Tieu et al., 2015). Portals allow individuals to send secure messages to clinical staff, view their health records (e.g., diagnoses, laboratory results, and medications list), schedule appointments, request prescription refills, and manage bills (Armoiry et al., 2018). Although previous studies suggest several barriers to adoption in adults that disproportionately affect racial and ethnic minorities, data on patient portal use and barriers in pediatric patients is limited (Bush et al., 2017; Rosen, Spalding, Hannon, Boudreau, & Kwoh, 2011; Thompson, Martinko, Budd, Mercado, & Schentrup, 2016). This study is designed to explore whether enrollment pattern differences, which may identify barriers, are also noticeable in a pediatric sample.

Methods:

Epic EHR MyChart audit data was utilized to retrospectively identify patients who were approached in clinic to sign up for patient portal access and who activated patient portal access at two different pediatric specialty clinics. One clinic was located at a tertiary academic pediatric hospital and its affiliated network, which draws from three counties in Southern California, serving more than 750,000 children with a patient racial/ethnic composition of approximately 45% Hispanic/Latino, 35% White, and 10% Asian. The other clinic, also a tertiary academic pediatric hospital and its affiliated network, has a seven state catchment in the Western US Mountain and plains region. Patients were included if they were age 2 to 18, and had at least one outpatient urology visit from 2011 through 2016. Demographic variables extracted included patient gender, preferred language, race, and ethnicity. Activation was defined as having used a code and having a current active account. Patients who refused, had not activated their code, or deactivated their code after initial activation were classified as not activated. Binary logistic regression was used to assess predictors of being approached to sign up for patient portal access as well as patient portal activation. All statistical analysis was conducted using IBM SPSS Statistics for Windows, Version 24 (Armonk, NY: IBM Corp).

Results:

Of 42314 individuals with one urology visit during the study period, 19521 (46.1%) were approached for activation; of these, 7924 (18.7% of total eligible individuals) activated portal access. Being approached was associated with site ($p<0.001$), being female ($p<0.001$), being Asian or White ($p<0.05$), being non-Hispanic ($p<0.001$) and reporting preferred language as English ($p<0.001$). Activating patient portal access was associated with site ($p<0.001$), being Asian or White ($p<0.001$), and reporting preferred language as English ($p<0.001$). Gender was not associated with activation.

Conclusion:

As previously described in adults (Chang, Blondon, Lyles, Jordan, & Ralston, 2018), in this study pediatric patients of minority race/ethnicity in general were less likely to be approached or to activate patient portal access. The majority of those individuals in this study given an access code did not activate their account, which is similar to adult samples (Griffin, Skinner, Thornhill, & Weinberger, 2016). Further understanding of technical and social barriers that may affect patient engagement and utilization of technology are needed to identify ways in which to optimize the utility of the patient portal as a patient engagement tool (Armoiry et al., 2018).

Primary language, race/ethnicity, and site were associated with likelihood of portal adoption in the pediatric setting. The moderate rate of portal adoption suggests that while some patients and providers see value in portal utilization, this interest may not be uniform among all potential users. The differences in activation rates also raise concerns about potential barriers for utilization that may disproportionately affect racial and ethnic minorities. As patients and relatives are increasingly responsible for scheduling their appointments, following laboratory results, and communicating with their providers electronically it is critical that the patients have needed access and familiarity with the health information technology. These differences suggest a continuing disparity in the accessibility of health care informatics among patients (and their caregivers), despite increased focus on electronic enrollment as part of meaningful use mandates. The low activation and use rates present an opportunity to transform a meaningful use requirement into a truly meaningful experience for the patient and healthcare team.

Title:

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Keywords:

Electronic Health Record (EHR), health information technology and underserved populations

References:

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Abstract Summary:

EHRs of more than 42,000 patients at two geographically diverse pediatric specialty clinics were analyzed to identify 1) patients approached for patient portal access and 2) activated the portal. There were moderate activation rates (18.7%); primary language, race/ethnicity, and site were significantly associated with portal adoption ($p < 0.001$).

Content Outline:

Introduction

1. The patient portal (portal) is a secure online website providing patients 24 hour access to the electronic health record (EHR) and allow individuals to send secure messages to clinical staff, view their health records (e.g., diagnoses, laboratory results, and medications list), schedule appointments, request prescription refills, and manage bills.
2. Previous studies suggest several barriers to adoption in adults that disproportionately affect racial and ethnic minorities
3. Data on patient portal use and barriers in pediatric patients is limited
4. This study examines patient portal enrollment and activation patterns among pediatric urology patients at two geographically diverse tertiary pediatric hospitals.

Body with Main Points

1. EHR data was utilized to retrospectively identify patients who were approached in clinic to sign up for patient portal access and who activated patient portal access at two different Pediatric specialty clinics
2. Patients were included if they were age 2 to 18
3. Demographic variables extracted included patient gender, preferred language, race, and ethnicity
4. Binary logistic regression was used to assess predictors of being approached to sign up for patient portal access as well as patient portal activation

5. Primary language, race/ethnicity, and site were associated with likelihood of portal adoption in the pediatric setting.

Conclusion:

1. The moderate rate of portal adoption suggests that while some patients and providers see value in portal utilization, this interest may not be uniform among all potential users.
2. The differences in activation rates also raise concerns about potential barriers for utilization that may disproportionately affect racial and ethnic minorities
3. The low activation and use rates present an opportunity to transform a meaningful use requirement into a truly meaningful experience for the patient and healthcare team.

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