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# Access policy and the digital divide in patient access to medical records

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Abstract
*Background:* Patient access to medical records may help them manage their healthcare. After socioeconomic disparities were found in early adoption of a patient portal, a safety net medical organization implemented universal access policies, a mobile portal app, and a Spanish version. The objective of this study was to estimate the effect of the changes on socioeconomic disparities in use of the patient portal.
*Methods:* Retrospective cohort study of 129,738 adult patients visiting the Institute for Family Health between 2011 and 2014. Logistic regression was used to model the odds of receiving portal access and using the portal.
*Results:* In 2011, members of socioeconomically disadvantaged groups were less likely to receive offers to use the portal and subsequently to use it. In 2014, black patients became just as likely as other racial groups to use the portal, but publicly insured and uninsured patients were still less likely to become users. Uptake of the mobile app was slow.
*Conclusions:* Replacing an opt-in policy with a universal access policy was associated with a large reduction in socioeconomic disparities between those who did and did not access their medical records. However, a small digital divide remained evident in use of the technology, probably due to structural factors beyond the control of the healthcare system such as lack of computer access by less affluent patients.
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## Introduction

Access to personal medical data is one important way to help patients manage their own health and healthcare [1–3]. In the United States, the HITECH Act of 2009 requires

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healthcare organizations and healthcare providers to make electronic data available to patients in order to collect "meaningful use" incentive payments [4,5]. The most frequent approach to accomplishing this goal is to offer an electronic patient portal, a web-based account that gives patients access to their own records including medical history, laboratory results, prescribed medications, and other information. Many portals also promote patient-provider communication by offering secure electronic messaging, and some also facilitate other types of patient work by offering functions such as medication refill requests, appointment scheduling, bill payment, and the ability to export medical records. As patient portals have become more common, increasing numbers of patients have started using them [6,7].

Getting more patients to use portals has become a high priority of many US healthcare organizations in light of Stage 2 of the "meaningful use" program, which requires providers and organizations not only to offer portals but also to demonstrate that 5% of their patients have viewed, downloaded, or transmitted their electronic data [8].

Unfortunately, socioeconomically disadvantaged groups such as racial and ethnic minorities, low-income patients, and older patients are generally less likely to use consumer information technologies [7,9]. Particularly problematic is the fact that these "digital divide" patient groups also have a heavy burden of disease [10]. If technologies designed to facilitate patient engagement and self-management are preferentially used by relatively advantaged patient groups with lower disease burden, the technologies could worsen health disparities rather than reduce them [11,12].

In 2011, we reported socioeconomic disparities among early adopters of an electronic patient portal among patients at a large federally qualified health center (FQHC) network in the New York City region [13]. Our study suggested that the disparities could be attributed to at least two factors. The first factor was the healthcare organization's portal enrollment process. During 2 years of a nonstandardized process in which patients could request the portal or receive an invitation from their clinician, we found that access codes were most likely to be generated for white patients, English speakers, and those with commercial insurance. Insurance type is a strong proxy for socioeconomic status in the US. Having commercial insurance is an indicator that the patient, or their spouse or parent, is probably employed. Having state-subsidized Medicaid suggests a high likelihood of being unemployed or near the poverty line. Almost all US citizens over age 65 are covered under federally subsidized Medicare. Approximately 33 million Americans, or 10.4%, have no health insurance [14].

The second factor was a reduced likelihood of computer use by these patients, probably because of issues such as lack of convenient broadband Internet access or low computer literacy. Evidence for this second factor came from our finding that patients in disadvantaged ethnic or economic groups who did receive portal access codes were still less likely to use the portal [13].

After 2011, the FQHC implemented replaced the opt-in policy with a standardized enrollment policy so that all patients were to be offered the opportunity to establish a portal account. Also, a Spanish portal was deployed and, in

light of evidence that some minority populations are more likely to use smartphones than computers [9], a mobile portal platform was implemented.

Under the Unified Theory of Acceptance and Use of Technology, receiving an access code can be considered a facilitating condition that promotes use of the technology [15]. It is a particularly critical facilitating condition because the technology is not freely available for the population to adopt, but is instead controlled by the healthcare organization. Receiving a portal access code is also likely to be perceived as the organization's or the doctor's recommendation to use the technology, thereby constituting a social influence in favor of using the technology. For these 2 reasons, we hypothesized that a standardized enrollment policy that granted access to every patient would decrease the previous disparities between racial, ethnic, and socioeconomic groups.

Our objective was to study portal enrollment and portal use over a 4-year period as these policy changes took effect.

## Methods

### Setting

The Institute for Family Health (IFH) is a network of FQHCs in and around New York City, providing safety net care to a diverse population of uninsured, publicly insured, and privately insured patients. The organization employs more than 100 family practice physicians and nurse practitioners in 18 centers. IFH operates in 3 regions with different patient populations. The Bronx patient population is majority black and Hispanic and tends to be relatively young. The Hudson Valley population is predominantly white and tends to be somewhat older. The Manhattan population is the most racially and economically diverse, with the highest proportion of privately insured patients. IFH began using the EpicCare electronic health record in 2003 (Epic Systems, Inc., Verona, WI) and deployed Epic's patient portal, MyChart, in April 2008. Voluntary provider training, a poster
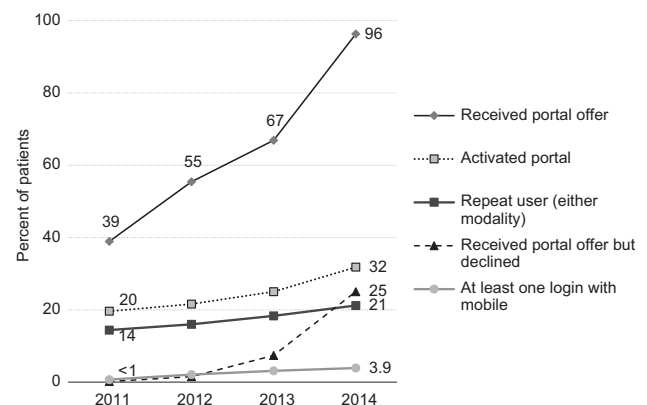


Figure 1  The cumulative proportion of patients who were offered portal accounts rose sharply each year. (Patients who received a portal access code and patients who had a record of having declined a portal access code were both considered to have received an offer.) Almost all patients seen in 2014 received an offer for a portal account, and 21% became repeat portal users.