Broadening the reach of patient portals: Opportunities for self-test delivery, screening, and research

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Abstract

Background: Patient portals are widely used for patient engagement in healthcare. However, patient perspectives on using portals for research purposes, health-related screenings, and patient-initiated self-testing is under studied. It is critical to understand patient perspectives on the use of portals to expand access to care.

Objective: To understand patient perspectives on using portals for research purposes, health-related screenings, and patient-initiated self-testing.

Methods: Patients (N=105) from the Patient Engaged Research Center at a large, urban midwestern health system completed a 23-question online survey on patient portal (MyChart) use, willingness to use the patient portal for research-purposes, risk assessments, and self-test kits. Binomial and multinomial regressions were run to determine whether demographic characteristics were associated with how and why patients access MyChart, likelihood of completing risk assessments on MyChart, and interest in receiving self-test kits.

Results: Increasing age was negatively associated with MyChart use, interest in receiving self-test kits for alcohol and illicit drug use and willingness to complete risk assessments for alcohol and tobacco use, depression, stress, anxiety, sleep, and sexual history. Race and gender were not significantly associated with willingness to answer risk assessments in MyChart.

Conclusions: The lack of significant findings based on race and gender suggests that patient portals may be an acceptable method of recruiting for and conducting research. Allowing patients to request self-test kits and complete risk assessments in portals may help patients to take agency over their healthcare. Future research should examine if patient portal recruitment may help to address persistent biases in clinical trial recruitment, to increase enrollment of women and racial minorities. Patient portals may be used for research recruitment, sending research-related information, and engaging patients to answer risk assessments, read about health information, and complete other clinical tasks.

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ABSTRACT

Objective: To understand patient perspectives on using portals for research purposes, health-related screenings, and patient-initiated self-testing.

Methods: Patients (N=105) from the Patient Engaged Research Center at a large, urban midwestern health system completed a 23-question online survey on patient portal (MyChart) use, willingness to use the patient portal for research-purposes, risk assessments, and self-test kits. Binomial and multinomial regressions were run to determine whether demographic characteristics were associated with how and why patients access MyChart, likelihood of completing risk assessments on MyChart, and interest in receiving self-test kits.

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Conclusions: Patient portals may be used for research recruitment, sending research-related information, and engaging patients to answer risk assessments, read about health information, and complete other clinical tasks. The lack of significant findings based on race and gender suggests that patient portals may be an acceptable method of recruiting for and conducting research. Allowing patients to request self-test kits and complete risk assessments in portals may help patients to take agency over their healthcare. Future research should examine if patient portal recruitment may help to address persistent biases in clinical trial recruitment, to increase enrollment of women and racial minorities.

Keywords: patient portal, self-testing, risk assessment, HIV, technology

INTRODUCTION

Patient portals are widely implemented throughout healthcare systems in the United States. As part of the 2014 Cures Act,[1] these secure, online applications can give patients convenient access to their personal health information anytime they have access to an internet connection. In 2020, about 60 percent of individuals in the U.S. were offered access to a patient portal, and almost 40 percent accessed one,[2] however national data regarding access and use of patient portals in the U.S. post-COVID-19 have not yet been released.

Patients can utilize patient portals for a variety of clinical functions, including viewing lab results, requesting refills, messaging providers, requesting appointments, and viewing educational materials related to their healthcare.[2] Individuals have expressed that patient portals can help facilitate their appointments, fulfill their health needs efficiently (such as being able to request medication refills quickly or to confirm their appointment day and time), and improve self-management.[3] Patient portals may also help people who do not want to disclose their health conditions to better manage their health.[4] Patient's willingness to use portals, however, may be influenced by a person's age, ethnicity, education level, health literacy, and health status.[5, 6] Some barriers, such as concerns regarding confidentiality,[7] preferring to speak directly with their physician,[8, 9] and technology access[3] also limit an individual's engagement with patient portals. While portals have been beneficial to patients for managing health conditions, it is unclear whether demographic characteristics are associated with the health conditions patients would be willing to use a portal to manage.

Patient portals are less frequently used for providing access to screenings, risk assessments, and patient-initiated self-test kits. Increasing the scope of functions within the patient portal may help facilitate patient access to healthcare, increase engagement and allow patients to take agency over their healthcare. For example, self-testing offers increased access to healthcare for patients who may have transportation issues or fear entering a health facility in person for stigmatized conditions, such as HIV and sexually transmitted infections. It may be useful to offer self-testing through patient portals to increase access to screening measures and link patients to their medical team if they test positive. For example, limited research has investigated how patient portals could potentially reduce barriers to accessing and engaging in STI/HIV testing[10] and reporting behaviors that may put one at increased risk.[11]

In addition to clinical use, portals have the potential to be used to recruit patients to participate in research studies.[12] Depending on how the portal is configured, patients can opt-in to receiving information about research, receive recruitment messages, or both. In a study from a large health system, patients reported a preference for being contacted via electronic methods.[13] However, recruitment rates via patient portals vary – some studies have reported recruiting fewer patients,[14] while some enroll more patients[15], compared to in-person (over the phone, in-person, letters) methods. Additionally, the impact of patient portals on equitable recruitment is unclear. Research has found that White patients are more likely to participate in research via portals compared to Black, Hispanic, or Asian patients,[16] however recent studies have found that COVID-19 may be reducing the disparate uptake in patient portals as many were forced to engage in portals during the pandemic;[17] this shift to greater patient portal use may lead to an increase in the diversity of research participants. While some work has been done on the effectiveness of portal message recruitment, less is known about what types of research patients would participate in if approached via the patient portal and if they would be willing to complete research tasks within the portal itself.

Patient portals offer a variety of benefits to patients, but opportunities remain to broaden their use. Patients would benefit from further access to these portals and possibly even more in-depth utilization of what patient portals can offer, such as answering risk assessments and self-testing. Further research is needed to determine patient preferences in using portals and for what health conditions patients may be willing to utilize patient portals. We examine how patients view patient portals for screening, risk assessments, self-testing, and research.

METHODS

Participants were recruited from the Patient Engaged Research Center (PERC) at Henry Ford Health to participate in a brief survey. Any person with experience as a patient or caregiver can become a Patient Advisor within PERC by completing an application, phone screen, and onboarding workshop. The role of a Patient Advisor includes, but is not limited to, providing feedback about ways to improve healthcare. A Qualtrics link for the survey was initially sent to 406 Patient Advisors via email and a monthly electronic newsletter. Reminder emails were sent to patients approximately 2 weeks and 4 weeks after the initial email to remind those patients who had not yet completed the survey.

Twenty-three questions regarding the patient portal (MyChart), using the patient portal for research purposes, and self-test kits for health were included. Participants were asked to provide information on their race (Black, White, American Indian or Alaska Native, Native Hawaiian or Pacific Islander), age, marital status (Married, Widowed, Divorced, Separated, or Never Married), and gender (Male, Female, Non-binary, Another Gender, Prefer not to say).

Questions regarding reading information about health conditions on MyChart, answering screening questions on MyChart, and how whether they would participate in research if contacted via MyChart were measured on a 5-point Likert scale (extremely likely – extremely unlikely). Participants were asked if they had ever heard of PrEP (Yes, No, Unsure) and which method of HIV testing they would prefer (At the doctor’s office, Taking a home-based test on their own, or not wanting/needing an HIV test). Participants were also asked about how they access MyChart, which health topics (Diabetes, Blood Pressure, HIV, Drug Use, Alcohol Use, Tobacco Use, Cancer, Cholesterol, Depression, Stress, Anxiety, Physical Activity, Diet, Sleep, Asthma, Use of Seat Belts, Immunizations, Sexual History) they would be willing to answer questions about in MyChart, and which self-test kits (Colon Cancer, COVID-19, HIV, STIs, Allergies, Cholesterol, Influenza, Urinary

Tract Infections, Alcohol Use, Illicit Drug Use) they would be interested in receiving if they were provided free of charge. Anyone who completed the survey and indicated interest was entered into a raffle for three $75 gift cards.

All data were exported, cleaned, and uploaded into SPSS. Frequencies and descriptive statistics were generated. Binary and multinomial logistic regressions were run to determine whether participant demographics (e.g., age, marital status) were associated with the outcomes of interest. Separate models were run for each of the self-test options (e.g., colon cancer, COVID-19) and for each of the risk assessment options (e.g., diabetes, blood pressure, HIV). Odds ratios and 95% confidence intervals are reported.

RESULTS

Participant Characteristics

Participants were on average 57 years old (Table 1). Most identified as White (66%) and female (76%). Over half were married (57%).

Table 1. Participant Characteristics

Age		Mean	Standard Deviation
		57.5	14.4
Gender		n	%
	Male	23	21.9
	Female	80	76.2
	Non-binary/Other	2	2
Race/Ethnicity			
	White	69	65.7
	Black	31	29.5
	Another Race	5	4.8
Marital Status			
	Married	60	57.1
	Widowed	6	5.7
	Divorced	18	17.1
	Never Married	21	20
Ever Accessed MyChart		136	97.8
Frequency of MyChart Login			

	Daily	7	5.1
	At Least Once a Week	41	30.1
	At Least Once a Month	60	44.1
	At Least Once Within 6 Months	23	16.9
	At Least Once a Year	3	2.2
	Never	2	1.5
Reasons to Login to MyChart			
	Because I Received a Message/Text/Email to Login	114	80.9
	To Pay a Bill	68	48.2
	To Message My Provider	111	78.7
	To Schedule/Reschedule an Appointment	81	57.4
	To Check Lab Results/Other Health Data	119	84.4
	To Refill Medication	55	39
	To Learn More About Health Conditions	32	22.7
	To See Which Medications I have been Prescribed	21	14.9
Methods of Accessing MyChart			
	On a smartphone via the app	77	54.6
	On a smartphone via the website	32	22.7
	On a computer via the website	93	66
	On a tablet via the app	17	12.1
	On a tablet via the website	12	8.5
Likelihood to Participate in Research If Contacted Via MyChart			
	Answer a Survey	115	81.5
	To Watch A Video	109	77.3
	Fill Out A Health Assessment	110	78
	That Involves A Medical Device	82	58.2
	To Give Biomedical Samples (Blood, Saliva, Hair Sample)	92	65.2
Most Favored Way To Hear About Research Studies			
	MyChart Message	38	38.8
	Text Message	12	12.9
	Telephone Call	3	3.3
	Email	23	24
	Letter from provider	14	14.7
	Provider telling me about opportunities verbally at my appointment	16	16.8

Almost all participants had accessed MyChart (98%), with the majority accessing it at least once a month (44%). Over half accessed MyChart on a smartphone via the app (55%). The reasons for accessing MyChart varied – from checking lab results (84%), receiving a message to login (81%), and messaging with a provider (79%). Compared to other contact methods, most participants indicated they would like to hear about research opportunities via MyChart (39%), compared to email (24%), the provider telling them about research opportunities (17%), receiving a letter from their provider (15%), text message (13%), or telephone call (3%).

And they were willing to participate in various types of research if they were contacted via MyChart, including answering surveys (82%), filling out health assessments (78%) and watching research videos (77%). All participant characteristics can be found in Table 1.

MyChart

Age was a significant predictor of both how participants accessed MyChart and the reasons why they accessed MyChart (Table 2).

Table 2. Logistic regressions predicting MyChart access and use (N=105)

	Age	Race			Gender		Marital Status	
		White	Black	Another Race	Male	Female	Married	Not Married
	aOR [95% CI]		aOR [95% CI]	aOR [95% CI]		aOR [95% CI]		aOR [95% CI]
On a smartphone via an app	**0.96 [0.93, 0.99]**	Referent	0.75 [0.29, 1.97]	0.41 [0.06, 2.75]	Referent	1.63 [0.57, 4.62]	Referent	0.86 [0.37, 1.97]
On a smartphone via the website	0.97 [0.94, 1.00]	Referent	1.39 [0.48, 4.00]	4.89 [0.71, 33.77]	Referent	1.07 [0.29, 4.00]	Referent	0.87 [0.33, 2.28]
On a computer via the website	1.02 [0.99, 1.05]	Referent	0.61 [0.24, 1.57]	0.00 [0.00, 0.00]	Referent	0.41 [0.12, 1.42]	Referent	1.56 [0.63, 3.86]
On a tablet via an app	1.03 [0.98, 1.08]	Referent	0.72 [0.17, 3.09]	4.50 [0.60, 33.55]	Referent	4.65 [0.53, 40.49]	Referent	0.87 [0.25, 3.02]
On a tablet via a website	**1.01 [0.95, 1.06]**	Referent	5.09 [0.75, 34.38]	55.56 [4.66, 663.06]	Referent	0.34 [0.04, 2.92]	Referent	1.54 [0.36, 6.61]
Received a message/text/ email to login	1.01 [0.97, 1.05]	Referent	**0.31 [0.10, 0.98]**	0.20 [0.03, 1.52]	Referent	1.52 [0.38, 6.18]	Referent	1.65 [0.57, 4.80]
To pay a bill	**0.96 [0.93, 0.99]**	Referent	0.40 [0.15, 1.08]	0.18 [0.02, 1.74]	Referent	0.51 [0.18, 1.46]	Referent	1.01 [0.43, 2.35]
To message with a provider	0.99 [0.95, 1.02]	Referent	0.59 [0.20, 1.79]	0.82 [0.08, 8.50]	Referent	1.14 [0.33, 3.95]	Referent	0.65 [0.25, 1.69]
To schedule/reschedule an appointment	**0.93 [0.90, 0.97]**	Referent	0.76 [0.27, 2.15]	0.66 [0.09, 4.64]	Referent	0.73 [0.25, 2.16]	Referent	0.98 [0.40, 2.38]
To check lab results/other data	**0.95 [0.91, 1.00]**	Referent	**0.17 [0.04, 0.70]**	0.22 [0.02, 2.81]	Referent	1.39 [0.28, 6.94]	Referent	0.56 [0.18, 1.81]
To refill medication	1.00 [0.97, 1.03]	Referent	1.49 [0.58, 3.82]	1.33 [0.20, 8.81]	Referent	0.81 [0.29, 2.30]	Referent	1.11 [0.49, 2.51]
To learn more about health conditions	1.02 [0.99, 1.06]	Referent	1.67 [0.60, 4.67]	5.42 [0.77, 38.20]	Referent	1.82 [0.50, 6.56]	Referent	1.62 [0.65, 4.03]
To see which medications I have been prescribed	1.01 [0.97, 1.05]	Referent	1.10 [0.31, 3.90]	4.00 [0.54, 29.84]	Referent	2.06 [0.38, 11.03]	Referent	2.05 [0.68, 6.19]

As age increased, participants were less likely to access MyChart on a smartphone via an app [aOR 0.96, CI=0.93, 0.99], but were more likely to access it on a tablet via the website [aOR 1.01, CI=0.95, 1.06]. As age increased, participants were less likely to pay a bill [aOR 0.96, CI=0.93, 0.99], schedule or reschedule an appointment [aOR 0.93, CI=0.90, 0.97], or check lab results or other health data [aOR 0.95, CI=0.91, 1.00] on MyChart. Race was also associated the reasons for accessing MyChart. Black participants, compared to white participants, were significantly less likely to login because they received a message prompting them [aOR 0.31, CI=0.10, 0.98] and to check lab results or other health data [aOR 0.17, CI=0.04, 0.70]

Risk Assessments and Self-Tests

Age was associated with participants likelihood of completing risk assessments on MyChart (Table 3).

Table 3. Logistic regressions predicting willingness to answer risk assessments in MyChart and receive self-test kits (N=105)

		Age	Race			Gender		Marital Status	
			White	Black	Another Race	Male	Female	Married	Not Married
		aOR [95% CI]		aOR [95% CI]	aOR [95% CI]		aOR [95% CI]		aOR [95% CI]
Risk Assessments	Diabetes	0.98 [0.95, 1.01]	Referent	1.81 [0.70, 4.72]	0.57 [0.09, 3.82]	Referent	0.74 [0.26, 2.06]	Referent	0.74 [0.33, 1.67]
	Blood Pressure	1.02 [0.98, 1.05]	Referent	1.68 [0.56, 5.08]	0.28 [0.04, 1.89]	Referent	0.80 [0.24, 2.65]	Referent	1.07 [0.43, 2.71]
	HIV	0.98 [0.95, 1.01]	Referent	0.82 [0.30, 2.24]	0.72 [0.30, 1.74]	Referent	0.97 [0.32, 2.92]	Referent	0.72 [0.30, 1.74]
	Drug Use	0.98 [0.95, 1.01]	Referent	0.78 [0.30, 2.06]	0.39 [0.04, 3.77]	Referent	0.99 [0.34, 2.86]	Referent	0.96 [0.41, 2.22]
	Alcohol Use	**0.96 [0.93, 0.99]**	Referent	0.62 [0.23, 1.69]	0.33 [0.03, 3.16]	Referent	0.44 [0.15, 1.26]	Referent	0.94 [0.40, 2.20]
	Tobacco Use	**0.97 [0.93, 1.00]**	Referent	0.59 [0.21, 1.67]	0.39 [0.04, 3.91]	Referent	0.64 [0.22, 1.90]	Referent	0.61 [0.25, 1.51]
	Cancer	0.99 [0.96, 1.02]	Referent	0.44 [0.17, 1.14]	0.32 [0.05, 2.14]	Referent	1.58 [0.56, 4.44]	Referent	0.69 [0.30, 1.56]
	Cholesterol	1.00 [0.97, 1.03]	Referent	0.55 [0.22, 1.38]	0.40 [0.06, 2.67]	Referent	1.00 [0.36, 2.83]	Referent	0.72 [0.32, 1.62]
	Depression	**0.98 [0.94, 1.00]**	Referent	0.72 [0.27, 1.87]	0.00 [0.00, 0.00]	Referent	0.67 [0.24, 1.87]	Referent	1.68 [0.72, 3.92]
	Stress	**0.98 [0.95, 1.01]**	Referent	0.46 [0.18, 1.22]	0.27 [0.04, 1.82]	Referent	1.14 [0.40, 3.26]	Referent	1.35 [0.58, 3.12]
	Anxiety	**0.96 [0.93, 0.99]**	Referent	0.38 [0.14, 1.03]	0.13 [0.01, 1.32]	Referent	0.46 [0.16, 1.39]	Referent	1.85 [0.78, 4.42]
	Physical Activity	0.99 [0.96, 1.02]	Referent	0.39 [0.15, 1.06]	0.42 [0.06, 2.93]	Referent	1.64 [0.54, 4.95]	Referent	0.68 [0.29, 1.60]
	Diet	0.99 [0.96, 1.02]	Referent	0.42 [0.16, 1.10]	0.60 [0.09, 4.10]	Referent	1.20 [0.41, 3.52]	Referent	0.60 [0.26, 1.39]
	Sleep	**0.97 [0.94, 1.00]**	Referent	0.43 [0.16, 1.18]	0.41 [0.06, 2.84]	Referent	0.84 [0.27, 2.68]	Referent	0.81 [0.34, 1.96]
	Asthma	0.99 [0.96, 1.01]	Referent	0.59 [0.23, 1.48]	0.19 [0.02, 1.83]	Referent	0.99 [0.36, 2.74]	Referent	0.95 [0.42, 2.13]
	Use of Seat Belts	0.97 [0.94, 1.00]	Referent	0.87 [0.33, 2.29]	0.36 [0.04, 3.58]	Referent	0.64 [0.23, 1.83]	Referent	0.75 [0.32, 1.74]
	Immunizations	0.99 [0.96, 1.02]	Referent	0.59 [0.23, 1.50]	0.87 [0.13, 5.78]	Referent	0.79 [0.28, 2.26]	Referent	0.80 [0.36, 1.81]
	Sexual History	**0.95 [0.91, 0.98]**	Referent	0.57 [0.19, 1.68]	0.43 [0.04, 4.25]	Referent	0.39 [0.13, 1.20]	Referent	0.87 [0.35, 2.16]
Self-Test Kits	Colon Cancer	1.02 [0.99, 1.05]	Referent	0.64 [0.25, 1.62]	0.44 [0.07, 2.88]	Referent	0.97 [0.34, 2.78]	Referent	1.10 [0.49, 2.51]
	COVID-19	1.01 [0.98, 1.04]	Referent	1.09 [0.42, 2.84]	0.17 [0.02, 1.63]	Referent	0.44 [0.14, 1.42]	Referent	1.52 [0.64, 3.60]
	HIV	0.98 [0.93, 1.01]	Referent	0.99 [0.29, 3.33]	0.00 [0.00, 0.00]	Referent	1.60 [0.29, 8.68]	Referent	1.65 [0.53, 5.14]
	STIs	0.94 [0.91, 0.98]	Referent	0.69 [0.21, 2.28]	0.00 [0.00, 0.00]	Referent	0.81 [0.20, 3.28]	Referent	2.09 [0.73, 5.98]
	Allergies	0.98 [0.95, 1.01]	Referent	0.47 [0.18, 1.23]	0.37 [0.06, 2.46]	Referent	1.44 [0.51, 4.02]	Referent	1.64 [0.72, 3.74]
	Cholesterol	1.02 [0.99, 1.05]	Referent	0.64 [0.25, 1.63]	0.39 [0.06, 2.63]	Referent	1.03 [0.36, 3.00]	Referent	1.60 [0.69, 3.70]
	Influenza	0.99 [0.97, 1.02]	Referent	**0.36 [0.14, 0.94]**	0.18 [0.02, 1.76]	Referent	0.94 [0.34, 2.60]	Referent	1.11 [0.49, 2.52]
	Urinary Tract Infections	1.01 [0.98, 1.04]	Referent	0.43 [0.17, 1.13]	0.39 [0.06, 2.64]	Referent	**3.38 [1.15, 9.96]**	Referent	1.83 [0.80, 4.19]

	Alcohol Use	**0.94 [0.90, 0.99]**	Referent	0.59 [0.13, 2.72]	0.00 [0.00, 0.00]	Referent	0.56 [0.11, 2.88]	Referent	0.78 [0.20, 2.95]
	Illicit Drug Use	**0.94 [0.90, 0.99]**	Referent	0.50 [0.11, 2.27]	0.00 [0.00, 0.00]	Referent	1.06 [0.18, 6.31]	Referent	0.72 [0.19, 2.80]

As age increased, participants were less likely to be willing to answer questions about alcohol use [aOR 0.96, CI=0.93, 0.99], tobacco use [aOR 0.97, CI=0.93, 1.00], depression [aOR 0.98, CI=0.94, 1.00], stress [aOR 0.98, CI=0.95, 1.01], anxiety [aOR 0.96, CI=0.93, 0.99], sleep [aOR 0.97, CI=0.94, 1.00], and sexual history [aOR 0.95, CI=0.91, 0.98]. Age, race, and gender were associated with participants interest in receiving self-tests. As age increased, participants were less likely to be interested in receiving self-test kits for alcohol use [aOR 0.94, CI=0.90, 0.99] and illicit drug use [aOR 0.94, CI=0.90, 0.99].

HIV Sub Analysis

As age increased, participants were less likely to prefer getting an HIV test at a doctor's office [aOR 0.95, CI=0.92, 0.99] or with a home-based test [aOR 0.96, CI=0.92, 1.00] compared to not getting tested at all (Table 4).

Table 4. Logistic regressions predicting sexual health and likelihood of MyChart use for research tasks (N=105)

		Age	Race			Gender		Marital Status	
			White	Black	Another Race	Male	Female	Married	Not Married
		aOR [95% CI]		aOR [95% CI]	aOR [95% CI]		aOR [95% CI]		aOR [95% CI]
HIV Testing	At Doctor's Office	**0.95 [0.92, 0.99]**	Referent	2.59 [0.83, 8.12]	1.50 [0.21, 10.90]	Referent	0.78 [0.19, 3.19]	Referent	**3.00 [1.07, 8.44]**
	Home-Based Test	**0.96 [0.92, 1.00]**	Referent	0.85 [0.22, 3.38]	0.00 [0.00, 0.00]	Referent	0.52 [0.14, 2.03]	Referent	**6.18 [1.97, 19.39]**
PrEP Awareness		0.97 [0.94, 1.00]	Referent	0.88 [0.32, 2.45]	3.09 [.046, 20.76]	Referent	1.68 [0.47, 5.99]	Referent	0.96 [0.39, 2.39]
Complete Risk Assessments		0.97 [0.93, 1.01]	Referent	0.66 [0.21, 2.08]	0.73 [0.07, 7.86]	Referent	1.05 [0.30, 3.69]	Referent	0.55 [0.21, 1.48]
Read Information About Health		0.99 [0.96, 1.02]	Referent	1.53 [0.56, 4.19]	0.80 [0.12, 5.33]	Referent	1.37 [0.49, 3.85]	Referent	0.78 [0.34, 1.79]

Compared to those who were married, participants who were not married were significantly more likely to prefer getting HIV tested at a doctor’s office [aOR 3.00 CI=1.07, 8.44] or with a home-based test [aOR 6.18 CI=1.97, 19.39]. There were no significant differences in PrEP awareness, willingness to complete risk assessments, or willingness to read information about health.

DISCUSSION

Electronic health records and their patient portals, such as MyChart, have become increasingly common. We found that patients overwhelming use MyChart and are willing to use it to answer risk assessments, participate in research, watch videos, read health information, and complete surveys. We found few demographic differences in how patients interact with MyChart. Age was a predictor for some outcomes related to technology, such as how and reasons to access MyChart, as well as likelihood of completing risk assessments electronically, and interest in self-test kits. Patients who were Black were less likely to a receive a message to login to or check lab results in MyChart. In general, we found that most patients already use the patient portal and are willing to do so for research-related purposes.

Importantly, we found no significant differences in how most patients access MyChart, what activities they do within MyChart, and what they would be willing to do for research purposes. Most of our participants were willing to not only be contacted to participate in research via the portal, but also complete research-related activities such as taking risk assessments and viewing videos in the portal. The lack of significant results in this study is in contrast to previous research. Other research has found differences in patient portal use based on demographic factors.[18-20] However, those studies were almost exclusively conducted pre-COVID-19. As Mai and colleagues found, COVID-19 may be leading to a shrinking of the racial digital divide, as access and use of portal functionalities has expanded among racial minority groups.[21] Patient portals may be a method to reach large numbers of patients[22] for research purposes while potentially increasing access to research participation for women[10] and minorities[17] – groups who have historically not been equally represented in research. Future research should examine if research recruitment via patient portals can enroll participants who align with the demographic makeup of the healthcare system.

We found that certain demographic characteristics such as age may impact ways in which patients would be willing to either access or interact in the patient portal. Similar to our results, previous research has shown that older patients are less likely to use patient portals.[23, 24] As health systems increasingly utilize patient portals for patient-provider communication, including messaging with providers and paying patient bills, it will be important to recognize that all patients do not use or do not know how to use portals equally. Providing access to technology in waiting rooms may help, as it provides access to those that do not have access on their own, and it may provide the space for health workers, such as Community Health Workers, to assist and teach patients how to use such technologies. Future research should explore whether providing access to patient portals in clinic waiting rooms may help to reduce inequitable access for certain demographic groups.

Participants in our research were generally willing to complete risk assessments via the patient portal and receive self-test kits, including for stigmatized topics like HIV and substance use. In a similar fashion, a scoping meta-analysis by Gnambs and Kasper[25] found that individuals are more likely to disclose sensitive behaviors in computer-assisted surveys. Future research should examine whether answering questions about stigmatized topics in patient portals results in increased patient-provider communication or preventive care regarding those topics. Self-testing for HIV and substance use are important, as individuals who may not test themselves otherwise may be more comfortable or willing to test on their own.[26, 27] As the TakeMeHome project found,[28] providing HIV self-test kits gives options to people who may not be able or willing to test otherwise. Future research should examine if offering patients HIV self-test kits via the patient portal increases HIV testing in healthcare systems.

There are some limitations to this research. First, this study occurred with patients who were part of the PERC. Patients who participate in activities with the PERC may be different than the healthcare system patient population overall. For example, they may be more likely to participate in research because they are already part of a research center and more engaged with the healthcare system. Second, participants in this research were more likely to be female than male. Females compared males have been found to be more likely to use patient portals.[29] Results may be different if more males participated. And finally, the survey for this research was distributed electronically. It may be that those people who participate in online surveys are more likely to feel comfortable doing health-related activities electronically.

CONCLUSIONS

Patient portals are a way for patients to both have access to their electronic health information and interact with the healthcare system. They are becoming increasingly more common for clinical communication, but as we found, can also be used for research recruitment and sending research-related information. Patients generally prefer to hear about research studies via portals and are willing to use them to answer risk assessments, read about health information, and complete other clinical tasks. Furthermore, patients would be interested in receiving self-test kits for various health conditions, including those for sensitive health conditions such as HIV. Patient portals are a relatively novel way to engage patients in a variety of research and clinical activities and may be an ideal way to engage patients in research related to sensitive health conditions.

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Conflicts of Interest: The Authors declare that there is no conflict of interest.

Ethical Approval: PERC is covered by an overarching IRB approval at Henry Ford Health for patient advisors to fill out surveys and provide preliminary feedback.

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