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## Patient and Provider Experience of Electronic Patient Portals and Secure Messaging in Mental Health Treatment

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### Abstract

**OBJECTIVE:** Electronic health record (EHR) patient portals were promoted to enhance patient engagement. However, organizations often deny patient access to records of treatment for mental health disorders. This study explores patient and provider experience of patient electronic access to the mental health treatment record and the use of secure messaging.

**METHODS:** Online surveys of a sample of mental health patients (N=168) and providers (N=80) addressed their experience using patient portals and secure messaging.

**RESULTS:** Only 29 of the 80 providers (36%) worked at organizations which provided patients electronic access to mental health records. Of these 29 providers, 72% endorsed that patients requested a change in the provider note, 69% endorsed patients asked more questions, 55% endorsed patients reported they experienced significant distress after accessing portal, and 21% reported patients engaged in negative and/or self-destructive behavior towards themselves or others. Of patients with access to mental health notes (N=37), 86% endorsed that they gained

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a better understanding of what was discussed in the appointment, 84% trusted their healthcare provider more, 76% felt comforted or relieved after reading their health information, and 57% reported they were better able to take medications as prescribed. Both patients and providers enjoyed the efficiency of secure messaging. Open text responses are also presented.

**CONCLUSIONS:** The implementation of electronic access to mental health notes requires a transition from viewing the medical record as the exclusive tool of providers to that of a collaborative tool for patients and providers to achieve treatment goals.

### Keywords

Patient Portals; Mental Health; Personal Health Records; Patient Engagement; Electronic Health Records; Secure Messaging

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## INTRODUCTION

Patient portals are secure online websites that give patients electronic access to portions of their medical record information. Several collaborative groups have emerged to explore the impact of patient portals. These include the OpenNotes Project at Harvard Medical School<sup>1-3</sup>, investigators within the United States Department of Veterans Affairs exploring the VA's My HealthVet portal<sup>4-6</sup>, the DOME consortium evaluating Jornalen<sup>7-10</sup>, a nationwide patient portal available to all Swedish residents, and investigators within the United Kingdom's National Health Service is implementing a nationwide patient portal service<sup>11</sup>. These investigations uniformly demonstrate how patient portals do empower and inform patients, as intended, even in clinical contexts where access to information is considered quite sensitive -such as cancer treatment<sup>12,13</sup>. Portals provide patients a powerful tool in understanding and managing their healthcare, such as reviewing visit notes to better understand medication and other treatment recommendations<sup>1,5,6</sup>, self-monitoring of chronic disease via access to longitudinal laboratory results<sup>14</sup>, and care coordination through tools which facilitate health information exchange<sup>15,16</sup>.

The Office of the National Coordinator for Health Information Technology (ONC) provided significant financial incentives to healthcare organizations to adopt EHR underlying their Meaningful Use Criteria<sup>17</sup>. The more recent ONC Cures Act Final Rule emphasizes patient access to *all* their health information<sup>18</sup> including mental health treatment information. Though portal access appears to have a largely positive impact<sup>19-21</sup>, organizations are hesitant to allow patients access to their mental health providers' notes and many restrict access to these notes<sup>18</sup>.

The long-term aim of the following study is to inform optimal implementation of patient portals in mental health treatment. The research conducted to date, demonstrates the mixed reception of mental health OpenNotes. In organizations that do allow patients to see their mental health notes, adoption is comparable to that of other non-mental health conditions<sup>20,22</sup> and mental health patients perceive electronic access to information comparable to general medical patients<sup>19,21</sup>. O'Neill et al.<sup>23</sup> reported that one-third of patients who read their mental health notes trusted their therapist more and one-quarter reported talking more openly as a result of reading their note. However, provider experience

of and support for portal access in mental health care is mixed. Dobscha et al.,<sup>4</sup> found that clinicians agreed making notes available would help patients, yet 49% indicated they would be pleased if patient access to mental health notes was discontinued.

## MATERIALS AND METHODS

This study consisted of Qualtrics online surveys of patients and providers in mental health treatment settings. Surveys were fielded between November 2018 and September 2019. Procedures followed have been assessed and approved by the University of Iowa Institutional Review Board.

### Providers

The Principal Investigator (CLT) circulated a link to the provider survey through multiple venues: The University of Iowa Department of Psychiatry; clinicians practicing within the Mental Health Service Lines of the Department of Veterans Affairs (VHA) in Iowa City, Iowa, Portland, Oregon, and Denver, Colorado and member providers of the National Network of Depression Centers. The National Network of Depression Centers (NNDC), is a nationwide non-profit consortium of 27 leading clinical and academic member centers in the United States who specialize in the treatment of mood disorders.

### Patients

Patient surveys were circulated via Research Match, a national health volunteer registry created by several academic institutions and supported by the U.S. National Institutes of Health as part of the Clinical Translational Science Award (CTSA) program. Patients who indicated they were receiving treatment for mental health conditions were eligible. The final sample includes patients and providers from across the United States who engage in mental health treatment in both psychiatric and primary care settings (See Table 1).

### Survey Design, Content, and Analysis

Two surveys related to user experience of portals were designed to address parallel domains, each tailored to either patient or provider perspectives. Providers were asked if they worked at an institution that supported a patient portal and/or secure electronic messaging between patients and providers and whether these features were available in the context of treatment for mental health conditions. Providers were then asked about their related experiences. Note secure messaging may be available in mental health treatment, without providing access to mental health clinical notes.

Similarly, patients were asked if they had electronic access to patient portals, secure messaging, and mental health clinical notes, and about their related experiences. The response choices for patients differed from that of providers. Providers endorsed if specific outcomes occurred in ANY of their patients, whereas patients were asked to indicate they experienced an outcome “Never”, “Rarely”, “Sometimes”, or, “Often”.

In light of the branching logic of the survey, the sample size for specific questions changed and the specific sample size for each result is provided in the respective text and tables. Within questions sample size varied slightly due to idiosyncratic patient non-response.

### **Open-Text Responses**

Patients and providers had the opportunity to provide open text responses, most often by endorsing “Other, please specify” at the end of a list of possible experiences. In this QUANT dominant mixed methods design, the open-text responses were reviewed by the PI (CLT) and the qualitative lead for the project (EC), and representative texts were identified to illustrate key findings from the survey data.

## **RESULTS**

### **Patient and Provider Demographic Characteristics**

Table 1 presents patient and provider demographic characteristics, and whether their organization’s patient portal provides access to mental health clinical notes. The initial sample included 80 providers. Of these 76 (95%), indicated their organizations provide patients portals, with 51(64%) endorsing patient access to general medical notes, and 29 (36%) endorsing patient access to mental health notes. Organizations may provide secure messaging to patients via their portals even if they do not provide access to narrative notes, and 68 (85%) of the 80 providers endorsed they use secure messaging with their patients. The initial sample size for patients was 168, and 152 (90%) endorsed access to patient portals, with 37 (22%) endorsing access to mental health notes and 140 (83%) endorsing use of secure messaging.

### **Provider Experience of Patient Portals and Patient Access to Mental Health Information**

Table 2 presents provider experience of patient portals in mental health care (N=29). The most highly endorsed item was patients requesting a change in the content of a provider note (72%), followed by a patient asking more questions about his or her treatment (69%), and a patient experiencing significant distress after reading mental health information (55%). Twenty-nine percent of these providers endorsed that they experienced a patient terminating treatment after accessing mental health notes, while 21% endorsed that a patient reported engaging in negative and/or self-destructive behavior towards themselves or others. Providers also endorsed positive experiences with access to mental health notes with 17% reporting patients feeling comforted after reading notes, and 14% reporting patients following their provider recommendations more closely. When these mental health providers with patient access to mental health notes were asked about the impact of patient portals on their behavior, 62% endorsed they have worried about how a patient would respond to their note, and 35% omitted important clinical detail in their provider narrative summary of the visit. Thirty-six percent indicated that they have not changed their practice or been impacted by patients having access to their mental health notes.

Open text responses allowed providers to describe their views about patient portals. These included safety concerns regarding patients who had access to their mental health clinical records. Eleven of the 29 providers working at organizations providing access to mental

health notes endorsed or described concerns about safety -all 11 working in mental health specialty settings.

“While I have not omitted important clinical information in a note, I have changed the description of the content in a way to not anger/upset the patient. More specifically, a psychotic patient who did not believe he was psychotic and would become very upset when seeing the word “psychosis” in the chart.”

“As a former outreach social worker going to visit homeless people, I have omitted words that I felt client would find offensive such as “delusion” for my own safety in subsequent visits, did not omit the fact of the matter, just my assessment of their thought content. .... I think providers who are outside the safety of a medical facility should have special consideration for notes as they are frequently alone with people with significant mental health problems who may be emotionally dysregulated [*sic*].”

Other providers addressed concerns about patient negative responses differently. One provider described how patients disagreeing with note content can lead to a discussion about the provider’s choices and enhanced collaboration between the provider and patients.

“I am and have always been extremely careful when writing case notes, knowing that not only can other providers, insurance carriers, etc. read these notes, but so can my patients. I try to be as objective as possible and back up diagnoses and other statements with actual symptoms, narratives provided by the patient, and examples that illustrate my points. On rare occasions when patients question or disagree with material in my notes, I spend time discussing the reasons I documented as I did and collaborate with the patient on the best way to resolve any differences of opinion.”

### **Patient Experience of Patient Portals and Access to Mental Health Treatment Information**

Patients with access to their mental health narrative notes (N=37) were presented possible impacts (Table 3). The most common items endorsed (i.e., “Sometimes”, or, “Often” occurring) were -better understanding of what occurred during the appointment (86%), trusting their healthcare provider more (84%), feeling better prepared for appointments (84%), gaining a better understanding of their treatment plan (81%), and feeling comforted or relieved after reading their health information in the portal (77%). Patients also endorsed negative consequences. For example, 14% of patients reported requesting a provider change the content of their note, 11% reported experiencing significant distress after reading notes, 1 patient reported engaging in negative or self-destructive behavior, and 1 patient reported terminating treatment after reading a visit note.

In the open text responses, many patients provided brief endorsements such as, “*I love my patient portal!*”; “*I find the portal very convenient and I use it often*”, and, “*I Love the patient portals. It helps me keep on top of my medical information.*” One patient who elaborated further wrote:

“...When it comes to medical records having immediate access to them has helped me in so many ways on so many occasions. I look forward to the future and how

they will expand. I currently use my chart and am in [town] so every provider in my area that I go to utilizes it and again it's just phenomenal.”

Not all patients felt positively about patient portals. Some shared frustrations with their portal experiences, including concerns about confidentiality and security, and their appropriateness when dealing with acute serious health concerns. Similarly, in open text responses several patients expressed a desire for access to all notes, including mental health notes:

“I find that generally portals are very limited as to what information is shared with patients about office visits, etc. I want to know what the provider is thinking and what he/she is documenting about me. I find visit summaries totally useless on this point. Also, test results - including radiology reports - are not posted to the portal for a week or more in some cases after the tests. I know the results are provided to the provider almost immediately, and I want access at the same time. I think it is because the providers do not want patients asking questions, which is completely wrong. This is information about me, and I want to know. If I have questions, that is what I pay them for.”

Importantly, one patient highlighted the negative impact that occurs when access to mental health notes is denied relative to other general medical notes.

“With psychiatry progress notes are hidden as is the ability to schedule and re-schedule mental health appointments. This is not the case with the rest of the healthcare network at the hospital, only in psychiatry. I find this bothersome and would like to see it changed since it furthers the feelings of stigma.”

### **Secure Messaging: Provider Perspectives**

Of total participating providers, 68 work in organizations that support secure messaging (Table 4). When asked about experiences with messaging occurring, “Never”, “Rarely”, “Sometimes”, or, “Often”, those most commonly reported (e.g. “Sometimes” or “Often”) were, patients requesting a prescription refill (68%), and reporting side effects (65%). Patients sending messages that were too long or too frequent were also common (41%), as well as raising health issues that were too complex to be addressed via secure messaging (57%).

Provider open text responses illustrated an overall positive view of secure messaging, with some providers preferring secure messaging to telephone calls because of its ease and efficiency:

“I actively encourage patients to use this functionality instead of phoning me – works much better”“...is much more efficient than phoning and an unintended consequence is a more efficient workflow and a happier doctor!!”

Providers appreciated the use of secure messaging as tool for monitoring patient status between visits.

“As a therapist, I have enjoyed using the secure messaging. It is easier for many of my patients to send a message than call our call center and then be routed to my phone, where I often have to take a voice mail because I am with other patients...”

“There are several things I am not comfortable \*managing\* via the portal, but I much prefer getting initially notified about them via the portal so that I can follow up via phone or in person as appropriate.”

Several respondents had experiences with patients using secure messaging for urgent or complex concerns and reiterated the need to provide guidance about appropriate use.

“...I have had very rare instances where a patient sent something inappropriate or too long for secure messaging. I have found it helpful to have a conversation about the portal and stating that it is not for emergencies.”

Some providers did report experiencing threats or violent language via secure messaging from their patients, with one writing, “refill requests are most common. Vitriol is second most common”. Such experiences may lead to providers or organizations restricting access to this feature on a case-by-case basis: “We have had to deny numerous patients continued access to secure messaging given their use of it--threats of violence toward providers are common”.

Despite its ease of use, providers expressed fatigue regarding the additional workload associated with secure messaging. Providers identified institutional and workflow barriers – uncompensated work and poor work design – that made secure messaging a drain, and in one case, a source of burnout.

“This has ridiculously increased our non-compensated time. We have to watch the wording so carefully because there is no nuance in written language. I think the time and anxiety around the endless e-messaging will ultimately be the major driver of when I decide to retire- right now I’m tending to think I’ll do it as soon as I can.”  
(ROLE)

### Secure Messaging: Patient Perspectives

Patients with access to secure messaging (N=140) reported a range of benefits (Table 5). Of this sample, 66% endorsed (occurred “Sometimes” or “Often”) that secure messaging replaced calling their provider by phone, 51% endorsed that they avoided an in-person visit, and 57% endorsed that they and their provider were able to address a medical concern effectively via secure messaging. Nineteen percent endorsed that their providers asked them to send messages on a regular basis to provide updates about medical concerns. Five percent endorsed that they sent a message indicating they have and/or might harm themselves or others and 4% endorsed that their provider told them their messages were too long or too frequent.

Patients’ open text responses highlighted both their knowledge of appropriate use as well as the benefit of the asynchronous communication:

“I usually only use the portal to check test results and other routine issues (requesting a medication refill). Anything more serious and I save it for an appointment.”

“I’ve sent messages when I was having a particularly hard week to ask if we could have a longer visit because of various things in my life that were triggering. Basically, just letting her know that I had a lot to unpack on the next visit”

Patients appreciated being able to contact their provider with questions or concerns between appointments, particularly when a response could offer resolution or calm anxiety. The accessibility afforded by secure messaging was linked to strengthening the therapeutic alliance by one patient:

“Being able to connect with my provider through the portal and skip a lot of the hurdles including waiting on hold sometimes for up to 45 minutes is really a different way of life and I appreciate it more and more every day. It also helps that my providers are fantastic people who are aware that sometimes just one simple question answered via a message can make a world of difference.”

Not all participants felt this way. A small number preferred communicating concerns to their provider by phone or in person. Other patient respondents reported confusion or frustrations with the specific design of secure messaging within their patient portals, with who the message was directed to (e.g., a nurse, a clinic) prior to it reaching their provider, or with delays in provider response or unresponsiveness. None reported being told their use of secure messaging was inappropriate or having access to it restricted as a result.

Another patient perspective notes the importance of helping providers to see patient portals and secure messaging as tools for collaboration.

“Some providers are exemplary: they answer within a few hours, they release test results as soon as they’re available. Others do not respond at all or respond five or eight days later. And they’re annoyed when you calmly request a more timely response. In my experience, everything depends on the provider’s willingness to use the portal as a valuable mode of communication. I wish all of my providers could see it that way.”

## DISCUSSION

Both patients and providers in this study report that access to mental health information continues to lag behind access to general medicine clinical notes. Though 64% of providers endorsed working at organizations that supported general access to notes, only 36% of the total sample reported working at organizations that allowed access to mental health notes. Similarly, only 37 of the 168 (22%) of patient participants had access to mental health notes. This will likely change in light of ONC Cures Act Final Rule which emphasizes patient access to *all* their health information<sup>18</sup> including mental health treatment information. Patient and provider experience reflected in the results can inform organizations about potential challenges and benefits in implementing patient access to mental health notes.



Multiple providers endorsed some of the feared consequences of access to mental health notes, such as patient self-harm and termination of treatment in response to reading notes. Fewer providers endorsed the more positive items such as patients feeling comforted or following treatment recommendations more closely. DelBanco et al.<sup>24</sup> reported that providers seemed unaware of the degree to which patients perceived benefits of reading their electronic health record such as patients taking better care of themselves. Dobscha et al.<sup>4</sup> and Denneson et al.<sup>25</sup> working within the Veterans Health Administration reported that mental health providers perceived the potential benefits for patients, yet remain apprehensive about allowing patients this access. Notably, Dobscha et al.<sup>4</sup> found that clinicians who spend most of their time doing clinical work were *less* favorable towards providing mental health patients access to their notes. In our study, only providers in mental health specialty settings endorsed safety concerns.

In contrast to the providers, patients endorsed positive benefits of portal access more frequently than negative experiences. Both their item endorsement and open text responses reflected the intended aim of patient portals where patients became engaged and informed.

In this study, both stakeholders consider secure messaging an efficient tool and some providers in our study have encouraged patients to use secure messaging to provide health updates between visits. Secure messaging offers the benefit of asynchronous communication and messages are documented automatically in the EHR. However, secure messaging's accessibility has the potential for inappropriate use and to increase workload as reflected by one provider's statement indicating secure messaging contributes to his/her decision to retire.

Provider acceptance of patient access to mental health notes requires an evolution from the view of electronic health records as a tool available exclusively for doctors to manage patient health, towards the view of the electronic health record as a tool shared between doctors and patients. Some providers in our study have made this transition and use the patient portal to collaborate with patients to better achieve treatment goals. As organizations implement OpenNotes for mental health, this transition can be facilitated through a combination of education and professional guidance. To date, many portal promotional materials target patients only, and have a narrow emphasis on efficiency, comparable to marketing used for online banking. Healthcare organizations should adopt a broader campaign which promotes the value to both patients and providers in promoting overall health and well-being. Dobscha et al.<sup>26</sup> developed an effective online training for mental health providers which trains clinicians about how to discuss notes with their patients, including patient strengths in their documentation, and composing notes anticipating any potential negative reactions to notes. Providers who received this training had a significant reduction in anxiety about patient access to mental health notes and were more likely to promote OpenNotes to their patients. Organizations could also disseminate patient testimonials about positive impact providing detail about specific use cases of how patients and providers can use visit notes to help manage specific medical conditions. For example, marketing could describe how patients and providers can use the portal to promote adherence after initiation of antidepressants, as community based studies report that up to one third of patients self-discontinue antidepressants within four weeks of starting treatment<sup>27</sup>. Finally, concerns about patient

portals jeopardizing the safety of patient or provider must be addressed directly, particularly in light of the stigma around mental health which exaggerates the strength of its association with violence<sup>28</sup>.

Though providers participating in this study were vocal about increased concerns about safety, many organizations including the United States Department of Veterans Affairs have provided patients access to their mental health notes and choose to continue to do so. To the best of these authors' knowledge, no study demonstrates a clear association between access to notes and increases in violent behavior -yet patient perceived benefit is large as demonstrated in this and in prior studies<sup>19,21,25,29</sup>. Historically, disruptive patients have communicated threats via telephone, remote pager, and voicemail – yet organizations have not prohibited clinical use of these technologies, nor selectively discontinued them in mental health settings. As with these older communications technologies, the ability to manage patient potential for harm is based on a clear and explicit clinic policy regarding patient and provider interactions combined with the strong clinical skills of the provider.

This study is innovative in its exploration of patient portals in the context of mental health care, and its focus on secure messaging. However, it suffers methodologic limitations which must be considered in interpreting the results. Both patient and provider samples were samples of convenience using specific mental health care organizations, and a website for patients who wish to volunteer for research. The results are presented to inform larger more systematic studies of user experiences as well as inform the imminent implementation of portals in mental health settings as a result of the ONC Cures Act Final Rule.

## CONCLUSION

As patient portals continue to be disseminated, their benefits to both patients and health care organizations are being demonstrated. Though the challenges associated with patient portals require further exploration, the benefits associated with their use should not be denied to those suffering mental health conditions. Broad promotion to both patients and providers of portals as a collaborative tool will enhance the most effective adoption of this new technology.

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**Table 1.**

Provider (N=80) and Patient (N=168) Background Characteristics and Experience with Patient Portals

<b>Demographics</b>	<b>Providers (n = 80)</b>	<b>Patients (n = 168)</b>
<b>Gender</b>		
Male	25 (31%)	70 (42%)
Female	53 (66%)	94 (56%)
Prefer not to answer	2 (3%)	4 (2%)
<b>Age</b>		
20–39	29 (36%)	68 (40%)
40–59	32 (40%)	75 (45%)
60 or older	18 (23%)	25 (15%)
Prefer not to answer	1 (1%)	0 (0%)
<b>Ethnicity</b>		
Hispanic or Latino	2 (3%)	7 (4%)
Not Hispanic or Latino	69 (86%)	158 (94%)
Unknown or prefer not to answer	9 (11%)	3 (2%)
<b>Race</b>		
White	64 (80%)	151 (88.8%)
Black or African American	2 (2%)	8 (4.7%)
Asian or Pacific Islander	4 (5%)	2 (1.2%)
American Indian/Alaskan Native	0 (0%)	1 (0.6%)
More than one race	5 (6.5%)	3 (1.8%)
Prefer not to answer	5 (6.5%)	5 (2.9%)
<b>Provider Type<sup>a</sup></b>		
Psychiatrist	29 (36%)	102 (61%)
Family Medicine Physician	0 (0%)	28 (17%)
Primary Care Doctor	NA	79 (47%)
Physician Assistant	3 (4%)	22 (13%)
Other Physician or Provider	6(7%)	29 (17%)
Psychologist	25 (31%)	59 (35%)
Social Worker	15 (19%)	33 (20%)
Nurse	2 (3%)	18 (11%)
Not Sure	NA	1 (>1%)
Provides care at/care provided by US Dept. of Veterans Affairs	31 (39%)	6 (4%)
<b>Patients have patient portal access</b>		
Yes	76 (95%)	152 (90%)
No	3 (4%)	11 (7%)
Unsure	1 (1%)	5 (3%)
<b>Patients have access to non-mental health visit notes</b>		

<b>Demographics</b>	<b>Providers (n = 80)</b>	<b>Patients (n = 168)</b>
Yes	51 (64%)	83 (49%)
No	8 (10%)	40 (24%)
Unsure	17 (21%)	29 (17%)
No Portal	4 (5%)	16 (10%)
<b>Patients have access to mental health visit notes</b>		
Yes	29 (36%)	37 (22%)
No	24 (30%)	60 (36%)
Unsure	23 (29%)	55 (33%)
No Portal	4 (5%)	16 (9%)

Abbreviation: NA, not applicable

<sup>a</sup> patients had choice of choosing more than one type of provider, so numbers are higher than patient total sample.

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**Table 2:**

## Provider Experiences with Patient Portals and Patient Access to Mental Health Clinical Notes (N = 29)

<b>Events occurring due to patients reading mental health notes</b>	<b>Yes</b>	<b>No</b>	<b>Unsure</b>
Has any of the following occurred after your patients accessed their mental health information through their patient portal?			
A patient asked more questions about his or her treatment.	20 (69%)	9 (31%)	0 (0%)
A patient experienced significant distress after reading mental health information accessed through the patient portal.	16 (55%)	10 (35%)	3 (10%)
A patient requested a change in the content of a provider note.	21 (72%)	7 (24%)	1 (3%)
A patient followed your treatment recommendations more closely.	4 (14%)	9 (32%)	15 (54%)
A patient terminated treatment because he or she did not agree with information accessed through the patient portal.	8 (29%)	16 (57%)	4 (14%)
A patient reported engaging in negative and/or self-destructive behavior towards themselves or others after reading material in the provider note.	6 (21%)	21 (75%)	1 (4%)
A patient reported feeling comforted or relieved after reading mental health information in the patient portal.	5 (17%)	18 (62%)	6 (21%)
Has any of the following occurred in your practice as a result of your organization providing patients access to their mental health information online?			
You have omitted important clinical detail in your provider narrative summary of the visit.	10 (35%)	19 (66%)	0 (0%)
You have spent significantly more time addressing patient questions outside of visits.	5 (17%)	23 (79%)	1 (4%)
You have experienced a lawsuit or tort claim related to provider notes.	1 (3%)	28 (97%)	0 (0%)
You have been worried and/or anxious about how a patient would respond to a provider note you have written.	18 (62%)	11 (38%)	0 (0%)
You have NOT changed your practice or been impacted by patients having access to their mental health information in the patient portal.	10 (36%)	16 (57%)	2 (7%)

**Table 3:**

## Patient Experiences Using Patient Portal to Read Mental Health Information (N=37)

Events occurring due to reading mental health notes and sending secure messages	Never	Rarely	Sometimes	Often
How often have the following occurred after reading about your mental health treatment in your patient portal?				
You thought of questions to ask your healthcare provider.	5 (14%)	6 (16%)	20 (54%)	6 (16%)
You experienced significant distress after reading your medical record.	19 (51%)	14 (38%)	4 (11%)	0 (0%)
You felt more knowledgeable about your mental health condition and it's treatment options.	4 (11%)	3 (8%)	14 (38%)	16 (43%)
You requested a change in the content of an after-visit summary or your provider's visit or progress note.	30 (81%)	2(5%)	5 (14%)	0 (0%)
You have found an error in your medical record and discussed it with your healthcare provider.	28 (76%)	6 (16%)	2 (5%)	1 (3%)
You were better able to take your medications as prescribed.	11 (30%)	5 (13%)	8 (22%)	13 (35%)
You gained a better understanding of your treatment plan.	6 (16%)	1 (3%)	15 (41%)	15 (40%)
You ended treatment because you did not agree with what was written.	32 (86%)	4 (11%)	1 (3%)	0 (0%)
You trusted your healthcare provider more.	4 (11%)	2 (5%)	16 (43%)	15 (41%)
You were better prepared for your appointments.	3 (8%)	3 (8%)	19 (51.5%)	12 (32.5%)
You engaged in negative and/or self-destructive behavior towards yourself or others after reading a visit or progress note.	32 (86%)	4 (11%)	1 (3%)	0 (0%)
You felt more optimistic about achieving your treatment goals.	6 (16%)	3 (8%)	19 (51.5%)	9 (24.5%)
You felt more in control of your treatment.	4 (11%)	4 (11%)	13 (35%)	16 (43%)
You were able to better understand what had been discussed at an appointment.	2 (5%)	3 (8%)	12 (32%)	20 (54%)
You felt comforted or relieved after reading your health information in the portal.	4 (11%)	5 (13%)	15 (41%)	13 (35%)
Other-please specify (N=22)				



**Table 4:**

## Provider Experience of Secure Messaging (N=68)

<b>How often have the following occurred with your patients using secure messaging?</b>	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Often</b>
A patient sent messages that were too long and/or too frequent.	12 (18%)	28 (41%)	25 (37%)	3 (4%)
A patient raised a health issue that was too complex to be addressed via secure messaging.	10 (15%)	19 (28%)	35 (51%)	4 (6%)
A patient reported about side effects of current medications.	10 (15.1%)	12 (18.2%)	30 (45.5%)	14 (21.2%)
A patient requested a prescription refill.	13 (20%)	7 (10%)	21 (32%)	25 (38%)
A patient requested an explanation for information found in the record, such as a laboratory result or an expected diagnosis.	21 (32%)	24 (36%)	20 (30%)	1 (2%)
A patient sent a message indicating they have and/or might harm themselves or others.	40 (60%)	22 (33%)	5 (7%)	0 (0%)
A patient sent an inappropriate and/or hostile message.	36 (54%)	21 (31%)	8 (12%)	2 (3%)

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**Table 5:**

## Patient Experiences Using Secure Messaging (N=140)

Events occurring due to reading mental health notes and sending secure messages	Never	Rarely	Sometimes	Often
With secure messaging, have any of the following things occurred and, if so, how often?				
You sent a message about side effects you're experiencing from a medication.	70 (51.5%)	18 (13%)	40 (29.5%)	8 (6%)
You and your provider addressed a medical concern effectively via secure messaging.	30 (21%)	29 (21%)	58 (42%)	22 (16%)
You were able to avoid an in-person visit by addressing a medical concern through secure messaging.	38 (27%)	29 (21%)	47 (34%)	25 (18%)
Your provider told you that your messages were too long or too frequent.	129 (93%)	4 (3%)	4 (3%)	2 (1%)
You sent a messaging requesting more information about a test result or something written in an after-visit summary or in a visit or progress note.	60 (43%)	29 (21%)	42 (30%)	9 (6%)
Your provider asked you to send messages on a regular basis to provide updates about a medical concern.	94 (67%)	19 (13.5%)	23 (16.5%)	4 (3%)
You were able to avoid a phone-call to your provider by addressing a medical issue through secure messaging.	27 (19.5%)	20 (14%)	61 (44%)	31 (22.5%)
You sent a message indicating you have and/or might harm yourself or others.	132 (94%)	1 (1%)	6 (4%)	1 (1%)
You have sent a secure message to your healthcare provider and did not receive a response.	86 (62%)	34 (24.5%)	16 (11.5%)	3 (2%)
Other-please specify (N = 80)				

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