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Brief Report

Electronic Health Records: Eliciting Behavioral Health Providers' Beliefs

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Abstract

Interviews with 32 community behavioral health providers elicited perceived benefits and barriers of using electronic health records. Themes identified were (a) quality of care, (b) privacy and security, and (c) delivery of services. Benefits to quality of care were mentioned by 100% of the providers, and barriers by 59% of providers. Barriers involving privacy and security concerns were mentioned by 100% of providers, and benefits by 22%. Barriers to delivery of services were mentioned by 97% of providers, and benefits by 66%. Most providers (81%) expressed overall positive support for electronic behavioral health records.

Keywords: Electronic health records, Healthcare provider beliefs, Qualitative methods

Introduction

The American Recovery and Reinvestment Act (2009) directed billions of federal dollars to accelerate the widespread adoption of electronic medical records (EMRs) and electronic health records (EHRs).[1] Most of the funding and attention has been directed toward medical providers, and little is known about how community mental health and substance abuse providers view using EMRs or EHRs. This lacuna is surprising because behavioral health issues (i.e., mental health and substance abuse) are prevalent and costly, and are an important component of an individual's health information (US Department of Health and Human Services, Agency for Healthcare Research and Quality 2009). The purpose of this exploratory, qualitative study was to elicit community behavioral health providers' beliefs about the benefits and barriers of using EHRs. The conceptual framework for this study was the theory of reasoned action which suggests that understanding beliefs aids in predicting behaviors (Ajzen and Fishbein 1973).

Provider Perceptions about Electronic Records: Benefits and Barriers

We located only three studies focusing on behavioral health providers' beliefs about EHRs or EMRs. All three obtained information through structured surveys or interviews. The first, a post-implementation survey of psychiatric clinicians using an EHR, focused on nine benefit and barrier categories: data security, data sensitivity, data quality erosion, data quality enrichment, xenophobia, altered recording behaviors, comfort with security, efficiency, and importance of confidentiality (Salomon et al. 2010). In the second study, behavioral health providers believed there were benefits to using EMRs and having interoperability with medical/primary care systems, but also perceived cost as a significant barrier (Lefkovitz 2009). The third study surveyed providers at an Australian mental health organization and found that providers believed EMRs made their job easier and more efficient, improved client care, improved communication with other staff, and were effective for documenting and accessing client progress and staff activity (Walter et al. 2000). We were unable to find any studies that elicited qualitative belief statements generated from behavioral health providers themselves, but instead only found these that used researcher-defined belief statements. Because behavioral health providers' views have important implications for the adoption of EHRs in community mental health services, the goal of the present study was to fill that research gap and explore behavioral health providers' beliefs about the benefits and barriers of EHRs.

[1] We follow Garets and Davis (2006) in using electronic medical record (EMR) to mean the legal record created and used by a healthcare organization primarily for use within the organization, and electronic health record (EHR) to refer to client information that combines EMR data from multiple healthcare providers.

Methods

Sample and Participants

Participants were recruited from a list of all behavioral health providers practicing in a 16-county urban and rural region of Nebraska. The provider list was stratified by type of provider role: (a) psychiatrists, advanced practice registered nurses, and physician's assistants; (b) psychologists; (c) licensed mental health practitioners; and (d) registered nurses. The list was randomized within the roles and potential subjects were invited by phone to be interviewed. The recruited sample (n = 32) was: middle-aged, with 65% between 41 and 60 years of age; highly educated, with almost half (47%) having doctorates (i.e., M.D., Ph.D., or Psy.D.) and another 20% having masters degrees; slightly male (53%); and practicing in both public as well as private settings. The participants reported using practice-related technologies: 50% of the respondents reported regularly using EMRs within their organizations and nearly one-third reported regularly using lab systems. The survey did not ask about EHR use. A majority reported using fax (91%), phone (88%), or mail (72%) to exchange client data with providers at other facilities.

Measures and Procedures

A semi-structured interview protocol was designed to probe providers' beliefs about the barriers and benefits of EHRs and how such sharing would affect clients, providers within their organization, and providers outside their organization. The four focal interview questions were: (a) What would be the benefits of a system that allows providers to electronically exchange client behavioral health information with other health care providers, (b) What would be the barriers to using a system that allows providers to electronically exchange client behavioral health information with other health care providers, (c) Who in your organization would you rely on to be part of the decision-making process regarding adopting and implementing an electronic system for behavioral health information, and (d) What is the likelihood that you and others in your primary practice or organization would use an electronic sharing system if it were developed?

Interviews with providers totaled 16 h, with a mean length of 29 min. Interviews were transcribed and coded over a 10-week period of time. Four researchers worked independently to code the data using Atlas.ti software and met weekly using a reiterative, inductive approach to determine agreement on coding terms and clusters, and to identify the codes that comprised major themes. Reliability was then assessed by computing the presence of double-coded inter-rater agreement themes for four randomly selected interviews. Coders achieved 100% agreement in coding those interviews for the presence of the three major themes. The study was approved by the University of Nebraska-Lincoln Institutional Review Board.

Results

Interviews about the benefits and barriers of EHRs revealed three major themes: (a) quality of care, (b) privacy and security, and (c) delivery of services. For each theme area we present benefits and barriers, in sequence, according to which was more frequently mentioned by providers.

Theme 1: Quality of Care

In the interviews, all 32 providers mentioned that EHRs would result in benefits to quality of care for clients, whereas only 19 providers mentioned there were quality of care barriers. All providers expected that EHRs would provide more complete and immediate information that could improve quality of care. Comments included:

- Continuity of care is a main part of all of this. Because everybody gets to know what is wrong with the patient… and if the primary care provider can get the information just like the psychiatrist then it is better treatment for the patient.
- There are so many more variables that could be causing the person's behavior. That's why coordination is helpful.
- There's a disruption of care because you have to wait a half hour while we're trying to contact the hospital and having the hospital fax over information… It can be several months before we get [the information].

Approximately half of the behavioral health providers mentioned that medication information would be particularly useful:

- If [the client] has a heart condition…there are going to be certain medications we want to avoid. General physicians should have [mental health] information because there's a lot of medication they give that may make a person quite depressed.
- Just having a record of what's working for them would be a great benefit instead of starting over.

One-quarter of the behavioral health providers stated that having more complete information would save time for clients and would increase their satisfaction with services:

- We go over the same old ground that the patient has disclosed to other providers. They [have to] say the same thing to ten different people.

More than one-half of the providers also expressed EHR barriers. The most frequent concern, voiced by 10 providers, was that EHRs could result in miscommunications with other behavioral health and medical providers:

- It's not face-to-face, so there always can be miscommunication because of that.
- If you have major depression, once that's down there someplace, then every time somebody looks to see what the diagnosis is, they just transfer that to the next health form that it's on, even though those things may be only very temporary.

One-quarter of the providers indicated that provider-client relationships would suffer if EHRs required them to divert their attention from clients to their computers:

- If I'm spending all of my time looking at my keyboard, typing as I'm interviewing you, that really cuts into the relationship that we're supposed to be developing.

In summary, all providers mentioned quality of care issues. Some providers even commented that improved quality of care for the client should be the primary motivation for adopting EHRs:

- The only reason for exchanging would be for the maximum benefit of different people having different areas of expertise, medical, versus psychiatric, versus nutrition that contribute to the whole of treating an individual… There would be no reason to exchange information with somebody that wasn't potentially going to be helpful in treating the client's overall needs.

Theme 2: Privacy/Security

All 32 providers mentioned privacy and security concerns as barriers to EHR use, and only 7 mentioned EHRs would provide privacy and security related benefits. Nearly all of the providers identified general privacy and security concerns as the single most important barrier to adopting behavioral EHRs:

- Confidentiality is always the most important factor.
- The biggest drawback is… that data [are] being compromised or shared in inappropriate ways or reaching the wrong person.

Over one-third of providers stated that they believed clients would be reluctant to consent to electronic sharing:

- Patients are legitimately concerned about what happens to their health care information.
- They get worried about the CIA and FBI and other agencies spying on them.

Just under one-quarter of providers stated that they believed that federal privacy regulations and other legal issues were barriers:

- HIPAA. HIPAA, HIPAA, HIPAA. That's about the first three or four problems in the way.
- I'm the one whose hide is on the line if confidentiality is breached.

One-quarter of the providers predicted that EHRs would offer improvements, particularly in comparison to current procedures for information sharing:

- I call Walgreens and I say, "I'm an RN from this hospital, and I need to verify John Smith's meds." Well, Walgreens doesn't know who I am, [yet they provide patient information over the telephone].
- If I hit the wrong number, is that fax going to go to the wrong place? Then I have confidential information going where it shouldn't go.

In summary, providers mentioned privacy and security barriers more than they did privacy and security benefits. As one provider summarized:

- Anybody is going to be concerned about security issues because paper can be easily accessed, but only by a limited number of people. Anything that's computerized may be harder to access but can be accessed by millions of people. So you probably have a higher degree of difficulty but a wider scope of who could get to it.

Theme 3: Delivery of Services

The final theme salient to behavioral health providers was related to delivery of services. Providers discussed delivery of services barriers more than they discussed the benefits: 97% of providers offered at least one barrier and 66% of providers offered benefits. Three-quarters of providers noted that staff reluctance would be a barrier:

- Some people are very good physicians or very good nurses or therapists but the moment they see a computer they freeze.

- A lot of providers in mental health have just very rigid ideas about exchanging information and being overly protective of client information, and I think that that would only add to their overprotectiveness.

Three-quarters of providers were concerned that EHRs would be too costly and time consuming to implement and operate:

- Cost, number 1? Yeah.
- [EHRs] would be laborious for me to have to input information electronically to be able to send it…I do all my clinical work and all of the secretarial work.
- The efficiency of the system depends on every person being able to use or wanting to. If 10% people are resistant…then it becomes an inefficient system and you still have to do a paperwork system in addition to the electronic.

Finally, more than half of providers were skeptical that EHRs could accommodate the narrative-rich nature of behavioral health information and believed that computer-based systems would not be reliable:

- You can't template someone's psychological history. You can't do that.
- I've had multiple times where I've done an assessment and I'm almost done and the computer crashes… And I'm "Okay I have to start this all over. You've got to be kidding."

Despite these negative comments, approximately two-thirds of the providers stated that EHRs might also offer benefits, particularly in time and cost savings for themselves and their practices:

- It saves me time… We're not chasing each other on the phone; we're not sending emails back to each other saying, "Hey, do you think I can get this information?"
- Patients' needs can be exchanged before the visit starts so care can be provided in a more efficient way.

In summary, providers offered differing beliefs about the impact of EHRs on practices. Most providers were worried that it would be too costly for them to implement and use:

- When you're talking about mental health you're talking about small offices. You're talking about providers who cannot handle large overhead which electronic systems tend to bring into the overall expense of an office.

Overall Attitudes toward EHRs

During the interviews, providers were also asked to rate their overall supportiveness toward EHRs. Most stated they had a positive attitude toward EHRs. Of providers who summarized their overall opinion, 81% characterized themselves as positive, 12% characterized themselves as having an overall negative opinion, and 8% characterized themselves as both positive and negative. When asked whether they believed that behavioral health information was different from medical information, most providers (59%) said yes. Of those providers, most (79%) stated that behavioral health information is more sensitive and the client more vulnerable. Some providers (32%) noted that the subjectivity of behavioral health information makes electronic sharing a more complicated process.

Discussion

The purpose of this study was to identify community behavioral health providers' beliefs about the barriers and benefits of EHRs. Behavioral health providers' responses clustered into three themes: (a) quality of care, (b) privacy and security, and (c) delivery of services. Among the benefits discussed, all providers mentioned quality of care benefits, two-thirds discussed delivery of services benefits, and fewer than one in ten discussed privacy and security benefits. Of the barriers, privacy and security concerns were mentioned by all providers, nearly all providers mentioned delivery of services barriers, and over half the providers cited quality of care barriers.

Although behavioral health providers expressed concerns about possible barriers to adopting electronic records, a majority (81%) characterized themselves as having a positive attitude toward electronic sharing. This positive attitude has implications for the adoption of EHRs for community mental health services: Providers who have positive attitudes about adopting EHRs may be likely to adopt (Ajzen and Fishbein 1980). Further research is needed to determine whether these findings are representative of the larger population.

The present study found that behavioral health providers believe EHRs may compromise client privacy: 100% of behavioral health providers voiced concerns about privacy. This is consistent with other behavioral health studies and testimonies (Cost and confidentiality 2008; Privacy and confidentiality 2005; Salomon et al. 2010; US Department of Health and Human Services, Office of the Surgeon General 1999). This result differs from qualitative studies of medical providers, none of which identified privacy and security as a unique issue (Austin et al. 2006; Miller and Sim 2004;

Scheck McAlearney et al. 2004). Privacy and security issues also were not identified as a major issue in surveys that explicitly included questions to assess physician concerns about privacy and security (Gans et al. 2005; Penrod and Gadd 2001; Wright et al. 2010). Thus, it appears that privacy and security is a greater concern for behavioral health providers than for medical providers.

In the present study, cost and increased staff time were frequently mentioned as significant barriers to adopting EHRs. Just as smaller medical practices have much lower adoption rates of EHRs, behavioral health practices may also face challenges based on their size. Well over half of all psychiatrists and psychologists report an individual practice as their primary or secondary employment setting (Duffy et al. 2004). Cost saving approaches, such as shared computing services, may be needed to make EHR technology financially viable for behavioral health providers. Although it is not known what an acceptable cost for behavioral health providers may be, a recent study of medical providers found that most were unwilling to pay a suggested hypothetical fee of $150 per month (Wright et al. 2010).

The present study design employed an inductive qualitative method which was well suited to identifying the range of issues from the perspectives of the participants themselves, rather than limiting responses to those determined as important by the researchers. This approach is particularly useful when researchers want to elicit participant beliefs (Ajzen 1991). Further research is needed to confirm and extend the initial themes identified in this study. Future research could also focus on the influence of personal and practice characteristics on beliefs. For example, providers in our sample reported a high use of EMRs (50%). Past studies have suggested that providers who use EMRs tend to focus on the benefits of the systems more than the barriers, as compared to providers who have not implemented EMRs (Gans et al. 2005; Scheck McAlearney et al. 2004). Other studies have found that practice setting and size are factors in physician acceptance of EMRs (Audet et al. 2004). It is an open question whether patterns such as these will be found among behavioral health providers.

In conclusion, three themes (i.e., quality of care, privacy and security, and delivery of services) were identified from interviews with 32 behavioral health providers. Most behavioral health providers had positive beliefs about sharing client records electronically. This exploratory study adds to the existing literature on EHRs by showing that some barriers (e.g., privacy and security) are of greater concern to behavioral health providers than to medical providers. This has useful implications for community health providers adopting EHRs. The results suggest the ultimate challenge to behavioral health EHR adoption is whether quality of care benefits valued by providers may be achieved, while ensuring confidentiality of client records.

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