



University of Tennessee Health Science Center  
**UTHSC Digital Commons**

---

Applied Research Projects

Department of Health Informatics and Information  
Management

---


2015

# Health Information Exchanges and Patient Portals in Behavioral Health

Christine Peterson

*University of Tennessee Health Science Center*

Follow this and additional works at: <http://dc.uthsc.edu/hiimappliedresearch>

 Part of the [Health and Medical Administration Commons](#), [Health Information Technology Commons](#), [Health Services Administration Commons](#), [Health Services Research Commons](#), [Other Mental and Social Health Commons](#), and the [Other Psychiatry and Psychology Commons](#)

---

## Recommended Citation

Peterson, Christine, "Health Information Exchanges and Patient Portals in Behavioral Health" (2015). *Applied Research Projects*. 24. .  
<https://doi.org/10.21007/chp.hiim.0024>  
<http://dc.uthsc.edu/hiimappliedresearch/24>

This Research Project is brought to you for free and open access by the Department of Health Informatics and Information Management at UTHSC Digital Commons. It has been accepted for inclusion in Applied Research Projects by an authorized administrator of UTHSC Digital Commons. For more information, please contact [jwelch30@uthsc.edu](mailto:jwelch30@uthsc.edu).

Health Information Exchanges and Patient Portals in Behavioral Health

Christine Peterson, RHIT, CCS, CHC, CHDS, AHDI-F

University of Tennessee Health Science Center

### Abstract

We live in an electronic world. Technology is everywhere, including in our healthcare system. With the advent on the electronic health record and the push to meet Meaningful Use, many healthcare organizations have already started using patient portals and sharing information among providers via health information exchanges. There have been roadblocks to successful implantation of patient portals and health information exchanges, one of which is how to handle behavioral health information and would these new technologies be accepted by patients with mental health diagnoses.

## Health Information Exchanges

### What Are Health Information Exchanges?

There has always been the need for physicians to have access to their patients' past medical records in order to learn as much as possible about the past care each patient has had. This information may include medications that have been prescribed, which of those medications have worked or failed, lab tests or other studies that have been performed, and other factors that may contribute to a patient's well being. It is important that a physician seeing a patient for the first time has access to this information for continuation of care, so he or she knows where care left off and what yet needs to be done in the patient's treatment course. With the onset of electronic medical records and the continuing efforts to improve the safety, quality, and efficiency of the delivery of health care, the obvious choice is the health information exchange or HIE. "HIE is critical for successful healthcare reform and meaningful use of health IT" (HIMSS, a).

So what exactly is a health information exchange and what does it do?

"Electronic health information exchange allows doctors, nurses, pharmacists, other health care providers, and patients to appropriately access and securely share a patient's vital medical information electronically—improving the speed, quality, safety and cost of patient care" (HealthIT.gov, a). The electronic transfer of information can happen much more quickly than mail or fax. This leads to lower costs for both patients and providers. This exchange can also improve the completeness of a patient's medical record. It is easier for a provider to search the HIE and find a patient to get records than it is to call all previous providers and request the information. The use of an HIE can:

1. Provide appropriate, timely sharing of vital patient information
2. Allow providers to make better informed decisions at the point of care
3. Allow providers to avoid readmissions
4. Allow providers to avoid medication errors
5. Allow providers to improve diagnoses
6. Help decrease duplicate testing (HealthIT.gov, a)

There are three forms of HIEs: Directed Exchange, Query-based Exchange, and Consumer Mediated Exchange (HealthIT.gov, a). With the directed exchange, providers are able to send and receive information directly to and from other providers for coordinated care. With query-based exchange, providers can search for and ask for information from other providers. With consumer mediated exchange, patients have the ability to control what information is included in the HIE and who can have access to that information. While this may make some patients more comfortable with sharing their information, it is the most restrictive for providers and does not always give them the full access to information that they may need for quality decision making. On the flip side, this can enable patients to take more control over their healthcare and give them the confidence that their providers are covering all the bases and that they are receiving the best care possible. This type of exchange also lets patients look over their records to make sure that they are complete and accurate. Having accurate medical records can be a life or death issue. The Association for Healthcare Documentation Integrity (AHDI) launched a public service campaign last year. The “Your Record Speaks” campaign encourages patients to look at what is in their medical record and lets them know what their rights are and how to ask for corrections to their record (AHDI).

### What are Patient Portals?

A patient portal is a secure website that gives patients access to their health information at any time. Patients are able to log in from anywhere there is an internet connection and look at their health records (HealthIT.gov, c). Depending on the setup chosen by the physician's office or hospital, a patient can log in and review their medical records, input personal and family medical history information, complete forms, make appointments, make payments, and even send messages to and receive messages from their physician or nurse. The use of a patient portal can really increase the patient-clinician communication. Sometimes patients don't have the time to call during the work day, so being able to access a portal to set up an appointment or ask a question can be a great timesaver.

### What Are the Challenges to HIEs and Patient Portals?

Because the HIE and patient portal are electronic, many patients have concerns over the security of their medical information. There have been a number of highly publicized security breaches lately, including the one at Target in late 2013. Patients are afraid that HIEs and patient portals could be attacked by hackers and their medical information breached. There are also the challenges of interoperability with HIEs. The Healthcare Information and Management Systems Society (HIMSS) has an Interoperability & Standards Committee that has put together three different toolkits (HIMSS, a).

1. HIE toolkit for HIE organizations and providers
2. Ambulatory HIE toolkit for private practitioners, physician groups, and independent ambulatory practices or clinics

### 3. Enterprise HIE toolkit for hospitals and Integrated Delivery Systems (IDS) providers

Another piece of the interoperability puzzle is addressed with the Health Story Project. This project was started in 2006 by a group of healthcare providers, associations, and vendors. Out of this alliance came the Health Level Seven, or HL7, data standards for the flow of electronic health information (HIMSS, b). This project has since been transferred to HIMSS to continue the work; however, many of the original members are still very active in this project, including the Association for Healthcare Documentation Integrity (AHDI).

Other challenges to the HIE include financial sustainability, governance, stakeholder support, and consistent privacy and security safeguards (AHIMA, 2013). Some of these can be difficult to address because “the governance, structure, and geographic scope of HIEs vary across the country” (AMA). Take Oklahoma as an example. We have several HIEs across our state. OPHX was founded in 2009 and serves the Norman area (OPHX). Another one is the MyHealth Access Network, which serves northeastern Oklahoma (MyHealth Access Network). Here in Oklahoma, cost and security are two of the biggest issues that have stopped growth of the HIE programs (Burkes, 2014). Most states have at least one HIE, and there are also regional as well as national HIEs. What needs to happen is that all of these need to be tied together into one national HIE so that the information is available at any time for any physician who might need it to treat a patient.

As far as the patient portals, more and more hospitals and physician offices are engaging their patients with their use, mostly due to the patient electronic access

requirement under Meaningful Use Stage 1. The objective of this requirement is to “Provide patients with timely electronic access to their health information (including lab results, problem list, medication lists, and allergies) within 4 business days of the information being available to the EP” (CMS.gov, 2013).

It seems that for the most part everyone agrees that HIEs and patient portals are beneficial to everyone. If there was a way to continue funding, ensure interoperability with all EHR systems, and maintain the security of the HIE, there would be little to find fault with. While we have state wide and national HIEs working or in the works already, it will be a while yet before everyone is completely on the same page and we can see substantial benefit to everyone.

In 2009, the American Recovery and Reinvestment Act (ARRA) was signed into law. As part of that, Health Information Technology for Economic and Clinical Health (HITECH) Act was also enacted (U.S. Department of Health & Human Services, n.d.). The HITECH Act allocated \$19.2 billion in funding towards the development of health information technology (Healthcare Information and Management Systems Society, n.d.). The development of health information technology (HIT) is being guided by Meaningful Use (MU). Eligible physicians and eligible hospitals may qualify for incentives from the Centers for Medicare and Medicaid Services (CMS) if they can prove that they meet the criteria as set forth in each of the stages of Meaningful Use. Stage 2, which is set to begin in 2014, includes the use of electronic health records (EHRs) and health information exchanges (HIEs), which will allow patients faster and better access to their medical records (U.S. Department of Health & Human Services, 2012). Healthcare organizations and providers are trying to get all of the steps into



place to meet the requirements of MU. However, there are some obstacles that have arisen to implementing these requirements, especially when it comes to behavioral health. Some of the main problems that have come to light with the HIEs are interoperability, patient consent, standards, cost, and competition (Government Health IT, 2011).

Patient consent is a huge factor that cannot be overlooked in light of the Health Insurance Portability and Accountability Act (HIPAA). This becomes an even bigger issue when you factor in behavioral health records. In addition to HIPAA, behavioral health providers must also consider whether or not the patient has a substance abuse diagnosis as it relates to 42 CFR Part 2. This Federal law takes confidentiality one step further when it relates to facilities and providers treating patients with drug or alcohol diagnoses and how that information can be released (Substance Abuse and Mental Health Services Administration, 1997). Healthcare organizations and providers are reluctant to share information via an HIE or a patient portal for fear of the consequences if information gets out inappropriately. Behavioral health patients are sometimes reluctant to have their information shared so readily, even if it means better communication between providers and likely better continuity of care, cheaper costs for the patient, and better health outcomes. Sometimes these fears are based on misconceptions on the patient or provider's part, but sometimes these are well-founded fears, especially in light of the significant amount of data breaches that have been widely publicized of late. Should behavioral health records be released via an HIE or patient portal?

The Oklahoma Health Information Exchange Trust (OHJET) has published guidelines for sharing behavioral health information on an HIE. These guidelines indicate that behavioral health records may be shared via an HIE or patient portal and that providers may choose to use an opt-in method, where the patient signs consent for information to be shared, or an opt-out method, where the patient chooses not to have information shared (Oklahoma Health Information Exchange Trust, n.d.).

According to a research study done by Nancy Shank, behavioral health providers do feel there is a need for information to be shared. However, many of them still feel that there are barriers to sharing, including increased risk for breaches and their consequences, increased costs, and increased time burden (2011). If well-educated medical professionals are hesitant to share records in this manner, how are the mentally ill, and often times lower socioeconomic level patients going to feel about having their information shared?

A research study completed using a limited number of participants, most of whom had used the internet before but all with limited education levels, “were enthusiastic about patient portals and perceived that they had great utility and value” (Zarcadoolas , Vaughn, Czaja, Levy, & Rockoff, 2013). Furthermore, this same study did find evidence that even patients with mental health disorders and substance abuse issues responded favorably to the potential use of HIEs and patient portals (Zarcadoolas , Vaughn, Czaja, Levy, & Rockoff, 2013).

While more research will need to be done, the results of these two studies showed widespread acceptance of the benefits of health information exchanges and patient portals. Both studies showed that providers and patients were also in agreement

that there were still issues to be addressed, but that the potential benefits could outweigh the risks when it comes to better patient care.

### Methodology

The big question that comes to mind is whether or not behavioral health patients are truly comfortable with having their information shared electronically with their other providers or shared with the patients themselves via a patient portal. Are patients, and more specifically, behavioral health patients, comfortable with using the HIE and patient portal technologies?

Because the major focus of this research project was whether or not patients with behavioral health issues were less likely to use HIEs and patient portals than patients without behavioral health issues, the Technology Acceptance Model (TAM) was used as a structure for the survey questions. The survey asked how comfortable the respondents generally were with technology in general as well as how comfortable they thought they would be with using an HIE or patient portal after a brief explanation of each and how they worked.

The survey was open for a two-week period from October 1, 2015, through October 14, 2015. This survey was open to all ages 18 and over. It was an online survey, so all responses were collected via a survey link. The survey was prepared and conducted using a free Qualtrics account. The survey was dispersed via Facebook and email to friends and family. On Facebook, the survey link was also posted in several AHIMA networking groups. It was asked that the survey be shared broadly. There were a total of 177 responses to the survey of which 34 respondents did have a history of a mental health or substance abuse diagnosis. Of those 34 respondents, 19 were

currently being treated for their diagnosis. Of note, after this question, 1 respondent did drop out of the remainder of the survey.

### *Limitations of the Study*

This study did not allow for more in depth questioning as to the reasoning behind a person allowing or not allowing their information to be shared via an HIE or a patient portal. Although the survey did have two questions where open responses were allowed, the quantity and quality of the responses was not great.

The most limiting part of this study was that it was done completely electronically, so truly evaluating whether or not a behavioral health diagnosis precluded the use of an HIE or patient portal was not able to be done.

### *Response Rate*

Overall, the survey had a fairly good response rate of 78% with 138 of the original 177 respondents actually completing the entire survey.

### *Conclusion*

Upon complete analysis of the survey results, the conclusion was reached that technology did not deter behavioral health patients from participating in HIEs or patient portals. In fact, surprisingly, a higher percentage of behavioral health patients (61%) than non-behavioral health patient (52%) currently participate in an patient portal. The same was found with the use of HIEs, with 48% of behavioral health patients participating in an HIE versus only 34% of non-behavioral health patients.

Based solely on this study, it would not deter the author from recommending to my executive board that our organization continue to pursue the use of a patient portal and the participation in a health information exchange. However, it might be beneficial

to expand this survey beyond an online survey tool and get a more accurate measure of those patients who might truly be afraid of technology.

*SWOT Analysis*

I wanted to research the positives and negatives of using health information exchanges (HIEs) and patient portals as well as the possibility of using these in a mental health setting.

<p><b>MY STRENGTHS IN THIS RESEARCH</b></p> <p>There is a lot of discussion around these topics lately, especially with regard to meaningful use. My hospital/clinic is transitioning to an electronic medical record (EMR), and we are interested in offering a very advanced patient portal to our patients. My strengths in this project would be that it is something I am interested in generally and also have a vested interest in for my organization.</p>	<p><b>MY WEAKNESSES IN THIS RESEARCH</b></p> <p>I work in mental health, and there is a definite gap in information available pertaining to this specialty. I have only briefly used a patient portal, so I am not completely familiar with all of the possible uses. I have never had any experience with an HIE other than a seminar that I attended four years ago.</p>
<p><b>MY OPPORTUNITIES IN THIS RESEARCH</b></p> <p>I think my research on this topic would be very beneficial for my organization. I believe that I would be able to help facilitate our patient portal and possible moving into an HIE as well. External</p>	<p><b>MY THREATS IN THIS RESEARCH</b></p> <p>Again, there is very little information out there for specialties. It seems to me that most information is directed towards med/surg facilities. Also, because mental health records are more closely protected, there may be issues with the sharing of</p>

<p>opportunities would be to bring attention to the mental health specialty and sharing this information to help with patient care. Mental health information is even more protected than regularly health information. It is really hard to find studies or research specifically relating to mental health in many areas.</p>	<p>this information. In addition, many of our patients are scared to have their information in an electronic world and might possibly opt out of having their information shared in an HIE or through a portal.</p>
---	---

## Appendix A

## Search Terminology Used for Literature Review

Health information exchange mental health
Patient portals and mental health
Meaningful use and health information exchange
Are patient portals okay to send mental health records
HITECH
Meaningful use



Appendix B

Search Results of Literature Review

Search Term Used	Link to Site	Article Used?	Comments
Health information exchange mental health	<a href="http://www.corhio.org/media/40757/supporting_integration_of_behavioral_health_care_through_hie_april_2012-web.pdf">http://www.corhio.org/media/40757/supporting_integration_of_behavioral_health_care_through_hie_april_2012-web.pdf</a>	No	
	<a href="http://www.healthit.gov/buzz-blog/health-information-exchange-2/coalition-states-onc-samhsa-successfully-piloted-behavioral-health-data-exchange/">http://www.healthit.gov/buzz-blog/health-information-exchange-2/coalition-states-onc-samhsa-successfully-piloted-behavioral-health-data-exchange/</a>	No	
	<a href="http://www.healthit.gov/buzz-blog/state-hie/hie-bright-spots-supporting-mental-health-care-coordination-part-3/">http://www.healthit.gov/buzz-blog/state-hie/hie-bright-spots-supporting-mental-health-care-coordination-part-3/</a>	No	
	<a href="http://www.rigi.org/matriarch/documents/5-7-12%20Behavioral%20Healthcare%20-%20Starting%20simple%20with%20data%20exchange-Part%201.pdf">http://www.rigi.org/matriarch/documents/5-7-12%20Behavioral%20Healthcare%20-%20Starting%20simple%20with%20data%20exchange-Part%201.pdf</a>	No	
	<a href="http://www.gatewaycc.edu/sites/default/files/imce/images/himss_amb_beh_health_draft_final.pdf">http://www.gatewaycc.edu/sites/default/files/imce/images/himss_amb_beh_health_draft_final.pdf</a>	No	

Search Term Used	Link to Site	Article Used?	Comments
	<a href="http://healthaffairs.org/blog/2013/09/17/meaningful-consent-in-electronic-health-information-exchange-a-technology-centric-approach/">http://healthaffairs.org/blog/2013/09/17/meaningful-consent-in-electronic-health-information-exchange-a-technology-centric-approach/</a>	No	
	<a href="http://www.rwjf.org/en/research-publications/find-rwjf-research/2014/01/integrating-physical-and-behavioral-health--strategies-for-overc.html">http://www.rwjf.org/en/research-publications/find-rwjf-research/2014/01/integrating-physical-and-behavioral-health--strategies-for-overc.html</a>	No	
	<a href="http://www.healthdatamanagement.com/news/hie-health-information-exchange-behavioral-mental-health-44299-1.html">http://www.healthdatamanagement.com/news/hie-health-information-exchange-behavioral-mental-health-44299-1.html</a>	No	
	<a href="http://campus.ahima.org/audio/2012/RB120412b.pdf">http://campus.ahima.org/audio/2012/RB120412b.pdf</a>	No	
	<a href="http://www.acmha.org/content/events/arm_chair_reflections/Miller_HIT_Reflection_082810.pdf">http://www.acmha.org/content/events/arm_chair_reflections/Miller_HIT_Reflection_082810.pdf</a>	No	
	<a href="http://www.nasmhpd.org/publications/NASMHPD_HIT%20and%20BH%20Issue%20Paper_June%202014_Final.pdf">http://www.nasmhpd.org/publications/NASMHPD_HIT%20and%20BH%20Issue%20Paper_June%202014_Final.pdf</a>	No	
	<a href="http://www.informationweek.com/interoperability/behavioral-health-launches-hie/d/d-id/1097774">http://www.informationweek.com/interoperability/behavioral-health-launches-hie/d/d-id/1097774</a>	No	
	<a href="http://healthit.ahrq.gov/ahrq-funded-projects/chronic-mental-health-improving-outcomes-through-ambulatory-care-coordination">http://healthit.ahrq.gov/ahrq-funded-projects/chronic-mental-health-improving-outcomes-through-ambulatory-care-coordination</a>	No	

Search Term Used	Link to Site	Article Used?	Comments
	<a href="http://www.cms.gov/ehealth/downloads/Accelerating_HIE_Principles.pdf">http://www.cms.gov/ehealth/downloads/Accelerating_HIE_Principles.pdf</a>	No	
	<a href="http://www.ohiet.org/attachments/article/145/Behavioral%20Health%20Guidelines.pdf">http://www.ohiet.org/attachments/article/145/Behavioral%20Health%20Guidelines.pdf</a>	Yes	
	<a href="http://www.nga.org/files/live/sites/NGA/files/pdf/1103HIECONSENTLAWSREPORT.PDF">http://www.nga.org/files/live/sites/NGA/files/pdf/1103HIECONSENTLAWSREPORT.PDF</a>	No	
	<a href="http://www.politico.com/morninghealth/0714/morninghealth14759.html">http://www.politico.com/morninghealth/0714/morninghealth14759.html</a>	No	
	<a href="http://ehrintelligence.com/2014/07/01/onc-samhsa-exchange-mental-health-data-with-direct-hie/">http://ehrintelligence.com/2014/07/01/onc-samhsa-exchange-mental-health-data-with-direct-hie/</a>	No	
	<a href="http://healthcity.com/facilitation-care-coordination-for-behavioral-health-providers-through/">http://healthcity.com/facilitation-care-coordination-for-behavioral-health-providers-through/</a>	No	
	<a href="http://www.ntst.com/Solutions-We-Offer/mobile_connectivity_HIEs.aspx">http://www.ntst.com/Solutions-We-Offer/mobile_connectivity_HIEs.aspx</a>	No	
	<a href="http://www.himss.org/files/HIMSSorg/content/files/AHRQHITHealthInforural%5B1%5D.pdf">http://www.himss.org/files/HIMSSorg/content/files/AHRQHITHealthInforural%5B1%5D.pdf</a>	No	
	<a href="http://www.mentalhelp.net/poc/view_doc.php?type=doc&amp;id=43364&amp;cn=145">http://www.mentalhelp.net/poc/view_doc.php?type=doc&amp;id=43364&amp;cn=145</a>	No	
	<a href="http://www.slideshare.net/mihinpr/jeff-chang-">http://www.slideshare.net/mihinpr/jeff-chang-</a>	No	

Search Term Used	Link to Site	Article Used?	Comments
	<a href="#">behavioral-health-information-exchange-overview-24541799</a>		
	<a href="http://www.ihealthbeat.org/insight/2014/hie-helps-integrate-behavioral-and-physical-health-care-but-hurdles-remain">http://www.ihealthbeat.org/insight/2014/hie-helps-integrate-behavioral-and-physical-health-care-but-hurdles-remain</a>	No	
	<a href="http://www.mentalhealthamerica.net/issues/health-information-technology">http://www.mentalhealthamerica.net/issues/health-information-technology</a>	No	
	<a href="http://www.ncbi.nlm.nih.gov/pubmed/22184253">http://www.ncbi.nlm.nih.gov/pubmed/22184253</a>	Yes	
	<a href="http://www.thenationalcouncil.org/wp-content/uploads/2012/10/HIT-Survey-Full-Report.pdf">http://www.thenationalcouncil.org/wp-content/uploads/2012/10/HIT-Survey-Full-Report.pdf</a>	No	
	<a href="http://jamia.bmj.com/content/early/2011/12/18/amiainl-2011-000374.full">http://jamia.bmj.com/content/early/2011/12/18/amiainl-2011-000374.full</a>	Yes	
Patient portals and mental health	<a href="http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_050015.hcsp?dDocName=bok1_050015">http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_050015.hcsp?dDocName=bok1_050015</a>	No	
	<a href="http://www.chcf.org/~media/MEDIA%20LIBRARY%20Files/PDF/M/PDF%20MeasuringImpactPatientPortals.pdf">http://www.chcf.org/~media/MEDIA%20LIBRARY%20Files/PDF/M/PDF%20MeasuringImpactPatientPortals.pdf</a>	No	

Search Term Used	Link to Site	Article Used?	Comments
	<a href="http://www.carecloud.com/blog/addressing-behavioral-health-ehr-woes/">http://www.carecloud.com/blog/addressing-behavioral-health-ehr-woes/</a>	No	
	<a href="http://www.intelichart.com/blog/patient-portals-in-behavioral-healthcare-enhancing-patient-provider-communication">http://www.intelichart.com/blog/patient-portals-in-behavioral-healthcare-enhancing-patient-provider-communication</a>	No	
Are patient portals okay to send mental health records	<a href="http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_049724.hcsp?dDocName=bok1_049724">http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_049724.hcsp?dDocName=bok1_049724</a>	No	
	<a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2274878/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2274878/</a>	No	
	<a href="http://www.jmir.org/2013/8/e168/">http://www.jmir.org/2013/8/e168/</a>	Yes	
	<a href="http://www.onlinetech.com/events/security-and-privacy-concerns-with-patient-portals">http://www.onlinetech.com/events/security-and-privacy-concerns-with-patient-portals</a>	No	
Meaningful use and health information	<a href="http://www.hhs.gov/news/press/2012pres/08/20120823b.html">http://www.hhs.gov/news/press/2012pres/08/20120823b.html</a>	Yes	

Search Term Used	Link to Site	Article Used?	Comments
exchange			
HITECH	<a href="http://www.hhs.gov/ocr/privacy/hipaa/administrative/enforcementrule/hitech/enforcementifr.html">http://www.hhs.gov/ocr/privacy/hipaa/administrative/enforcementrule/hitech/enforcementifr.html</a>	Yes	
Meaningful use	<a href="http://www.himss.org/resource/library/TopicList.aspx?MetaDataID=928">http://www.himss.org/resource/library/TopicList.aspx?MetaDataID=928</a>	Yes	
	<a href="http://www.govhealthit.com/news/top-5-roadblocks-hies-face">http://www.govhealthit.com/news/top-5-roadblocks-hies-face</a>	Yes	

Appendix C

Number of Articles Included/Excluded for Literature Review



## References

- AHDI. (n.d.). *Your Record Speaks*. Retrieved April 12, 2014, from Your Record Speaks Web site: <http://yourrecordspeaks.org/>
- AHIMA. (2013). Understanding the HIE Landscape. *Journal of AHIMA*, 56-63.
- AMA. (n.d.). *Health Information Exchanges: AMA*. Retrieved April 12, 2014, from AMA Web site: <http://www.ama-assn.org/ama/pub/advocacy/topics/health-information-technology/health-information-exchanges.page>
- Burkes, P. (2014, February 13). Funding, Security Concerns Threaten Future of Oklahoma's Health Information Exchange. *The Oklahoman*.
- CMS.gov. (2013, April). *Patient Electronic Access: CMS.gov*. Retrieved October 31, 2015, from CMS.gov website: [https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/5\\_Patient\\_Electronic\\_Access.pdf](https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/5_Patient_Electronic_Access.pdf)
- Government Health IT. (2011, November 14). *Government Health IT: Health Information Exchange*. Retrieved from Government Health IT: <http://www.govhealthit.com/news/top-5-roadblocks-hies-face>
- Healthcare Information and Management Systems Society. (n.d.). *HIMSS: Meaningful Use Law & Rules*. Retrieved from HIMSS: <http://www.himss.org/resourcelibrary/TopicList.aspx?MetaDataID=928>
- HealthIT.gov, a. (n.d.). *What is HIE?: HealthIT.gov*. Retrieved April 12, 2014, from HealthIT.gov Web site: <http://healthit.gov/providers-professionals/health-information-exchange/what-hie>



HealthIT.gov, b. (n.d.). *HIE Benefits: HealthIT.gov*. Retrieved April 12, 2014, from

HealthIT.gov Web site: <http://healthit.gov/providers-professionals/health-information-exchange/hie-benefits>

HealthIT.gov, c. (n.d.). *What is a Patient Portal?: HealthIT.gov*. Retrieved October 31,

2015, from HealthIT.gov: <https://www.healthit.gov/providers-professionals/faqs/what-patient-portal>

HIMSS, a. (n.d.). *Health Information Exchange: HIMSS*. Retrieved April 12, 2014, from

HIMSS Web site: <http://www.himss.org/library/health-information-exchange>

HIMSS, b. (n.d.). *Health Story Project: HIMSS*. Retrieved April 12, 2014, from HIMSS:

<http://www.himss.org/health-story-project>

Kunkel, T. (n.d.). *Substance Abuse: Trends in State Courts*. Retrieved from Trends in

State Courts Web site: <http://www.ncsc.org/sitecore/content/microsites/future-trends-2012/home/Privacy-and-Technology/Substance-Abuse.aspx>

MyHealth Access Network. (n.d.). *Who We Are: MyHealth Access Network*. Retrieved

April 12, 2014, from MyHealth Access Network Web site:

<http://www.myhealthaccessnetwork.net/#!/about/c20r9>

Oklahoma Health Information Exchange Trust. (n.d.). *OHIT:*. Retrieved from OHIT:

<http://www.ohiet.org/attachments/article/145/Behavioral%20Health%20Guidelines.pdf>

OPHX. (n.d.). *Who is OPHX?: OPHX*. Retrieved April 12, 2014, from OPHX Web site:

<http://ophx.org/>

Shank, N. (2011, December 18). Behavioral health providers' beliefs about health information exchange: a statewide survey. *Journal of the American Medical Informatics Association*.

Substance Abuse and Mental Health Services Administration. (1997). Treatment Improvement Protocol (TIP) Series, No. 25. Rockville, MD, United States. Retrieved from <http://www.ncbi.nlm.nih.gov/books/NBK64435/>

U.S. Department of Health & Human Services. (2012, August 23). *HHS.gov: News*. Retrieved from HHS.gov: <http://www.hhs.gov/news/press/2012pres/08/20120823b.html>

U.S. Department of Health & Human Services. (n.d.). *HHS.gov: Health Information Privacy*. Retrieved from HHS.gov: <http://www.hhs.gov/ocr/privacy/hipaa/administrative/enforcementrule/hitech/enforcementifr.html>

Zarcadoolas , C., Vaughn, W. L., Czaja, S. J., Levy, J., & Rockoff, M. L. (2013). Consumers' Perceptions of Patient-Accessible Electronic Medical Records. *Journal of Medical Internet Research*.