Nevada Health Information Technology

2012 Nevada Statewide HIT Assessment

State of Nevada
Department of Health and Human Services
Office of Health Information Technology

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Contents

Executive Summary

Office of Health Information Technology, which is part of the Nevada Department of Health and Human Services, is responsible for planning Health Information Exchange (HIE) and Health Information Technology (HIT) initiatives in the State. The Office of Health Information Technology (OHIT) is responsible for administering the ARRA HITECH State HIE Cooperative Agreement, through the Office of the National Coordinator for Health Information Technology. The agreement is to support the development of an infrastructure for statewide HIE. Office of Health Information Technology is using funds under the state plan to develop HIT Strategic and Operational required. This plan included HIT Environmental Scan, which was conducted in 2010.

The 2010 HIT Nevada Statewide Assessment provided a baseline understanding of the Electronic Health Records (EHR) and HIE utilization by the health community in Nevada. The assessment identified barriers and obstacles to the adoption and use of HIE and EHR technologies and the willingness of stakeholders to consider future adoption, and made recommendations for overcoming key barriers. The 2010 Assessment used an online survey, provider interviews, and focus group workshops to obtain information from the community

OHIT embarked on this 2012 Statewide HIT Assessment in an effort to evaluate the progress of EHR adoption and HIE readiness by providers across the State. This 2012 assessment was designed to target the primary care providers of the State and exclusively used an online survey for data collection. The survey was developed to focus on key performance indicators relevant to the adoption, use, and readiness of these healthcare technologies.

Analysis of the survey responses produced observations and findings. These were group together into three themes. Further review and analysis of the observations and findings led to conclusions. Strategic recommendations address the outputs from the analysis.

The three themes with conclusions and recommendations are

1. Theme - EHR Use and Adoption

   Conclusion - Improved provider understanding of EHR capabilities, use, and associated benefits may increase return on EHR investments and help to optimize broad adoption.

   Recommendation - Promote education and learning on key topics; continuously inform providers of inportant information.

2. Theme - EHR and HIE Integration

   Conclusions – First, provider realized value of EHR and HIE services will increase with NHIE enabled two-way access to State health information services such as Immunization Registry (WebIZ), Advance Directives, and Public Health reporting.

Second, provider HIE use and perceived value is directly correlated to the rate of those providers in adoption and use of their EHR functionality.

Recommendation - Promote EHR & HIE adoption and enrollment. Work with other State officials to influence the use of NHIE and other independently operated HIEs as the primary mechanisms for information exchange with State agencies.

3. Theme - Interest in DIRECT Secure Messaging

   Conclusion - The ability to integrate DIRECT Secure Messaging into the normal provider workflow and EHRs will likely increase enrollment in DIRECT. DIRECT will be a key influential factor for providers as they make decisions on integrating with NHIE.

   Recommendation - Facilitate DIRECT education and outreach on key topics

The survey analysis will be used to update the third annual update of the State Health IT Strategic and Operational Plan (due in June 2013).

1. Introduction

The Nevada Department of Health and Human Services, Office of Health Information Technology (OHIT), is moving the Statewide Health Information Exchange System to implementation in accordance with Nevada's federally-approved State Health IT Plan.

During the summer of 2010, OHIT conducted the first Nevada Statewide Health Information Technology (HIT) Assessment. The responses to the survey identified influencing factors to Electronic Health Records (EHRs) adoption and Health Information Exchange (HIE) utilization, provided information on stakeholder readiness for further adoption, and provided recommendations to the Nevada HIT Blue Ribbon Task Force for overcoming key barriers.

The Nevada Health Information Exchange (NHIE) Board of Directors has been established as part of the non-profit governing entity. To assist the State and this Board with moving forward, the 2012 Nevada e-Health Survey and Reassessment was conducted to build upon the findings from the 2010 survey and guide next steps in the strategy to implement and deploy a Statewide HIE system.

1.1 Baseline Background

The 2010 HIT Assessment was a first step in the HIT and HIE planning process for OHIT to meet HITECH mandates. The assessment used a survey, focus group workshops, and provider interviews to gather information from across the State healthcare community. The results of this assessment were incorporated into OHIT's Strategic and Operational Plan for the State HIE Cooperative Agreement.

The assessment looked broadly at current EHR adoption and HIE utilization by the provider community, planned readiness for future EHR adoption and HIE utilization, and barriers to adoption and use. The assessment found that EHR adoption and HIE utilization vary greatly across the provider community. The assessment revealed that Nevada's provider community and other health care stakeholders were interested in the concept and value of EHRs and HIE. Providers indicated their interest in understanding and adopting technologies that can potentially improve patient-centered care and efficiencies in the delivery of health care.

The data collected as part of the 2010 HIT Assessment indicated a significant level of EHR adoption and HIE utilization in some sectors of the health community. However, the survey also indicated the existence of challenges for Nevada's health care community as it continues to move forward in the implementation of technologies that are part of advancing HIT and HIE in the State. The assessment indicated the following challenges should be addressed in order to advance HIT and HIE adoption:

- How to increase the adoption of EHR by rural and small hospitals, and small provider practices outside of large health care systems.
- Expand EHR functionality to meet meaningful use criteria.
- Funding to modernize existing systems.
- Funding to support resources for developing statewide infrastructure.
- Overcome legal and regulatory issues regarding data sharing, privacy of information and personal health information protection.
- HIE recognized standards and technical infrastructure.
- Participation from stakeholders in HIT and HIE activities.

The 2010 HIT Assessment provides five recommendations related to the findings and challenges. The recommendations are intended to provide guidance on actions that the State and/or the NHIE governance organization may pursue in order to enhance its ability achieve HIT and HIE goals in the State. The recommendations were:

- Recommendation 1: Expand current outreach efforts with stakeholders
- Recommendation 2: Consider conducting visioning and strategic planning with representative stakeholders
- Recommendation 3: Take incremental steps towards statewide HIE implementation
- Recommendation 4: Consider providing additional incentives to providers to encourage participation in the Medicaid EHR Incentive Program
- Recommendation 5: Start assessing current audit processes and functions to leverage for the EHR Incentive Program

As part of the original 2010 assessment report, each of the five recommendations included details and some tactical steps to aid in the implementation of those recommendations.

1.2 Statement Objectives for 2012 Survey

The primary objectives of the 2012 survey include:

- Gain information on the current provider adoption of Electronic Health Records (EHRs) and Health Information Exchange (HIE);
- Identify potential barriers and provider concerns that may limit continued implementation, adoption, and meaningful use of EHRs and HIEs in Nevada.

Survey questions were designed to gather information regarding the EHR and HIE priorities and needs of providers from across the State. The Analysis will provide information that assists with planning for ongoing communications and outreach, help DHHS and NHIE to understand the current level of HIE utilization by providers, and identify potential uses of DIRECT Secure Messaging as proof of concept for the health information exchange service.

1.3 Assumptions and Constraints

Assumptions of the 2012 Nevada HIT Reassessment:

- This is a statewide assessment.
- The population targeted for the survey were only healthcare providers
- The purpose of the survey was to
    - Gauge the adoption and use of EHR and HIE,
    - Gauge the knowledge and interest of DIRECT by healthcare providers.
- The assessment results will not include individual responses. Assessment results present responses in anonymously and aggregate. *Provider specific information was gathered in the surveys only to have knowledge of the survey participants.*
- Findings, Recommendations, and Conclusions have been drawn about general EHR and HIE provider readiness based on analysis of survey.

Constraints of the 2012 HIT Assessment:

- The survey was open to all Nevada healthcare providers, however not all Nevada providers participated in this survey.
- Use of existing provider email distribution lists was done is in collaboration with the list owners (i.e., Nevada State Medical Association, Northern Nevada Health Partners, and HealthInsight) who sent survey messages on behalf of DHHS OHIT; their ability to send regular follow-up messages may have limited participation of providers.
- The survey was initially open from August 28 to September 17, 2012. However, due to a low number of responses, the survey remained open until November 6.

1.4 Survey Methodology

The Nevada 2012 E-Health survey was developed to fulfill the objectives described above. The survey consists of six sections. The first section, “General Information” regarding the medical practice, aids OHIT in understanding the priorities and needs of providers from across the State. The questions in this section provides insight into the geographic location, type of practice, number of locations, and how patient data is handled internally provides. This information adds context to the remaining sections.

Sections two and three were focused on electronic health record (EHR) systems. Those practices that have an EHR were directed only to the first EHR section, while those that do not have an EHR were directed only to the second EHR section of questions. The first EHR section entitled “Electronic Health Records Systems” focuses on a practice’s use of their EHR. Questions were designed to understand how well the system is integrated in to the practice’s internal

processes and areas for improved integration. The second EHR section also entitled, "Electronic Health Records Systems" is focused on the adoption of EHR. The questions were designed to understand plans for adoption of an EHR, influences of adopting, and perceived value of EHR systems. These two sections help identify the barriers and concerns of medical practices regarding continued implementation, adoption, and meaningful use of EHRs.

The fourth section of the survey, "Electronic Prescribing", had two questions which were designed to understand the technology systems in place, the business processes that have been implemented, and patient and provider concerns around e-Prescribing.

"Nevada Health Information Exchange" section was developed to gauge anticipated use, perceived value for providers, and interest and knowledge of the Nevada HIE. Questions in this section discuss the meaningful use criteria, and how an HIE is integrated into a providers business processes.

The sixth and final section, "Nevada DIRECT", covers the interim exchange of patient information via direct secured email. The purpose is to understand providers' interest in using this service, how they would use the service within their practice, and integrating their electronic systems with the service, where possible.

The online Nevada E-Health survey was available from August 28 through November 2, 2012. The online survey was created to solicit feedback, in the before mentioned areas, from Nevada healthcare providers. The survey was announced on the Nevada OHIT web site and through email communications. An Adobe PDF form of the survey was also made available on the OHIT web site. During the open period of the survey, emails were sent to provider for participation.

In order to determine how large the sample should be, the total provider population was invited to participate in the survey. This included medical facilities, hospitals, clinics, practices, and dentists. The estimated number of licensed physicians in Nevada is 5,300; this information is found in the Nevada Board of Medical Examiners 2011 Annual Report.

With a provider population of approximately 5,300, a sample of 360 respondents is required for an expected confidence interval of ±4.96 at a 95% confidence level. For example, if 50% of the respondents picks answer "B", we can be 95% "sure" that had all the population responded, between 45.04% and 54.96% would have picked that answer. There were 63 respondents to the 2012 E-Health Survey, producing a confidence interval of ±12.23 at a 95% confidence level.

2. Reassessment

The approach to analyzing the 2012 responses was first to compare the relevant results with those from the 2010 assessment, a baseline comparison. This comparison is important because it identifies the progress made since the last survey and changes of importance among topics. It also lays the foundation for the deeper analytics provided in this assessment.

The second part of the 2012 assessment was to apply data analytics to survey response, Assessment Analytics. The result of the Assessment Analytics is a current set of relevant recommendations for NHIE.

2.1 Baseline Comparison

As in 2010, the 2012 Survey asked providers to identify the EHR functionalities used in their practices. Top uses of EHRs have not changed significantly since 2010, although percentages have shifted slightly and the resulting rank order has changed. The top four uses today were also in the top five in 2010. However, Vital Signs has now entered the top five uses, edging out Current Problem List, Figure 1.

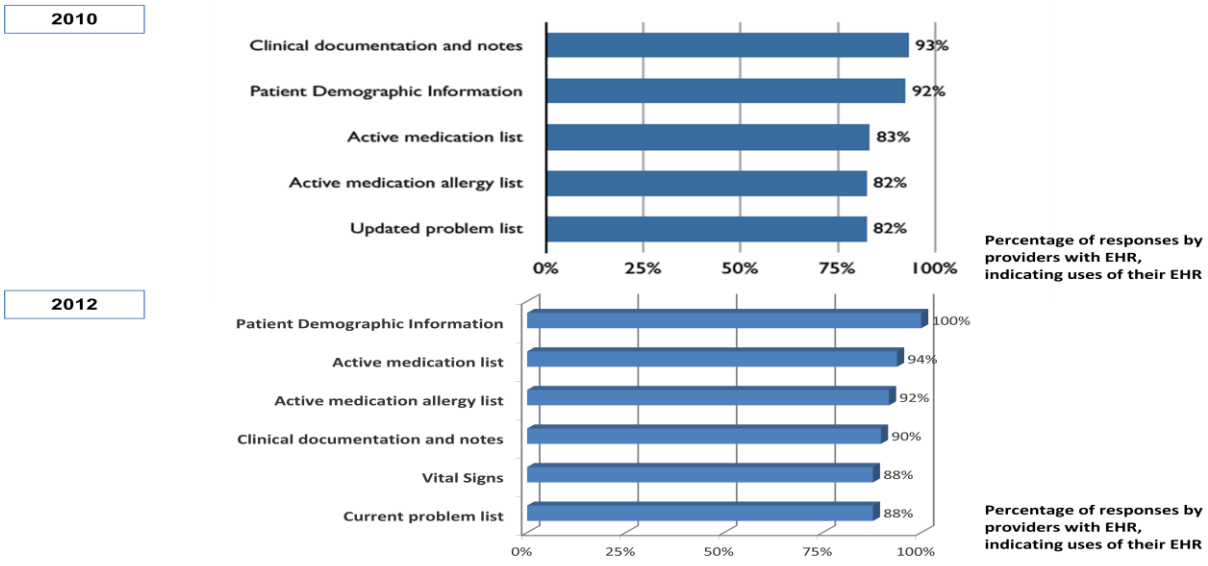


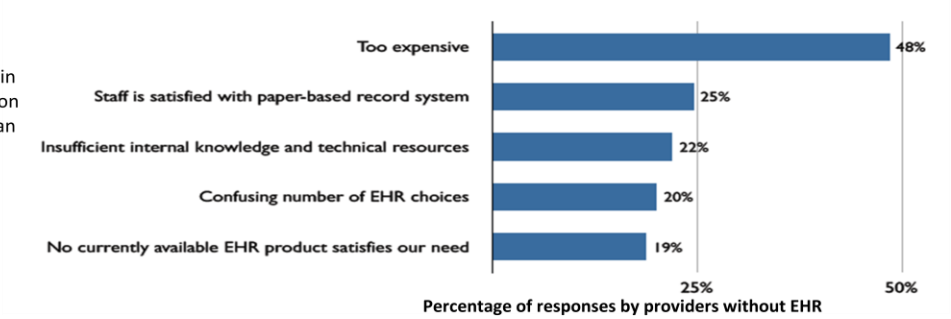
Figure 1. Top Uses of EHR Systems

There are significant differences between other uses of EHR functionality since 2010. Providers are indicating increased use of EHRs for generating clinical care summaries, ePrescribing, and diagnostic, lab, and imaging orders. EHRs have matured and incorporated additional criteria for meaningful use. Over all it appears providers have increased their use of EHR functionality.

Based on Figure 2, the drivers for acquiring an EHR have not changed significantly since 2010. It appears providers still feel EHRs are too expensive.

2010

"Please indicate the main reasons your organization does not currently use an HER System."



2012

"Which of the following factors would influence your practice's decision to acquire an EHR?"

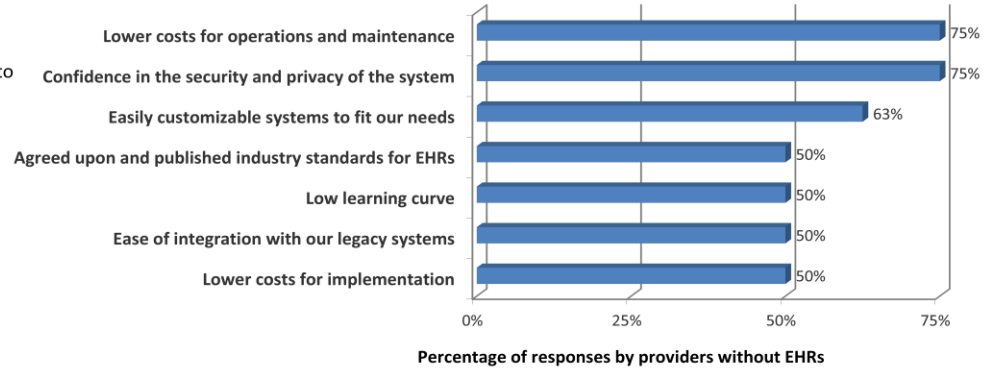
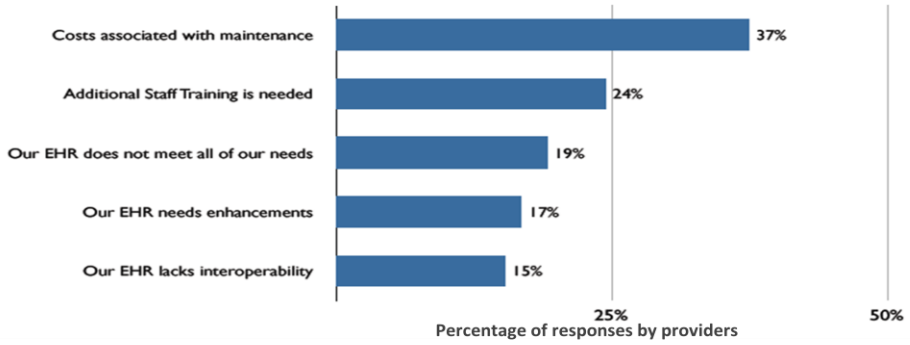


Figure 2. Drivers of Providers for Acquiring EHR

2010

"What are the barriers to increasing use of EHR by your organization?"



2012

"Which of the following would increase the utilization of EHR within your organization?"

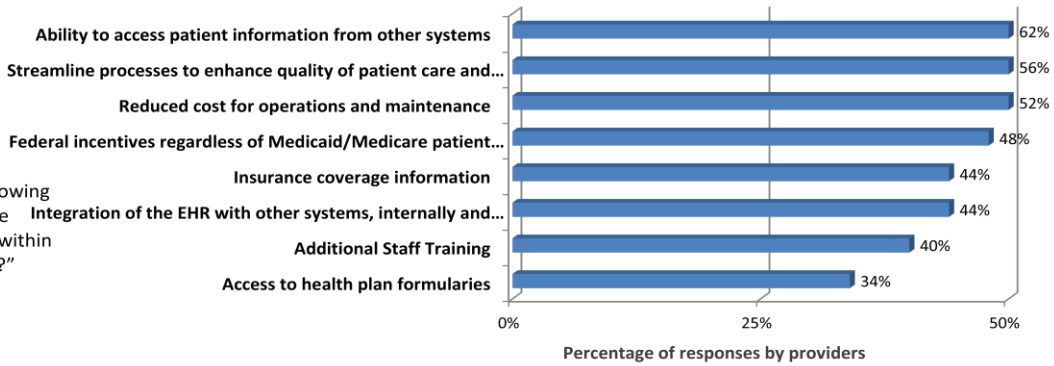


Figure 3. Drivers for Increasing EHR Use

The drivers for increasing EHR use, Figure 3, have not changed significantly since 2010. Many providers still feel the ongoing costs of maintaining an EHR is prohibitive. These providers also feel that improving continuity and coordination of care may influence them to increase use.

In Figure 4, it appears that since 2010, more providers are sharing information electronically and more types of information shared. The top two pieces of information shared is insurance billing and eligibility verification, which has not changed since 2010. However, **the sharing of information that improves continuity and coordination of care has increased noticeably**.

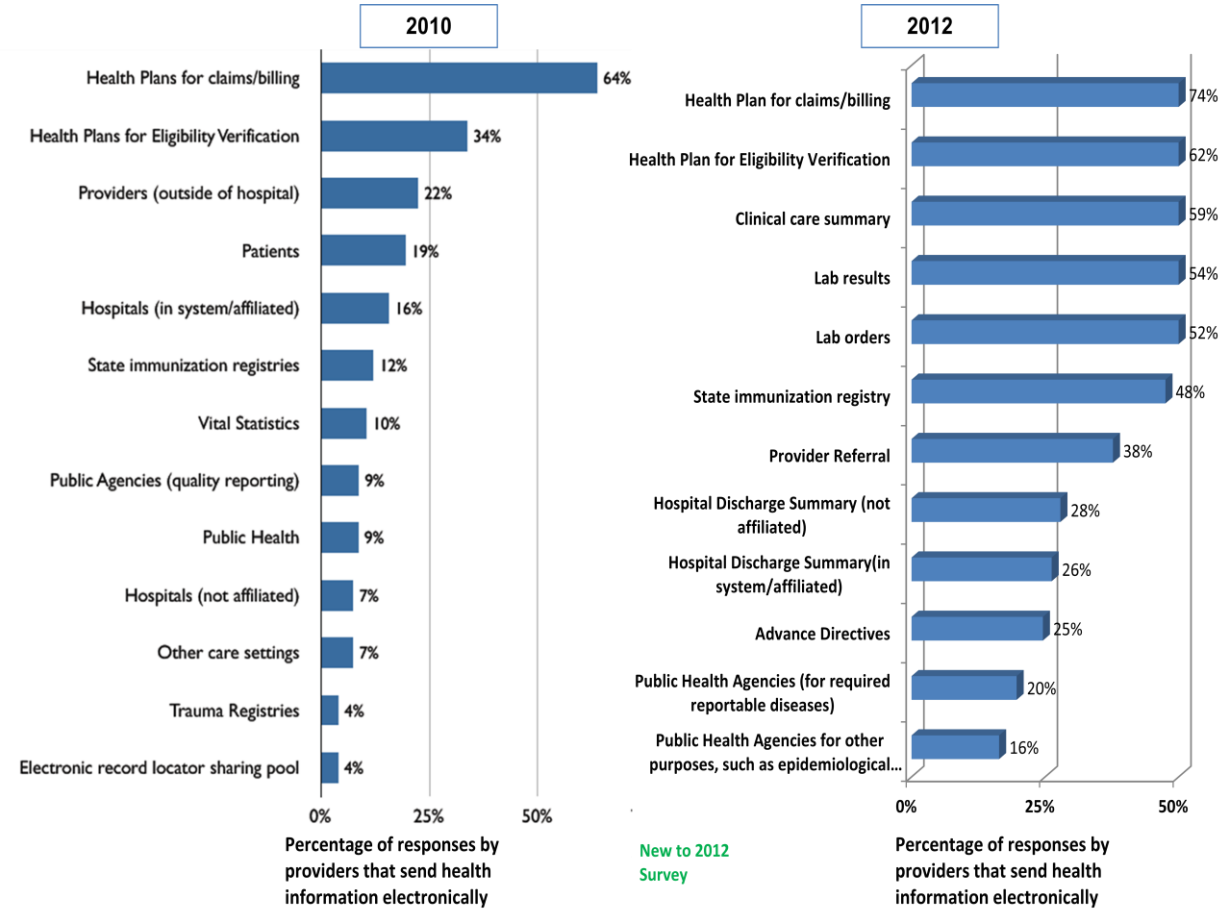


Figure 4. Purposes of Sharing Electronic Health Information

2.2 Assessment Analytics

Data analytics were applied to survey response by using filters and cross tabulation. Filters display data based on criteria, for instance displaying all responses from providers without an EHR installed. Cross tabulation provides a way to link data from different questions based on a characteristic of the data, for instance providers having an EHR and not using it to send or receive information from the system.

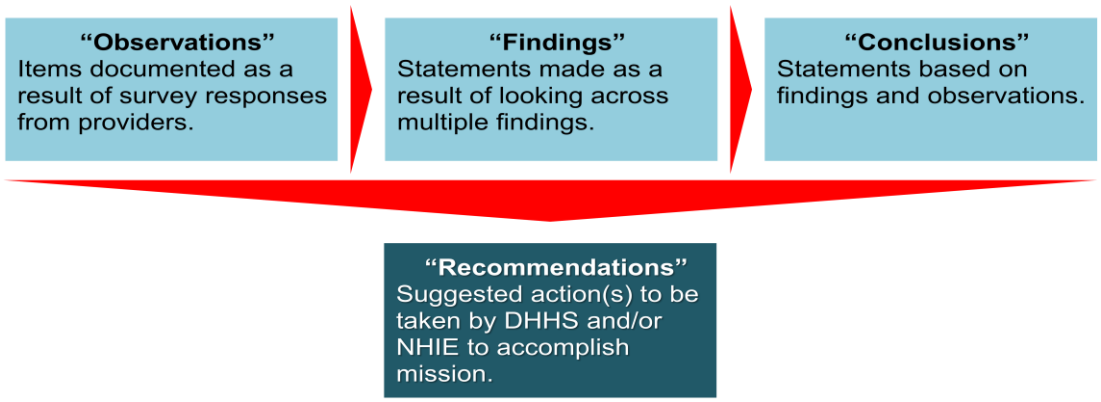


Figure 5. Analysis Method

The data was analyzed manually to produce observations, findings, conclusions, and recommendations, as in Figure 5. Observations were an output of the manual analysis of responses to individual survey questions. Review of observations from responses to different questions based on commonalities and relationships between the subjects produced findings. Themes, not noted in the figure, are observations and findings grouped by topic. Conclusions were drawn from analysis of the findings within each theme. Recommendations address issues identified throughout the analysis.

2.2.1 Theme 1 EHR Use and Adoption

This theme focuses on the how providers are using EHRs, how much those systems are utilized, the extent to which the systems are integrated into providers' practices, the frequency of use, and factors that may increase the use or adoption of EHR systems.

Providers that are using paper prescriptions, with or without e-Prescribing, were given 11 choices for why they continue to use paper. The survey permitted multiple selections for this question. Figure 6 is a graph depicting the reasons, chosen by providers from a list, for continuing to use paper prescriptions. In reviewing the graphic, it was observed that **(a) approximately 65% of providers indicate patients' preference is for paper prescription.** Grouping responses with similar themes together identified that **(b) 65% also indicated a lack of experience with ePrescribing ('no confidence', 'don't know how', 'no time to make our system work with ePrescribing system').**

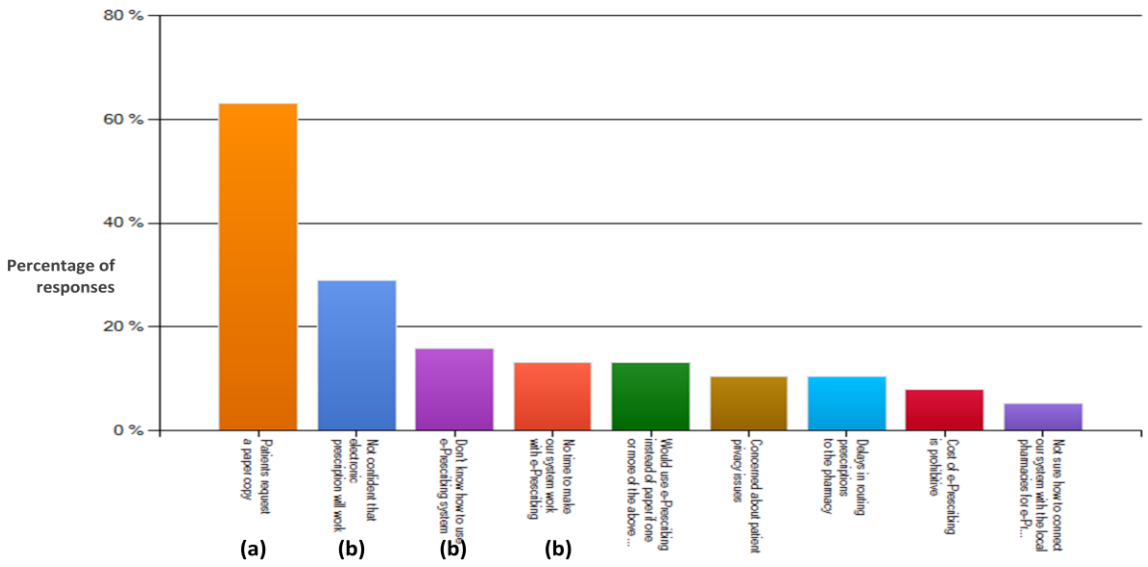


Figure 6. Rank order of reasons paper prescribing continues.

The survey asked participating providers to select one statement that best describes their organizations prescribing practices. As observed in Figure 7, the responses for providers prescribing practices indicates that **(a) nearly 20% of respondents do not use an electronic system for prescriptions.** The figure also shows that **(b) over 40% of respondents issue a paper prescription in addition to using an electronic system**. In the analysis of Figure 7, it was observed that **(c) 81% of respondents use ePrescribing in some form.** This is up significantly from 61% reported in the 2010 Assessment.

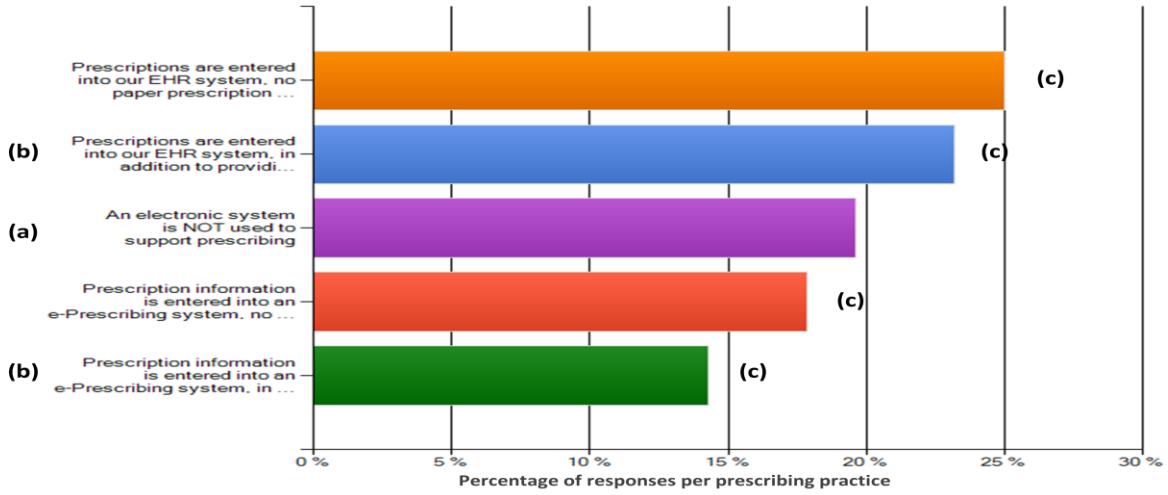


Figure 7. Rank order of prescribing practices by percent of respondent.

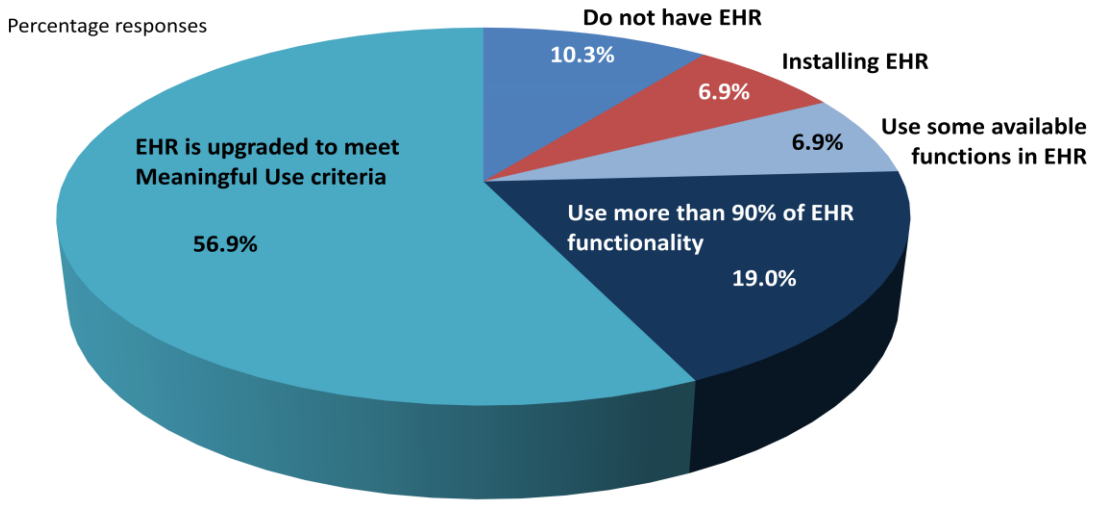


Figure 8. EHR maturity

The survey asked providers to select a statement that best describes their EHR environment. As observed in Figure 8, **approximately 57% of respondents with an EHR indicate their EHR meets Meaningful Use criteria, 19% of respondents indicate that their practice uses the EHR for more than 90% of the available functionality, and 10.3% of respondents do not have EHR deployed.**

Survey participants with an EHR responded to two questions regarding adoption and utilization of EHR systems; first, to estimate the percentage of provider and clinical staff currently using the system, and second, select the statement that best describes provider and clinical staff uses. The responses to both questions were cross tabulated, which provided the results of the first question, represented on the X axis, decomposed into the selection results of the second question. The analysis of Figure 9 led to the observation that **it appears that staff adoption and frequency of use are directly correlated, thus as one increases, the other increases.** Review of both sets of data in this form indicated that as staff use EHR more frequently, an increasing number of staff use EHR; Routine use is highest in adoption of greater than 90%. EHR integrated into a providers practice through adoption and increased use moves past the learning curve. This led to the finding that **the value of an EHR is more apparent to providers after consistent and continual use**.

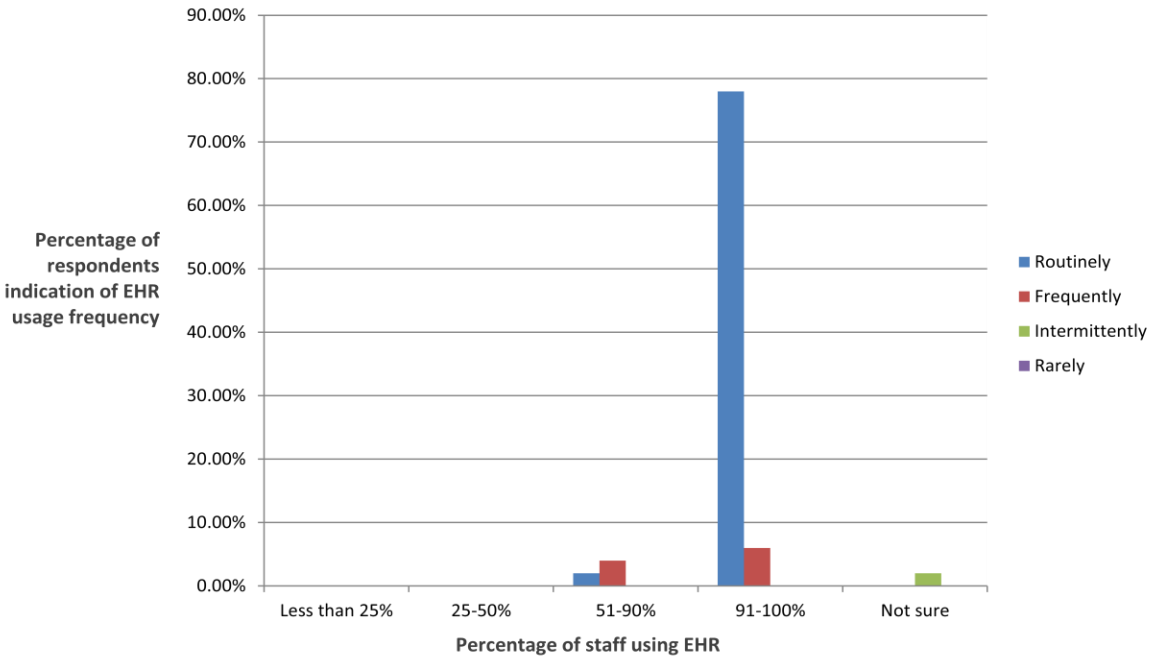


Figure 9. Percentage of staff using EHR system with frequency

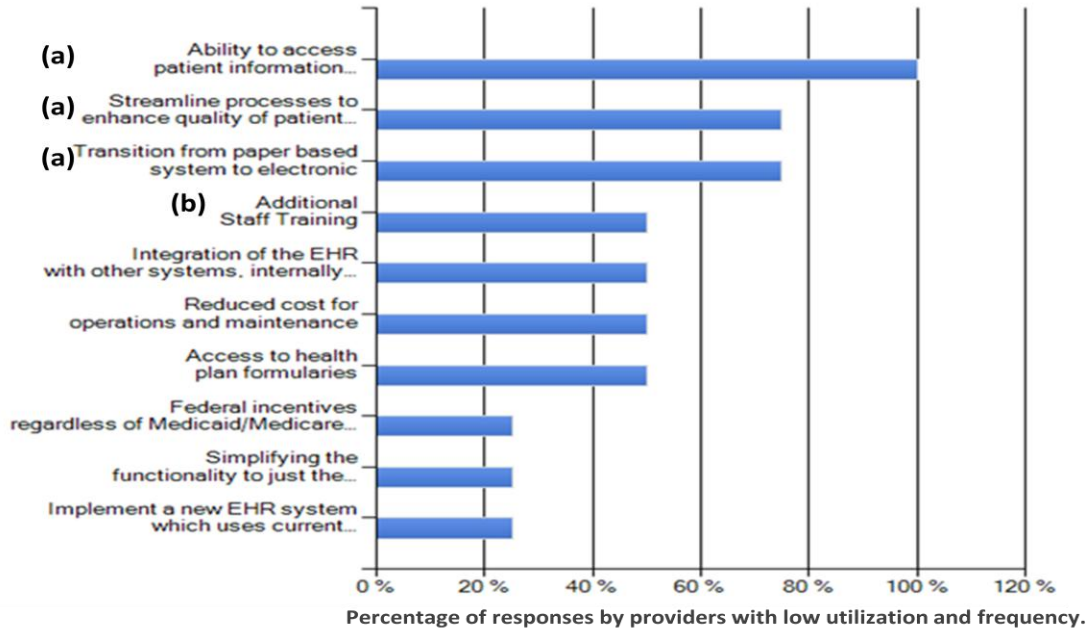


Figure 10. Factors that may increase EHR utilization.

Providers with EHRs were able to select multiple responses when asked to identify factors that would increase the utilization of EHR within their organizations. The analysis of the results, Figure 10, observed that **a) respondents indicate that better patient information as a leading**

point of value (e.g., access, transition from paper, integration). This finding is also evident in other survey questions when given the choice, **(b) additional staff training is a top factor influencing increased EHR use and adoption.** Having access to information and moving away from manual paper systems improves operational efficiencies when trained staff uses EHR effectively. The finding that **factors that improve efficiencies are key to increasing adoption and frequency of use, more so than reducing costs of EHR.**

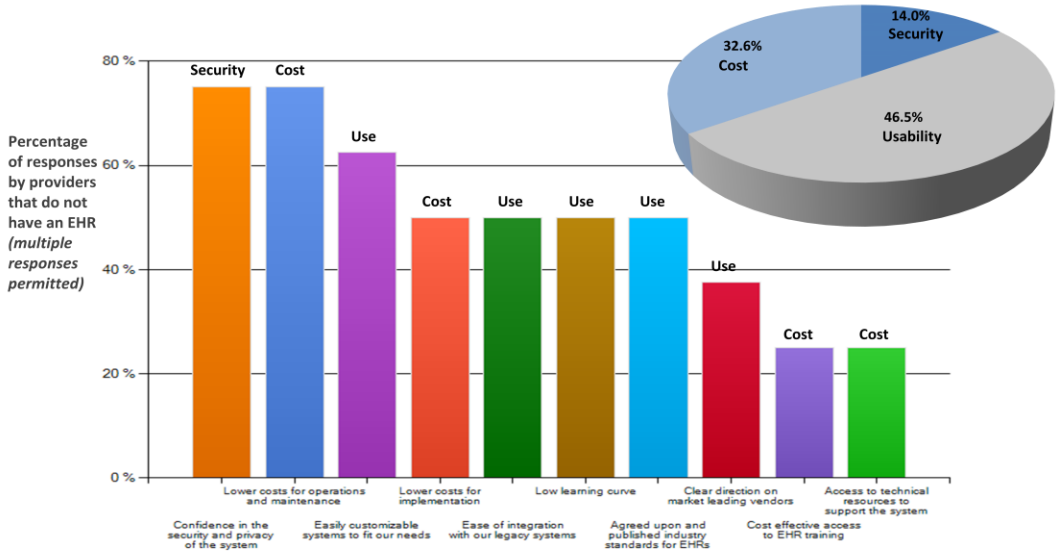


Figure 11. Factors that influence the decision to acquire an EHR.

In Figure 11, this survey question permitted providers (those without EHRs) to respond with multiple selections in identifying factors that would influence their practices' decision to acquire an EHR in the future. The initial intent of the question was to understand how NHIE and its partners could motivate providers to purchase an EHR. However, grouping the selections into the themes Security, Costs, and Usability provided another finding; **the perceived usability of an EHR must be greater than the perceived cost of owning an EHR in order to encourage providers to acquire an EHR and to increase adoption and utilization.** Perception is reality for providers acquiring EHRs, and not all perceptions are accurate. Therefore, strategic communication is an important tool in changing perceptions.

Section 2.2.1 discussed uses of EHRs for e-Prescribing, the adoption and frequency of EHR use in practices, ways to increase adoption, and factors that may encourage providers to acquire and EHR. Based on the observations and findings, it was concluded that **improved understanding by providers of EHR capabilities, use, and associated benefits may increase return on EHR investments and help to optimize broad adoption**.

2.2.2 Theme 2 EHR and HIE Integration

This theme focuses on how EHRs are used to share information, the types of information shared by providers, and how often information is shared.

The survey asked providers planning to implement EHR solution to rate the frequency they expect to share different types of information using an electronic health information exchange. In reviewing Figure 12, it was observed that **the HIE services identified as those anticipated to be used routinely or frequently (i.e. insurance eligibility, access to information, continuity of care) seem to have a higher perceived value than other services.** It appears information sharing has some intrinsic value to providers, even before using them.

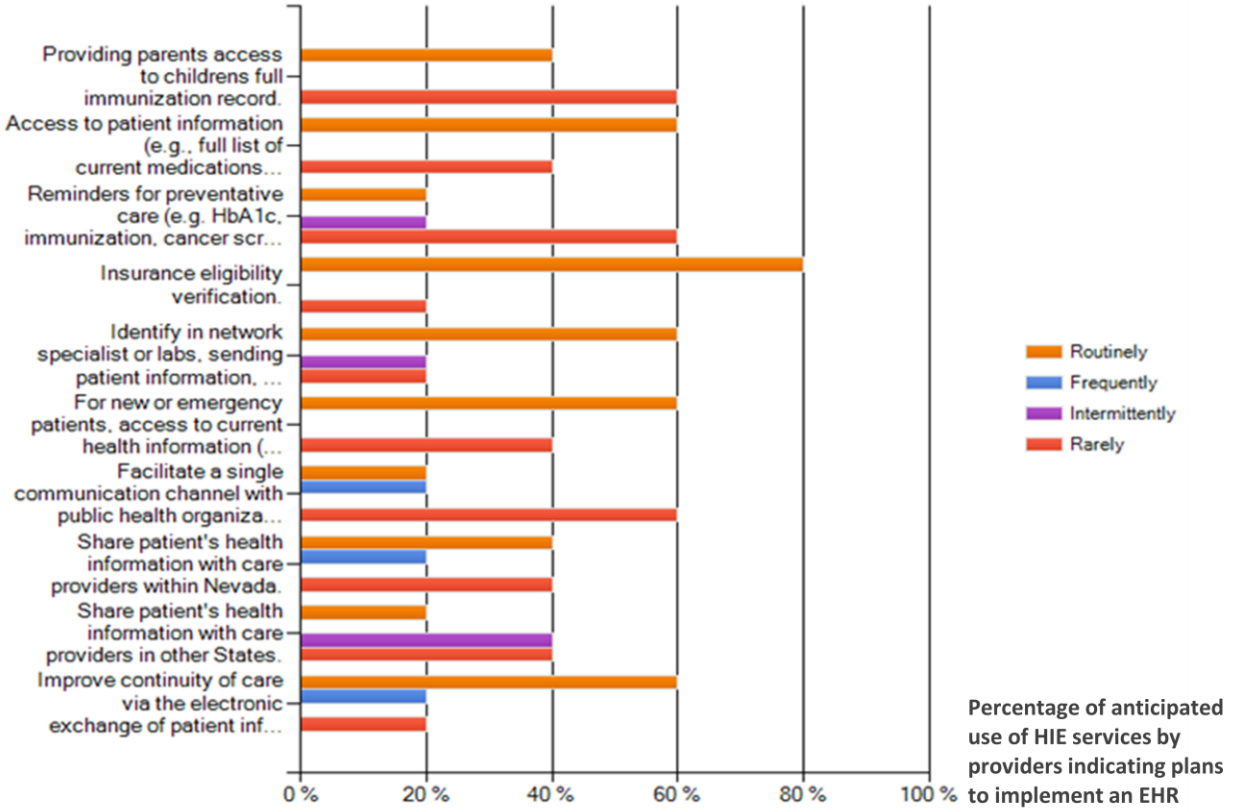


Figure 12. Anticipated HIE services by providers planning for EHR

The analysis compared the responses in Figure 12, providers planning to implement an EHR solution, to those responses by providers that currently have an EHR in their practice. The comparison appears in Figure 13. It seems that providers with an EHR perceive value derived from sharing information differently than those providers planning for an EHR. In the analysis of Figure 13, one can find that **perception of value for HIE services changes as providers utilize functionalities of their EHR. There is a strong shift in HIE usage away from payment for care (insurance) toward improving delivery of care.**

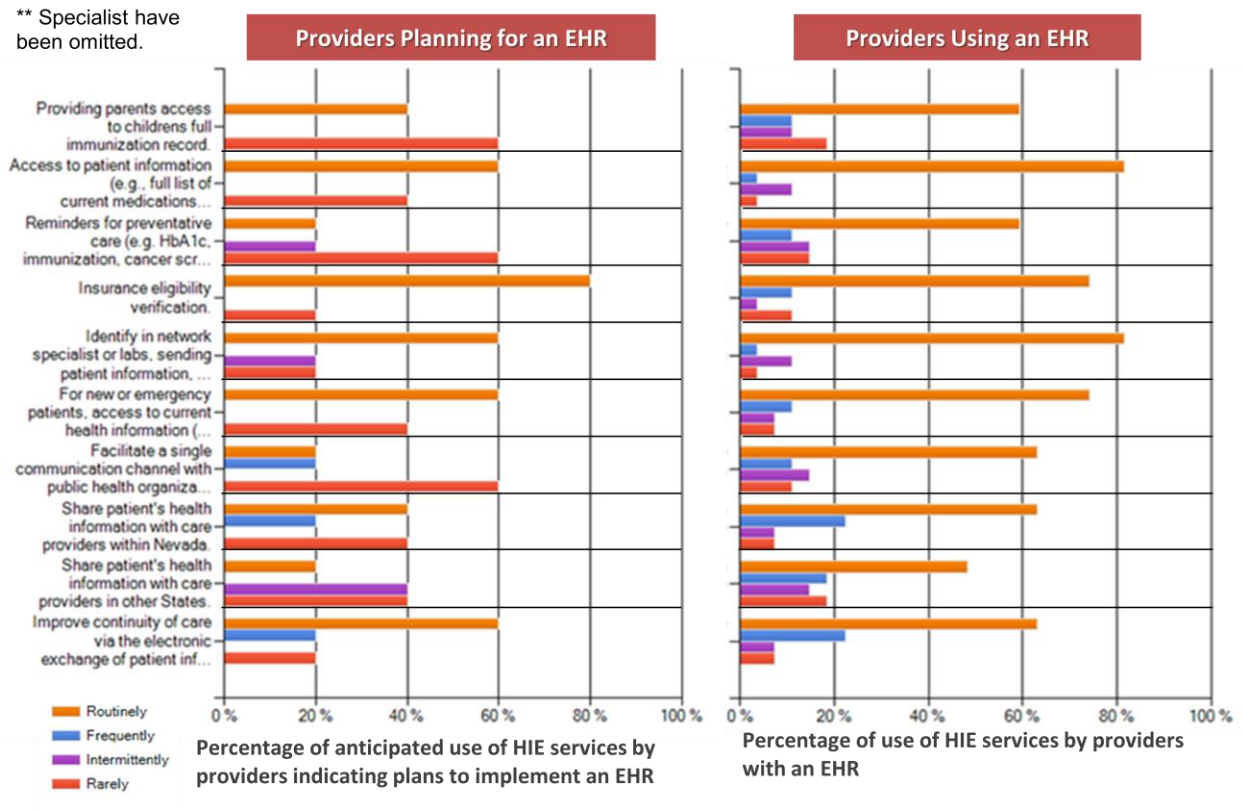


Figure 13. HIE services most use by providers with an EHR

Providers were asked to identify the type of clinical and patient data they exchange electronically, via EHR integration, non-EHR systems, or fax and email. The idea of providers with an EHR using fax and email to send information is important because it shows that a gap exists somewhere in the use of the EHR system. Figure 14 depicts providers with EHRs sending information via fax and email.

Currently most of the Public Health and Advance Directive information accepted is through fax or email. In the analysis of the results, it was observed that **(a) opportunity to improve the use of EHRs for sharing information for Public Health and Advance Directives. Currently, most mandatory State reporting is received via email and fax.** Developing solutions to accept this information from providers EHR will likely increase current EHR utilization and may increase future adoption.

It was also observed in Figure 14 that **(b) an opportunity to improve the use of EHRs for access and sharing of discharge summaries and potentially for alerts or notifications.**

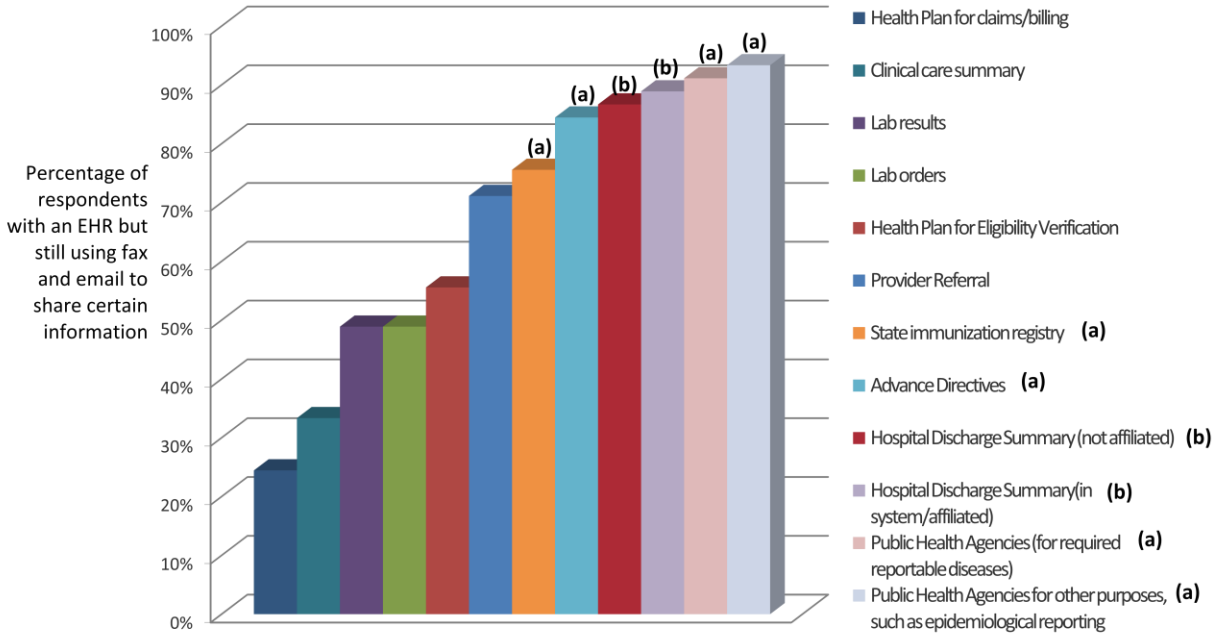


Figure 14. Information shared thru fax or email by providers with EHRs

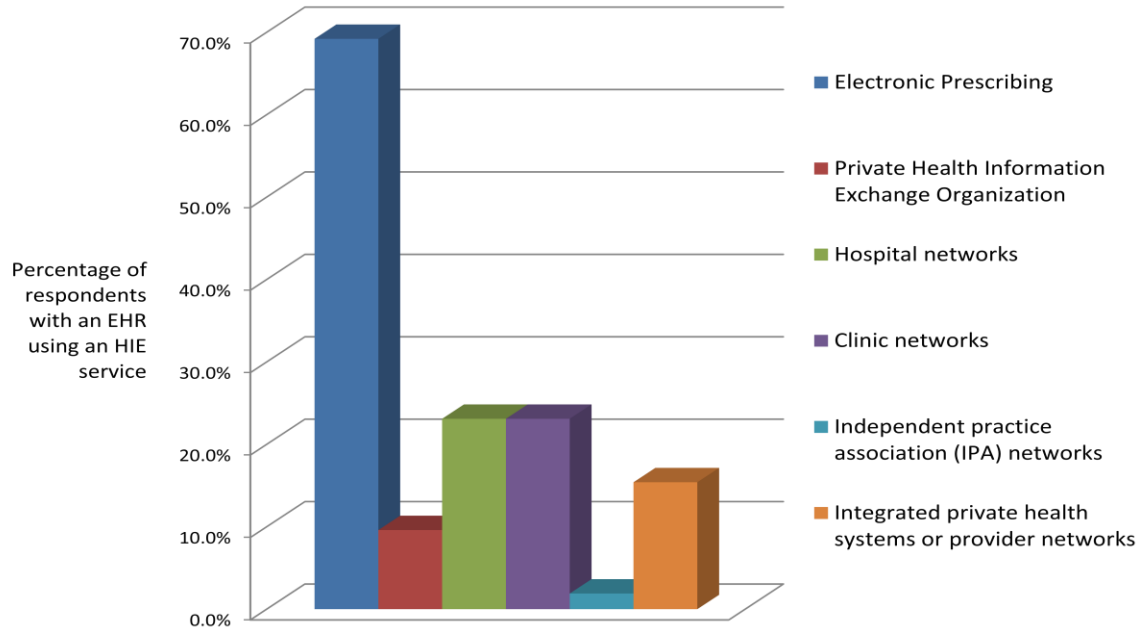


Figure 15. Providers with EHRs using HIEs by service type

Providers were asked to identify electronic health exchange types that their organization uses and were able to select multiple answers. Figure 15 shows the responses of providers with an EHR. Comparing the Figure 15 to the results of the 2010 Assessment, one can find that **providers with EHRs are beginning to utilize available HIE services.**

This suggests that providers have changed their views regarding privacy, value, and technical ability for sharing information since the 2010 survey. In the 2010 survey, these were the primary concerns for sharing information and only 5% of respondents were knowledgeable about HIEs.

The Survey asked providers to indicate the frequency they would use HIE services. In reviewing Figure 16, one can observe that **over 70% of the surveyed population with an EHR anticipates routinely or frequently using an HIE service.** This is another strong indication that the providers' perceived value of an EHR and sharing information increases through adoption while the concerns of privacy diminish with use.

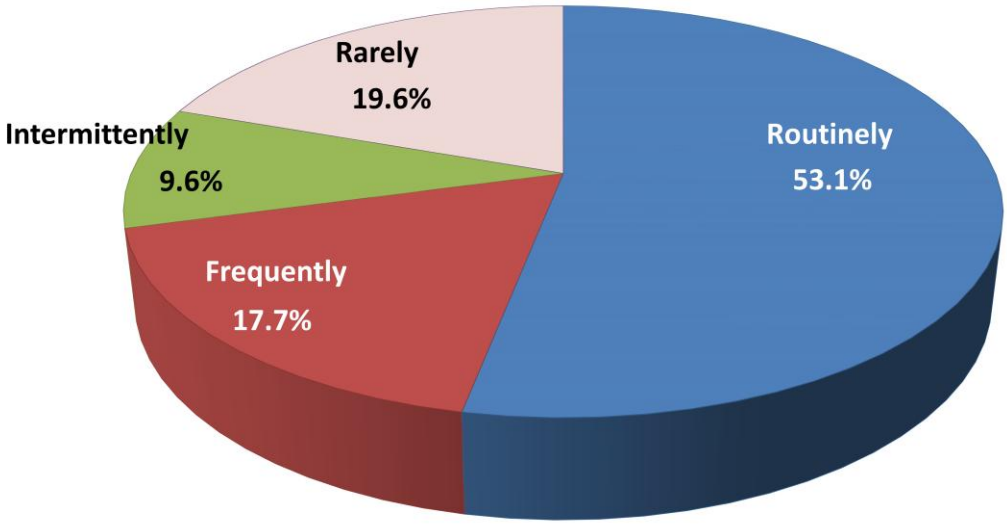


Figure 16. Providers currently with EHRs anticipated HIE use

Section 2.2.2 discussed that the perception of value changes as providers increase use and adoption of EHR. Also highlighted was the opportunity to improve the methods for collecting

public health information and the impact this may have on EHR utilization and adoption. The observations and findings lead to the conclusion that providers value of EHR and HIE services will increase with State participation in HIEs for Immunizations, Advance Directives, and Public Health reporting. HIE use is directly correlated to adoption and use of EHR functionality.

2.2.3 Theme 3 DIRECT Interest

Theme 3 focuses on the providers' ability to use DIRECT as an interim solution for information exchange capabilities while NHIE is implemented. The survey asked providers to identify the ways their medical practice may utilize DIRECT; multiple selections were permitted. In Figure 17, it is observed that the **top 4 anticipated uses of DIRECT support continuity and coordination of care.** In review of data from across the analysis, one can find that **sharing patient information between physicians and specialists seems to have highest perceived value.**

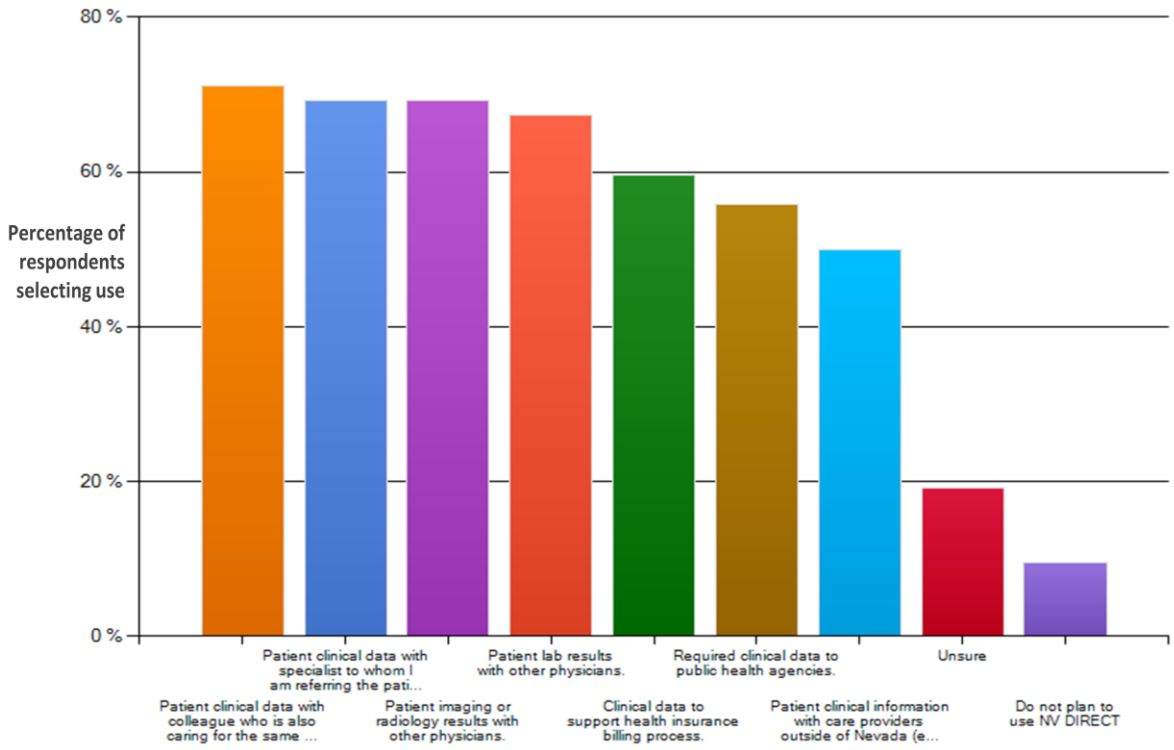


Figure 17. Rank order of DIRECT use by percent of respondent

Although providers indicated they might like to share patient data via DIRECT, it appears that their knowledge of DIRECT is insufficient to make a determination regarding participation. Providers were asked if their EHRs are "DIRECT enabled". In review of the responses, Figure 18, it was observed that **although there is perceived value in using DIRECT, many providers are**

unsure if their EHR is DIRECT enabled. It appears that there is a lack of understanding by providers as to what DIRECT is and how it works.

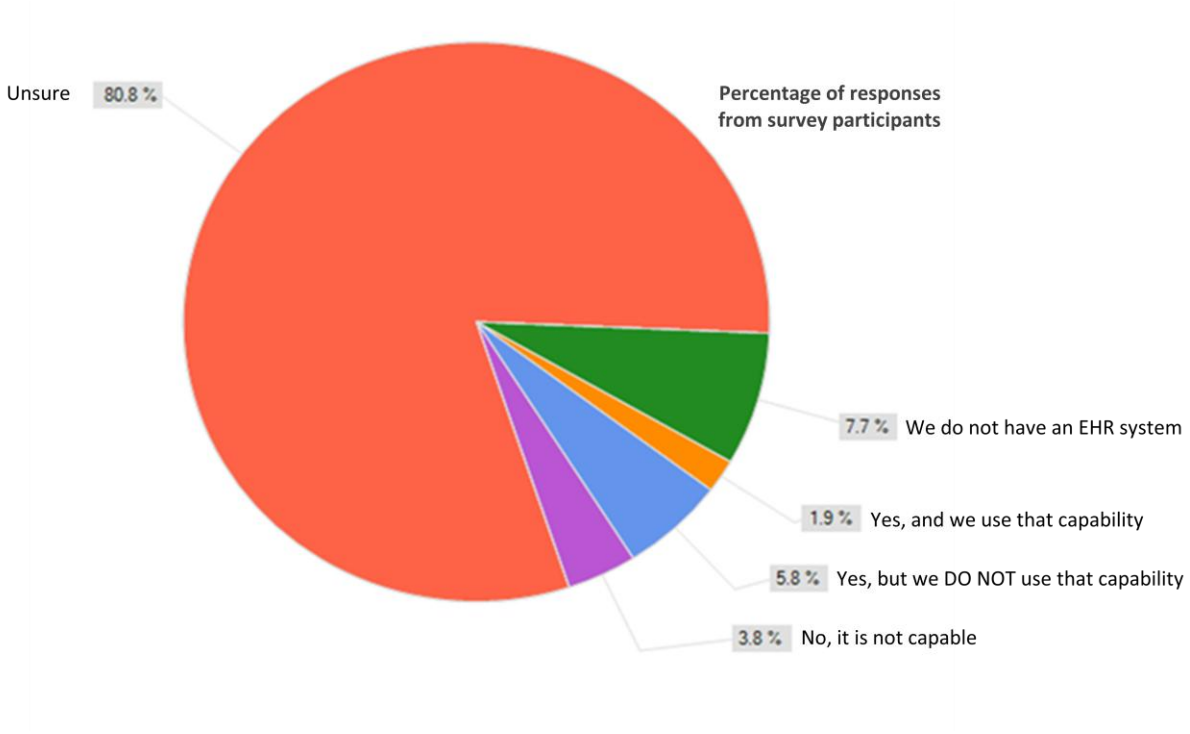


Figure 18. Percentage of DIRECT enabled EHRs

It is concluded that in order for providers to use DIRECT as an interim solution, information regarding how to enable EHRs for DIRECT must reach the providers. **DIRECT will be an influential factor for providers as they make decisions on integrating with NHIE. If providers have a positive experience with DIRECT, they are more likely to participate in NHIE**. Conversely, a negative experience will likely be communicated to other providers, which would hamper NHIEs ability to meet participation goals.

3. Conclusion

In comparison to the 2010 survey results, it appears that there has continued to be growth in the adoption and use of EHRs and exchange of information. However, there are areas of opportunity to further the adoption of EHRs and to address the barriers to HIE utilization. This section aligns observations, findings, and conclusions, as depicted in Figure 3 Analysis Method.

3.1 Summary

Through the analysis of the survey responses, many observations and findings surfaced. These statements are the foundation for which conclusions are drawn and recommendations made. Presented in the table below are the observations and findings for each theme, aggregated and summarized. Each table includes the conclusions of each theme, which are based on the observations and findings.

Theme 1 EHR use and Adoption	
Observations	**Findings**
• Approximately 65% of providers indicate patients preference is for paper prescription. • 65% also indicated a lack of experience with ePrescribing ('no confidence', 'don't know how', 'no time to make our system work with ePrescribing system') • Nearly 20% of respondents do not use an electronic system for prescriptions. • Over 40% of respondents issue a paper prescription in addition to using an electronic system. • 81% of respondents use ePrescribing in some form. • Approximately 57% of respondents with an EHR indicate their EHR meets Meaningful Use criteria. 19% of respondents indicate that their practice uses the EHR for more than 90% of the available functionality. 10.3% of respondents do not have EHR deployed. • It appears that staff adoption and frequency of use are directly correlated. Thus as one increases, the other increases. • Respondents indicate that better patient information as a leading point of value (e.g., access, transition from paper, integration). • Additional staff training is a top factor influencing increased EHR use and adoption.	• It appears there are barriers to full adoption of ePrescribing capabilities. • This implies that the value of an EHR is more apparent to providers after consistent and continual use. • Factors that improve efficiencies are key to increasing adoption and frequency of use, more so than reducing costs of EHR. • The perceived usability of an EHR must be greater than the perceived cost of owning an EHR in order to encourage providers to acquire an EHR and to increase adoption and utilization.
Conclusion Improved understanding by providers of EHR capabilities, use, and associated benefits may increase return on EHR investments and help to optimize broad adoption.	

Theme 2 EHR and HIE Integration	
Observations	**Findings**
• The HIE services identified by providers as those anticipated to be used routinely or frequently seem to have a higher perceived value than other services. • Opportunity to improve the use of EHRs for sending and receiving information from external systems external. • Most mandatory State reporting is received via email and fax. • Over 70% of the surveyed population with an EHR anticipates routinely or frequently using an HIE service.	• Perception of value for HIE services changes as providers utilize functionalities of their EHR. • There is a shift away from using HIEs for care reimbursement (billing, insurance) toward improving delivery of care. • Providers with EHRs are beginning to utilize available HIE services.
Conclusions Provider value of EHR and HIE services will increase with State participation in HIEs for Immunizations, Advance Directives, and Public Health reporting. HIE use is directly correlated to adoption and use of EHR functionality.	

Theme 3 DIRECT Interest	
Observations	**Findings**
• The top 4 anticipated uses of DIRECT support continuity and coordination of care. • Although there is perceived value in using DIRECT, many providers are unsure if their EHR is DIRECT enabled.	• Sharing patient information between physicians and specialists seems to have highest perceived value. Note: No questions were asked regarding cost for DIRECT services.
Conclusions The ability to use DIRECT enabled EHRs will likely increase enrollment in DIRECT. DIRECT will be an influential factor for providers as they make decisions on integrating with NHIE.	

3.2 Recommendations

The 2012 eHealth Reassessment provides five recommendations. The intention of these recommendations is not to overwrite or negate the recommendations of the 2010 assessment.

The 2012 recommendations assume that the current course for NHIE will be maintained, and thus these recommendations compliment the 2010 recommendations by filling in gaps that have formed since the last assessment.

Recommendation 1: Promote education and learning on key EHR and HIE topics.

Theme 1 concluded "Improved understanding by providers of EHR capabilities, use, and associated benefits may increase return on EHR investments and help to optimize broad adoption." Providers consistently answered that a lack of understanding or knowledge were obstacles to implementing an EHR or using a type of HIE service. Continue to promote e-Prescribing while influencing vendors to educate providers on EHR prescribing capabilities and connecting systems.

Continue to promote NHIE, adding information regarding EHR connectivity. Consider a portal where information on connectivity can be shared and an online forum where providers can post question to the community.

Communicate the value of EHRs to the provider population to increase adoption and utilization. Monetary value of EHRs may be seen in insurance verification and integrated billing. However, most providers ranked the value of continuity of care as high as monetary returns. Therefore, communicate the benefits of continuity of care and leverage provider advocates. Promote the increase in operational efficiencies that may be seen once adoption and utilization are substantial. Consider the publication of "success stories" from Nevadan providers that are finding EHRs useful and beneficial to their practices.

Recommendation 2: Continuously inform providers of inportant information regarding EHR capabilities and NHIE compatibility

Theme 1 conclusion highlights providers' lack of understanding regarding EHRs. Use communications to inform providers of the different types of EHR solutions that are available to them. Include Cloud based systems, EHRs for Individual Practices, Health Care Network solutions, and the EHR Service Offering through NHIE. Dedicate a web page to listing the advantages and disadvantages of each, and provide guidance on which systems are more appropriate for the different sizes and types of organizations.

Influence vendors to discuss the increased capabilities of EHR systems when connected to an HIE. Vendors are out in the field, working with providers to implement a solution. It is mutually beneficial to the provider, the vendor, and NHIE to promote EHR and HIE integration. The provider will likely have higher satisfaction with an EHR solution connected to an HIE.

Consider using success stories from other states where more mature HIEs are operating.

Recommendation 3: Promote EHR & HIE adoption and enrollment.

Theme 2 concluded "HIE use is directly correlated to adoption and use of EHR functionality." Additionally, access to information and sharing information with colleagues is a top priority for

many providers. Therefore continue to promote EHR adoption to increase HIE participation. However, the message that resonates with providers may change over time. Based on the provider responses to the 2012 survey, improving care delivery is of high professional value. Communicate how EHR and HIE integration can improve the continuity and coordination of patient care through finding specialist within insurance network, sharing information with specialist or other providers, connecting with diagnostic labs, and receiving hospital discharge summaries.

Recommendation 4: Work with other State officials to influence the use of HIEs as a primary data source for State legisltive reporting.

All providers must submit information for Public Health. Currently most providers send information via fax or email. This presents an opportunity for the State to work together to achieve common objectives. By using the HIE as a primary data source for health related legislative reporting, providers will have additional incentive for adopting EHRs and integrating with the State HIE. Additionally, the State will reduced the effort that has been required to manually enter Public Health reporting data.

Recommendation 5: Facilitate DIRECT Education and Outreach

DIRECT is the first technical solution that providers in Nevada will experience as a part of NHIE. With plans to deliver a Statewide HIE and EHR Service Offerings, DIRECT will make a critical first impression with providers. It is imperative for the sucess of NHIE that DIRECT provide high quality services.

In order to provide quality services, providers' expectations of DIRECT must be set by NHIE. This is important because if the expectations are greater than what is achievable, the perception will be that the quality of service is low. Continue DIRECT communication with the provider community; however include the key topics identified here.

Educate the community on the capabilities of DIRECT to support continuity and coordination of care. Provide examples and scenarios of when DIRECT should be used and why it is the best alternative.

Educate providers on how to access direct. Use tutorials or webinars that demonstrate the ease and effectiveness of use, include both the Web based application and the DIRECT-enabled EHR. Facilitate coordination with vendors to increase support of providers wishing to integrate DIRECT with their organizations EHR.

Promote and educate providers on using DIRECT to submit State reporting requirements. Provide demonstration through Webinars and tutorials of how DIRECT is used to submit

information to the State. Include both the DIRECT Web based application and a DIRECT-enabled EHR demonstration. Highlight the efficiency of use when integrated with EHR.

3.3 Close

The 2010 assessment provided important information and five strategic recommendations for OHIT NHIE initiatives. The State of Nevada OHIT has been working diligently over the past several years to stand up NHIE. During this time the Nevada EHR and HIE landscape have shifted due to changes in technology, legislation, and providers perceptions. This has produced an opportunity for NHIE to build upon its achievements and strengthening its momentum.

This 2012 reassessment has five strategic recommendations to capitalize on the opportunities and success NHIE has had. The recommendations are targeted on communication, outreach, and education; the message is continuity of care, ease of use, and improved operational efficiency.

Appendix

The following pages contain the Nevada 2012 E-Health Survey.

Introduction to Nevada 2012 e-Health Survey

Welcome to the Nevada 2012 e-Health Survey for health care providers.

We appreciate you taking the time to provide critical information that will assist the Department of Health and Human Services, Office of Health Information Technology (OHIT), to assess the current environment of certified Electronic Health Records (EHRs) and Health Information Exchange (HIE) within Nevada's provider community.

Who should complete the survey?

The survey should be completed by a person who

1. has knowledge of the information technology that supports the medical practice
2. is familiar with the practice's operations, and
3. has an understanding of future plans or goals regarding implementation of Health IT and/or HIE technology.

How long will it take?

It will take approximately 30 minutes to complete the survey.

Note: This survey must be completed in one setting – it is not possible to save your answers and return.

What information do I need in order to complete the survey?

Please collect the following information, prior to completing the survey:

1. National Provider Identifier
2. Percentage of total patient volume that is Medicaid.
3. Percentage of total patient volume that is Medicare.
4. Name and version of EHR system(s) currently in use, implemented, or planned for implementation.

How will the data I provide be used?

Survey data collected will be used as part of the strategic planning process for implementation of the Nevada State Health IT Plan, including identifying barriers, concerns and issues.

The final report will ONLY cite de-identified aggregated survey data and will be posted on the DHHS Web site.

I am unable to complete this survey via the internet. Is there another method available?

A PDF form is available at http://dhhs.nv.gov/HIT.htm

Where can I find more information?

The e-Health Survey Fact Sheet: http://dhhs.nv.gov/Nevada_2012_e-Health_Survey_Fact_Sheet.pdf
The e-Health Survey Glossary of Terms: http://dhhs.nv.gov/Nevada_2012_e-Health_Survey_Glossary.pdf
The DHHS, Office of Health IT Web site: http://dhhs.nv.gov/HIT.htm

Who do I contact if I need assistance with this survey?

Megan May at megan.may@dhhs.nv.gov, or via phone at (775) 684-7591.

General Information

This section contains questions about your medical practice.

1. Please provide contact information, bolded fields are required.

Practice Name:	
Respondent Name:	
Respondent Position:	
National Provider Identifier (NPI):	
Address:	
City:	
ZIP Code:	
Phone Number:	
Email:	

2. Which best describes your medical practice setting?

- ○ Primary Care Practice
- ○ Specialty Practice
- ○ Imaging and/or Radiology
- ○ Rural Health Clinic/Federally Qualified Health Care Center
- ○ Large multi-specialty clinic with 10 or more locations
- ○ Ambulatory Clinics
- ○ Independent Practice Organization
- ○ Community Mental Health Center
- ○ Dental Practice

Other (please specify)

3. Which best describes your primary role in the medical practice?

- ○ Physician (MD, DO)
- ○ Dentist (DDS, DMD)
- ○ Mid-level Practitioner (ARNP, PA)
- ○ Clinical Support Staff (RN, LPN, CMA)
- ○ Ancillary Staff (RRT, RD, etc.)
- ○ Administrative/ Office Staff
- ○ Information Technology/Informatics

Other (please specify)

4. How many different locations does your practice have?

- ○ 1
- ○ 2-3
- ○ 4-6
- ○ 7-9
- ○ 10 or more

DEFINITION OF AN EHR: An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization.

5. Please indicate your practice's plans for Medicare or Medicaid incentives for adopting or using certifed Electronic Health Records (EHR)?

- ○ Already applied or receiving Medicare incentives
- ○ Plan to apply for Medicare incentives
- ○ Already applied or receiving Medicaid incentives
- ○ Plan to apply for Medicaid incentives
- ○ None
- ○ Unsure

6. What percentage of your total patient volume are Medicaid patients? Please use whole numbers, no % signs.

2011 (Actual)

2012 (Projected)

7. What percentage of your total patient volume is Medicare patients? Please use whole numbers, no % signs.

2011 (Actual)	
2012 (Projected)	

8. What type of clinical and patient data do you or your practice electronically send and receive? Check all that apply.

	Electronic data from EHR system	Electronic data from non-EHR systems	Data via fax or email
Clinical care summary	○	○	○
Health Plan for claims/billing	○	○	○
Lab results	○	○	○
Lab orders	○	○	○
Health Plan for Eligibility Verification	○	○	○
Provider Referral	○	○	○
Hospital Discharge Summary(in system/affiliated)	○	○	○
Hospital Discharge Summary (not affiliated)	○	○	○
State immunization registry	○	○	○
Public Health Agencies (for required reportable diseases)	○	○	○
Public Health Agencies for other purposes, such as epidemiological reporting	○	○	○
Advance Directives	○	○	○

9. Which statement best describes your practice's EHR environment?

- ○ We do not have an EHR.
- ○ We have purchased and/or begun installation of an EHR.
- ○ We have an EHR installed, and we use it for some of the available functions.
- ○ We have an EHR installed, and we use it for most (more than 90%) functions of our organization.
- ○ We have upgraded our EHR system to meet the Meaningful Use criteria.

Electronic Health Records Systems

This section contains questions regarding your practice's EHR system.

10. Please provide the information about your practice's EHR. If more than three, list most frequently used.

EHR 1 Vendor, product name	
EHR 1 Version	
EHR 1 Description (modules and functionalities)	
EHR 2 Vendor, product name	
EHR 2 Version	
EHR 2 Description (modules and functionalities)	
EHR 3 Vendor, product name	
EHR 3 Version	
EHR 3 Description (modules and functionalities)	

11. What is the estimated percentage of provider and clinical staff (i.e. non-administrative and non-technical) currently using your EHR system?

- ○ None
- ○ Less than 25%
- ○ 25-50%
- ○ 51-90%
- ○ 91-100%
- ○ Not sure

12. What best describes provider and clinical staff's usage of your EHR?

- ○ Routinely
- ○ Frequently
- ○ Intermittently
- ○ Rarely

13. Does your practice's EHR have the following functionality?

	Yes	Yes, but we don't use it or it is not turned on	No	Unsure
Patient Demographic Information	○	○	○	○
Clinical documentation and notes	○	○	○	○
External documents through an Electronic Document Management System	○	○	○	○
Active medication allergy list	○	○	○	○
Active medication list	○	○	○	○
e-Prescribing	○	○	○	○
Prescription warnings/alerts (i.e., dosage, allergies, adverse interactions,preauthorization required)	○	○	○	○
Medication guides/alerts	○	○	○	○
Current problem list	○	○	○	○
Vital Signs	○	○	○	○
Tobacco smoking for patients 13 and older	○	○	○	○
Eligibility verification with patient's insurer	○	○	○	○
Referrals to specialists & other providers	○	○	○	○
Ability to generate clinical care summary	○	○	○	○
Diagnostic test orders	○	○	○	○
Labs, Imaging, or Radiology Orders	○	○	○	○
Receipt of structured lab results	○	○	○	○
Alerts to additional screening or diagnostics (e.g., retinal screening for diabetics)	○	○	○	○
Clinical guidelines based on patient problem list, gender, and age	○	○	○	○
Patient specific or condition specific reminders (e.g. foot exams for diabetic patients)	○	○	○	○
Preventive care services due (e.g. mammograms overdue)	○	○	○	○
Automated reminders for missing labs and tests	○	○	○	○
Advance Directives	○	○	○	○
Other Clinical Decision Support Tool	○	○	○	○

14. Which of the following would increase the utilization of EHR within your organization? Check all that apply:

- [ ] Ability to access patient information from other systems
- [ ] Federal incentives regardless of Medicaid/Medicare patient population
- [ ] Additional Staff Training
- [ ] Enhancing or upgrading our EHR
- [ ] Simplifying the functionality to just the critical elements
- [ ] Implement a new EHR system which uses current industry standards and best practices
- [ ] Integration of the EHR with other systems, internally and with external partners
- [ ] Streamline processes to enhance quality of patient care and increase productivity
- [ ] Improve security and privacy controls
- [ ] Acquire external technical support
- [ ] Transition from paper based system to electronic
- [ ] Reduced cost for operations and maintenance
- [ ] Access to health plan formularies
- [ ] Insurance coverage information
- [ ] Telemedicine

Other (please specify)

Electronic Health Records Systems

This section contains questions regarding the adoption of an EHR system within your practice.

15. You have indicated that your practice does not have an EHR. Please select the answer that best describes your future EHR plans.
"We plan to purchase an EHR ..."

- ○ within the next 6 months
- ○ between 6 to 12 months
- ○ over 12 months from now
- ○ not al all
- ○ unsure

16. Which of the following factors would influence your practice's decision to aquire an EHR? Check all that apply.

- ☐ Lower costs for implementation
- ☐ Clear direction on market leading vendors
- ☐ Easily customizable systems to fit our needs
- ☐ Cost effective access to EHR training
- ☐ Ease of integration with our legacy systems
- ☐ Low learning curve
- ☐ Agreed upon and published industry standards for EHRs
- ☐ Confidence in the security and privacy of the system
- ☐ Access to technical resources to support the system
- ☐ Lower costs for operations and maintenance

Other (please specify)

17. What are the EHR functionalities that your practice would find of most value? Check all that apply.

- [ ] Conduct information exchange with other care providers
- [ ] Support meeting Meaningful Use requirements
- [ ] Track and maintain Patient Demographic Information
- [ ] Utilize Computerized Provider Order Entry
- [ ] Utilize e-Prescribing
- [ ] Manage and/or exchange Lab Results
- [ ] Use Clinical Decision Support Tool
- [ ] Conduct internal reporting
- [ ] Conduct information exchange with patients
- [ ] Conduct information exchange with partners or third parties
- [ ] Provide patient access to their health records

Other (please specify)

Electronic Prescribing

This section contains questions regarding electronic prescriptions.

18. Which statement best describes your organization's prescribing practices?

- ○ Prescriptions are entered into our EHR system, no paper prescription provided to patient
- ○ Prescriptions are entered into our EHR system, in addition to providing the patient with a paper prescription
- ○ Prescription information is entered into an e-Prescribing system, no paper prescription provided to patient
- ○ Prescription information is entered into an e-Prescribing system, in addition to providing the patient with a paper prescription
- ○ An electronic system is NOT used to support prescribing

19. If you are using paper prescriptions (with or without e-Prescribing), please select all that apply.

- ☐ Patients request a paper copy
- ☐ Not confident that electronic prescription will work
- ☐ No local pharmacies accept e-Prescriptions
- ☐ No time to make our system work with e-Prescribing
- ☐ Not sure how to connect our system with the local pharmacies for e-Prescribing
- ☐ Concerned about patient privacy issues
- ☐ Don’t know how to use e-Prescribing system
- ☐ Tried e-Prescribing but it did not work well for us
- ☐ Would use e-Prescribing instead of paper if one or more of the above issues were addressed
- ☐ Cost of e-Prescribing is prohibitive
- ☐ Delays in routing prescriptions to the pharmacy

Other (please specify)

Nevada Health Information Exchange

This section contains questions regarding Nevada Health Information Exchange.

Definition of Health Information Exchange (HIE): The electronic movement of health related information among organizations according to nationally recognized standards.

*For the purposes of this survey, **organization** is synonymous with physicians, medical practices, and dental practices.*

20. Do you or your organization use any of the following HIE services? Check all that apply.

- [ ] Electronic Prescribing
- [ ] Private Health Information Exchange Organization
- [ ] Hospital networks
- [ ] Clinic networks
- [ ] Independent practice association (IPA) networks
- [ ] Integrated private health systems or provider networks

Other (please specify)

21. During the 2011 session, the Nevada Legislature passed Senate Bill 43 establishing the Statewide Health Information Exchange System. Are you familiar with this?

- ○ Yes
- ○ No

Senate Bill 43: http://leg.state.nv.us/Session/76th2011/Bills/SB/SB43_EN.pdf
NRS 439.581-585: http://leg.state.nv.us/NRS/NRS-439.html#NRS439Sec581

22. Are you aware that the legislation includes a provision for immunity from liability for health care providers who use HIEs under certain conditions?

- ○ Yes
- ○ No

23. How often do you or would you use electronic health information exchange for the following?

	Routinely	Frequently	Intermittently	Rarely
Providing parents access to childrens full immunization record.	○	○	○	○
Access to patient information (e.g., full list of current medications, allergies, and recent emergency visits)	○	○	○	○
Reminders for preventative care (e.g. HbA1c, immunization, cancer screenings)	○	○	○	○
Insurance eligibility verification.	○	○	○	○
Identify in network specialist or labs, sending patient information, and receiving results.	○	○	○	○
For new or emergency patients, access to current health information (e.g., current problems list, allergies, recent care events, recent lab or radiology results, etc.).	○	○	○	○
Facilitate a single communication channel with public health organizations (e.g. report communicable diseases, submit immunizations to registry)	○	○	○	○
Share patient's health information with care providers within Nevada.	○	○	○	○
Share patient's health information with care providers in other States.	○	○	○	○
Improve continuity of care via the electronic exchange of patient information.	○	○	○	○

24. How would you or your organization prefer to participate in an HIE?

- ○ Transaction-based (“pay as you go" per transaction)
- ○ Subscription-based (set fee for a specific period of time)
- ○ Tiered-based (pay according to volume, with tiered discounts as volume increases)

Other (please specify)

25. Do Internet connectivity issues affect your organizations ability to electronically share information with the health care community?

- ○ Yes
- ○ No

Nevada DIRECT

This section contains questions regarding DIRECTED exchange of patient information.

Nevada DIRECT (NV DIRECT) will be a simple, secure e-mail connection as an interim health information exchange service. It allows providers to send and receive patient health information directly to/from trusted entities, via the Internet. Examples include receiving lab results, sending a care summary to a patient's specialist, submitting required communicable disease reports to the local health authority, or referring a patient to another provider. NV DIRECT supports key Stage 1 requirements for Meaningful Use.

26. What ways would your medical practice utilize NV DIRECT to send or receive the following information? Check all that apply.

- ☐ Patient clinical data with colleague who is also caring for the same patient.
- ☐ Patient clinical data with specialist to whom I am referring the patient to.
- ☐ Patient lab results with other physicians.
- ☐ Patient imaging or radiology results with other physicians.
- ☐ Clinical data to support health insurance billing process.
- ☐ Required clinical data to public health agencies.
- ☐ Patient clinical information with care providers outside of Nevada (e.g., tourist returning to home state for further care following care received in Nevada).
- ☐ Do not plan to use NV DIRECT
- ☐ Unsure

Other (please specify)

27. If your organization has a certified EHR system, is it capable of integrating with NV DIRECT (i.e., "DIRECT enabled")?

- ○ Yes, and we use that capability
- ○ Yes, but we DO NOT use that capability
- ○ No, it is not capable
- ○ Unsure
- ○ We do not have an EHR system

Survey Completed!

Thank you for participating in the Nevada 2012 e-Health Survey. We truly appreciate the time you have spent to answer the survey questions.

Data collected in this survey will be used as part of the strategic planning process for implementation of the Nevada State Health IT Plan, including identifying barriers, concerns and issues.

The final report will cite de-identified aggregated survey data ONLY and will be posted on the DHHS, Office of Health Information Technology Web site at: http://dhhs.nv.gov/HIT.htm.

More information about Nevada's Statewide Health Information Exchange System as it moves to implementation in accordance with NRS 439.581-595 can be found at the DHHS Web site above.