Nevada Health Information Technology (HIT) Statewide Assessment

State of Nevada

Department of Health
and Human Services

Office of Health Information Technology
and
Division of Health Care Financing and Policy

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1 Executive Summary

1.1 Introduction

As part of the American Recovery and Reinvestment Act (ARRA) Health Information Technology for Economic Clinical Health (HITECH) Act of 2009[1] and subsequent rules and regulations, states can request financial resources to support health care transformation through Health Information Technology (HIT) and Health Information Exchange (HIE). There are two primary objectives of HITECH requirements that affect state administration of HIT and HIE:

1. Incentive payments through Medicaid for the implementation/upgrade, adoption, and meaningful use of Electronic Health Records (EHRs).

2. State HIE Cooperative Agreement grants to establish or enhance the infrastructure necessary for the exchange of health information.

Planning for HIT and HIE initiatives in Nevada falls under the umbrella of the Nevada Department of Health and Human Services (DHHS), which includes the State's Medicaid Program and Office of Health Information Technology:

- *Division of Health Care Financing and Policy (DHCFP)* – DHCFP is responsible for the administration of Nevada's Medicaid and SCHIP programs. Through ARRA funding granted by the Centers for Medicare and Medicaid Services (CMS), DHCFP is developing a State Medicaid HIT Plan (SMHP). This HIT Plan will describe the vision and roadmap for how Nevada's Medicaid HIT efforts will work in concert with Nevada's health care system. The SMHP requires that a Landscape Assessment be conducted, which is addressed through this report. In addition, DHCFP must also include the Electronic Health Record (EHR) Incentive Program in the SMHP, which will describe the plan for providing incentive payments to eligible professional providers and hospitals for the implementation/upgrade, adoption, and meaningful use of EHRs.

DHCFP….

– State Medicaid HIT Plan (SMHP), including a *Landscape Assessment*

– Provider Incentives for meaningful use of EHRs

- *Office of Health Information Technology (OHIT)* – The Office of Health Information Technology is responsible for administering the ARRA HITECH State HIE Cooperative Agreement, through the Office of the National Coordinator (ONC) for Health

OHIT….

– HIT Strategic and Operational Plan, including an *Environmental Scan*

– State HIE Cooperative Agreement

[1] According to the U.S. Department of Health and Human Services website (http://healthit.hhs.gov), the Health Information Technology for Economic and Clinical Health (HITECH) Act "seeks to improve American health care delivery and patient care through an unprecedented investment in health information technology. The provisions of the HITECH Act are specifically designed to work together to provide the necessary assistance and technical support to providers, enable coordination and alignment within and among states, establish connectivity to the public health community in case of emergencies, and assure the workforce is properly trained and equipped to be meaningful users of EHRs."

Information Technology, to support development of a statewide HIE infrastructure. OHIT is using the Agreement funds to develop the required statewide HIT Strategic and Operational Plan. This plan is required to include an HIT Environmental Scan, which is addressed through this report.

Since the requirements of the Medicaid Landscape Assessment and HIT Environmental Scan were similar, OHIT and DHCFP were permitted by CMS and ONC to pool funding and conduct the assessment as a joint venture. In addition to being cost effective, this joint assessment ensures ongoing coordination and alignment of State HIT efforts. For purposes of this report, "HIT Assessment" is the term used to describe the project.

The Nevada Statewide HIT Assessment provides a baseline status of representative EHR and HIE utilization by Nevada's health care community, identifies barriers and obstacles to EHR adoption and HIE utilization, assesses stakeholder readiness for further adoption, and provides recommendations for overcoming key barriers.

A glossary of terms associated with this report can be found in Appendix A.

1.2 Nevada HIT

OHIT is working closely with a wide variety of public and private stakeholders to determine Nevada's strategic HIT and HIE direction. As the Division that oversees Medicaid, DHCFP plays a key role in this partnership. To assist DHHS with statewide HIT initiatives, Governor Jim Gibbons appointed the Nevada HIT Blue Ribbon Task Force to provide oversight and guidance on the planning and adoption of a statewide health information exchange infrastructure. Comprised of key stakeholders and industry leaders, the HIT Blue Ribbon Task Force has been working with DHHS, since October 2009, to develop Nevada's HIT Strategic and Operational Plan. The Task Force members appointed by the Governor represent a diverse group, including representatives from Nevada Medicaid, Nevada's Regional Extension Center (REC), health systems and providers, public health, insurance, payers, the university system, and consumers. More information about the HIT Blue Ribbon Task Force can be found in Section 2.4.

1.3 Statement of Needs and Objectives

Statement of Needs

The HIT Assessment is a first step in the HIT and HIE planning process for OHIT and DHCFP to meet HITECH mandates. The results of this assessment will be incorporated into both OHIT's HIT Strategic and Operational Plan for the State HIE Cooperative Agreement and DHCFP's State Medicaid HIT Plan.

Statement of Objectives

The HIT Assessment looks 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. It has the following objectives:

- Determine a representative level of EHR adoption and HIE utilization for health care providers.
- Assess the eligibility and status of provider readiness for use of EHRs compared to meaningful use criteria.
- Determine pertinent HIE infrastructure already established in Nevada.
- Identify current barriers to EHR and HIE adoption.
- Assess the current HIT and HIE assets that could be expanded or leveraged.
- Assess readiness of providers to participate in statewide HIE.
- Provide recommendations for proceeding with next steps, as relevant to the State's HIT Strategic and Operational Plan and SMHP.

1.4 State of HIT within the Nevada Health Care Community

As a result of the assessment activities, it is clear that Nevada's provider community and other health care stakeholders generally support both the concept and value of EHRs and HIE. Providers are interested in understanding, and even adopting, technologies that offer potential benefits such as improved patient-centered care and efficiencies in the delivery and provision of health care.

Levels of EHR adoption and HIE utilization vary greatly across the provider community. Even among providers that have already adopted technology for EHRs, there is generally a lack of robust functions and features used. In addition, little exchange of health information is occurring outside of a provider's or stakeholder's network. Providers face many obstacles to adoption and use, including financial constraints, staff training needs, concerns regarding operational impacts, and uses of existing systems that have traditionally lacked interoperability and require additional enhancements. To meet EHR meaningful use requirements as specified by the CMS Final Rule for the EHR Incentive Program, Nevada health care providers require additional financial resources, technical guidance, and a better understanding of the State's HIT initiatives. The providers also requested more detailed information regarding how their practice or facility will be impacted by the HITECH Act and State HIT efforts, independent of whether or not they currently have an EHR system in place.

The adoption barriers encountered by providers are compounded by a number of other variables that define the environment and context for health care in Nevada. These include the economic

climate, the State budget deficit, an ongoing shortage of health care professionals, and confusion about federal requirements and standards.

1.5 Key Findings

Key findings resulting from the assessment are described in this section. The following information gathering tools were used as part of this assessment:

- Survey of providers serving Nevada consumers
- EHR and HIE stakeholder focus groups
- EHR and HIE stakeholder interviews

The findings are grouped into six broad themes. Additional information supporting the high-level findings can be found in Section 4.1.

Theme 1: Current Uses of EHR Systems

- Many of the providers reached through the assessment show an interest in increasing adoption, despite the numerous barriers that exist.
- Providers with EHRs report using a broad range of EHR functionalities.

Theme 2: Direction for EHR Adoption and HIE Utilization

- The EHR adoption levels vary by provider type with the large hospitals and large physician practices reporting higher levels of EHR adoption compared to other providers.
- There is a lack of exchange of health information occurring in the Nevada health care system, outside of a provider's or stakeholder's network.
- Large hospitals, large networks of providers, and other providers that have consciously advanced their EHR capacity ahead of federal legislation are the primary providers who have some level of readiness and capacity to participate in an HIE.

Theme 3: Meaningful Use and Incentive Payments

- Many providers are still unsure about whether or not they will apply for the incentive payments.
- Providers will have difficulty meeting the proposed meaningful use criteria in a timely manner.

Theme 4: Barriers to Advancing EHR Adoption and HIE Utilization

- The most significant barrier to implementing, adopting and enhancing EHRs is cost.
- Providers are overwhelmed by the number of options for EHRs and the effort required to implement or enhance systems within the timelines established at the federal level.
- Providers are hesitant to engage in HIE due to patient privacy and security concerns.
- Most stakeholders know little about HIE, including technical infrastructure and recognized standards.
- Many providers are in "wait and see" mode for further investments in EHR and HIE due to uncertainty around the details of costs for participation in HIE and integration with a statewide infrastructure.
- Nevada will be competing with other states for a finite nationwide pool of qualified HIT professionals, until a stable and sustainable statewide labor pool can be established.

Theme 5: Stakeholder Awareness and Engagement

- With the exception of those individuals and stakeholder groups that are involved in the HIT Blue Ribbon Task Force, awareness, understanding and engagement of State level efforts with both HIT and HIE is very low.
- Providers show some interest in getting involved in HIE-related planning activities.
- Provider awareness of the value of EHR adoption as a means of streamlining business processes and creating more efficient health care practices may be confounded by a perceived emphasis on rules and regulations.

Theme 6: HIE Governance

- Despite the variance of adoption by provider types, there is some consistency in thinking around HIE models, HIE governance, and the role of the State.

1.6 Assumptions and Constraints

Below are identified assumptions and constraints that are relevant to this project:

- This project is a statewide assessment, which generally gauges the adoption of EHR and HIE for Nevada *health care providers and payers.*
- The assessment does not represent provider EHR and HIE readiness by individual provider groups or individual providers.
- Conclusions have been drawn about general EHR and HIE provider readiness based on the information gleaned through the assessment, including input from providers, payers and other key stakeholders. Not all Nevada providers and payers participated in this assessment.

2 Nevada State Level HIT and HIE Planning

2.1 Overview

HIT and HIE initiatives are being planned and managed within Nevada DHHS, as a shared responsibility of the Office of Health Information Technology (OHIT) and the Division of Health Care Financing and Policy (DHCFP). Additionally, stakeholders engaged in the HIT Blue Ribbon Task Force are participating in various aspects of HIT and HIE planning. These efforts are described in the following subsections.

2.2 Office of Health Information Technology for Nevada

OHIT is responsible for coordinating statewide HIT efforts and initiatives. This includes administering and managing the ARRA HITECH State Health Information Exchange Cooperative Agreement, facilitating the core infrastructure and capacity that will enable intra-state, interstate and nationwide HIE. Its vision for achieving those objectives includes:

- Fostering an environment that encourages adoption and use of HIT by the health care community.
- Supporting health information access and exchange 24 hours a day, seven days a week.
- Improving care coordination and quality through enhanced clinical decision support.
- Reducing medical errors and improving patient safety.
- Reducing costs by eliminating unnecessary or duplicative procedures.
- Enhancing statewide public health and epidemiological surveillance capabilities for improving population health and real-time identification and mitigation of disease outbreaks and emergency health situations.
- Supporting emerging health care needs by creating an environment that fosters innovation.
- Supporting the role of consumers and providers in improving health outcomes and managing costs.
- Maintaining the privacy and security of Nevadans' personal health information.

2.3 DHCFP and Medicaid Engagement in State level Efforts

DHCFP administers the Medicaid and SCHIP programs under Nevada DHHS, and is collaborating on statewide HIT and HIE planning efforts with OHIT. DHCFP's HIT Project Staff are responsible for:

- Participating in statewide initiatives and workgroups.
- Coordinating with Medicaid stakeholders.

- Overseeing any contracted work associated with the SMHP planning tasks.
- Planning for and administering the EHR Incentive Program for Medicaid providers.
- Establishing appropriate communication and outreach strategies with Medicaid providers.

A key strategic deliverable being developed by DHCFP is the SMHP, which includes the Medicaid "As-Is" HIT environment, the "To-Be" HIT vision, the roadmap with plans on how to achieve the future vision, and the approach for facilitating incentive payments to eligible professionals and hospitals. This HIT Assessment will serve as the "As-Is" state of HIT for Medicaid, providing a baseline for moving from the current environment to the "To-Be" HIT vision.

In addition, DHCFP requested a scalable HIE solution as part of the procurement for the Medicaid Management Information System (MMIS) Takeover (RFP No. 1824). Depending on the HIE solution to be provided by the awarded vendor, DHHS may integrate this solution as part of the HIE infrastructure for the State. More information regarding the solution will be provided to stakeholders once a contract is in place with the awarded vendor; such information is expected to be available by the fall of 2010.

2.4 HIE Cooperative Agreement and HIT Blue Ribbon Task Force

Overview of HIT Blue Ribbon Task Force and Stakeholder Engagement

In September 2009, Governor Jim Gibbons issued an Executive Order establishing the Nevada HIT Blue Ribbon Task Force, and appointed a diverse group of 20 key stakeholders and industry leaders, including representatives from Nevada Medicaid, Nevada's HIT Regional Extension Center, health systems and providers, public health, insurance, payers, the university system, and consumers. Members appointed to the HIT Blue Ribbon Task Force can be found in Appendix D. The mission of the Task Force is to provide oversight and guidance to DHHS regarding HIT and HIE activities and to provide input to DHHS for developing the statewide HIE infrastructure and the HIT Strategic and Operational Plan.

Task Force meetings are conducted in accordance with Nevada Open Meeting Law and always held at one location in Northern Nevada and one location in Southern Nevada, connected via videoconferencing. As often as possible, the meetings are also broadcast live over the Internet. DHHS maintains the Nevada HIT Web site: http://dhhs.nv.gov/HIT.htm, and the Task Force Agendas and Meeting Schedule are available at: http://dhhs.nv.gov/Hit_TaskForce.htm.

The Nevada HIT Blue Ribbon Task Force is charged with:

- Recommending policy and legislative actions.
- Encouraging coordinated and collaborative efforts with the private health care sector.
- Maximizing public and private partnerships for the development of a sustainable statewide

health information infrastructure.

- Providing a transparent forum for reviewing and discussing HIT and HIE issues, and suggesting potential solutions.

HIT Blue Ribbon Task Force Structure

The HIT Blue Ribbon Task Force was organized into subcommittees to facilitate planning and decision making. The subcommittees are: HIE Technical Infrastructure, HIE Governance and Accountability, HIE Financial Viability and Sustainability, EHR Adoption and Meaningful Use, and HIE Privacy, Security and Patient Consent. The subcommittees include the core members of the Task Force as well as other stakeholders.

The DHHS Director and the State HIT Coordinator are staff to the Task Force and also serve in an advisory capacity. Nevada's Medicaid Director is a member of the HIT Blue Ribbon Task Force and two DHCFP HIT Project Staff serve on Task Force Subcommittees. This ensures ongoing HIT coordination at multiple levels within the State.

Current Status of HIT Blue Ribbon Task Force Activities

Since October 2009, the Task Force has been meeting almost monthly to discuss issues related to the State HIE Cooperative Agreement and the development of the related State HIT Strategic and Operational Plans. Issues being discussed include an operationally and financially sustainable HIE technical infrastructure that leverages current assets and investments, an effective governance structure that complies with all state and federal laws, HIE and EHR barriers, privacy and security concerns, patient consent options, meeting cooperative agreement financial match requirements, workforce needs and readiness, broadband and connectivity barriers, and the impact of the State's fragile economy on HIE financial sustainability and EHR adoption.

Challenges for Proceeding with Statewide Efforts

OHIT, through this project, has identified several challenges in proceeding with development of an HIE infrastructure. Among them are:

- Lack of sufficient existing HIE infrastructure, including Regional Health Information Organizations and Community HIEs that can be leveraged or expanded.
- The fragile State economy and budget crisis that reduce available resources necessary for implementing an HIE infrastructure and meeting federal financial match requirements.
- The possibility that necessary legislation will not be enacted during the next biennial session of the Nevada Legislature, which begins in early February 2011. Limited to 120 days, the State legislators will be faced with a minimum $3 billion budget shortfall during the next biennium, meeting a State constitutional reapportionment requirement, a new governor, and a turnover of approximately half the members due to term limits.

- Insufficient broadband connectivity to meet HIE and meaningful use requirements. Nevada is the most mountainous State, and the physical terrain may require alternate connectivity solutions. Lack of financial resources to add statewide broadband connectivity may impede HIE implementation.
- Low EHR adoption rates, which impede the ability to implement HIE.
- Uncertainty of financial resources and lack of successful operational and financial sustainability models.
- Lack of federal standards.

The findings associated with many of these challenges are addressed in further detail in Section 4.1 of this report.

Nevada HIE Governance Structure

The State HIE Cooperative Agreement provides the states with the flexibility to select an HIE governance structure that works best for them. Nevada anticipates that a state designated entity (SDE) will operate the HIE, with regulatory oversight done by the State and a public-private partnership governing SDE operations. The assessment results seem to support this type of governance model.

Engagement of Key Stakeholders

The HIT Assessment looked at the extent in which the right stakeholders are engaged in the planning process and identify gaps in participation. Specific questions about stakeholder involvement were used in the interviews and focus groups conducted for the assessment.

Overall, participants agreed that the right stakeholders have been involved in State level planning efforts. They also noted that it would be beneficial to increase participation by health plans, local/county health authorities and agencies providing direct services, and ancillary service providers. For a list of identified stakeholders and outreach conducted for the assessment, refer to Appendix C.

Several participants mentioned the need for greater involvement from health plans. Even after repeated outreach to this key stakeholder group, only two health plans participated in the assessment. Health plans have four representatives on the HIT Blue Ribbon Task Force: the State's largest private health plan, the State's largest consortium of self-funded health plans, Nevada Medicaid, and the State insurance commissioner. In addition, the Nevada Association of Health Plans participates on a Task Force Subcommittee. Current health care insurance coverage of Nevada's population is grouped as follows: 20% uninsured, 20% public program (Medicare, Medicaid and SCHIP), 39% private health plans, and 21% ERISA/self-funded plans. The federal Employee Retirement Income Security Act (ERISA) regulates the operation of a self-funded health

benefit plan if an employer chooses to establish one, as opposed to the state regulation of private health insurance plans.

Several participants also mentioned the need for greater involvement from county and local health authorities. Nevada has four health authorities for the public health of the State's 17 counties. Southern Nevada Health District is responsible for Clark County, where approximately two-thirds of the State's population resides. The Washoe County Health District is responsible for the second largest urban county, where approximately one-fifth of the State's population lives. Carson City is the third health authority, responsible for those residents living in the State capital. The Nevada State Health Division and State Health Officer share responsibility for the remaining 14 counties. The health authorities have two representatives on the Task Force: the State Health Officer and the Carson City Health Officer. Much difficulty was encountered in reaching county and local health authority stakeholders, particularly direct service providers. There was little apparent knowledge about statewide HIT and HIE planning efforts, although during the January 2010 monthly meeting of the health officers, the State HIT Coordinator had briefed the group about the HITECH Act and State HIE Cooperative Agreement program. Many county and local agencies that provide health care services have EHRs or other HIT-related systems that will need enhancements in order to potentially interface with other EHR and HIE systems.

Ancillary service providers have the least amount of participation in State HIE planning efforts to date. For purposes of this assessment, these health care providers include: skilled nursing facilities, durable medical equipment (DME) providers, emergency medical services (EMS) providers, occupational therapists, physical therapists, pharmacies and pharmacists, dentists, chiropractors, and diagnostic clinics/labs. Engaged stakeholders suggested that the early involvement of all of these stakeholders is necessary in order to gain the buy-in necessary to have a comprehensive HIE that advances the quality of patient care. Despite the lack of awareness or engagement, many of these providers have been reached through this assessment.

2.5 Other Identified HIT and HIE Collaborative Efforts and Initiatives

Below are descriptions of representative HIT and HIE collaborative efforts and initiatives identified in Nevada through this assessment. The collaborative efforts and initiatives represent working groups of individuals that may be pulled into the overall framework of establishing a statewide infrastructure. This section addresses representative individuals or groups involved in various HIT and HIE efforts; systems and projects are described in Section 4.3. Due to the myriad of groups and initiatives that exist in Nevada, only those efforts identified by stakeholders and through research are captured in this statewide assessment.

HIT Regional Extension Center

The ARRA HITECH Act includes funding for the HIT Regional Extension Centers (REC) program, which provides assistance to primary care clinicians implementing and adopting certified

EHRs. Available REC services include workflow assessment, process improvement, certified EHR vendor selection, system implementation, and assistance meeting meaningful use requirements.

In February 2010, HealthInsight was awarded an ARRA HITECH REC grant, to operate as the REC for both Nevada and Utah. The CEO of HealthInsight is a member of the HIT Blue Ribbon Task Force and serves as its Vice Chairman. HealthInsight staff also serve on Task Force Subcommittees.

A private, non-profit organization incorporated in Nevada and Utah, HealthInsight is vendor-neutral. It will assist providers with the selection process and the requirements to meet meaningful use, along with assistance for implementation and leveraging HIE. HealthInsight plans to work with 1,500 primary care providers in Nevada and Utah by the end of 2011, and another 1,000 in 2012 to 2013.

HealthInsight is working closely with DHCFP and OHIT, in addition to the HIT Blue Ribbon Task Force and its Subcommittees. The three entities have regularly scheduled meetings to ensure coordination of HIT and HIE efforts. HealthInsight is also coordinating and collaborating with many other HIT and HIE stakeholders in Nevada to assess and monitor statewide progress of EHR adoption, and its impact on providers and patients.

Broadband Task Force

In July 2009, Governor Jim Gibbons issued an Executive Order establishing the 12-member Nevada Broadband Task Force to ensure broadband accessibility, availability, affordability, and reliability across the State. The mission of the Broadband Task Force is to identify and remove barriers to broadband access and identify opportunities for increased broadband applications and adoption in un-served or underserved areas of Nevada. The Broadband Task Force has provided oversight of the ARRA funding received for broadband mapping and data management, and is charged with ensuring grant compliance.

Broadband connectivity for health care providers is critical to successful HIE implementation, EHR adoption, and meaningful use. Without broadband connectivity for HIE, it will be difficult for certain eligible providers to qualify for EHR incentive payments. Providers in Nevada's rural counties are often underserved by broadband service or have no service available. The Broadband Task Force has been coordinating efforts with the HIT Blue Ribbon Task Force, since November 2009, regarding overlapping priorities and goals. OHIT anticipates overlaying the results of this assessment with those of the State broadband mapping project to determine how both Task Forces can collaborate effectively to meet HITECH mandates.

Provider Professional Associations

Many of the health care professional associations in Nevada were consulted regarding this assessment, through interviews and focus groups. In particular, the assistance and support of the

Nevada State Medical Association, the Nevada Hospital Association, and the Nevada Nurses Association in conducting this assessment were greatly appreciated. In general, most of the associations support EHR adoption and HIE participation by their members in concert with statewide efforts, and a few have representation on the Task Force Subcommittees, either directly or indirectly. Executive-level managers from a few of the associations participate in the State's efforts through the HIT Blue Ribbon Task Force. In this capacity, they are able to provide input for the overall direction at the State level on behalf of their members. In addition, this helps them keep current with the HIT and HIE regulatory impacts on their members.

Nevada Rural Hospital Partners

The Nevada Rural Hospital Partners (NRHP) is an alliance of 14 small and rural hospitals, serving approximately 300,000 people within a geographic area about the size of New England. As the voice of the Nevada rural hospitals, it works to ensure the viability of its members through policy and regulatory advocacy, reducing costs, generating savings, enhancing quality of care, sharing resources, and expanding HIT utilization. NHRP is coordinating the HIT, EHR and HIE efforts of its members, and serves on HIT Task Force Subcommittees. For more information about the specific efforts through NRHP, please refer to Section 4.3.

College of Southern Nevada HIT Training

The College of Southern Nevada (CSN) is part of a federally-designated regional consortium of community colleges (Arizona, California, Hawaii and Nevada) that were recently awarded ARRA funds from the HITECH Community College Consortia to Educate HIT Professionals program. In addition to provider readiness, a ready labor pool of qualified IT and HIT professionals is key to successful EHR adoption and sustainable HIE infrastructure. As a component of the HIT Workforce Program, this grant program seeks to rapidly create health IT education and EHR training programs at community colleges or expand existing ones. The training being developed by CSN will be offered online to interested parties and will have four different courses for different workforce roles: workflow redesign specialist, clinical practitioner support specialist, implementation specialist, and EHR trainer.

EHR Nevada, SNMIC, HIMSS, and MGMA

EHR Nevada is a joint initiative of the Southern Nevada Medical Industry Coalition (SNMIC), the Nevada Chapter of the Healthcare Information Management Systems Society (HIMSS Nevada), and the Nevada Chapter of the Medical Group Management Association (MGMA Nevada). High-level descriptions of these organizations can be found in Appendix C. All of the collaborating partners are dedicated to supporting quality healthcare in Nevada. EHR adoption and HIE have become prominent themes of their recent work. EHR Nevada educates the healthcare community about EHRs and other HIT and HIE initiatives through seminars, forums, expositions, and online resources.

3 Methodology: Identifying Stakeholders and Existing HIT and HIE Efforts

3.1 Interviews and Focus Groups

Qualitative research was conducted for the assessment using two methodologies: individual interviews and focus groups with stakeholders. The purpose of the research was to:

1. Assess the current and planned levels of EHR and HIE readiness, implementation, and adoption by Nevada's health care community.
2. Gauge stakeholder involvement in and understanding of State level HIT and HIE planning efforts.
3. Identify barriers to EHR and HIE readiness, implementation, and adoption.

The approach to identifying stakeholders for involvement in the assessment included the following:

- Working with OHIT and DHCFP staff to determine key stakeholders to include in the assessment.
- Reviewing existing lists of stakeholders and workgroups from the DHHS HIT Web site and the HIE Cooperative Agreement Application.
- Interviewing relevant State staff to gain an understanding of existing Nevada provider groups and other stakeholders.
- Obtaining additional contacts through interviews and focus groups with stakeholders.

To maximize the number of views represented as part of the qualitative data gathering effort, a variety of outreach methods were employed. Partnerships with the organizations represented on the HIT Blue Ribbon Task Force were leveraged to extend outreach through newsletters, postings on Web sites, and distribution of information through Listservs. The assessment team made phone calls and sent emails to members of the HIT Blue Ribbon Task Force, to leaders of an extensive number of provider associations in Nevada, and to various HIT and HIE work groups to inform them of the assessment process, to identify the best methods for reaching out to their members and constituencies, and to coordinate the scheduling of focus groups and interviews.

A fact sheet describing the assessment and State level HIT and HIE planning efforts and invitations to the focus groups were distributed to the stakeholders, who were asked to distribute this information to their colleagues. Staff from OHIT and DHCFP also contacted key stakeholders, including HealthInsight (Nevada's REC), various State medical licensing boards (e.g., State Board of Medical Examiners, State Board of Nursing, and State Board of Pharmacy), and other DHHS divisions, to encourage their involvement in the assessment. The approach for engaging various stakeholders was tracked during the course of the assessment. Extensive phone calls were made, with follow-up emails, to encourage participation from organizations and stakeholders who were not

engaged. Additional focus group events were scheduled to increase stakeholder participation and to enhance the diversity of viewpoints represented in the data. Contacts were made with additional providers and stakeholders as they were identified during this process. The assessment team also used the interviews and focus groups as an opportunity to build awareness for the online survey on EHR and HIE adoption.

Interview Methodology

In order to capture more in-depth perspectives from stakeholders, the project team arranged interviews, using the process described in Section 3.1 above. An interview template was used to guide the discussion during each stakeholder interview and maintain consistency of the topics covered. The interviews were conducted in-person or by telephone. Each interview was reviewed and summarized into the findings included in Section 4.1 of this report.

A total of 32 interviews were conducted. The following are the primary stakeholders included in the interview portion of the assessment:

- College of Southern Nevada
- EHR Nevada
- Evergreen Healthcare (Skilled Nursing Facilities)
- Falcon Technology
- University of Nevada School of Medicine
- Indian Health Board of Nevada
- Intuun Systems
- Nevada Department of Corrections
- Nevada Department of Health and Human Services Office of Health Information Technology (State HIT Coordinator)
- Nevada Division of Child and Family Services
- Nevada Division of Aging and Disability Services
- Nevada Division of Mental Health and Developmental Services
- Nevada State Health Division
- State Health Division Bureau of Child, Family and Community Wellness
- State Health Division Bureau of Early Intervention Services
- State Health Division Bureau of Health Statistics, Planning and Emergency Response
- State Health Division Bureau of Health Care Quality and Compliance (licenses health facilities, medical laboratories, and laboratory personnel)

- State Health Division Office of Emergency Medical Systems
- State Health Division Office of Health Statistics and Surveillance
- State Health Division Office of Informatics and Technology
- Nevada Chapter of American Health Information Management Association (NvHIMA)
- Nellis Air Force Base
- Nevada Health Centers, Inc.
- Nevada Hospital Association
- Nevada Managed Care Quality Improvement Council
- HealthInsight (Nevada's Regional Extension Center)
- Nevada Rural Hospital Partners
- Nevada State Medical Association
- Physician's Managed Care
- Southwest Medical Associates
- U.S. Army National Guard
- Quest Diagnostics

Focus Group Methodology

For the focus groups, the methodology employed was similar to the one used for individual interviews. A focus group template was used to maintain consistency of the topics covered. Focus groups were conducted in person or by telephone and recorded through meeting minutes. A fact sheet about State level HIT and HIE planning efforts was distributed at the end of each focus group and participants were encouraged to complete the online survey. Focus group notes were reviewed and summarized in the findings included in Section 4.1 of this report.

A total of 15 focus group meetings were offered. There were attendees at 10 of the 15 scheduled events, and approximately 80 stakeholders participated in the focus groups. The following are the primary stakeholders that participated in the focus group portion of the assessment:

- Hospital Chief Executive Officers
- Nurses
- Physicians
- Skilled Nursing Facility Operators
- Indian Health Board of Nevada Members

3.2 Online Survey

Survey Methodology

With assistance from the State project team, an online survey was created to solicit feedback from Nevada providers regarding adoption of EHR. The survey was announced on the Nevada HIT Web site and labeled as the Nevada E-Health Survey. Additionally, multiple emails were sent to stakeholders, including providers listed in the MMIS, stakeholders in various organizations and associations, and providers who participated in interviews and focus groups.

The online survey was available from May 17 through July 6, 2010. During that time, 403 respondents initiated the survey. 285 respondents completed the entire survey, meaning they pressed the finish survey button on the last page. However, 79 partial responses were included in the final data set used for analysis. 43 responses were excluded from the final analysis for various reasons: duplicate responses for the same respondent and submission of invalid responses (for example, all responses simply have an 'x' which is not a valid response). For the final sample size of 364 responses, a total of 3,621 physical provider locations were identified through the survey. Providers were asked about the number of locations that were part of their organization, and this represents the summary of these responses. The number of locations for some providers may include location counts for practices that have national presence; this may help explain the large number of locations included in the survey responses.

Population - Nevada Licensed Professional Providers and Hospitals

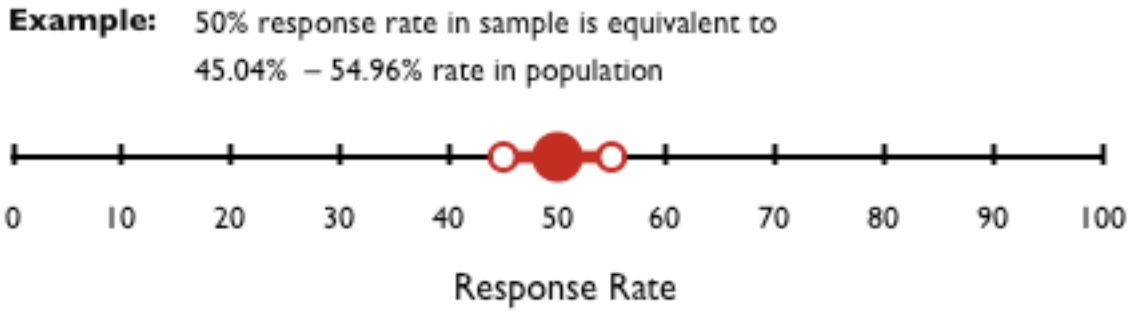
In order to determine how large the sample should be, the total provider population was examined, including facilities, hospitals, clinics, practices, medical equipment suppliers, pharmacies, dentists, etc. To get an estimate of the total number of providers in Nevada, information from the May 2010 National Plan and Provider Enumeration System (NPPES) database containing all individual (Type 1) National Provider Identifiers (NPIs) and group (Type 2) NPIs was used.

Since the focus was on provider locations, all data containing NPI Type 2 with a business practice location in Nevada was included, and represented approximately 5,503 records[2]. This number includes any health care entity that is registered with NPPES, including primary care physicians (PCP) and specialty practices, facilities, clinics, sole practitioners, dentists, hospitals, DME suppliers, and pharmacies. Using this method provides a relatively close estimate of the population of providers operating in Nevada.

[2] Only three facilities had a deactivation date in the latest NPPES database. The affect on sample size is inconsequential so we kept the "deactivated" in the total. Originally, this number was 5,504. However, one of the entries was incorrectly keyed as "NV" when it should have been "NY" (Niagara Falls, NY).

Statistical Significance and Level of Confidence

With a provider population of 5,503 and a sample of 364, the expected confidence interval would be ±4.96 at the 95% confidence level. That is, if 50% of the respondents said they were going to implement an EHR, then the true population value would be between 45.04 and 54.96 with 95% confidence.



Stratifying the Sample over Urban vs. Rural and Hospital vs. Non-Hospital

Two dimensions of the survey data were analyzed in further detail: urban vs. rural and hospital vs. non-hospital. In order to determine whether the cohorts would provide sufficient statistical reliability, both population and sample sizes were determined for each cohort.

The population counts for the cohorts are in the following table. The final sample number is listed in the grand total cell (bottom-right). The number of responses needed from each cohort based on the population proportion is the first number and the second number is the current number of responses.

For example:

Population: 42 Number needed to achieve indicated level of confidence: 3 Actual: 16

In this example, "42" represents the population for the cohort. "3" is the number of responses needed to achieve the indicated level of confidence. "16" is the actual number of responses.

Table 1 – Population counts

	Hospital	Non-Hospital	Total
Urban	Population: 42 Number needed to achieve indicated level of confidence: 3 Actual: 16	Population: 4618 Number needed to achieve indicated level of confidence: 305 Actual: 250	Population: 4660 Number needed to achieve indicated level of confidence: 308 Actual: 266
Rural	Population: 14 Number needed to achieve indicated level of confidence: 1 Actual: 9	Population: 829 Number needed to achieve indicated level of confidence: 55 Actual: 89	Population: 843 Number needed to achieve indicated level of confidence: 56 Actual: 98
Total	Population: 56 Number needed to achieve indicated level of confidence: 4 Actual: 25	Population: 5447 Number needed to achieve indicated level of confidence: 360 Actual: 339	Population: 5503 Number needed to achieve indicated level of confidence: 364 Actual: 364

The urban vs. rural data was determined by matching the list of ZIP Codes with managed care regions in Nevada, i.e. areas of mandatory managed care are considered urban while fee-for-service areas are considered rural. Some minor discrepancies in six NPPES records were corrected to use a valid ZIP Code.

Hospital vs. non-hospital population counts were determined from data provided by the Nevada State Health Division Bureau of Health Care Quality and Compliance. This data was then matched with the ZIP Code data to obtain marginal totals.

Based on the sampling, the required levels were reached for hospitals. In fact, based on proportion, hospitals would be considered over-represented in the data. The required levels were not reached for urban non-hospitals, but the required levels were reached for rural non-hospitals. The overall required levels were met, as shown by the total row in Table 1 above. Therefore, the desired level of confidence was met for the population.

In addition, the population values from the NPPES database are most likely overstated. Due to some minor inaccuracies in the NPPES database, there may be health care entities that are double-

counted in the population count. Because of this, the required sample size will also be overstated, i.e., it will appear that more respondents are required than is actually necessary.

Potential Bias

One of the biggest concerns when conducting an online survey is evaluating if the response pool is indeed a representative sample. Because of the online nature of the survey, there are three potential types of bias in the Nevada E-Health Survey results:

- Undercoverage bias – A portion of the target population was not notified of the survey, due to the nature of online surveys, unavailability of comprehensive provider information and time constraints.
- Nonresponse bias – Some portion of the population had the opportunity to respond, but chose not to.
- Voluntary response bias – Respondents are self-selecting and may be motivated to respond because they see the survey as an opportunity to express their point of view.

3.2.1.1 Undercoverage Bias

Some types of providers will be under-represented due to the inability to obtain comprehensive provider information and the nature of online surveys. As a result, it is likely that the results over-represent providers who have already adopted or plan to adopt in the near future. For example, if the survey says 50% are planning to implement an EHR within the next year that number would most likely be overstated because providers without broadband access are not likely to respond.

3.2.1.2 Nonresponse Bias

Multiple attempts were made to reach stakeholders, as described in Section 3.2. Despite these efforts, not all providers reached through the assessment completed the survey. There are potential respondents that may not have an interest in implementing or adopting EHRs right now and therefore, did not want to fill out the survey. Obviously, provider incentive payments help encourage some providers to participate – but what about providers that do not have a significant Medicare patient base and do not have 30% of their patients on Medicaid? These providers may avoid filling out the survey since they may feel it does not apply to them.

3.2.1.3 Voluntary Response

Providers will be more likely to participate if they feel like there are implications as a result of their participation. They want to make sure their position is well represented. Some providers and clinics may feel this is an opportunity to shape Nevada's public policy regarding HIT and HIE so they are eager to represent their point of view. This introduces a voluntary response bias where these types of providers may be over-represented.

4 Results of HIT Assessment

4.1 Findings: Provider HIT Adoption, Readiness, and Barriers

This section addresses the current uses of EHR and HIE, the overall direction for EHR and HIE by health care providers, barriers to adoption for both EHR and HIE, stakeholder engagement, and stakeholder perception of HIE Governance. Findings have been identified for the following six themes:

- Theme 1: Current Uses of EHR Systems
- Theme 2: Direction for EHR Adoption and HIE Utilization
- Theme 3: Meaningful Use and Incentive Payments
- Theme 4: Barriers to Advancing EHR Adoption and HIE Utilization
- Theme 5: Stakeholder Awareness and Engagement
- Theme 6: HIE Governance

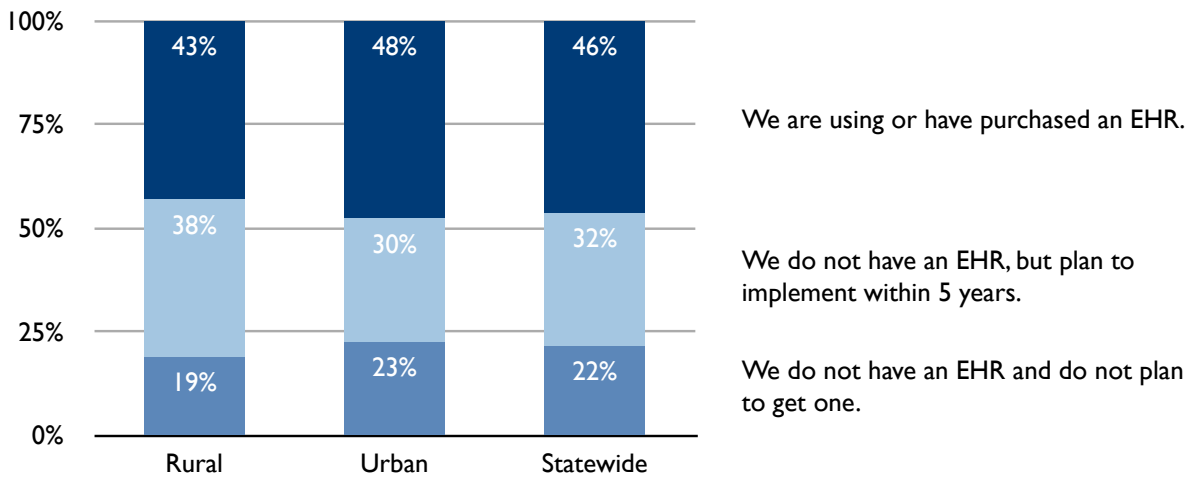
Theme 1: Current Uses of EHR Systems

Many of the providers reached through the assessment show an interest in increasing adoption, despite the numerous barriers that exist.

Despite all of the challenges facing health care providers in Nevada, most providers that were interviewed, participated in focus groups, or responded to the survey appear to have an understanding of the value that is gained or can be gained through EHRs and HIE. For many focus group participants that do not use EHR systems, there was great interest in obtaining more information about the EHR options available. Uses of EHR and HIE vary greatly, but the trends towards growing adoption are evident.

Nearly half of all survey respondents have an EHR (46%) and another 32% of the non-EHR users plan to implement a system within the next five years. A breakdown of current and planned uses of EHRs by urban and rural providers is found on the following page.

Figure 1 – Regional breakdown of EHR implementation plans



The numbers reported through the survey for current EHR adoption rates are substantially higher than the national average for EHR adoption in this country. This is may be due to the various biases associated with the online survey.

Almost one-third of survey responders plan to adopt an EHR in the next five years. Several providers that participated in focus groups stated the need for additional information and help on making EHR and HIE decisions. There are many resources available, including Nevada's REC for implementation and training assistance, online listings of CCHIT certified systems, and financial resources such as the incentive payments, but providers may need guidance on how to obtain information and assistance.

For assessment participants that do not have an EHR, an overwhelming number of survey respondents who are non-EHR users – 81% – want an EHR to track and maintain patient demographic information. Additionally, more than 50% of all respondents are interested in functionality that supports patient-centered care, like a personal health record.

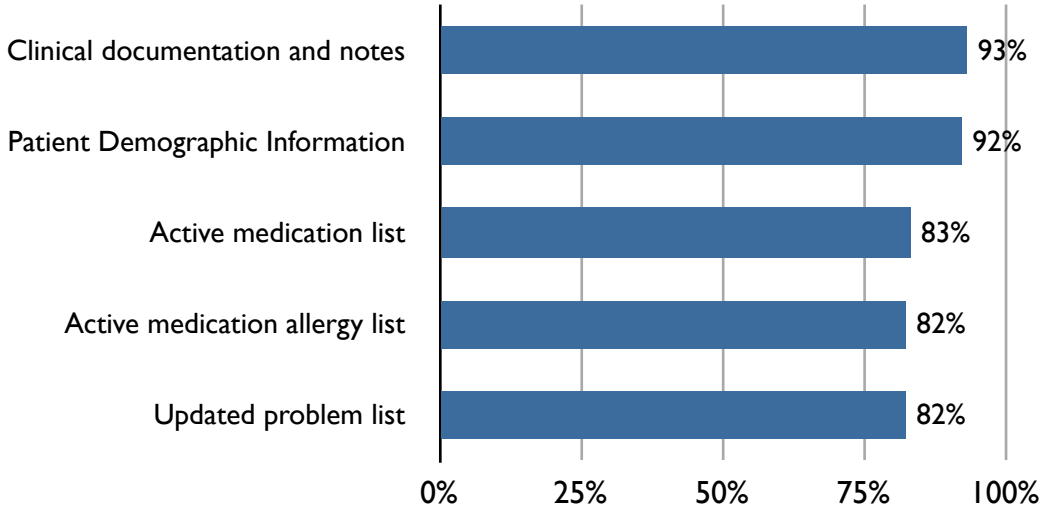
Providers with EHRs report using a broad range of EHR functionalities.

Through the survey it was discovered that EHR choices for providers are numerous, and outside of a few systems reportedly used by several providers, many providers described using unique EHRs or other HIT. Survey respondents reported uses of well over 200 different EHR systems. However, the statewide HIE infrastructure is expected to be vendor neutral, allowing for certified systems to interface with the HIE infrastructure. Some of the key functions being used by providers with EHR systems are described in the subsequent subsections.

Tracking Clinical and Demographic Data

Providers demonstrated they use EHRs very broadly to track and manage clinical care information and to support operations. Figure 2 below highlights the top five uses of an installed EHR:

Figure 2 – Top five uses of installed EHRs



The above graph illustrates that EHR users largely utilize the systems to capture and maintain demographic and clinical information about a patient, which is a large foundation of many EHRs.

Below are other system functions being reported by a large portion of providers:

- 64% of EHR users report sending claims from the EHR for billing purposes.

- 55% of EHR users use a Computerized Provider Order Entry (CPOE) system. Another 19% of providers have the functionality available, but do not use it within their system. CPOE is used fairly evenly to support lab, test, medication, and referral orders.

- 55% of EHR users utilize e-prescribing. However, not all EHR users use e-prescribing to transmit the prescription electronically. In fact, only 61% of e-prescribing users report using the function to transmit electronically. Most use e-prescribing to maintain active medication lists (86%), to check for drug-drug interactions (77%) and drug-allergy interactions (79%).

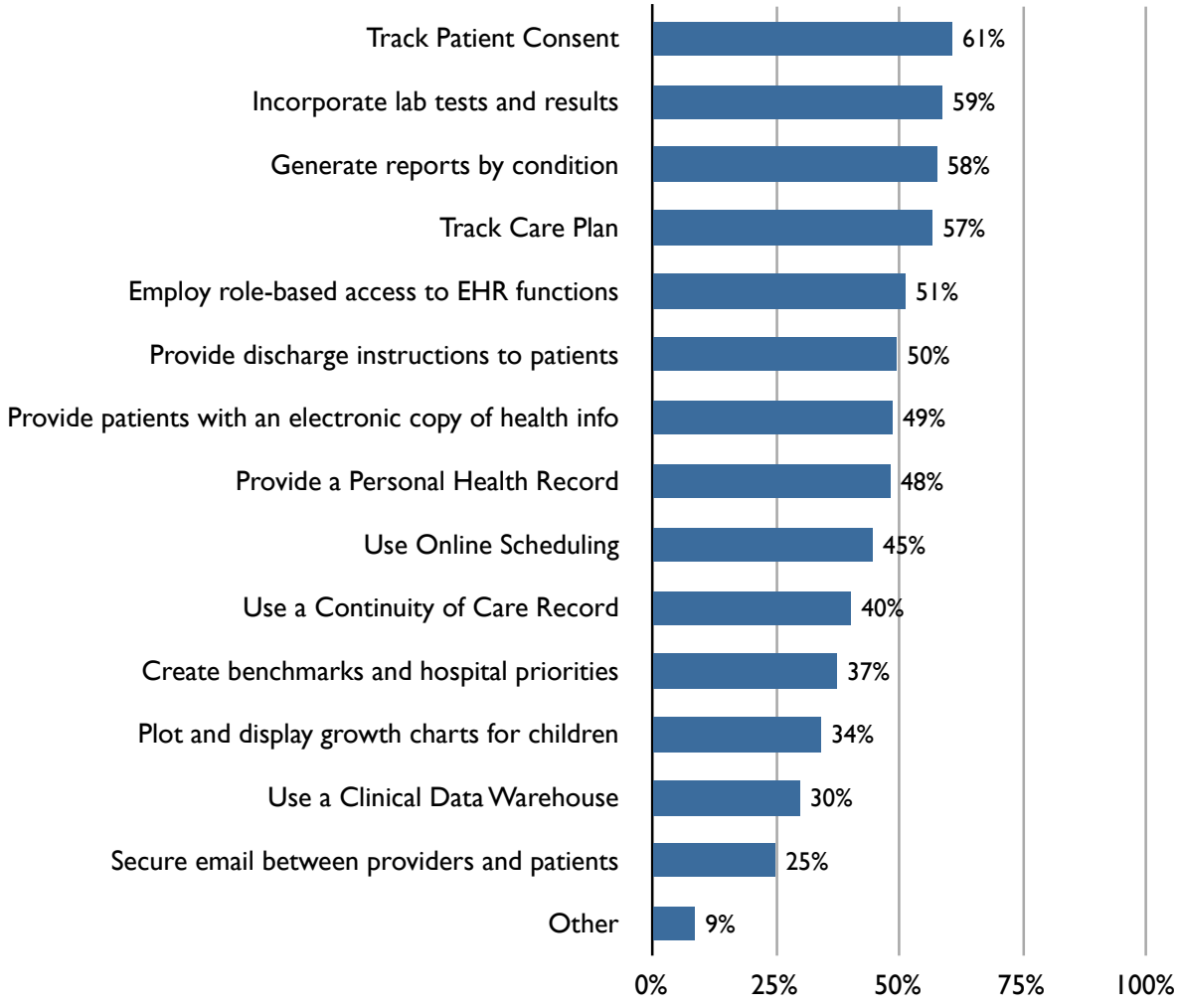
- Almost half of EHR users (48%) are providing patient's access to their personal health information through a personal health record.

Only 28% of EHR users use a Clinical Decision Support function, which may illustrate a lack of more robust functions being used. As the body of knowledge for clinical guidelines, chronic disease management, and clinical outcomes grows, many EHR proponents believe that a large advantage of

an EHR is its decision support capabilities. Clinical Decision Support should not replace a provider's expertise or decision-making, but it can more readily provide information to inform decisions. A major issue with adopting such functionality is that typically a data repository is needed for data compiling and querying.

Other reported uses of EHRs can be found in Figure 3 below.

Figure 3 – Percentage use of EHR functions



As shown above, despite the wide range of uses, EHRs are still not used to support all clinical and operational needs equally.

Theme 2: Direction for EHR Adoption and HIE Utilization

The EHR adoption levels vary by provider type with the large hospitals and large physician practices reporting higher levels of EHR adoption compared to other providers.

Throughout the analysis, obvious trends in adoption among specific provider categories were evident. These high-level categories are: hospitals; physician practices, including PCPs and specialists; centers and facilities; and ancillary services and other. Further analyses regarding these categories are provided below. Understanding the current EHR uses and barriers to uses can help DHCFP and OHIT customize their HIT plans, especially provider communications, to accommodate the differing needs of providers.

Hospitals

Many large hospitals, especially urban hospitals we have identified in this assessment through interviews, focus groups, and the survey, are utilizing an EHR (or multiple EHRs) for many functions related to patient care. Many of these hospitals are or will be undergoing system enhancements in order to meet the meaningful use criteria.

In focus groups sponsored by the Nevada Hospital Association, CEOs of many of the member hospitals said they have mature EHR systems in place and are currently undergoing or are planning system upgrades and enhancement in order to meet the meaningful use criteria. A vast majority of the large, urban hospitals said they are using EHR systems and are working toward meeting the meaningful use criteria. Based on the adoption levels being reported by the large, urban hospitals, they are also reporting the greatest capacity to engage in HIE.

On the other hand, many of the smaller hospitals, including some rural hospitals, are struggling to implement EHRs. As an example, 8 of the 14 hospitals in the Nevada Rural Hospital Partners Association currently do not have an EHR in place. A few small hospitals are rolling out EHR components or functions in an incremental way.

The survey results support information gained from 24 hospital CEOs who participated in focus groups. Of the 19 hospitals that responded to the survey question characterizing their EHR system, eight reported they have an EHR installed and are using it and 11 hospitals reported they do not have an EHR. Of those who do not have an EHR, nine said they plan to obtain and implement a system within the next five years and only two said they do not plan to implement EHR.

Physician Practices – PCPs and Specialists

According to the survey, physicians demonstrate fairly high-levels of adoption despite the number of barriers being reported. In addition, PCPs reported higher-levels of adoption than specialists.

- For the primary care physician survey respondents, 61% already have or are implementing an EHR and 39% have not adopted EHR.
- For the survey respondents in the specialist category, only 42% already have or are

implementing an EHR, while 58% have not adopted EHR.

- Of those that do not have EHR in place, PCPs are more likely to adopt within the next five years (74%), compared to 53% of specialists that plan to adopt within the next five years.

While these numbers appear fairly high, large physician groups or offices – which for purposes of this assessment are classified as 20 providers or more in a practice – have reported greater EHR adoption than small physician practices. Many large physician practices identified through the interviews and focus groups reported using EHRs for various functions, including e-prescribing, CPOE, demographic and clinical care management, and internal reporting. Based on information from the Nevada State Medical Association and focus groups and interviews, small practices critically lag in terms of EHR adoption. Small and medium-size physician practices and independent physicians may require significant financial and technical assistance to increase EHR adoption and to increase participation in statewide HIE.

Ancillary Services and Other

Based on the survey, only 34% of ancillary providers are currently using EHRs, which is the lowest of all provider categories that participated in the survey. In addition, 34% plan on implementing an EHR within the next five years, while 32% have no plans on implementing an EHR. The ability to gather qualitative information on ancillary service providers, through interviews and focus groups, and determine the direction for EHR adoption and HIE utilization for the assessment was more difficult than some of the other provider categories.

Below are reasons being reported by ancillary service stakeholders for the lack of participation in the assessment:

- The EHR incentive payments may not be applicable to some of the providers in this group, and therefore, they are not as interested in participating in the assessment.
- Uses of HIT and HIE might be more limited.
- Even if uses of EHRs are extensive (e.g., pharmacists) their understanding of how they integrate with the larger health care HIT and HIE directives at the State level might not be fully understood.
- Providers are not interested in participating in efforts being conducted at the State level due to barriers, such as privacy and security concerns.

As mentioned in the second bullet above, uses of EHRs for some of these providers might be more limited or they may access a small portion of a patient's medical record. As an example, EMS providers that provide emergency care in ambulances may not have sufficient time to access medical records in a system. However, EMS providers still provide a hard copy report to the emergency room providers, and this report is incorporated into the patient's medical record. In addition, a DME provider may only receive a portion of a patient's medical record since the provider may need

limited information for obtaining a medical device. Despite any limitations for accessing comprehensive medical records, ancillary service providers still have a significant stake in the electronic storage and exchange of health information. This category of providers may require the largest amount of education and assistance for engaging in statewide HIE and for growing EHR adoption rates.

Facilities and Centers

The facilities and centers category include long-term care facilities, residential treatment centers, psychiatric residential treatment facilities, ambulatory surgical centers, community mental health centers, and other identified centers. Collectively, 58% of facilities are currently using an EHR in some capacity. 29% plan on implementing an EHR within the next five years, while only 12% have no current plans of implementing an EHR. Facilities and centers report using a broad range of EHR functions in many different ways, including creating benchmarks and organizational priorities. Below are some of the highest reported uses of EHR functions by facilities and centers:

- Tracking patient consent (85%).
- Incorporating lab tests and results (77%).
- Plotting growth charts for children (74%).
- Generating reports by condition (74%).
- Creating benchmarks and organizational priorities (70%).
- Providing discharge instructions (67%).

The ability to gather qualitative information on this provider category was fairly difficult as well due to limited engagement in the assessment. This category of providers may also require a large amount of education and assistance for engaging in statewide HIE and for growing EHR adoption rates.

There is a lack of exchange of health information occurring in the Nevada health care system outside of a provider's or stakeholder's network.

While there is a large volume of electronic billing and claims processing and even a fair amount of e-prescribing and lab ordering and lab results being exchanged electronically, HIE on larger scales across disparate organizations does not appear to be rapidly occurring. As an example of common exchanges taking place, almost 20% of all survey respondents engage in e-prescribing, but only 61% of the e-prescribing users actually report sending the prescriptions electronically.

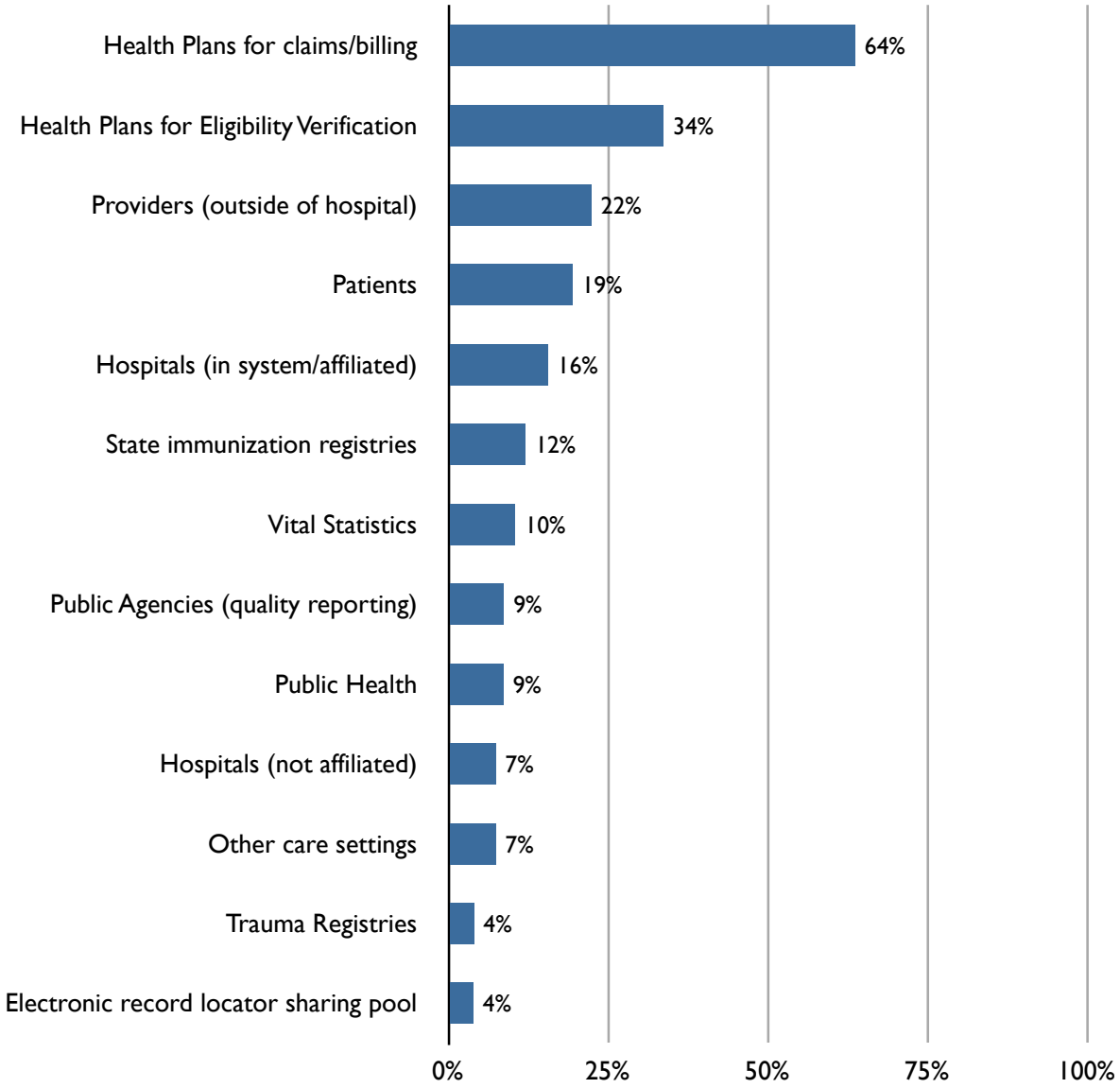
Closed system electronic clinical data is primarily shared through "vertical portals" and one-way clinical data transfers. Hospitals and practices reported exchanging within their own network or system. Most of these systems use a web-based portal to track and share clinical information. It is even possible for such systems to be accessed by a provider outside of a network. As an example, a

physician that is independent from a hospital can login to a hospital's system to make a referral or see the results of a lab test. However, providers may require multiple logins to different practice or hospital systems and still not have access to centralized patient information.

Only 20% of all survey respondents indicated they participate in Regional or Community Health Information Organizations. Of these, about half indicate the purpose of their exchange is to integrate health systems or providers. This is supported by interviews and focus groups and indicates that exchanges occur primarily to provide access to the same EHR among a network of providers and specialists.

Figure 4 on the following page provides a breakdown of how providers, who responded to the survey, send electronic health information:

Figure 4 – Percentage of providers who send electronic health information



Despite the finding that limited HIE is taking place in Nevada, exchange of health information is occurring across providers' boundaries. As an example, St. Mary's Hospital, Northern Nevada Medical Center, Quest Diagnostics, and LabCorp send and receive clinical information through a system using HL7[3] interfaces. In addition, Nevada Rural Hospital Partners has an HL7 interface engine to integrate 17 different systems. Other large hospitals report exchanging clinical information with other practices and specialists. Large laboratory providers have reported exchanging clinical information through national networks and even outside of their networks. Also, a few providers are

[3] Health Level Seven International (HL7) is a not-for-profit, ANSI-accredited standards developing organization dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services.

working on a pilot to exchange immunization information through an HL7 interface with the State's immunization registry system.

Federally operated systems are the most advanced when it comes to information exchange capabilities. Their systems are nationwide or global (as in the case of the military/Department of Defense (DoD) system) and their information sharing is done primarily within their own organizations or with other authorized systems (as between the Veterans Affairs (VA) and the DoD). The interviews revealed records exchanges with civilian health care providers are still done primarily via paper-based records or through separate disc files and not through a network or interface. However, exchanges with other systems are being tackled at the federal level through such efforts as National Health Information Network (NHIN)[4].

Despite the limited uses of health information exchange, 55% of respondents have an interest in participating in HIE. Nearly all focus group and interview participants expressed an understanding of the value HIE can provide in patient care.

Large hospitals, large networks of providers, and other providers that have consciously advanced their EHR capacity ahead of the legislation are the primary providers who have some level of readiness and capacity to participate in an HIE.

Overall, readiness and capacity of Nevada's health care community to participate in HIE was probably the most difficult dimension for assessment participants to gauge. With the exception of some of the large hospitals and other large health care providers and practices, interview and focus group participants repeatedly responded they did not have any information about the capacity that exists within their local community, their region or throughout the State for use and leveraging of HIE. It does not appear that much HIE capacity exists outside of the large hospital systems and some large practices.

According to interviews and focus groups, providers that have received federal, State, and other grant funds generally utilize EHRs in more robust capacities than physicians and other providers who have not received such funding. Adoption of EHRs by these providers is very similar to hospitals in terms of using systems that support various functional modules, including e-prescribing, CPOE, patient demographic and diagnosis tracking, and some electronic transaction processing. Providers that fall into this category include military and VA hospitals and medical clinics based in Nevada, many Indian Health Clinics in Nevada, and some other providers that have received various grants, including Nevada Health Clinics, Nevada's largest Federally Qualified Health Center. Many of these providers are undergoing or already underwent system implementation and system enhancements based on grant and other federal funding.

[4] The Nationwide Health Information Network (NHIN) is a set of standards, services and policies that enable secure health information exchange over the Internet. The NHIN will provide a foundation for the exchange of health IT across diverse entities, within communities and across the country, helping to achieve the goals of the HITECH Act.

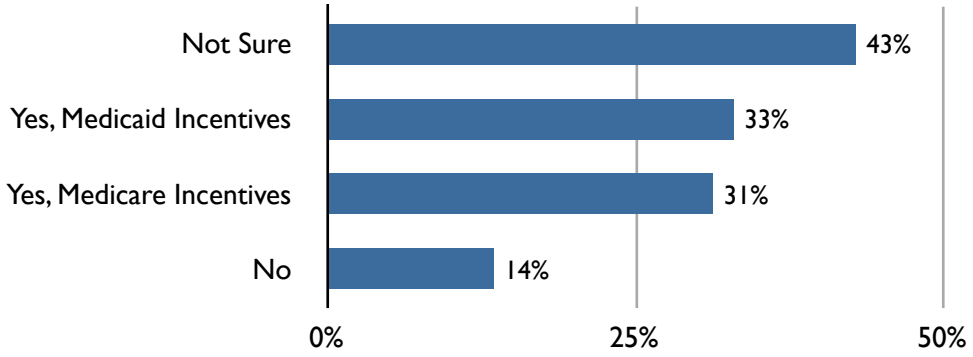
Another significant capacity issue and barrier to statewide HIE is the lack of broadband infrastructure to support it. While T-1 lines have been deployed, they were shut down in rural areas due to cost. The Nevada Hospital Association and Nevada Rural Hospital Partners are trying to remedy the issues and seeking ARRA Broadband. However, until this capacity issue is addressed, use of HIE will not be widespread in rural communities. Additional hurdles for statewide HIE capabilities include the State's mountainous physical terrain, approximate 85% federal ownership of State land, and the sparsely-populated and frontier nature of most rural areas.

Theme 3: Meaningful Use and Incentive Payments

Many providers are still unsure about whether or not they will apply for the incentive payments.

43% of survey respondents were "Not Sure" if they were planning to apply for the Medicaid or Medicare incentives. Figure 5 below shows providers' plans for the incentive. Please note that percentages below total greater than 100% since providers could select more than one option for this portion of the survey.

Figure 5 – Providers still unsure about which incentive to apply for



As shown above, 31% of survey respondents currently plan to apply for the Medicare incentives, 33% plan to apply for Medicaid incentives, and 14% said they would not apply. This is consistent with the results of the interviews and focus groups. Providers cited various reasons for their uncertainties about the incentives, including the following:

- Meeting eligibility criteria for the EHR Incentive Program.
- The State's plans for designing the EHR Incentive Program.
- Federal requirements for meaningful use.
- Abilities to meet meaningful use criteria based on EHR functions used.

The above uncertainties may explain why many respondents reported being "unsure" about applying for the incentive payments. These results represent an area of focus for DHCFP in conducting outreach with Medicaid providers for the EHR Incentive Program.

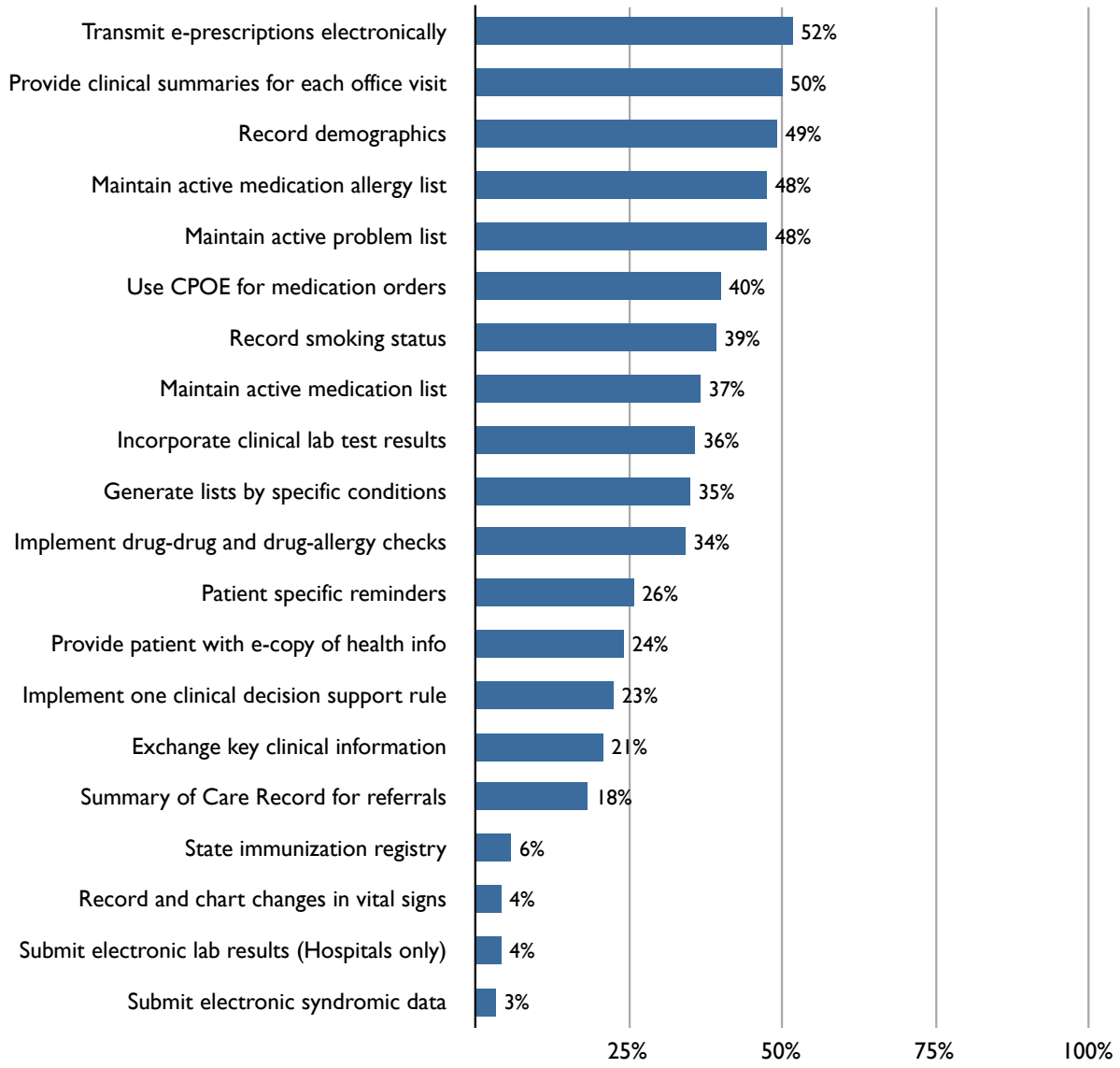
Providers will have difficulty meeting the proposed meaningful use criteria in a timely manner.

While 33% of survey respondents plan to apply for the Medicaid program, many providers need to enhance their systems or ensure more extensive use of their systems in order to meet meaningful use. However, even prior to meeting meaningful use, these providers will need to make sure they are eligible for payments. For those planning to apply for Medicaid incentives, the Medicaid patient volume is, on average, 28% of all patients. This information is based upon the percentage of Medicaid patients being reported by those survey respondents planning to apply for the Medicaid incentive. 28% is less than the 30% threshold for Medicaid incentive program eligibility (for most providers). It should be noted that this threshold percentage for many providers should dramatically increase in 2014 as Health Care Reform is expected to double the Medicaid population. Therefore, a larger pool of providers should be eligible for the program in 2014.

This illustrates the importance of auditing patient volumes being reported by providers. CMS has confirmed, through publishing of the Final Rule for the EHR Incentive Program and subsequent guidance, that such auditing is a responsibility of the states.

Results from the survey based on key Stage 1 meaningful use criteria of the EHR Incentive Program are found on the following page.

Figure 6 – Percentage of survey respondents seeking Medicaid incentives who currently meet key meaningful use criteria, including Core Set and Menu Set criteria



Information in Figure 6 was reported through the online survey prior to publishing of the Final Rule of the EHR Incentive Program. Therefore, not all meaningful use criteria, as included in the Final Rule, were captured as part of the assessment. Based on these preliminary results, many Nevada providers will struggle to meet the 2011 criteria and qualify for the payments. For example, Clinical Decision Support (CDS) is a required criterion within the core set of meaningful use. According to the rule, in order to meet Stage 1 objectives for CDS, the eligible professional and the hospital need to implement one clinical decision support rule relevant to a specialty or high clinical priority

(eligible professional) or high priority hospital condition (hospital)[5]. However, the survey indicates that 28% of EHR users actually use CDS. And even within this functional area, most CDS users utilize this function routinely for medication alerts (65%), while less than half use it for clinical guidelines based on patient problem list, gender, and age (38%). Another 33% use it for patient specific or condition specific reminders (e.g. foot exams for diabetic patients). Some of the nuances around definitions for terms such as "clinical priority" will need to be well-understood by providers that plan to apply for the incentive program.

Another criterion for meaningful use is immunization reporting electronically when it is available. 87% of survey respondents reported that they do not routinely send/receive electronic data with this entity (more likely to fax, call, email or print). This represents an area where the State needs to clearly communicate with providers on current criteria and exchange requirements.

Looking beyond the 2011 meaningful use criteria, the statewide HIE solution must accommodate exchange of the currently defined criteria as well as criteria being defined for future stages. The State will need to provide assurances to providers that there will be capacity to support HIE as part of the exchange criteria for meaningful use.

The Nevada State Medical Association affirmed the concerns about meaningful use from anecdotal and focus group conversations with their members. HealthInsight also confirmed this concern in their role as the Regional Extension Center, based on anecdotal conversations with providers.

However, many of the large hospitals with EHRs report they are likely to meet the meaningful use requirements starting in 2011 and many are currently enhancing their systems. Generally, large hospitals appear to be best equipped to meet the meaningful use criteria by the required timelines.

Theme 4: Barriers to Advancing EHR Adoption and HIE Utilization

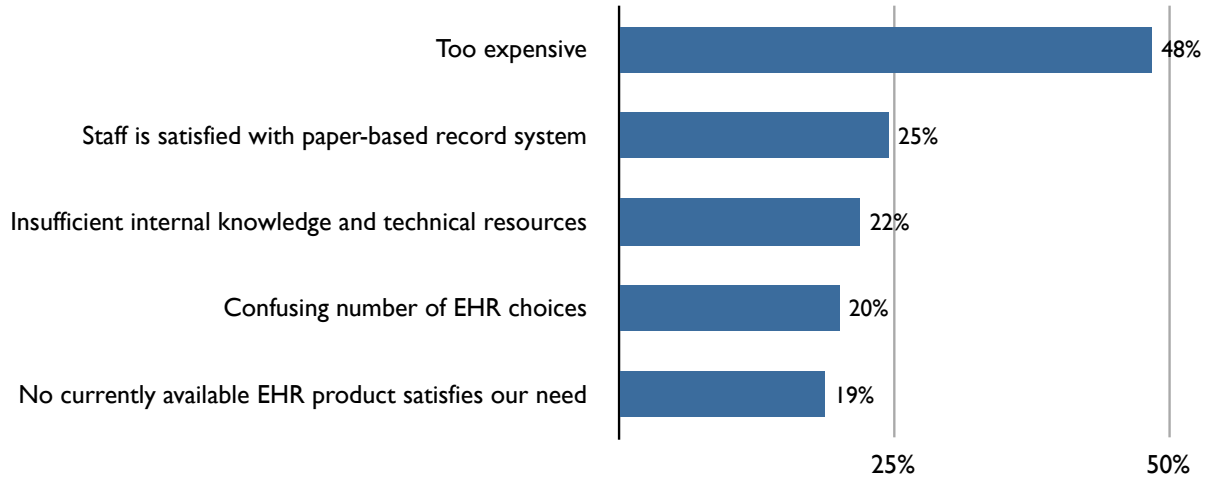
The most significant barrier to implementing, adopting and enhancing EHRs is cost.

Barriers for Non-EHR Users

Upfront capital for implementation of EHRs is the most widely expressed concern for providers who have not yet implemented systems. 48% of these providers in the survey indicated "too expensive" as the main reason for not yet implementing an EHR. Figure 7 below illustrates the main barriers for non-EHR users.

[5] 42 CFR Parts 412, 413, and 422 et al. Medicare and Medicaid Programs; Electronic Health Record Incentive Program; Final Rule

Figure 7 – Top five reasons respondents do not have EHR



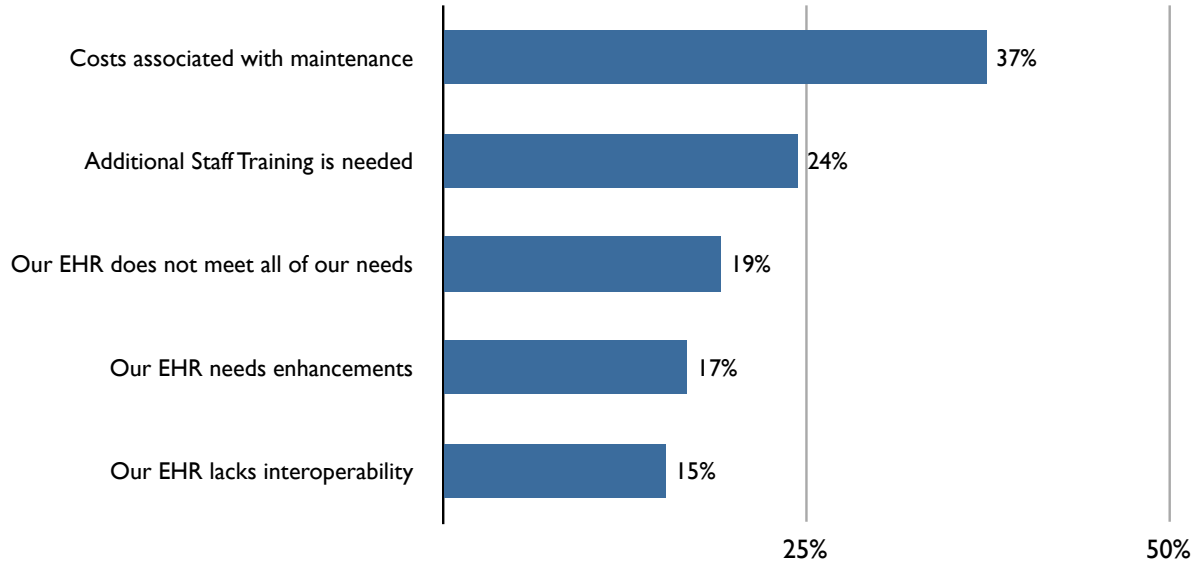
Many physician practices, smaller hospitals and clinics lack the necessary technical expertise, and have inadequate staff resources to make the necessary time investment or lack the necessary revenue to add staffing that might be required for implementation. Additionally, staffing issues are more profound for these smaller providers – backfilling for existing staff whose time would have to be devoted to getting the system operational can place significant strain on the organization's capacity to serve patients.

In addition, one-quarter of non-EHR users are satisfied with their paper-based system, and this is a common opinion for individuals when faced with any potential change that may impact their organization. The other two barriers highlight concerns about understanding and knowledge of EHR options that are available in the marketplace: "confusing number of EHR choices" and "no currently available EHR product satisfies our need." With all of the available resources that exist, providers may need to be directed to information that could help them with such decisions, like the REC or CCHIT Web site.

Barriers for EHR Users

Ongoing maintenance and enhancement costs are the biggest barriers for those with EHRs (37% of EHR users). In addition, providers cite the need for additional training. However, 34% of EHR-using respondents do not report having any barriers to using their systems.

Figure 8 – Top five barriers to increased EHR use



Assessment participants also expressed concerns about sustainability, i.e., whether systems will have a long "shelf life" or require replacement every four or five years. Providers are hesitant to invest in a system that they are not sure will be certified for meaningful use or may not have the capacity to participate in HIE. This is supported through the survey results, which illustrates the need for enhancements as the fourth largest barrier and the lack of interoperability as the fifth largest barrier.

Providers are overwhelmed by the number of options for EHRs and the effort required to implement or enhance systems within the timelines established at the federal level.

The assessment data shows a lot of confusion around EHR choices. Physicians reported feeling overwhelmed by the process of selecting a system with so many systems available. Of the survey respondents that do not have EHRs, the number of EHR choices was the third most often mentioned reason for not currently using an EHR.

In addition, many stakeholders also feel that the federal timeline for various requirements including meaningful use for EHRs is too aggressive given the number of barriers discussed in this report. Many of those that already have EHRs think they can meet the meaningful use requirements for Stage 1 within the rule's timeline. This does not encompass a majority of the provider community that has concerns about the timeline established at the federal level. However, the Final Rule for the EHR Incentive Program may ease some concerns regarding the timeline. As an example, if a provider signs a contract with a vendor to implement an EHR in 2011, the provider can qualify for a Medicaid incentive payment that year based on the adopt/implement/upgrade provision, not have to conduct reporting, and can demonstrate meaningful use the following year (2012). Providers may

not clearly understand the federal timelines for EHR implementation/upgrade, adoption and meaningful use. Therefore, this represents another area for additional education and outreach.

Providers are hesitant to engage in HIE due to patient privacy and security concerns.

Privacy and security concerns, including complexities and nuances of State laws and federal rules and regulations (such as HIPAA), are the most significant concerns among providers and other stakeholders. Interviewees, focus group participants, and survey respondents overwhelmingly cited HIPAA/privacy/legal issues as their number one concern about exchanging medical information with outside organizations. 52% of those who responded to the HIE barriers question in the survey, sited HIPAA privacy, security, and other legal concerns. Focus group participants, particularly hospitals, were also concerned about additional liability risks created by the electronic exchange of information. Privacy and security concerns were also addressed as the primary concern by other stakeholders interviewed as part of this assessment. Based on this, establishing the appropriate foundation of laws and regulations to support an HIE infrastructure is crucial and is best addressed as a priority at the State level.

Most stakeholders know little about HIE, including technical infrastructure and recognized standards.

There is a great degree of misunderstanding of information exchange standards, technical infrastructure, and interoperability requirements for participating in HIE. For those who responded to the question about barriers to exchanging health information with other organizations, the reasons are very clear. Other than privacy, security, and legal concerns, 41% cited access to technical support or expertise and another 45% cited insufficient information on options available.

This is most likely an indicator of the interoperability problem inherent within health care systems in general. States face great battles in implementing large-scale HIE and maintaining financially sustainable operations. The issues regarding standards and interoperability should lessen over time as the ONC Health IT Policy Committee provides greater guidance and assistance to states. The Health IT Policy Committee is currently providing recommendations to the National Coordinator for Health IT on a policy framework for the development and adoption of a nationwide health information infrastructure, including standards for the exchange of patient medical information.

Through the HIT Blue Ribbon Task Force, the governance structure, technical infrastructure, and financial sustainability models are still being discerned as of this report date. Since Nevada's HIT efforts are at the infancy stage, this may add to stakeholders' confusion.

Many providers are in "wait and see" mode for further investments in EHR and HIE due to uncertainty around the details of costs for participation in HIE and integration with a statewide infrastructure.

Individual physicians, particularly those in small practices, are still questioning what is required of them for EHR adoption and HIE exchange and if the value proposition or return on investment (ROI) of implementing the technology is worth their investment and effort in the end. These physicians expressed this concern both for implementation of EHR and participation in HIE. This concern was also expressed through the survey. 44% of those that responded to the HIE barriers question in the survey cited "ROI for HIE is unclear." Another 45% cited subscription rates being too high for exchange services.

Since a statewide HIE infrastructure has not been decided upon yet, this contributes to the "wait and see" mode by providers in terms of selecting HIT and HIE systems that will integrate with the State technical HIE infrastructure.

For providers further along in migration paths for EHR adoption, especially hospitals, there appears to be greater interest in investing and participating in HIE, but these stakeholders would like information on the HIE technical infrastructure and the associated costs. They do not want to make large investments if they select a system that does not fit the technical infrastructure being chosen for a larger HIE (regional or statewide).

These concerns are echoed in an open-ended question posed at the end of the survey. Sample provider responses to the last survey question – "Is there any assistance your organization needs from the State in regards to implementing, adopting, and using EHRs and/or HIE?" – are listed below:

- Assistance costs, implementation, and training.
- Building HL7 interfaces with the hospitals, labs, etc.
- Clearer ideas of the State HIE plan.
- Don't need reimbursement decreased to providers to pay for all of this. If reimbursement rates are decreased we will no longer accept Medicaid or Medicare patients into our practice.
- HL7 Immunization Registry testing.
- Involvement in an HIE will only be if I can protect the identity of my patients.
- Listserv, newsletter.
- Lower bandwidth and development costs.
- Mental Health and Behavior Health (private sector) is severely neglected when it comes to EHRs.
- Recommendation on the best system or brief summary of the pros and cons of each system.
- Set standards that define the platform.
- Who will be the governing body for certification, and when will meaningful use be simplified for providers?

Nevada will be competing with other states for a finite pool of qualified HIT professionals, until a stable and sustainable statewide labor pool can be established.

In order for Nevada to expand HIT capacity, a labor pool of trained IT and HIT professionals is needed to service and maintain the necessary network systems, hardware and software to ensure EHR meaningful use, and to operate and maintain HIE systems.

Estimates based on data from the Bureau of Labor Statistics, Department of Education, and independent studies indicate a shortfall over the next five years of approximately 50,000 qualified HIT workers required to meet the needs of hospitals and physicians as they move to adopt certified EHRs. In collaboration with the National Science Foundation, Department of Education, and the Department of Labor, ONC designed the Health IT Workforce Development Program to assist in the training and assessment of qualified graduates, who will reduce the estimated shortfall by 85%. However, building a labor pool of sufficient size and with the necessary skill set will take time, making it difficult to achieve HITECH deadlines for EHR meaningful use. Also necessary is an interest in the part of high school students to pursue the required post-secondary education to qualify for these positions. Another factor is that the curriculum for such education programs must be developed, which also takes time to accomplish. Until such a stable and sustainable labor pool can be established, Nevada's HIT efforts might be delayed by a shortfall of HIT professionals.

Theme 5: Stakeholder Awareness and Engagement

With the exception of those individuals and stakeholder groups that are involved in the HIT Blue Ribbon Task Force, awareness, understanding, and engagement of State level efforts with both HIT and HIE is very low.

Many of the participating providers and organizations interviewed said that contact through the assessment was the first outreach they had experienced regarding the State's HIT activities. Only 5% of survey respondents stated being very knowledgeable about what Nevada is doing in regards to HIE. In addition, 57% are not at all knowledgeable, while 38% are somewhat knowledgeable. The level of knowledge is also evident for other State agencies. Several DHHS divisions said they have just started to become involved. However, they are not well informed and are looking for guidance about how and when they should become more engaged. The survey results supported what focus group and interview participants reported.

While this finding is not surprising, given the early stages of the State level efforts to plan for adoption and implementation of EHR and HIE, it illustrates the amount of attention and effort that is needed for outreach if Nevada wants to increase EHR adoption and build the infrastructure to support HIE.

Providers show some interest in getting involved in HIE-related planning activities.

While there is limited overall awareness about what is happening with HIT and HIE activities in Nevada, about 60% of survey respondents indicated they are either very interested or somewhat interested in being involved in HIE planning activities. In addition, the majority of the participants in focus groups and interviews indicated a high level of interest in HIE-related activities and wanted to know more about what is happening at the State level. In fact, some of the participants who attended the focus groups were participating for the sole purpose of finding out what activities are happening related to HIT and HIE both at the State level and locally.

Provider awareness of the value of EHR adoption as a means of streamlining business processes and creating more efficient health care practices may be confounded by a perceived emphasis on rules and regulations.

While HIT and HIE adoption, as being pushed through the HITECH Act and subsequent rules from CMS and ONC, is expected to transform the provision of patient care through more informed clinical decisions and coordinated delivery across disparate providers, the delivery of this message has greatly deteriorated at the federal level to state stakeholders. To many providers, the message has been replaced by "requirements," "incentives," "reporting" and ultimately "disincentives."

Physicians participating in focus groups who have adopted EHR said one of the main reasons for doing so was to gain increased efficiency in operations and business practices. A consultant from HealthInsight who works with physicians on EHR adoption and implementation said the efficiencies physicians can gain when they implement EHR and redesign their business processes to take full advantage of the system's functionality can have as great if not greater impact on patient care than a single focus on adoption for meaningful use purposes alone.

Theme 6: HIE Governance

Despite the variance of adoption by provider types, there is some consistency in thinking around HIE models, HIE governance, and the role of the State.

Assessment participants, for the most part, believe a public-private partnership model is the best governance model for the State of Nevada. They do not see any one entity having control of all pieces of an HIE and that the governance should be a collaborative effort involving a diversified group of stakeholders. In addition, stakeholders see the HIE structure as being a marketplace-driven approach that should be able to prove its value. As for the HIE model, a large number of assessment participants think the infrastructure should be the vehicle or bridge for supporting exchange, and do not favor a centralized repository for information. However, consumer stakeholders did not participate in this assessment, and their perspective may differ.

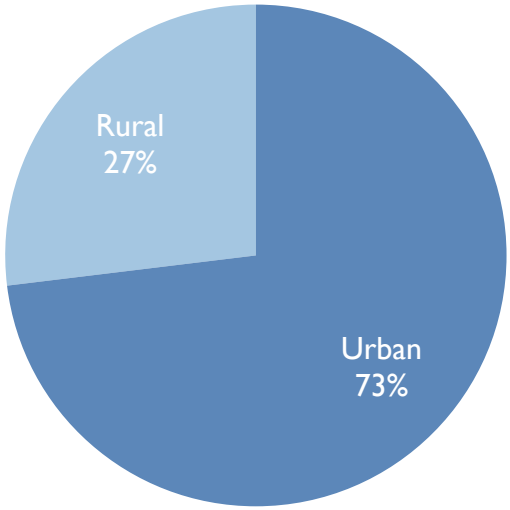
Many of the participants think the State should serve in an overarching regulatory role providing HIE oversight and standards setting, but the State should not have control over the infrastructure. In addition, many stakeholders think the State should establish a unique patient identifier. When asked about governance structure, many stakeholders mostly had questions. As an example, stakeholders wondered who would be responsible for ensuring data is shared to the minimum extent necessary and who would be responsible for ensuring data is de-identified for specific reporting purposes.

4.2 Geographical Distribution of Provider EHR Uses

The purpose of this section is to present data from the survey that shows the similarities and differences between urban and rural areas in the adoption and use of EHR. The urban vs. rural data was determined by matching the list of ZIP Codes with managed care regions in Nevada. By definitions established through Medicaid for the provision of services, areas of mandatory managed care are considered urban, while fee-for-service areas are considered rural.

Out of 364 survey responses received, 98, or just over one quarter of the respondents, were from rural providers (27%). Urban respondents represented 266, just under three quarters of the total survey response (73%).

Figure 9 – Urban/Rural Breakdown of Respondents



Overall, the survey responses show very few differences in adoption and use of EHR by geographic location. Urban and rural providers reported very similar uses of EHR, including the staff who use EHRs, charting, patient demographics, clinical decision support, and e-prescribing. Also, there were only minor differences between urban and rural providers in the practice and use of health information exchange. The following figures illustrate the differences in EHR adoption between urban and rural providers.

EHR Adoption

Figure 10 – Urban providers have slightly higher EHR adoption

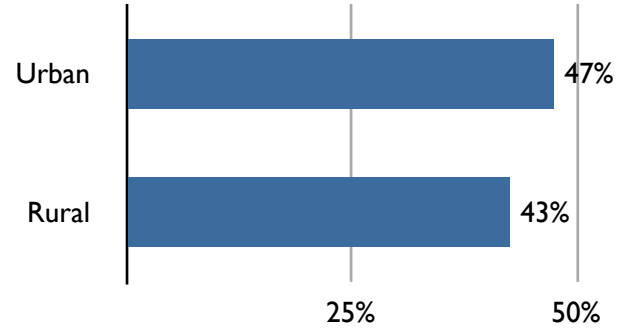
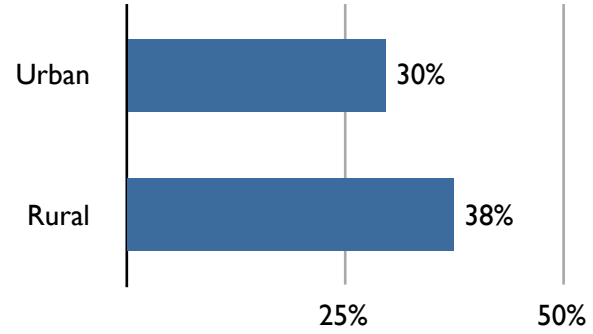


Figure 11 – But rural providers are more likely to implement within the next five years



Staff Use of EHR

Both urban and rural providers who have an EHR reported high levels of EHR use by staff. There were also only minor differences in staff usage of EHR between urban and rural providers. 64% of all rural respondents report that 90% of provider and clinical staff currently use the EHR system, compared to 67% of urban providers responding to the same question. 12% of all providers reported that staff routinely use their EHR less than 25% of the time.

Paper vs. Electronic Charts

Figure 12 – Urban providers using EHRs are more likely to be entirely paperless

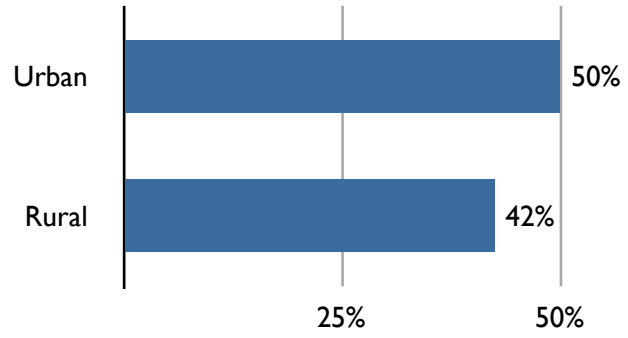
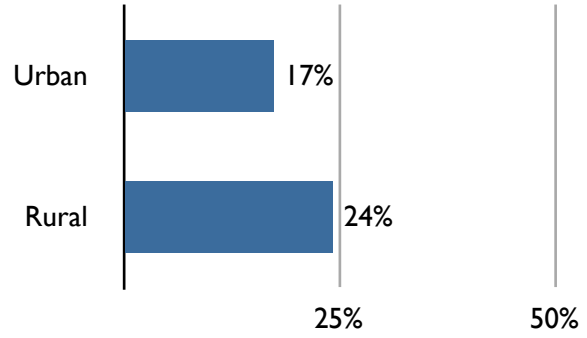


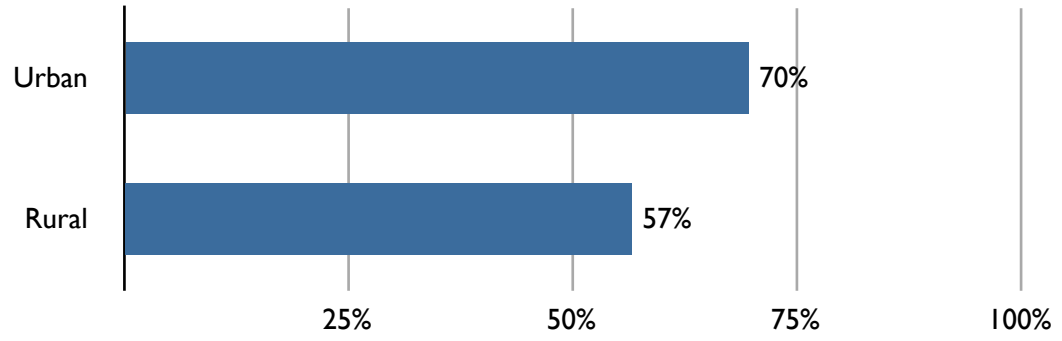
Figure 13 –In addition, EHR-using rural providers tend to maintain both electronic and paper records when compared to urban providers



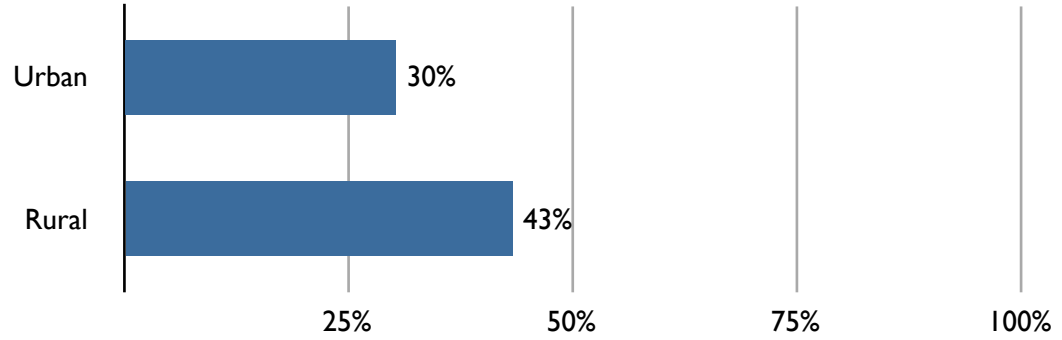
E-Prescribing

Urban and rural providers with EHRs participating in the survey described different capabilities in the area of e-prescribing.

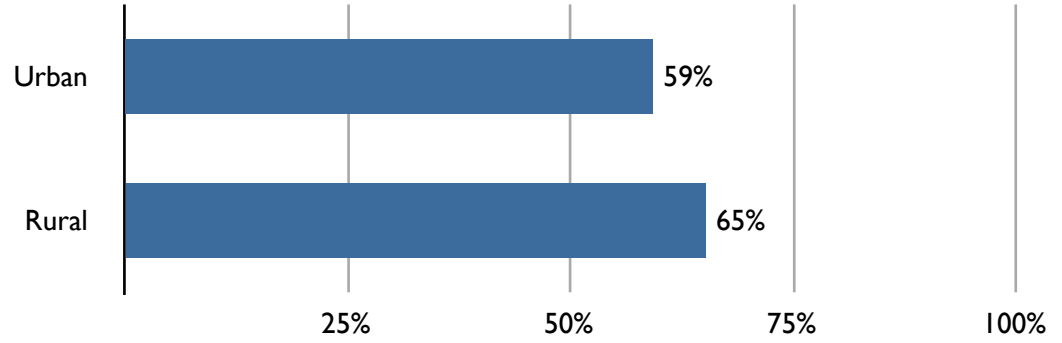
- 86% of both urban and rural providers maintain active medication lists for patients in their EHR.
- Urban providers order medications by entering prescription information into an electronics system (EHR, Web site) to a greater extent than rural providers.



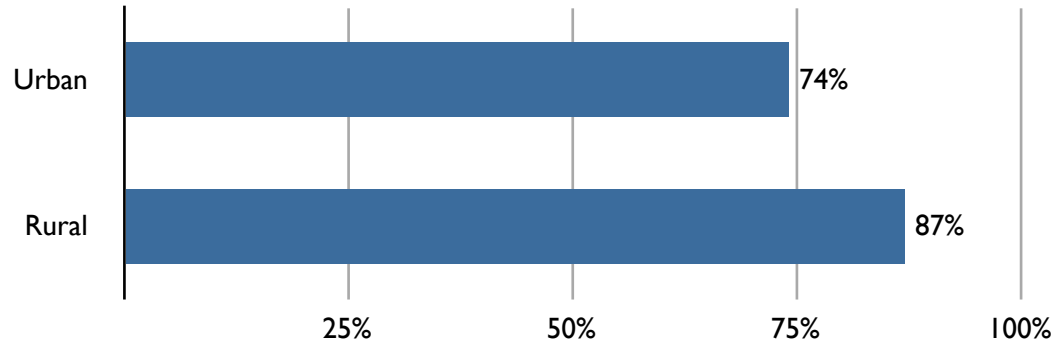
In addition, a higher percentage of rural providers do not use a system to support order of medication or prescribing.



Rural providers are generating and transmitting permissible prescriptions electronically to a greater degree than urban providers.



Rural providers are more likely to use the alerting capability of potential drug-to-drug and drug-allergy interactions at the time of the prescription.



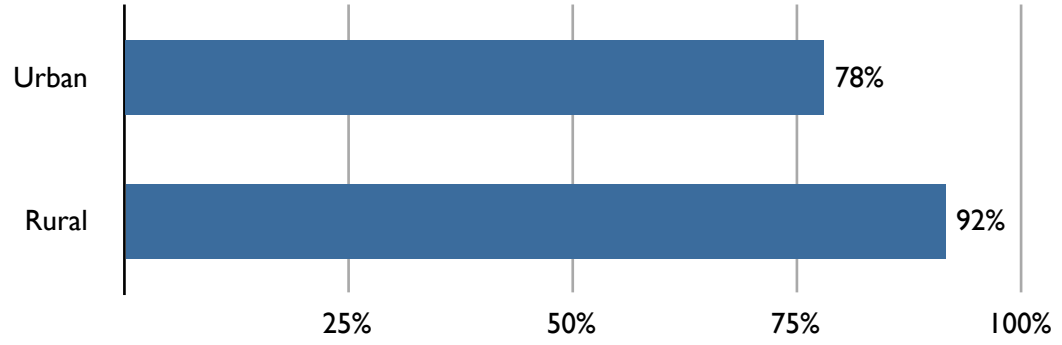
Patient Demographics

In some cases, there are no material differences in capturing patient demographics between urban and rural providers.

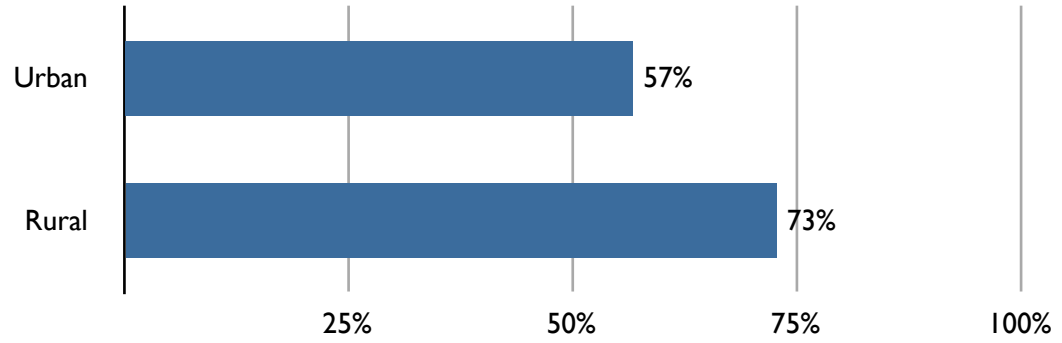
- 92% of urban and rural providers are using their EHR to track and record patient demographic information and clinical documentation and notes.
- 70% of urban and rural providers are using their EHR to track and record external documents through an Electronic Document Management system.

Some of the key differences between urban and rural providers are:

- A greater percentage of rural providers are using their EHR to track and record active medication allergy lists, active medication lists, updated problems lists and vital signs for their patients.



- More rural providers are also using their EHR to track and record tobacco use for patients 13 and older.



Clinical Decision Support

Figure 14 – Rural provider more likely to use Clinical Decision Support when it is available

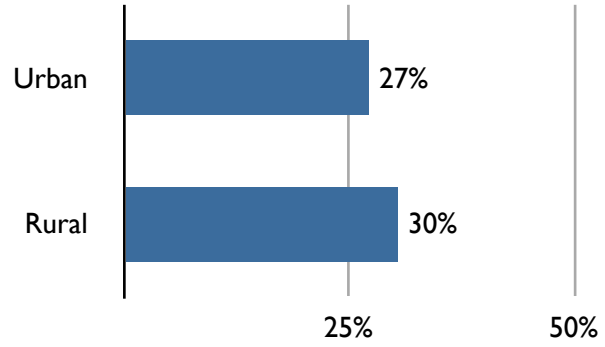
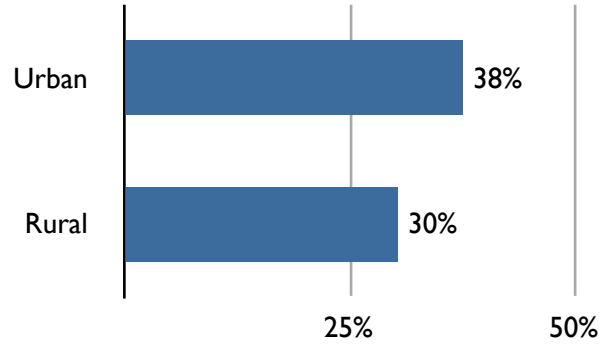


Figure 15 – Urban providers are more likely to have an EHR that does not have a Clinical Decision Support module



Health Information Exchange

A vast majority of all providers report that while they do not routinely exchange electronic patient data with other providers, they do exchange electronic patient claims-related data with health plans.

The survey results also indicate only minor differences between urban and rural providers in the electronic exchange of patient data, with urban providers indicating they receive data to a slightly greater extent than rural providers.

Figure 16 – Urban and rural providers routinely send electronic data for claims and billings at a similar rate

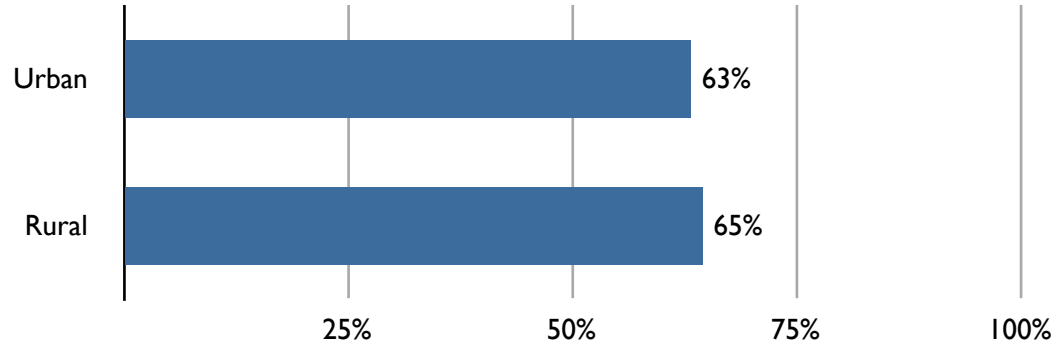
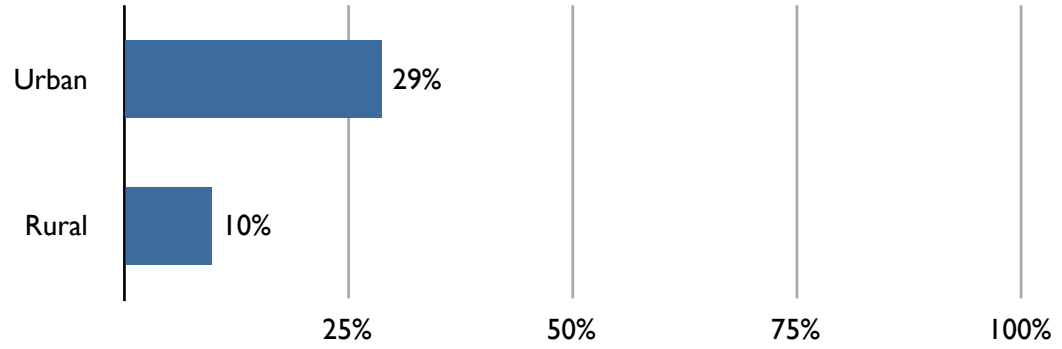
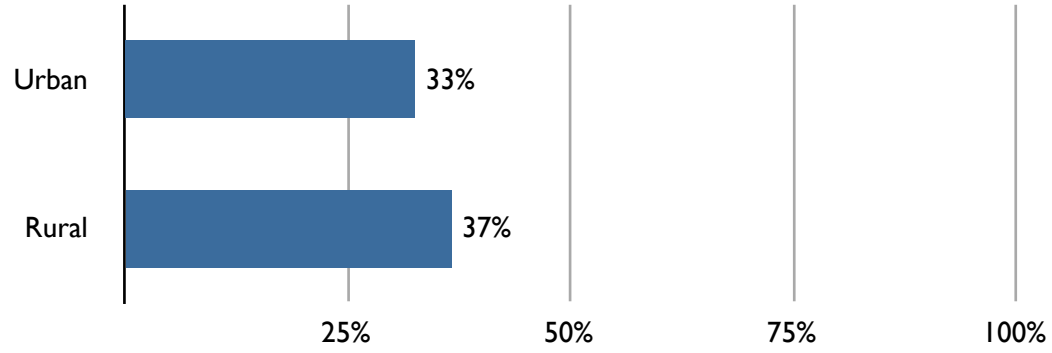


Figure 17 – However, rural providers receive claims and billing electronic data at a much lower rate



The only other category that shows exchange activity of greater than 25% is eligibility verification with health plans.

Figure 18 – Electronic eligibility verification is similar between urban and rural providers



4.3 Current HIT and HIE Systems and Projects

This section describes representative projects and systems that were identified as part of this assessment based on stakeholder interviews, focus groups, and survey results. Appendix B contains more detailed information about identified projects and systems for both public agencies and selected providers. The information gained from the assessment is not comprehensive since not all providers and identified stakeholders could be contacted through the assessment. However, some State level systems that house or exchange clinical data that are potential candidates for participation in HIE in the future are addressed in this section and Appendix B. The list of projects does not address HIT and HIE systems and projects in health plans due to the fact that the HIT Assessment focuses on health care providers and clinical data reporting systems and secondly, there was limited health plan participation in the assessment. Overall, the projects have not been coordinated, nor is there much collaboration or continuity of efforts. Nevada's State HIT Coordinator will need to facilitate the coordination of these projects and systems.

Medicaid Management Information System

DHCFP has made an Intent to Award to Hewlett Packard for the takeover of the current MMIS (RFP No. 1824). As part of this procurement, DHCFP was looking for a system that would allow for greater alignment with the Medicaid Information Technology Architecture (MITA) framework. The current MMIS does support standardized HIPAA compliant Electronic Data Interchange (EDI) transactions for eligibility inquiries, claims processing, prior authorizations, and other administrative transactions. In addition, the MMIS has various peripheral systems to support exchange, including an e-prescribing system, but use of the e-prescribing system is reportedly low.

DHCFP is also hoping to obtain a scalable HIE solution as part of the procurement for the MMIS Takeover. Depending on the HIE solution being provided by the awarded vendor, the solution may be integrated into the statewide HIE infrastructure. More information regarding the solution will be

provided to stakeholders once a contract is in place with the awarded vendor; such information is expected to be available by the fall of 2010.

In addition, DHCFP is initiating planning for the replacement of the MMIS. The ability to reach further MITA maturity levels and to expand HIE capacities could be accomplished through the replacement of the MMIS. The MMIS replacement is being planned for 2012.

Immunization Registry

Nevada WebIZ is a web-based immunization registry system managed by the Nevada State Health Division. Both public and private sector participants can access the registry through its Web platform. "Nevada WebIZ currently contains over 1.9 million records, including over 160,000 records with two or more vaccinations for children age 0–6 years. At present, there are nearly 600 public and private organizations, including physicians, health districts, community health nurses and school districts that have access to view, create and update immunization records for Nevada's children."[6] The registry does not have the ability to transmit data electronically to the Centers for Disease Control and Prevention (CDC) due to funding limitations.

The State Health Division is working on a pilot to support Health Level Seven[7] (HL7) interfacing with selected providers for the immunization reporting. The ability to expand the pilot would entail resources for both the State and participating providers to ensure the necessary interfaces are functioning.

There are also plans to interface with the electronic vital records system, which stores birth records, and enables auto-population of the immunization registry with relevant birth data.

Public Health Surveillance and Reporting

There are various systems in Nevada at the State level for the purposes of public health surveillance and reporting. Some of the systems are simple databases, some are web-based, and some have been built and maintained by vendors. In addition, in many cases, Nevada DHHS may report to the CDC and other federal oversight agencies by leveraging systems provided by the federal agencies. The list of Nevada DHHS systems identified through this assessment can be found in Appendix B.

University of Nevada HIT and HIE projects

The University of Nevada has several different HIT-related projects that may enable them to participate in statewide HIE, including the following:

[6] http://health.nv.gov/Immunization_WebIZ_Info.htm

[7] Health Level Seven International (HL7) is a not-for-profit, ANSI-accredited standards developing organization dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services.

- **The Center for Health Information and Analysis (CHIA)** has a database of inpatient hospital medical claims for Nevada hospitals and is also developing web-based quality reporting capabilities for hospital and outpatient services. The inpatient hospital claims could potentially be integrated with Medicaid data through the potential HIE solution as part of the MMIS Takeover Project.
- **The Center for Health Statistics and Informatics** has a statewide autism database.
- **The School of Dentistry** has a comprehensive EHR and operates in a paperless environment.
- **The School of Medicine** has partnered with other organizations for HIT-related efforts. The School has telemedicine resources. The nursing clinic in the Reno area uses a cloud-based EHR called Practice Fusion. University Medical Center/University of Nevada School of Medicine, Neurology has an EHR that is used for some functions, but paper is the primary source of medical records. The School of Medicine is in a position to implement a comprehensive EHR which would bring together those departments and clinics that currently have some form of an EHR with those that do not have an EHR, such as the Department of Pediatrics, based on conversations with IT leaders. However, the State's budget crisis may delay the adoption of an EHR system.

Nevada Rural Hospital Partners

The Nevada Rural Hospital Partners (NRHP) is an alliance of 14 small and rural hospitals, which has been working to increase access to care in rural parts of the State. NRHP is coordinating with providers in rural Nevada to improve HIT and HIE through the following means:

- **Supporting Telemedicine and Continuing Education through a Wide Area Network** – NRHP created a Wide Area Network for rural Nevada in 2001, which supports a secure network for sharing tele-health service, including tele-radiology. With this network, rural hospitals are connected with offsite radiologists 24 hours a day, seven days a week. In addition, providers can connect to continuing medical education programs broadcast on the network between 56 community sites.
- **Archiving Data for Providers** – NRHP maintains a HIPAA compliant, electronic data archive, which allows providers to store data offsite.
- **Assisting Providers with Maintaining Electronic Health Records** – NRHP provided seven hospitals with equipment and software for integrating patient information with diagnostic digital images. This information is being maintained in a centralized information system for easy storage and retrieval. NRHP is working with other sites to improve radiology information system and electronic network capabilities.
- **Support Health Level Seven Data Exchange** – NRHP invested in an interface engine allowing for HL7 formatted data exchange between 17 disparate systems.

Use of EHRs by Veterans Affairs in Nevada

The Nevada Office of Veterans Services serves over 339,000 veterans living in the State. There are two main service offices, in Reno and Las Vegas, and the Nevada Veterans Home located in Boulder City. The Nevada State Veterans Home receives support from the U.S. Department of Veterans Affairs but is a state-owned and operated facility able to accommodate 180 residents.[8]

This assessment includes information gathered through various focus group participants about the Veterans Administration EHR systems. Additionally, this assessment includes survey information about the system at the Nevada Veterans Home.

As a federally funded and operated organization, the Veterans Administration is advanced in its operation and adoption of EHR by comparison to other providers in Nevada. Their EHR, Veterans Health Information System and Technology Architecture (VistA), is based on an open source code and is publicly available. VistA is built on a client-server architecture, which ties together workstations and personal computers with graphical user interfaces at Veterans Health Administration (VHA) facilities, as well as software developed by the local organization. The EHR is used for a majority of organizational functions and the organization is virtually paperless. The EHR is used for progress notes and everything including electronic imaging, records scanning, and bar code medication. Additionally, it is a national system with robust information exchange between the 150 VA centers nationwide. VistA can support a large variety of clinical settings and medical care delivery systems.

The Veterans Home uses an EHR system by ADL Data Systems that provides an integrated electronic medical record. The EHR is used for patient demographic information, clinical documentation and notes, external documents through an Electronic Document Management System, an active medication list and vital signs. A Computerized Provider Order Entry is also used for lab orders, test orders, medication orders, referral orders and rehab, code status, and admission specific orders. The EHR does allow for and is used to track care plans and employ role-based access to EHR functions. In terms of HIE, the Veterans Home primarily sends information to health plans for claims and billing.

A recent congressional directive has required the Veterans Administration and Department of Defense to share records in order to provide for the seamless care of soldiers as they transition from active duty to the VA system. At the moment, in Nevada, this involves links between the VA's Computerized Patient Records System (CPRS) and VistA systems and the Air Force Composite Health Care System (CHCS) and Armed Forces Health Longitudinal Technology Application (AHLTA) systems. For this exchange, the VA and the Air Force's Mike O'Callaghan Federal Hospital have a direct connection temporarily. However, a "business gateway" is being developed to centralize control and operation of this exchange at the federal level.

[8] Taken from the Nevada Office of Veterans Services website last accessed July 1, 2010: http://www.veterans.nv.gov/about.html

Indian Health Clinics

Most Indian Health Clinics in Nevada use the Resource and Patient Management System (RPMS). RPMS is the national Indian Health Services (IHS) EHR, which is undergoing enhancements to meet meaningful use criteria. Enhancements planned through ARRA include:

- Expand use of the RPMS EHR including clinical care, support services, and practice management comprehensive health information, provider order entry, and clinical decision support.
- Provide quality and performance reporting that is transparent and accessible to IHS consumers.
- Ensure RPMS meets national interoperability standards in order to participate in health information exchanges such as the NHIN.
- Ensure the RPMS EHR receives certifications for ambulatory, inpatient, and behavioral health care.

Federal Grant-Funded Projects

Nevada has received grant funds to support the development of HIT and HIE infrastructure through Health Resources Services Administration (HRSA), ARRA (in addition to the HIE Cooperative Agreement Grant), and other grants. Some of these grants have been more recent than others. This includes the following grants:

- **Rural Telephone Company, NV (ARRA Broadband Grant, July 2010)** – This $2.4 million grant/loan project will extend ADSL2+ high speed broadband service to existing and new customers in the North Fork, Tuscarora, and Jarbidge, Nevada service areas. Rural Telephone Company estimates that approximately 700 people stand to benefit from this project as well as over 100 businesses and 10 other community institutions. Not only will this project create jobs upfront, but it will help drive economic development in the community that will create jobs for years to come.
- **Nevada Department of Cultural Affairs, NV (ARRA Broadband Grant, July 2010)** – This $806,000 grant with an additional $305,000 applicant-provided match will install more than 250 new workstations and expand the training and educational capacity at more than 30 libraries and other hubs for free computer access in 15 counties throughout the State.
- **College of Southern Nevada (ARRA HITECH HIT Education Grant, April 2010)** – The U.S. Department of Health and Human Services (HHS) provided a $5.4 million grant to a consortium of 14 colleges in California, Hawaii, Arizona and Nevada. The College of Southern Nevada is part of this consortium and will be providing training and education on HIT. If extended into a second year as expected, the grant would provide an additional $5.35 million for a total allocation of $10.75 million. "The grant is designed to get people trained

quickly in the kind of computerized health information systems that are being installed by hospitals and medical offices across the western states."[9]

- **Nevada Health Centers Grants (HIT and EHR, 2007)** – Nevada Health Centers, Inc. (NVHC) is a private, non-profit Federally-Qualified Health Center serving Nevada's medically underserved populations. NVHC presently has over 30 medical and dental centers, including rural health clinics, and other health related programs. Nevada Health Centers received a $1.4 million grant through HRSA (and a grant through the Lincy Foundation) to support implementation of a full EHR system. A comprehensive EHR system has been operational in NVHC clinics since May 2009.
- **Nevada Rural Hospital Partners Foundation (Telehealth Grant, 2004)** – NRHP received a grant for Digital Imaging System for Rural Nevada (DISRN)[10] Telehealth. The DISRN program enables rural and frontier hospitals to capture digital radiographic images, implement Picture Archive Computer Systems, integrate patient information with those diagnostic images, and transmit them over an existing, secure wide area network to a new shared, centralized image archive. While initially focused on radiology, the system will support any type of digital diagnostic image. The program enhances access by rural physicians to virtually instant diagnostic support across great geographic distance, and is a dynamic example of how small, autonomous hospitals can share technology to reduce cost, improve quality, and increase workforce productivity. In addition, the Nevada Hospital Association and the Nevada Rural Hospital Partners applied for ARRA grant funding to support broadband access to rural health care providers, but the funding was not awarded.

4.4 Identified HIT and HIE Stakeholders

Engaged Stakeholders

This section highlights the stakeholders identified through the HIT Assessment for Nevada's HIT and HIE planning efforts. Because of the size and breadth of the Nevada health care stakeholder community, not every HIT and HIE stakeholder is specifically addressed in this report. Included below are the stakeholder groups that were identified for outreach, communications, interviews, focus groups, surveys, and ongoing participation in planning. Additional breakouts of stakeholders are included in Appendix C of this report.

Identified Stakeholders Groups

- All licensed health care providers in Nevada and health care providers in other states serving Nevada consumers

[9] http://www.losrios.edu/downloads/press/04-07-10_HHSGrant.pdf

[10] http://www.hrsa.gov/telehealth/granteedirectory/organizations.htm

- All health care consumers in Nevada
- Associations, consortiums, and work groups
- All health plans in Nevada, including managed care plans
- State, county, and local government agencies
- All military and Veterans' Affairs
- Universities and colleges
- HIT and HIE vendors
- Indian health clinics
- Indian tribes
- Indian Health Board of Nevada
- Nevada's Regional Extension Center (HealthInsight)
- Federal oversight agencies, including HHS, CMS, and ONC
- National Health Information Network[11]
- Department of Defense
- Centers for Disease Control and Prevention
- Lobbyists and advocates

Stakeholder Outreach

Prior to this HIT Assessment, there had been fragmented outreach to providers and other stakeholders in the Nevada health care community about State level HIT and HIE planning efforts. Most of the effort to build awareness to date has been carried out through the HIT Blue Ribbon Task Force, existing member communication channels by the provider associations and stakeholders that are represented on the HIT Blue Ribbon Task Force.

The outreach conducted to invite and encourage provider participation in the HIT Assessment generated a greater level of awareness and understanding than had existed before. Many providers who participated in the assessment focus groups and interviews said they were hearing about State level HIT and HIE planning efforts for the very first time. Several provider associations that had not been engaged in HIT and HIE planning activities began promoting awareness within their organizations by distributing the fact sheet that was prepared to describe State level planning activities and posting a link to the EHR and HIE adoption survey on their Web sites.

[11] Nationwide Health Information Network (NHIN) is operating as the NHIN Exchange. This Exchange connects a diverse set of federal agencies and private organizations that need to securely exchange electronic health information. These entities currently include the Social Security Administration (SSA), MedVirginia, the Department of Veterans Affairs (VA), the Department of Defense (DoD), Centers for Disease Control and Prevention, (CDC) and Kaiser Permanente.

At the same time, increased awareness did not necessarily translate into increased engagement. In reviewing data from provider groups that were included in outreach efforts related to the HIT Assessment, several conclusions can be drawn about the needs of different stakeholder groups for outreach and engagement:

- Many hospitals are already highly engaged, although additional outreach for specific hospitals is needed. While significant outreach is not needed for this group, there should be a focus on ongoing communication.
- While there is some physician engagement, physicians need more information about meaningful use and technical assistance for EHR planning and implementation. They need more channels through which to receive information about State level efforts and more opportunities to participate in the planning process.
- Nurses have increased engagement in State level efforts, primarily through the Nevada Nurses Association. There is fairly high interest by members of this organization as shown by their participation in focus groups and the promotion of the HIT Assessment survey on their Web site. Including this group as part of continued provider outreach is important.
- Professional associations representing ancillary health care services need significant outreach and education to build their awareness and understanding. They have a stake in HIT and HIE planning, and they are not yet engaged at a level where they can help shape the future of HIT utilization in Nevada. Because these providers know the least about State level HIT and HIE planning efforts, personal communication and one-to-one contact with their representative associations may be the most effective beginning point.
- While initial outreach has been conducted with the Nevada Dental Association, the Nevada Occupational Therapy Association, the Nevada Physical Therapy Association, the Nevada Association of Medical Products Suppliers, the Nevada Chiropractic Association, the Nevada Emergency Medical Association, the Nevada Speech-Language and Hearing Association, the Nevada Ambulatory Surgery Center Association, and the Nevada Pharmacy Association, none of these important stakeholders are significantly engaged. However, many providers in these groups responded to the survey. Outreach efforts should be focused on involving these groups in State level HIT and HIE planning activities.
- State and local agencies, particularly DHHS divisions and county health departments directly involved in providing medical care to patients need more information about their role and the State's expectations for their participation in HIT and HIE planning efforts.

4.5 Integration of HIT Planning with Other Medicaid Initiatives

The DHCFP HIT Project Staff are using Medicaid Information Technology Architecture (MITA) principles in its approach for developing the SMHP. MITA stresses many of the same service-oriented architecture principles as HIT and HIE, such as reusability and interoperability.

In February 2009, DHCFP completed a MITA state self-assessment that provided a snapshot of the current Medicaid-related business processes and supporting technology. The state self-assessment identified areas where changes can be made to support improvements in Nevada's Medicaid program. The MITA Self-Assessment generally shows that maturity levels are low to medium, and through the MMIS Takeover and eventually the MMIS replacement, higher levels of maturity are expected to be achieved.

In alignment with the Medicaid vision for MITA, DHCFP is seeking to replace the MMIS to obtain a MITA-aligned and HIPAA compliant system, which will aid in exchanging and managing electronic health information. DHCFP intends to initiate planning activities for the MMIS replacement in 2012. In the interim, as part of the current MMIS Takeover procurement, DHCFP is seeking peripheral systems and tools to increase alignment with MITA. This includes the potential for a new decision support system, an HIE solution, and an e-prescribing tool. DHCFP is requesting a scalable HIE solution, so that it may also serve as the statewide HIE platform. Initially the HIE platform will be used to share claims information and related data with provider EHRs. This platform will assist eligible Medicaid providers in meeting meaningful use criteria.

4.6 Implications of State Rules and Regulations on HIE Strategic and Operational Plan and SMHP

Per the State HIE Cooperative Agreement requirements, OHIT is preparing a State policy and regulatory inventory to assess the regulatory impact of HITECH requirements, and to identify possible State legislation that may be required. This includes enabling HIE, facilitating EHR adoption, and protecting personal health information. DHCFP should be able to leverage this information for implications on the SMHP. The assessment is currently in progress, and its results will be incorporated into the Nevada HIT Strategic and Operational Plan, and can be incorporated into the SMHP.

5 Conclusions and Next Steps

5.1 Implications of Findings

This section describes the implications of the assessment, how the current environment influences the development and implementation of the State's EHR Incentive Program, recommendations for advancing EHR adoption and HIE engagement, and suggested next steps for the Department of Health Care Financing and Policy and the Office of Health Information Technology in support of Nevada's State level HIT and HIE efforts.

The following chart presents the assessment findings, detailed in Section 4.1, and the implications of those findings on advancing E-Health in Nevada.

Theme 1: Current Uses of EHR Systems

Findings	Implications
Many of the providers reached through the assessment show an interest in increasing adoption, despite the numerous barriers that exist.	By continuing to engage stakeholders the State could continue the momentum towards interest in EHR adoption. In addition, the State should be able to better measure increasing adoption rates through annual or mid-year surveys or assessments.
Providers with EHRs report using a broad range of EHR functionalities.	Despite the broad range of reported uses, providers do not consistently use EHRs. Desired outcomes from EHRs may fall short of expectations unless providers demonstrate greater adoption.

Theme 2: Direction for EHR Adoption and HIE Utilization

Findings	Implications
The EHR adoption levels vary by provider type with the large hospitals and large physician practices reporting higher levels of EHR adoption compared to other providers.	It will be difficult to establish statewide HIE until more providers adopt EHR systems that meet certification criteria and have capabilities to exchange clinical data.

Findings	Implications
There is a lack of exchange of health information occurring in the Nevada health care system outside of a provider's or stakeholder's network.	Lack of existing collaborative exchanges between provider systems or networks will make it more difficult to link together the providers and health care organizations that are needed to create a broader, more integrated regional or statewide HIE.
Large hospitals, large networks of providers, and other providers that have consciously advanced their EHR capacity ahead of the legislation are the primary providers who have some level of readiness and capacity to participate in an HIE.	It will be difficult to establish statewide HIE until a broader range of providers demonstrate greater readiness.

Theme 3: Meaningful Use and Incentive Payments

Findings	Implications
Many providers are still unsure about whether or not they will apply for the incentive payments.	A significant number of providers may not meet the required Medicaid or Medicare patient volumes, and will be ineligible for incentive payments. This could result in decisions not to adopt EHR systems in the next five years.
Providers will have difficulty meeting the proposed meaningful use criteria in a timely manner.	Providers may need additional assistance and guidance to ensure they meet the criteria. Statewide HIE infrastructure will be necessary to ensure providers can meet meaningful use by 2015. Also, auditing functions will be critical to ensure participating providers are actually meeting criteria.

Theme 4: Barriers to Advancing EHR Adoption and HIE Utilization

Findings	Implications
The most significant barrier to implementing, adopting and enhancing EHRs is cost.	Without adequate financial support, providers may not be able to implement EHRs or enhance their existing EHRs to meet the meaningful use criteria and to support the advancement of HIE.
Providers are overwhelmed by the number of options for EHRs and the effort required to implement or enhance systems within the timelines established at the federal level.	With so many options providers are apprehensive to adopt a system that may not meet their needs.
Providers are hesitant to engage in HIE due to patient privacy and security concerns.	HIE efforts will fall short without provider confidence that the necessary policies, legislation and technological safeguards are in place to ensure safe, secure HIE and protection of personal health information.
Most stakeholders know little about HIE, including technical infrastructure and recognized standards.	The capabilities to implement HIE across disparate organizations will be limited without additional guidance at the State level.
Many providers are in "wait and see" mode for further investments in EHRs and HIE due to uncertainty around the details of costs for participation in HIE and integration with a statewide infrastructure.	The abilities to implement HIE across disparate organizations will be limited without additional information on cost and technical infrastructure.
Nevada will be competing with other states for a finite nationwide pool of qualified HIT professionals, until a stable and sustainable labor pool can be established.	The abilities to increase EHR adoption and establish statewide HIE will be hindered without sufficient HIT professionals.

Theme 5: Stakeholder Awareness and Engagement

Findings	Implications
With the exception of those stakeholder representatives that are involved in the HIT Blue Ribbon Task Force, awareness, understanding, and engagement in State level efforts are very low.	The lack of awareness for the initial planning may prevent providers from engaging at a later date.
Providers show some interest in getting involved in HIE-related planning activities.	Because the concept and value of HIE is understood and appreciated by providers, there is support for initiating more broad-based HIE efforts in the State.
Provider awareness of the value of EHR adoption as a means of streamlining business processes and creating more efficient health care practices may be confounded by a perceived emphasis on rules and regulations.	There are missed opportunities for greater adoption of EHRs among providers who will not qualify for incentive payments.

Theme 6: HIE Governance

Findings	Implications
Despite the variance of adoption by provider types, there is some consistency in thinking around HIE models, HIE governance, and the role of the State.	There is a foundation for developing a consensus vision and approach for moving HIE forward. Areas where consistency and shared vision are evident should be leveraged to demonstrate success.

5.2 Conclusions

The data collected as part of this assessment shows a significant level of EHR adoption and HIE utilization in some sectors of the provider community, and also in government agencies such as the military and State agencies directly involve in providing health care services to the public. These

activities include information development and support for EHR and other HIT tools; efforts to convene, organize, and coordinate HIT initiatives; information technology modernization and development; advancement of EHR systems with a goal of achieving meaningful use; and HIE and interoperability capacity-building.

There are many challenges facing Nevada's health care community as it works to implement the complex technological innovations that are part of advancing HIT and HIE in the State. These challenges relate to organizing and structuring both HIT and electronic HIE initiatives within the State's complex and varied health care marketplaces, promoting interoperability across all stakeholders, and providing financial and other resources for support of these technologies and their sustainability over time. Specifically, the assessment points to the following challenges that must be addressed in order to advance HIT and HIE:

- Lack of current adoption by some providers, including many rural and small hospitals and small provider practices outside of large health care systems.
- Lack of EHR functionality to meet meaningful use criteria.
- Lack of funding to modernize existing systems.
- Lack of funding to support resources for developing statewide infrastructure.
- Perceived and real legal and regulatory issues regarding data sharing, privacy of information and personal health information protection.
- Lack of understanding of HIE recognized standards and technical infrastructure.
- Lack of adequate participation from and communication among all of the stakeholders that need to be involved in HIT and HIE activities.

5.3 Recommendations

Recommendations related to the findings and conclusions of this assessment have been developed and are included in this section. The recommendations are intended to provide tangible and deliberate steps that the State may choose to pursue in order to continue its HIT and HIE efforts for Nevada providers, patients, and other stakeholders. It should be noted that such recommendations should be assessed by the State entities involved with HIT, including the Blue Ribbon Task Force, OHIT, and DHCFP, in order to determine how to proceed.

Recommendation 1: Expand current outreach efforts with stakeholders

While the State has done some HIT outreach, many stakeholders are still not aware of State level HIT planning efforts. To achieve greater awareness and engagement, the State may consider expanding outreach efforts with stakeholders, including those who are already engaged in State level HIT planning efforts, those who are prepared for growing HIT adoption, and those that have not been engaged in the State's HIT planning efforts, such as consumers and ancillary service providers.

However, such outreach requires resources, and the State's budget crisis may be a major obstacle. Below are suggested outreach activities for both State level HIE planning efforts and for DHCFP's EHR Incentive Program planning efforts. The State should also determine if some outreach activities could be conducted jointly by DHCFP and OHIT for greater effectiveness.

DHCFP	State Level HIE
Provide educational information on HIT resources available for providers, including information on Nevada's Regional Extension Center, CMS' Web site for questions and answers regarding the EHR Incentive Program, and other resources.	Conduct outreach with consumers who have not been engaged in State Level HIE planning efforts to-date.
Provide information to providers on the timeline and planned next steps for the State's EHR Incentive Program. This will help keep providers abreast of the program, which will hopefully encourage participation.	Conduct outreach with stakeholders that have had minimal engagement in planning activities, including ancillary service providers and health plans.
Provide guidance on the State's EHR Incentive Program. Customize outreach based on areas that constitute the greatest gaps in EHR uses, such as immunization reporting, clinical decision support, and public health reporting.	Continue to engage stakeholders that have already been involved with the State's HIE planning efforts.

As part of this assessment, stakeholder contact information including email addresses, has been obtained. The State could utilize email and Listservs to inform the stakeholders of where they can go for more information (like the Nevada HIT Web site) and the implications of the State's programs on their organization.

Recommendation 2: Consider conducting visioning and strategic planning with representative stakeholders

DHCFP and OHIT, either jointly or separately, should consider conducting visioning sessions with key stakeholders on a regional level to ensure participation by stakeholders in dispersed geographic

locations of Nevada, including Las Vegas, Reno, and rural areas. Expanding EHR adoption and HIE utilization by a broad range of stakeholders are integral to making long-term intrastate and interstate HIE, and, eventually, national participation in HIE successful. This will help provide more comprehensive input to the SMHP and the State level HIE efforts. The visioning and strategic planning sessions should be scheduled in the near future to ensure appropriate engagement of stakeholders.

Recommendation 3: Take incremental steps towards statewide HIE implementation

Best practices suggest that states consider taking an incremental approach to HIE implementation, rather than attempting a full-scale implementation of a fully integrated statewide exchange. The following suggested steps derived from the Thomson Reuters white paper "Statewide Health Information Exchange: Best Practice Insights from the Field" may be useful for Nevada:

- **Get one small HIE project in operation.** Even after years of planning, many states have not succeeded with implementing statewide HIE. The State should consider implementing a pilot HIE project with providers that have demonstrated HIE readiness. As an example, there are several hospitals that meet the litmus test for readiness. It makes more sense to launch something small, manageable, and affordable that provides the infrastructure and proven results for long-term planning.
- **Engage clinicians and physicians in planning.** Work directly with the clinicians and physicians, not just IT staff, to ensure their support and participation in planning. In addition, engage those physicians and other providers that are willing to serve in a pilot.
- **Focus on clinical use first.** The dominant objective of the HIE network should be to provide information that leads to better outcomes for patients. This is the foundation that all stakeholders embrace. Physicians need to know that it is valuable enough for them to participate. If there is little or no clinical value, physicians are not as likely to embrace it.

Recommendation 4: Consider providing additional incentives to providers to encourage participation in the Medicaid EHR Incentive Program

Since the assessment findings illustrate that providers will have difficulties meeting Medicaid eligibility criteria and meaningful use, the State should determine if additional incentives or resources could be granted to providers. Providers may fall short of the requirements and fail to implement and adopt EHRs, which has a domino effect on Medicaid's HIT efforts, statewide HIE, and national HIE. If providers are further incentivized, they might be more likely to adopt EHR systems.

Recommendation 5: Start assessing current audit processes and functions to leverage for the EHR Incentive Program

CMS' Final Rule for the EHR Incentive Program and other CMS guidance put the responsibility for auditing functions on the states. Given the gaps being reported by providers in how they use EHRs in comparison to meaningful use criteria, accurate reporting and auditing will be a crucial function to ensure payments are distributed accurately. CMS stated that states are responsible for the recoupment process for erroneous payments. Based on this, it would seem important for DHCFP to begin assessing what existing audit and program integrity functions could be leveraged and expanded for the incentive program.

5.4 Next Steps for DHCFP and OHIT

This assessment consolidates input from a variety of data sources and stakeholders. While this information alone is not sufficient to make decisions about how to structure and advance the State's HIT initiatives, it provides some understanding and insight into stakeholder readiness for furthering EHR adoption and HIE utilization. Below are suggested next steps:

- Present summary-level findings and potential implications to the HIT Blue Ribbon Task Force for discussion and recommendations to DHHS.

- Finalize HIT Assessment results for input into the SMHP and the HIT Strategic and Operational Plan.

- Post the HIT Assessment Final Report on the DHHS HIT Web site and notify stakeholders of its availability.

- Continue with planning and outreach efforts for the SMHP and the Strategic and Operational Plan.

Appendix A – Glossary of Terms

Active Medication Allergy List	A list of a patient's known or reported allergies to medications especially any that may impact current health status.
Active Medication List	A list of a patient's known or reported list of medications (including over-the-counter medications) especially any that may impact current health status.
After-visit Clinical Summaries	Patient information containing updated medication lists, lab and test orders, procedures, and instructions based on clinical discussions taking place during a patient visit.
Care Plans	Written documents for certain chronic conditions requiring advanced management. Care plans are developed with the patient and guide care management by outlining risks, goals, prevention, and actions for treatment (e.g. an asthma action plan).
Certification Commission for Health care Information Technology (CCHIT)	A voluntary, private-sector organization launched in 2004 to certify health information technology (HIT) products such as electronic health records and the networks over which they interoperate. See www.cchit.org.
Clinical Data Repository (CDR)	A clinical data repository (CDR) is a real-time database that consolidates data from a variety of clinical sources to present a unified view of a single patient. It is optimized to allow clinicians to retrieve data for a single patient rather than to identify a population of patients with common characteristics or to facilitate the management of a specific clinical department. Typical data types which are often found within a CDR include: clinical laboratory test results, patient demographics, pharmacy information, radiology reports and images, pathology reports, hospital admission/discharge/transfer dates, ICD-9 codes, discharge summaries, and progress notes.

Clinical Data Warehouse (CDW)	Similar to a CDR, but with more sophisticated data analysis and querying capabilities.
Clinical Decision Support (CDS)	Clinical decision support systems (CDSS) assist a provider in applying new information to patient care and help to prevent medical errors and improve patient safety. Many of these systems include computer-based programs that analyze information entered by the physician. Also see Clinical Decision Support Tools below.
Clinical Decision Support Tools	Clinical decision support tools are health information technology functions that build on the foundation of an electronic health record (EHR) to provide persons involved in patient care with general and patient-specific information that is intelligently filtered and organized to enhance patient health. Also see Clinical Decision Support (CDS) above.
Computerized Provider Order Entry (CPOE)	A computer application that allows a physician's orders for diagnostic and treatment services (such as medications, laboratory, and other tests) to be entered electronically instead of being recorded on order sheets or prescription pads. The computer has the ability to compare the order against standards for dosing, checks for allergies or interactions with other medications, and warns the physician about potential problems.
Electronic Health Record (EHR)	An electronic record of health-related information regarding 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. For purposes of this assessment, this definition is the same as an Electronic Medical Record (EMR).
Electronic Health Record (EHR) Certification for meaningful use	The certification of a provider's EHR according to meaningful use by an Office of the National Coordinator for Health Information Technology-Authorized Testing and Certification Body (ONC-ATCB).

Electronic Medical Record (EMR)	An electronic record of health-related information regarding an individual that conforms to nationally recognized interoperability standards and that can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization. For purposes of this survey, this definition is the same as an Electronic Health Record (EHR).
Eligible Professionals (EPs)	Professional providers eligible for the EHR Incentive Program, according to CMS' Final Rule for the Medicare and Medicaid EHR Incentive Program.
Eligible Hospitals (EHs)	Hospitals eligible for the EHR Incentive Program, according to CMS' Final Rule for the Medicare and Medicaid EHR Incentive Program.
E-prescribing/ERx	Technology where providers use handheld or personal computer devices to review drug information and then transmit prescriptions to a printer, electronic health record, or pharmacy. Software for e-prescribing can be integrated into existing systems to allow physician access to patient-specific information in order to screen for drug interactions.
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 health care providers, public health agencies, payers and entities offering patient engagement services (such as personal health records).
Health Insurance Portability and Accountability Act (HIPAA)	A law passed by the U.S. Congress in 1996 (Public Law 104-191) that included provisions that required Health and Human Services (HHS) to adopt national standards for electronic health care transactions. HIPAA includes provisions that require doctors, hospitals and others protect the privacy of patients' health care information.
Health Information Organization (HIO)	An organization that oversees and governs the exchange of health-related information among organizations according to nationally recognized standards.

Health Information Technology (HIT)	The organization, analysis and generation of health data to treat patients and for insurance and other reimbursement, or for planning, quality assessment, research, and legal purposes.
Health Level Seven (HL7)	HL7 is a not-for-profit, ANSI-accredited standards developing organization dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services.
Interoperability	The ability of two or more systems or components to exchange information and to use the information that has been exchanged. Typically, interoperability is understood to have three components: technical, semantic, and process. See http://www.hl7.org/ehr/downloads/index_2007.asp
Master Patient Indexing (MPI)	MPI is a software database program that collects a patient's various provider identification numbers and keeps them under a single, community or enterprise-wide identification number.
Meaningful Use	The American Recovery and Reinvestment Act of 2009 (Recovery Act) authorizes the Centers for Medicare and Medicaid Services (CMS) to provide incentives for eligible professionals and hospitals who are successful in becoming "meaningful users" of certified electronic health record (EHR) technology. The Medicare EHR Incentive Program will provide incentive payments to eligible providers and hospitals that are meaningful users of certified EHR technology. The Medicaid EHR Incentive Program will provide incentive payments to eligible professionals and hospitals for efforts to adopt, implement, or upgrade certified EHR technology or for meaningful use in the first year of their participation in the program and for demonstrating meaningful use during subsequent years.
National Health Information Network	The Nationwide Health Information Network (NHIN) is a set of standards, services and policies that enable secure health information exchange over the Internet. The NHIN will provide a foundation for the exchange of health IT across diverse entities, within communities and across the country, helping to achieve the goals of the HITECH Act.

Patient Problem List	A list of a patient's diagnoses and conditions - including past conditions that may impact current health status.
Personal Health Record (PHR)	An electronic record of health-related information regarding an individual that conforms to nationally recognized interoperability standards and that can be drawn from multiple sources while being managed, shared, and controlled by the individual.
Regional Health Information Organization (RHIO)	A health information organization that brings together health care stakeholders within a defined geographic area and governs health information exchange among them for the purpose of improving health and care in that community.
Structured and Reportable Data	Test results that are entered into EHR systems in a digital or coded format - such as numbers or standard text values (e.g. "positive" or "negative").
Telemedicine	The use of medical information that is exchanged from external health care organizations via electronic communication.

Appendix B - HIT and HIE Representative Projects and Systems List

Introduction

This document highlights identified HIT and HIE projects and systems through the HIT Assessment for the State of Nevada's HIT and HIE planning efforts. As part of the research methodology, we focused primarily on systems that maintained or exchanged clinical health information. Not all HIT and HIE projects or systems are addressed in the document as there are an extensive number of HIT and HIE projects in the State of Nevada. Additional systems may also be identified through the survey. We included stakeholder systems and projects that were identified during the assessment process through outreach, communications, interviews, and focus groups. This list should be updated on a regular basis to reflect additional identification of systems and projects.

Nevada DHHS HIT, Clinical Data Systems, and HIE Systems and Projects

Health Division Bureau of Child, Family, Community and Wellness

Program/Area	System/Project	Description	Future/Enhancements
Women Health Connection (WHC)	CDC Subry – Cast, SQL db	Captures Woman Health data. An Excel extract file is linked to the NV Cancer Registry	No enhancements planned
HIV Care and Prevention - Ryan White	Queenstone – Aries, SQL db with Web front end	Ryan White eligibility system, client demographic and some clinical testing data	No clinical exchange planned
HIV Care and Prevention - Sexually Transmitted Disease	ADAP Access Database	Eligibility system with Client demographics	No clinical exchange planned
Immunizations	Envision – WebIZ, SQL db with web front end	Immunization Registry, gathers child and adult immunization administrations from Provider input.	Working on pilot HL7 interface with providers to update registry from providers' EHRs
Immunizations	CDC – VACMAN	VACMAN is a vaccination inventory system used to order, and optionally to track and record information relating to publicly funded (Vaccines For Children program (VFC), 317 Grant (G317), and State/other) vaccines	No plans

Health Division Bureau of Child, Family, Community and Wellness

Program/Area	System/Project	Description	Future/Enhancements
Maternal and Child Health (MCH)	Maternal and Child Health data, historical data file format	File includes data, including clinical data on MCH recipients	No enhancements planned
Children with Special Health Care Needs (CSHCN)/Chronic Disease	Children with Special Health Care Needs and Chronic Disease data, historical data file format	File includes data, including clinical data on CSHCN/Chronic Disease recipients	No enhancements planned

Health Division Bureau of Statistics, Planning, and Emergency Response

Program/Area	System/Project	Description	Future/Enhancements
Office of Health Statistics and Surveillance	Digital Innovation – Trauma Registry, FoxPro database	Moving to SQL db with web front-end	4 trauma centers will send batch file using Isend – Isend is DiCorp's module for electronic exchange
Office of Health Statistics and Surveillance	CDC – Epi-Center	Database and statistics program for use by public health officials	No plans

Health Division Bureau of Statistics, Planning, and Emergency Response

Program/Area	System/Project	Description	Future/Enhancements
Office of Health Statistics and Surveillance	CDC – BRFSS, SAS	The Behavioral Risk Factor Surveillance System (BRFSS) is a State-based system of health surveys that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury.	No plans
HIV/AIDS Program	CDC – eHARS, SQL database with web frontend	EHARS is a "browser-based application" that collects, stores, and retrieves data, via a secure data network, that CDC has identified as necessary to: monitor the HIV/AIDS epidemic, identify current trends in the epidemic and evaluate HIV prevention, care, and treatment planning.	No exchange plans
Vital Records	Netsmart – Electronic Birth and Death Registry System (EBRS / EDRS), SQL database citrix (vendor is moving to .net	Data collected according to National Center of Health Statistics standards for birth and death certificates.	Planning interface of birth records to Immunization Registry.
Vital Records	SSA – OVS Web Service	Notification of birth and death are electronically sent to SSA	No plans

Health Division Bureau of Statistics, Planning, and Emergency Response

Program/Area	System/Project	Description	Future/Enhancements
Cancer Registry	Precis – Cancer Registry, SQL database	Utilizes the North American Assoc of Central Cancer Registry standard format. Extract data file, manipulate and send to CDC	Possible plans for electronic exchange of pathology reports
Public Health Preparedness	CDC – STD*MIS, DOS-based application	STD*MIS is a data management system developed by the Statistics and Data Management Branch, Division of STD Prevention, National Center for HIV, STD, and TB Prevention (NCHSTP), Centers for Disease Control and Prevention (CDC).	No plans
Public Health Preparedness	Orion – Rhapsody, SQL database with web frontend	Integration Engine used to exchange electronic lab results with PHINMS	Possible plans for expansion of exchange

Health Division Bureau of Statistics, Planning, and Emergency Response

Program/Area	System/Project	Description	Future/Enhancements
Public Health Preparedness	CSC – NEDSS, SQL database	The NEDSS Base System provides the ability to enter, manage, and view core demographic and nationally notifiable disease data via a Web browser. These functions also utilized by the NEDSS PAMs. It allows for the entry of completed case reports, the Base System facilitate the management of open cases under investigation and have basic infrastructure to receive and hold electronic lab results and other electronic clinical reports	Possibly use additional modules
Public Health Preparedness	The National Electronic Telecommunications System for Surveillance (NETSS)	The National Electronic Telecommunications System for Surveillance (NETSS) is a computerized public health surveillance information system that provides the Centers for Disease Control and Prevention (CDC) with weekly data regarding cases of nationally notifiable diseases	No plans

Health Division Bureau of Statistics, Planning, and Emergency Response

Program/Area	System/Project	Description	Future/Enhancements
Early Intervention Services (EIS)	DoIT – Trac SQL Database	EIS system for tracking client eligibility and referrals	No plans
Early Intervention Services (EIS)	Lytec – Billing SQL Database	Practice Management System for scheduling and billing.	Possible plans to upgrade to full Lytech MD with EMR and HL7 interfaces
Community Health Nursing	Envision – Reproductive Health	Patient reproductive health information. No data exchange	Replacement being planned.
Women Infants and Children (WIC)	DoIT – WIC application Foxpro Database	WIC eligibility some clinical nutrition data	Electronic Benefits Exchange
Women Infants and Children (WIC)	JPM – Electronic Benefit Transfer web service	Custom communication program written to JPM EBT specifications	No plans
Environmental Health	DoIT – Permits Database (BHPS) SQL database	Custom application for tracking and issuing permits.	No plans
Environmental Health	Steton – Mobile Auditor (hosted)	Audit application for facilities	No plans

Health Division Bureau of Statistics, Planning, and Emergency Response

Program/Area	System/Project	Description	Future/Enhancements
Emergency Medical Services	Nevada Electronic Data Emergency System, XML (hosted)	The system is an Electronic Patient Reporting System, which is a desktop application used by providers to upload data to a web server. The data is also upload to the National EMS System (NEMSIS).	Would like to integrate patient report with the patient's record at the ER, but this would require additional funding.

Health Division Bureau of Health Care Quality and Compliance

Program/Area	System/Project	Description	Future/enhancements
Health Facilities	DoIT – Stmt of Deficiency (SOD) Web Application	Allows query regarding statements of deficiencies on health facilities	Possible plans to expand
Health Facilities	CMS – ASPEN / Oasis / QUIES, Oral Database	Automated Survey Processing Environment (ASPEN) utilized by the Centers for Medicare Medicaid Services. ASPEN Scheduling and Tracking (AST) module. AST supports both state and CMS RO certification, complaint, and enforcement processing operations	Unknown

Health Division Bureau of Health Care Quality and Compliance

Program/Area	System/Project	Description	Future/enhancements
Health Facilities	DoIT – Hospital / Med Laboratories Licensing Database, SQL database with web frontend	Custom Database tracking licenses	Unknown
Radiological Health	DoIT – Radiology Database (BHPS), SQL database	Custom Database tracking Radiology facilities	Unknown

Division of Health Care Financing and Policy

Program/Area	System/Project	Description	Future/enhancements
Medicaid and Nevada Check Up Programs	Medicaid Management Information System (MMIS) and Decision Support System (DSS), IBM mainframe with AIX operating system and DB2 database	The MMIS is the Medicaid and Nevada Check Up Claims processing system. The MMIS is currently operated by Magellan, but is in the process of being procured through the MMIS Takeover RFP	Additional systems and peripheral tools may be obtained as part of the MMIS Takeover. An Intent to Award has been published, but this information should be updated based on contract award and contract signing.

Division of Health Care Financing and Policy

Program/Area	System/Project	Description	Future/enhancements
E-prescribing System for Medicaid and Nevada Checkup Providers	E-prescribing system by Magellan (through contract with SureScripts)	The e-prescribing program supports a model for Beneficiary Demographics, Eligibility, PDL/Formulary, and Medication History. Magellan contracts with SureScripts using X12 270 for eligibility verification and NCPDP SCRIPT 8.1 for medication history. The MMIS and peripheral systems and tools are currently operated by Magellan, but is in the process of being procured through the MMIS Takeover RFP	To be determined
Health Information Exchange Solution (requested as part of MMIS Takeover RFP)	MMIS Takeover Vendor	Description can be found in RFP No. 1824, MMIS Takeover.	To be determined

Division of Child and Family Services

Program/Area	System/Project	Description	Future/enhancements
Children's Mental Health	Netsmart/Avatar (health records), 64bit Dell Server running Windows 2008 Standard Edition	Used for clinical case management. They electronically bill and receive payments directly from Medicaid (First Health) with no intermediary. Not compliant yet with meaningful use yet. They send basic demographic information over an HL7 interface for in-patient children to fill prescriptions. The Unity (SACWIS) system is not used for health records but there may be reason to interface with it in the future.	They do not have the order entry system; They need e-prescribing and electronic signatures. Trying to get that certified by the feds. Netsmart is committed to it. This is their roadmap going forward for HIT. Avatar enhancements: **Meaningful Use** ▪ Order entry ▪ Meaningful Use Package ▪ Consumer Connect **EHR** ▪ Mobile Connect ▪ Signature Pads ▪ WebServices/API ▪ Doc Management (POS) ▪ Doc Management (batch) ▪ Electronic Medication ▪ Administration Record ▪ Netsmart University **System Upgrades** ▪ myAvatar (Radplus 2011) ▪ Executive Reporting System **Maintenance** ▪ AM Fiscal Year 2012 ▪ AM Fiscal Year 2013

Division of Mental Health and Developmental Services

Program/Area	System/Project	Description	Future/Enhancements
Avatar	NetSmart, Rapid Application Development Tool, CACHE Database	Electronic health record for Mental Health Clients. This system is used to maintain client treatment plans, progress notes, diagnosis information and all other clinical information. It is also used for scheduling appointments and billing claims.	Future enhancements are planned.
WORx	Mediware, EMC Middleware, Informix Database	Statewide Pharmacy System. This system is used for medication management and tracking of Avatar clients that use state-run pharmacy.	To be determined
DS-NOW	Developed and maintained in house, Classic ASP, SQL Server	Electronic health record for Developmental Services clients. This system is used to maintain client treatment plans and progress notes.	To be determined
DSIR (DS Incident Reporting)	Developed and maintained in house, Access, SQL Server	This system is used to track Serious Incidents.	To be determined

Division of Mental Health and Developmental Services

Program/Area	System/Project	Description	Future/Enhancements
ELCID	Developed and maintained in house, Access, SQL Server	This system is used to maintain DS Clients Demographic information and Diagnosis.	To be determined
Intake	Developed and maintained in house, Access, SQL Server	This system is used to intake DS applicants.	To be determined
SLA Invoices	Developed and maintained in house, Access, SQL Server	This system is used to process provider invoices.	To be determined
A-E (Authorizations and Eligibilities)	Developed and maintained in house, Access, SQL Server	This system is used to track Authorizations for services and funding source eligibilities.	To be determined
JDT	Developed and maintained in house, Access, SQL Server	This system is used to track contracts and invoices for jobs and day training.	To be determined
Waiver Services Review	Developed and maintained in house, Access, SQL Server	This system is used to track Service review process.	To be determined

Division of Mental Health and Developmental Services

Program/Area	System/Project	Description	Future/Enhancements
Respite	Developed and maintained in house, Access, SQL Server	This system is used to track DS client respite balances and the IFS T-numbers and payments to DS respite providers.	To be determined
Category 11 Projector	Developed and maintained in house, Access, SQL Server	This system is used to project Category 11 spending (SLA authority) to the end of the fiscal year based on the current amounts of contracts if there is no change.	To be determined
Category 11 Projector	Developed and maintained in house, Access, SQL Server	This system is used to project Category 17 spending (Autism authority) to the end of the fiscal year based on the current amounts of contracts if there is no change.	To be determined

Division of Mental Health and Developmental Services

Program/Area	System/Project	Description	Future/Enhancements
Providers	Developed and maintained in house, Access, SQL Server	This system is used to manage DS provider information and their addresses.	To be determined

Known Stakeholder HIT and HIE Systems and Projects

Systems

Stakeholder	System/Application	Description	Future/enhancements
Nevada Rural Hospital Partners	Interface Engine for patient information, using HL7 vs. 2.3	Integration of 17 different systems, including integration of patient information with diagnostic digital images and radiology information	Unknown
Nevada Rural Hospital Partners	Diagnostic Imaging Solution for Rural Nevada (DISRN)	Provided seven hospitals with equipment and software for integrating patient information with diagnostic digital images and a centralized information system for image storage and retrieval.	Unknown
Nevada Rural Hospital Partners	Picture archiving and communication systems/radiology information system (PACS/RIS)	Project added these capabilities in a member hospital and improved RIS capability at seven existing sites.	Unknown
University of Nevada School of Medicine, Nurse Clinics in Reno	Practice Fusion System	Cloud-based system used by the Nurse Clinics in Reno through the University of Nevada, School of Medicine	In the process of scanning in all paper records.

Systems

Stakeholder	System/Application	Description	Future/enhancements
University of Nevada, School of Dental Medicine	System information not identified through assessment or survey	Operates paperless clinic including: electronic clinic management system, digital radiology, electronic textbooks	Unknown
University of Nevada Center for Health Information and Analysis (CHIA)	Inpatient hospital claims database	Database of inpatient hospital medical claims for Nevada hospitals	Unknown
University of Nevada Center for Health Information and Analysis (CHIA)	Outpatient hospital quality Reporting system	Developing web-based quality reporting capabilities for hospital and outpatient services	Unknown
University of Nevada Center for Health Statistics and Informatics	Autism Database	Statewide Autism Database	Unknown
Indian Health Clinics	RPMS EHR, DOS-based being enhanced to meet criteria	EHR system provided by IHS, which is in the process of being enhanced. System expected to meet ONC EHR certification requirements.	Enhancements in progress to meet certification requirements.

Systems

Stakeholder	System/Application	Description	Future/enhancements
Air Force, Federal Hospital	CHCS and ALTA systems	DoD health information is shared via the ALTA EHR system. EHR system is currently for inpatient care at the moment. In the process of implementing outpatient EHR, which will be complete by the end of 2010.	There was a recent congressional directive that the Air Force share information with Veterans Affairs. The VA systems are CPRS and VISTA.
Army National Guard	MEDPERMS	MEDPERMS is a National Medical Personnel Electronic Records Management System.	Enhancements being coordinated at federal level.
Veterans' Affairs	CPRS and VistA	Electronic Health Record that can be accessed across state boundaries.	Unknown

Stakeholder Projects

Stakeholder	Project	Description	Future/enhancements
Nevada Hospital Association	Seeking funding for broadband infrastructure	The state lacks the necessary broadband infrastructure to support it; T-1 lines exist but where shut down in rural areas due to cost (Nevada Hospital Association is seeking grant funding to help remedy the lack of infrastructure	Enhancements to be determined
College of Southern Nevada	Workforce Training on HIT and HIE	Online training is being provided for four workforce roles: workflow redesign specialist; a clinical practitioner support specialist; an implementation specialist; and EHR trainer.	Classes are expected to begin by the end of September.

Appendix C – HIT and HIE Representative Stakeholder List

Introduction

This document highlights identified stakeholders through the HIT Assessment for the state of Nevada's HIT and HIE planning efforts. Not every HIT and HIE stakeholder is specifically addressed in this assessment as the Nevada health care stakeholder community is extremely broad. We included stakeholder groups and specific stakeholders that were identified during the assessment process for outreach, communications, interviews, and focus groups. This list should be updated on a regular basis to reflect ongoing outreach and identification of additional stakeholders.

Primary Stakeholders

All licensed health care providers in Nevada and health care providers in other states providing services to Nevada consumers (breakdown following Table A below)

All health care consumers in Nevada

Associations, consortiums, and work groups (breakdown included in Table A)

All health plans in Nevada, including managed care plans (breakdown following Table A below)

State, county, and local government agencies (breakdown included in Table A)

Military and VA (breakdown included in Table A)

Universities and colleges (breakdown included in Table A)

HIT and HIE vendors

Indian health clinics (breakdown included in Table A)

Indian Health Board of Nevada

Nevada's HIT Regional Extension Center (HealthInsight)

Federal oversight agencies, including HHS, CMS, and ONC

National Health Information Network

American Civil Liberties Union (ACLU) Nevada

Department of Defense

Centers for Disease Control and Prevention

Lobbyists and advocates

Others as identified

Table A – Breakdown of Selected Stakeholders

Associations, Workgroups, and Consortiums

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada State Medical Association	Larry Matheis, Executive Director	Association representing approximately 2,500 to 3,000 active licensed physicians (both MDs and DOs), medical residents and medical students in the state of Nevada. This includes all localized chapters in Nevada.	Yes	Yes
Nevada Nurses Association	Margaret Curley, NNA Communications Director	Association representing Nevada's registered nurses including staff nurses, nurse educators, nurse practitioners, school nurses and public health nurses. This includes all localized chapters in Nevada.	Yes	Yes

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada Hospital Association	Bill Welch, CEO	A Statewide, professional association, representing the vast majority of Nevada hospitals (approximately 50 hospitals are represented) and other health-related agencies and organizations throughout the state.	Yes	Yes
Nevada Dental Association	Robert Talley, Executive Director	Association representing the majority of Nevada's dentists.	Yes	No
Nevada Association of Health Plans	Jack Kim, Health Plan Representative	Association representing health plans, including HMOs and PPOs in Nevada.	Yes	No
Nevada Occupational Therapy Association	Julie Honen, Interim President	Association representing the majority of occupational therapists in the state of Nevada.	Yes	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada Physical Therapy Association	Parley Anderson, President	Association representing approximately 400 physical therapists, physical therapist assistants, and physical therapy students in Nevada.	Yes	No
Nevada Association of Medical Products Suppliers	Richard Pozesky, President	Association representing Home Medical Equipment providers in Nevada.	Yes	No
Great Basin Primary Care Association	Patricia Durbin, Executive Director	The primary care association that supports and advocates on the behalf of health centers, tribal clinics and other health care safety net providers throughout Nevada.	Yes	No
Nevada Health Care Association	Charles Perry, Executive Director	The primary association representing long term care providers and facilities in Nevada.	Yes	Yes
Nevada Chiropractic Association	Dr. James Overland, President	The association representing chiropractors in Nevada.	Yes	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada Emergency Medical Association	Frank Bergwall, Nancy Madison, Michelle Harden, and other Board Members	The association representing emergency medical providers in Nevada through five different regions.	Yes	No
Nevada Speech-Language Hearing Association	Rebecca Bailey-Torres, President	The association representing speech-language and hearing providers in Nevada.	Yes	No
Nevada Managed Care Quality Improvement Council	Marc Amorelli, Quality Improvement Administrator, Hometown Health	A council that seeks to improve quality of managed care plans.	Yes	Yes
Nevada Primary Care Advisory Council	Martha Framsted, Nevada State Health Division	Primary Care Advisory Council is the Health Planning Unit's (Nevada State Health Division) Primary Care Office. The Council provides guidance and counsel to the Administrator and the Health Planning Program Manager, who are responsible for the federal J-1 Physician Visa Waiver Program in Nevada.	Yes	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada Health Information Management Association (AHIMA)	Peggy Brown and Greg Shultz, President Elect	The American Health Information Management Association (AHIMA) is an association of health information management (HIM) professionals. The association is dedicated to the effective management of personal health information required to deliver quality health care to the public	Yes	Yes
Health care Information Management Systems Society	Russell Suzuki, Vice President	Non-profit organization dedicated to promoting health care information and management systems.	Yes	Yes
EHR Nevada	Linda Rubinson and Russell Suzuki, Members	A joint initiative of the Southern Nevada Medical Industry Coalition (SNMIC), Nevada HIMSS, and MGMA Nevada to educate the health care community about Electronic Health Records (EHR) and other health information technologies.	Yes	Yes

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Southern Nevada Medical Industry Coalition	Linda Rubinson, SNMIC Board of Director Member	A coalition of consumers, public, and private organizations with the goal of quality health care in Southern Nevada through collaboration with public and private organizations	Yes	Yes
Nevada Medical Group Management Association	Phil Schwebe, President	Nevada Medical Group Management Association (NVMGMA) is a recognized affiliate of national Medical Group Management Association (MGMA), an organization dedicated to the business of medical practice management.	Yes	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada Ambulatory Surgery Center Association	Ahsan Khan, Executive Director Jovanna Grissom, Nevada Representative	The Nevada Ambulatory Surgery Center Association (NASCA) is dedicated to representing, enhancing, and supporting the delivery of cost-effective, high quality, advanced surgical services to Nevada's health care consumers. NASCA will represent and be an advocate for all aspects of the industry, including patients, physicians, clinical and administrative staff.	Yes	No
Nevada Pharmacy Association	Khanh Pham, President	Association representing pharmacists in Nevada.	Yes	No
Nevada Rural Hospital Partners	Todd Ratke, CIO	Nevada Rural Hospital Partners is an alliance of 14 small and rural hospitals.	Yes	Yes

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada HIT Blue Ribbon Task Force	Lynn O'Mara, State HIT Coordinator	Task Force appointed by the Governor for overseeing the State level HIT and HIE efforts. The HIT Blue Ribbon Task Force also has various subcommittees to address Governance, Infrastructure, and Financial Accountability and Sustainability	Yes	Yes
Broadband Task Force	Daphne DeLeon, Chair	Comprised of Governor-appointed members charged with identifying and removing barriers to broadband access and identifying opportunities for increased broadband applications and adoption in unserved and underserved areas.	No	No
Clark County Medical Society	Annette Teijeiro, M.D. – President	Society representing physicians in Clark County.	Yes	Yes

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
NV DHHS Security Committee	No contact identified as part of assessment	DHHS Committee comprised of Information Security Officers and professionals from DHHS' six divisions. Identifying where commonalities exist within the divisions. Working to consolidate these commonalities through security policies, standards and guidelines.	No	No
NV DHHS Confidentiality and Privacy Committee	No contact identified as part of assessment	Comprised of HIPAA Officers from each DHSS division. Addressing new requirements established by HITECH and ARRA.	No	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada Health Partners	Jaime Crozier, President	Nevada Health Partners is a nonprofit organization which manages the business affairs of the Nevada Health Care Coalition and conducts cost-effective health care provider contracting activities on behalf of member employers in northern Nevada serving over 35,000 lives	No	No
Nevada Health Care Coalition	Jaime Crozier, President	The Nevada Health Care Coalition (NHCC) is a tax-exempt Nevada nonprofit corporation dedicated to improving health care quality and providing cost-effective health care solutions. NHCC supports a subsidiary Nevada nonprofit corporation, Nevada Health Partners (NHP)	No	No

State Agencies

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
NV DHHS Child and Family Services	Diane Comeaux, Administrator of the Division of Child and Family Services	http://www.dcfs.state.nv.us/	Yes	Yes
NV DHHS Health Care Financing and Policy	Chuck Duarte, Medicaid Director	https://dhcfp.nv.gov/index.htm	Yes	No
NV DHHS Aging and Disability Services	Carol Sala, Administrator of the Division for Aging Services	http://aging.state.nv.us/index.htm	Yes	Yes
NV DHHS Health Division	Marla McDade Williams, Deputy Administrator Alicia Hansen, Chief Biostatistician	http://health.nv.gov/	Yes	Yes

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
NV DHHS Mental Health and Development Services	Dr. Harold Cook, Administrator of the Division of Mental Health and Developmental Services	http://mhds.state.nv.us/	Yes	Yes
NV DHHS Welfare and Supportive Services	Romaine Gilliland, Administrator	https://dwss.nv.gov/	No	No
State of Nevada – All County Health Departments	Varies by County		Yes	No
State of Nevada Office of the Governor	No contact identified as part of assessment		No	No
State of Nevada Legislature	Various Contacts		No	No
State of Nevada Attorney General's Office	No contact identified as part of assessment		No	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Department of Education (including all pre-K, K-12, and other primary schools)	Varies		Yes	No
Department of Corrections – State level	Chuck Schardin, Medical Administration Dr. Robert Bannister, Medical Director		Yes	Yes
All Corrections - County Level	Varies		No	No
Local Government Agencies	Varies		No	No

Military and Veterans' Affairs in Nevada

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada State Veterans Affairs Home, Boulder City	Gary Bermeosolo, Administrator, Boulder City Tamara Walcott, Manager Health Information Services/HIPAA Officer	The Nevada State Veterans Home is one of 140 state veterans' homes across the United States providing skilled nursing services to veterans, and their spouses. The home is a state-owned and operated facility and receives support from the U.S. Department of Veterans Affairs. It is an 82,000 square foot facility that accommodates 180 residents.	Yes	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada Office of Veterans Affairs Services, Reno	Jeanette Rae, Senior Manager (Reno)	Veterans Services provides a full continuum of quality services to eligible veterans and their families. There are four offices in the state of Nevada.	Yes	No
Military: Army and Army National Guard	Sgt. Ronald Pitts Colonel Moskey	The Army National Guard provides units, trained and ready for any contingency as directed by the National Command Authority or the Governor. They recruit, develop, and retain quality military and civilian personnel to support the Nevada Army National Guard during training and operations. The Army Guard currently occupies 11 Armories, a regional training site, an Army Aviation Support Facility and a number of maintenance shops.	Yes	Yes

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Military: Nellis Air Force Base 99th Medical Command Hospital	Mr. Thomas Martinez, Deputy CIO Major James Combs, Information Management Officer	The 99th MDG provides medical care for the military community to ensure maximum wartime readiness and combat capability. The group's functions include flight medicine, surgical services, maternal and childcare, pharmacy, laboratory, radiology, dental care, medical benefits and information and diagnostic and therapeutic services.	Yes	Yes
Military: Fallon Naval Air Station	Lt. Commander Cynthia Hutchinson	Home to the Fighting Saints of VFC-13, the Desert Outlaws of Strike Fighter Weapons Det., and the Naval Strike and Air Warfare Center, NAS Fallon serves as the Navy's premier tactical air warfare training center. The Naval Air Station Clinic serves Navy and Marine Corps personnel and their families stationed here.	Yes	No

Universities and Colleges

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
University of Nevada Reno, including the School of Medicine	Steven Zink, VP of IT		Yes	Yes
University of Nevada Las Vegas, including the School of Dentistry	Karen West, Dean of School of Dentistry		Yes	No
University of Nevada Center for Health Information and Analysis (CHIA)	No contact identified as part of assessment		Yes	No
Great Basin Colleges	No contact identified as part of assessment		No	No
College of Southern Nevada	Hyla Winters, Associate Vice President for Academic Affairs		Yes	Yes

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Turo University	Julie Honan, Assistant Professor/Academic Clinical Coordinator School of Occupational Therapy		Yes	No
Nevada State College	No contact identified as part of assessment		No	No
Truckee Meadows Community College	No contact identified as part of assessment		No	No
Western Nevada College	No contact identified as part of assessment		No	No
Desert Research Institute	No contact identified as part of assessment		No	No

Indian Health

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Indian Health Board of Nevada	Larry Curley, Executive Director	The Indian Health Board works with Tribal leaders, Tribal Health Care Providers, local, state, and National leaders to raise the status of Nevada's Tribal Community through advocacy, training, education, and support	Yes	Yes
Indian Health Clinic Directors	Various Health Clinic Directors	Most Indian Health Clinics use a system called RPMS (DOS-based, with enhancements in process; system expected to be certified).	Yes	Yes
Indian Health Services	No contact identified as part of assessment	The agency within the Department of Health and Human Services that is responsible for providing federal health services to American Indians and Alaska Natives.	No	No

Organization	Contact	Description (if applicable)	Outreach Conducted	Interviews/ Focus Groups Conducted
Nevada's Tribes	Various Tribal Contacts		No	No

Health Care Provider Stakeholders

All licensed health care providers in the state of Nevada providing services to Nevada consumers are stakeholders, including the following:

Providers

Allergy and Immunology

Allopathic and Osteopathic Physicians

Anesthesiology

Behavioral Health and Social Service Providers

Chiropractic Providers

Chiropractor

Clinical

Clinical Pharmacology

Colon and Rectal Surgery

Dental Assistant

Dental Hygienist

Dental Laboratory Technician

Dentist

Denturist

Dermatology

Dietary and Nutritional Service Providers

Emergency Medical Service Providers

Emergency Medicine

Eye and Vision Services Providers

Family Medicine

General Practice

Independent Medical Examiner

Internal Medicine

Legal Medicine

Marriage and Family Therapist

Medical Genetics

Neurological Surgery

Neuromusculoskeletal Medicine

Neuromusculoskeletal Medicine, Sports Medicine

Nuclear Medicine

Nursing Service Providers

Nursing Service Related Providers

Obstetrics and Gynecology

Ophthalmology

Oral and Maxillofacial Surgery

Orthopaedic Surgery

Otolaryngology

Pain Medicine

Pathology

Pediatrics

Phlebology

Physical Medicine and Rehabilitation

Plastic Surgery

Preventive Medicine

Psychiatry and Neurology

Psychoanalyst

Psychologist

Radiology

School

Social Worker

Surgery

Thoracic Surgery (Cardiothoracic Vascular Surgery)

Transplant Surgery

Urology

Hospitals

Specialty Hospital

Acute Care Hospital

Long Term Care Hospital

Military Hospital

Psychiatric Hospital

Rehabilitation Hospital

Ambulatory Surgery Center

Critical Access Hospital

Rural Hospital

Obstetric Center

Independent Center for Emergency Medical Care

Other Service Providers

Acupuncturist

Case Manager/Care Coordinator

Community Health Worker

Contractor

Driver

Funeral Director

Genetic Counselor, MS

Health Educator

Home Modifications

Homeopath

Interpreter

Legal Medicine

Lodging

Mechanotherapist

Medical Genetics, Ph.D. Medical Genetic

Midwife

Midwife, Lay

Military Health Care Provider

Naprapath

Naturopath

Nurse Anesthetist, Certified Registered

Nurse Practitioner

Pharmacist

Pharmacy Service Providers

Physician Assistant

Physician Assistants and Advanced Practice Nursing Providers

Podiatric Medicine and Surgery Service Providers

Reflexologist

Respiratory, Developmental, Rehabilitative and Restorative Service Providers

Sleep Specialist, PhD

Speech, Language and Hearing Service Providers

Student, Health Care

Technologists, Technicians and Other Technical Service Providers

Vehicle Modifications

Agencies

Case Management

Community/Behavioral Health

Day Training, Developmentally Disabled Services

Early Intervention Provider Agency

Foster Care Agency

Home Health

Home Infusion

Hospice Care, Community Based

In Home Supportive Care

Local Education Agency (LEA)

Nursing Care

Program of All-Inclusive Care for the Elderly (PACE) Provider Organization

Public Health or Welfare

Supports Brokerage

Voluntary or Charitable

Health Facilities

Ambulatory Health Care Facilities

Laboratories

Hospice

Urgent Care Centers

Skilled Nursing Facilities

Assisted Living Facilities

Residential Treatment Facilities

Respite Care Facility

Suppliers, including Durable Medical Equipment

Transportation Services

Health Insurance Plans

All health plans in the state of Nevada providing products and coverage to Nevada consumers are key stakeholders, including the following:

Aetna Health Inc.

Anthem Blue Cross and Blue Shield

Celtic Insurance Co.

PacifiCare of Nevada

Harrison Insurance NV

Health Plan of Nevada

Hometown Health

Humana

PacifiCare of Nevada, Inc.

United HealthCare Nevada

Saint Mary's HealthFirst

Managed Care Organizations

Preferred Provider Organizations

ERISA/Self-funded Health Plans

Nevada Medicaid and CheckUp

Appendix D – HIT Blue Ribbon Task Force Members

Members of HIT Blue Ribbon Task Force as of July 23, 2010

Dr. Raymond Rawson, Chairman
Regent
Nevada System of Higher Education

Marc Bennett, Vice Chairman
President and Chief Executive Officer
HealthInsight

Brett Barratt
Nevada Insurance Commissioner

Bobbette Bond
Director of Public Policy
Health Services Coalition

Chris Bosse
Vice President, Government Relations
Renown Health

Brian Brannman
Chief Operating Officer
University Medical Center of Southern Nevada

Peggy Brown

Nevada Chapter
American Health Information Management Association (NvHIMA)

Tom Chase
Chief Executive Officer
Nevada Health Centers, Inc.

Robert Dornberger
Vice President of Information Technology
Scolari's Food and Drug Company

Charles Duarte
State Medicaid Director
Nevada Division of Health Care Financing and Policy

Tracey Green, MD
Nevada State Health Officer

Rick Hsu
Partner
Maupin Cox and Legoy

Stephen Loos, MD
Great Basin Imaging

Joanne Ruh
Vice President, Information Technology and Chief Information Officer
Nevada Cancer Institute

Robert Schaich
Senior Vice President/Chief Information Officer
United Healthcare Nevada

Russell Suzuki
Nevada Chapter
Healthcare Information Management Systems Society (HIMSS)

Maurizio Trevisan, MD
Executive Vice Chancellor
Nevada System of Higher Education

Glenn Trowbridge
Consumer Representative

Marena Works, RN
Director
Carson City Health and Human Services

Vacant
Consumer Representative