

NEVADA



NV DIRECT Secure Messaging High-Level Plan (Updated) June 7, 2013

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The State of Nevada Department of Health and Human Services Office of Health Information Technology is pleased to submit Nevada's 'NW-HIN DIRECT Project Messaging High-Level Plan / Overview' to the Office of the National Coordinator for Health Information Technology, pursuant to the State Health Information Exchange Cooperative Agreement Program established by the American Recovery and Reinvestment Act of 2009 Health Information Technology for Economic and Clinical Health Act.

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1 Introduction

In June 2011, the State of Nevada Department of Health and Human Services (DHHS) Office of Health Information Technology (OHIT) received approval of Nevada’s State Health Information Technology Strategic and Operational Plan (State HIT Plan) by the Office of the National Coordinator for Health Information Technology (ONC), pursuant to the State Health Information Exchange (HIE) Cooperative Agreement Program (CAP) established by the American Recovery and Reinvestment Act of 2009 (ARRA) Health Information Technology for Economic and Clinical Health (HITECH) Act. This document augments that approved State HIT Plan by providing revisions to the DIRECT Messaging Plan (originally submitted to DHHS on July 29, 2011).

2 About this Document

This document presents the State’s understanding of its role in facilitating NV DIRECT messaging in order to provide secure, one-way, point-to-point “push” between qualified participants. Implementation of DIRECT Messaging (NV DIRECT) will enable sharing of patient lab results, e-Prescribing, and care summary records among enrolled DIRECT users. NV DIRECT messaging capability will be offered as a method to augment the envisioned State HIE services to those Nevada HIE stakeholders who do not otherwise have the means to connect to or operate within a more typical and fully interactive, robust statewide HIE, regardless of their limiting circumstances.

The following sections of this document will provide an overview of the plan to deploy NV DIRECT messaging services with the understanding that NV DIRECT will be an integral and ongoing service of the State HIT Strategic and Operational Plan objectives to implement statewide HIE services and associated governance. If there is a need to review any of the overarching principles or intent of the statewide HIE system, the original Strategic and Operational Document should be used for reference.

3 Nevada DIRECT Messaging Strategy

The plan for implementing Direct messaging services is considered supplemental to Nevada’s Strategic and Operational Plan. As DIRECT services are implemented across the United States, it is Nevada’s intent to follow any available lessons learned and solution design. It is anticipated that this strategy will facilitate alignment of Nevada’s implementation of DIRECT Messaging with ONC expectations. The strategy and implementation of DIRECT will deviate if and when necessary in consultation with ONC.

4 Nevada DIRECT Messaging Implementation Milestones

Figure 4-1. NV DIRECT Messaging Project Milestones

DIRECT Services Implementation Task/Milestone	(Expected) End Date
Initiate Outreach & Enrollee Recruiting	
Identify Candidate Enrollees for NV DIRECT Messaging	30 June 2012
Establish Agreements with Supporting Organizations for Initial Waves of NV DIRECT Messaging Enrollment (e.g., NRHP, Nevada State Medical Association)	13 July 2012
Define Provider Outreach & Communication Campaign in Preparation for Enrollment of 200	6 July 2012
Conduct Provider Outreach Campaign with NV DIRECT Messaging Pilot Organizations	10 May 2013
Establish NV DIRECT Messaging (Contracts, Forms, Operational Capabilities, and Technology Services)	
Define Requirements for DIRECT Participant Support Services	8 June 2012
Develop DIRECT Enrollment Agreements and Forms	22 June 2012
Define and Develop Policies and Procedures for Enrollee Validation and Verification (e.g., License Checks, Notarized copies of credentials, Attestation of DIRECT Usage by Enrollees, etc.)	22 June 2012
Develop Staffing Plan for Ongoing Enrollment Administration, Validation/Verification, Participant Support, and Usage Reporting	29 June 2012
Contract for DIRECT Services (e.g., Messaging Front-end, Provider Directory, HISP, Message Delivery Services, Certificate Management, Participation Reporting)	9 November 2012
Establish Access to Required Verification Services (e.g., online access to license records)	29 June 2012
Create DIRECT Onboarding Document (i.e., Pilot Plan, Education Materials, Attestation Form & Approach)	13 July 2012
Implement NV DIRECT Messaging Services/ Capabilities (i.e., install, configure, test, move to production)	29 April 2013
NV DIRECT Messaging Enrollment & Attestation	
Validate Early Adopters of NV DIRECT Messaging – Phase I (“first 12”, incorporates User Acceptance Testing activities and attestation)	28 June 2013
Validate Early Adopters of NV DIRECT Messaging – Phase II (“next 18”) – Achieve “30 providers in 30 days”	29 July 2013
Validate Early Adopters of NV DIRECT Messaging – Phase III (“final 170”) – Achieve 200 DIRECT Messaging Users	20 September 2013
NV DIRECT Messaging Pilot Evaluation (i.e., enrollment monitoring, attestation by DIRECT users)	27 September 2013
NV DIRECT Messaging – Use Case Validation/Expansion	
Coordination with Public Health – DIRECT services for reportable infectious disease lab results per NRS 441A	as needed
Coordination with Nevada Immunization Registry/WebIZ	as needed

DIRECT Services Implementation Task/Milestone	(Expected) End Date
Coordination with DIRECT Enrollees – DIRECT services for care summary record sharing	as needed
Coordination with DIRECT Enrollees & Pharmacies – DIRECT services for e-prescribing and medication history	as needed
Coordination with DIRECT Enrollees & Laboratory Organizations – DIRECT services for lab orders and structured reporting	as needed

5 Collaboration with other Nevada Groups

In order to maximize and optimize Nevada’s reach and effectiveness in deploying NV DIRECT Messaging, it will be essential that the State collaborate with health organizations that will benefit from the usage of NV DIRECT Messaging.

To achieve the target of 200 DIRECT users, the State will collaborate with the Nevada Rural Hospital Partners (NRHP), the State Medicaid organization, the Nevada Regional Extension Center (REC), and the Nevada State Medical Association. Collaboration with these organizations for enrollment can be summarized as follows:

- NRHP has identified individual providers that will be most willing to utilize the NV DIRECT messaging services during the pilot phase. These individuals will make up the “first 30” or Waves I and II of the pilot users. NRHP will not limit itself to 30 providers (i.e., more will be enrolled if open to participate in the pilot implementation.) Note: NRHP represents some of the State’s most remote hospitals, and pending further discussions and approval, would be Nevada’s primary early partner in facilitating NV DIRECT messaging.
- To augment the “first 30” and to expand enrollment to at least 200 NV DIRECT users, the State has been working with the Medicaid organization as well as the Nevada REC to plan outreach campaigns to providers that will enroll in NV DIRECT Messaging services. Medicaid has identified candidate providers and is looking for ways to fund the initial year of enrollment in NV DIRECT. The REC is also coordinating and collaborating with many other HIT and HIE stakeholders in the State to assess and monitor statewide progress of EHR adoption, and its impact on providers and patients.
- To further expand enrollment, the State is working with the Nevada State Medical Association to communicate with additional potential NV DIRECT enrollees. The association has committed to support the NV DIRECT program and make individual requests to a select number of providers.

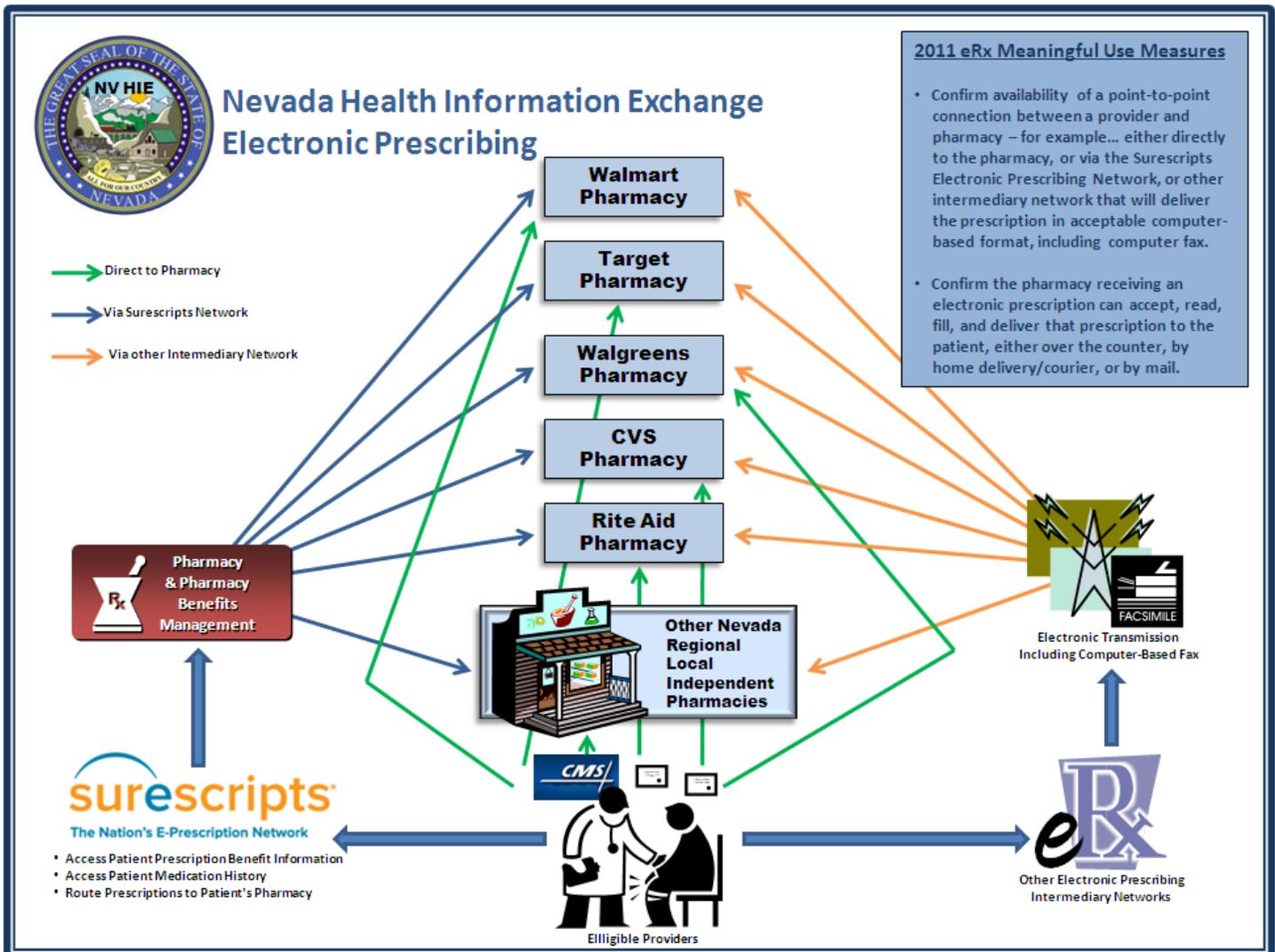
Additional collaboration will be done with the Southern Nevada Health District (SNHD) to support validation and pilot DIRECT use cases for Public Health. Specifics will be determined with SNHD, but initial plans call for providers sending DIRECT messages to SNHD to validate the use of DIRECT Messaging for reportable lab results and immunization updates.

5.1 Collaboration with the eHealth Exchange and facilitating Meaningful Use

Within the State’s overall statewide Strategic and Operational Plan, it is Nevada’s intent to respond to market changes, adapt to new/required technology, and maintain connectivity and interoperability with the eHealth Exchange. Any technical design of Nevada’s HIE infrastructure, including NV DIRECT Messaging, will be consistent with national standards and protocols and will support the facilitation of Meaningful Use. This will include messaging for:

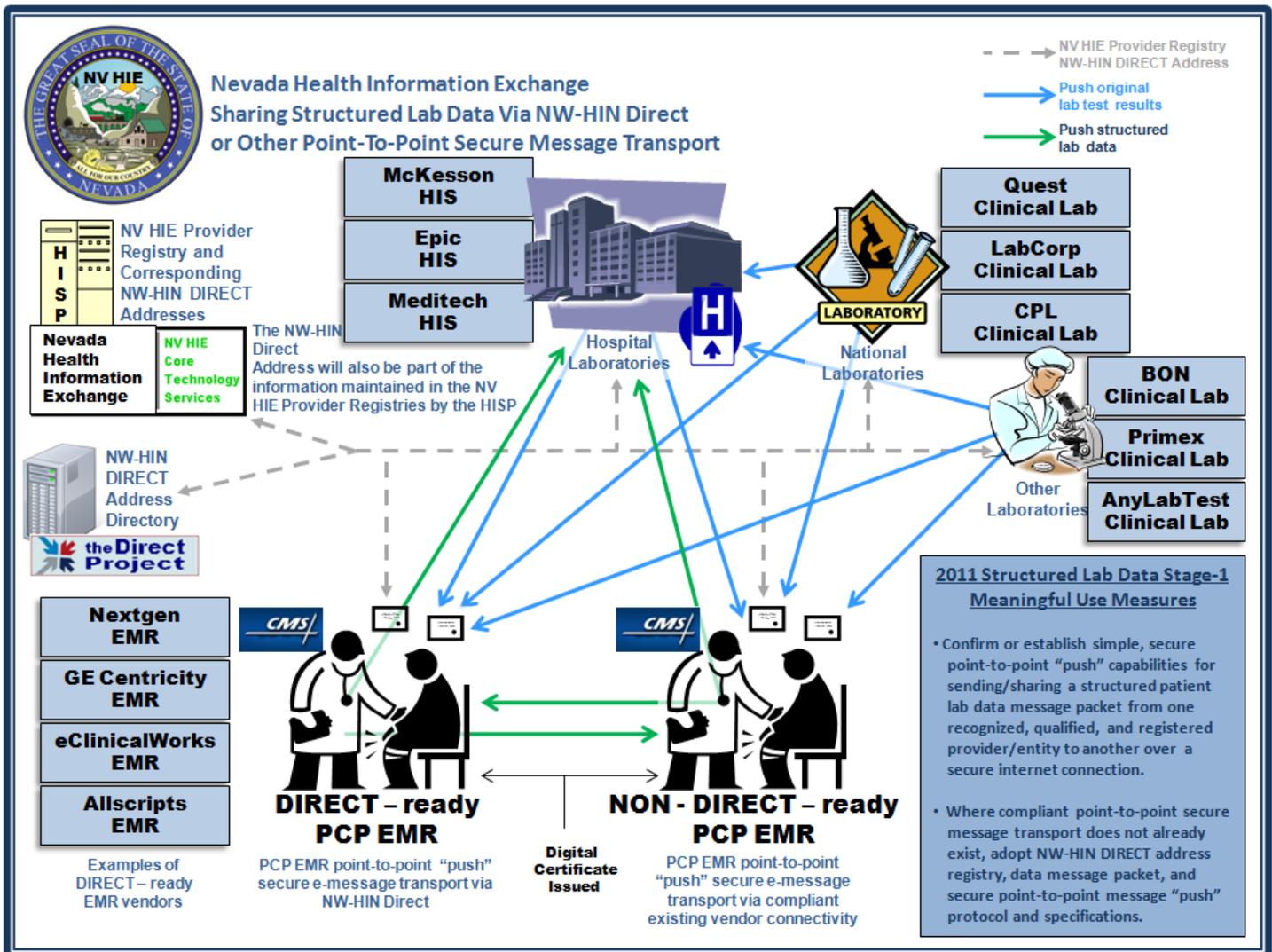
- Electronic prescribing (e-prescribing)

Figure 5-1. NV DIRECT Messaging – e-Prescribing



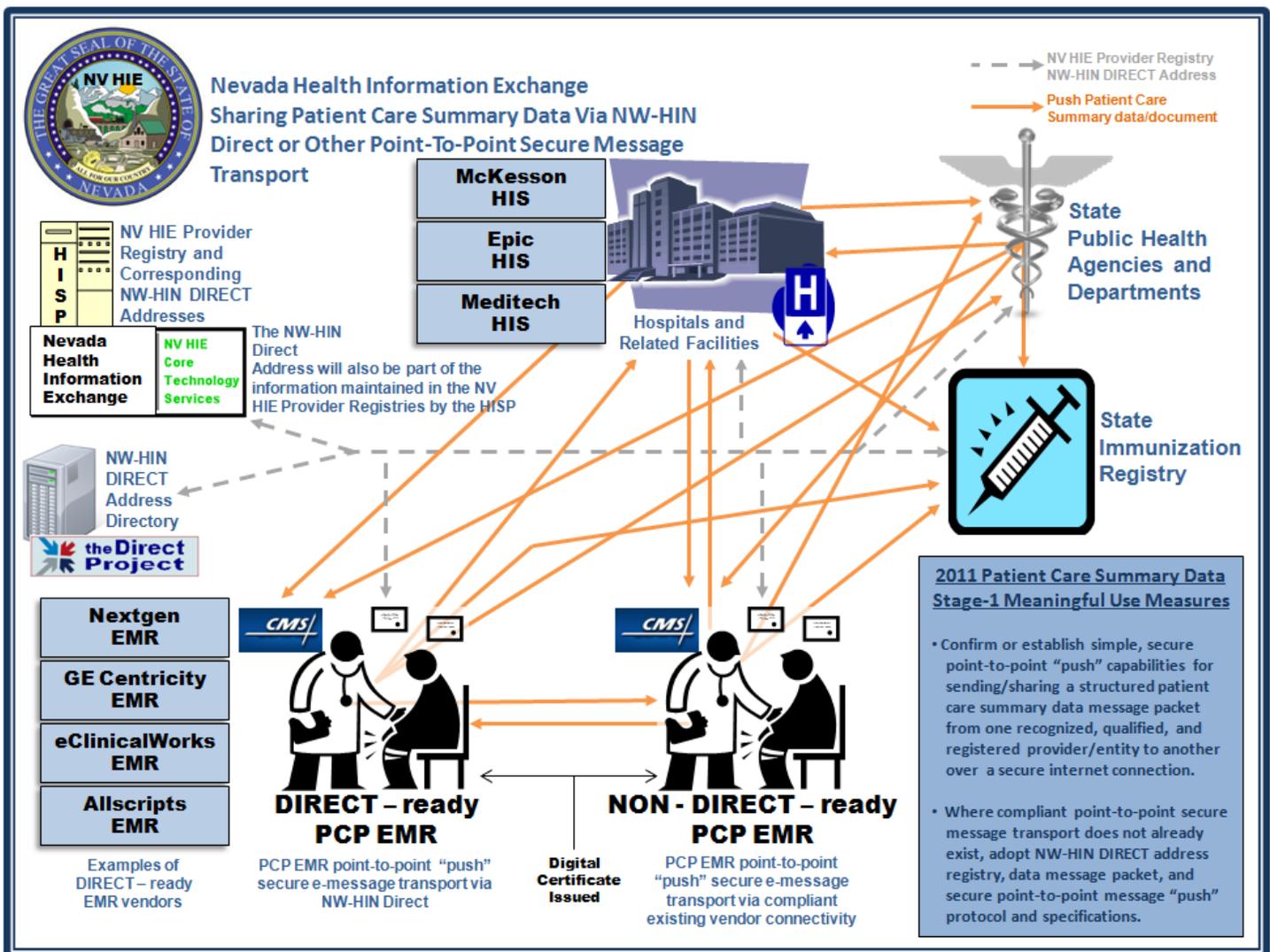
- Receipt of structured lab results

Figure 5-2. NV DIRECT Messaging – Receipt of Structured Lab Results



- Sharing patient care summaries across unaffiliated organizations

Figure 5-3. NV DIRECT Messaging – Sharing Patient Care Summaries



6 Implementation of NV DIRECT Messaging Exchange

Though the NV-HIE will be building and deploying a full service, robust health information exchange that will grow and evolve over time, the initial and integral function and service of the NV-HIE will be to enable providers NV-HIE to meet Meaningful Use.

Following ONC's original approval of the State HIT Plan, Nevada's budget, resource requirements/ assignments, and detailed project planning were put on hold for nearly 9 months by ONC. As such, implementation of DIRECT Messaging was delayed. The dates above have been adjusted accordingly.

In addition to building out a full service HIE, Nevada acknowledged in the Strategic and Operational Plan the State's need to build out an information exchange of adequate functionality to meet Meaningful Use as quickly as possible.

To date, though methodologies to successfully implement (or test) DIRECT has been piloted or otherwise experimented by a number of cooperative HIE organizations across the country, guidance for use of DIRECT and the evolution DIRECT methodologies and techniques continue. In April 2011, ONC conducted Nw-HIN DIRECT "Boot Camp" conference over the course of several days in Chicago. Though Nevada was not in attendance, we are developing our implementation of NV DIRECT Message transport based on guidance, methodologies, and architecture examples and perspectives contained within the Boot Camp materials. We will fine-tune our techniques for implementing this solution over the course of the DIRECT pilot(s) we will launch over the course of the next several months.

Though the ultimate NV DIRECT Messaging implementation will be constructed to meet the needs of the NV-HIE Nevada health care community, the build and deployment of NV DIRECT will follow models and methodologies presented during the DIRECT Boot Camp and any ONC endorsed/approved guidelines and/or advisories and/or sources of related materials. Any deviation from prevailing ONC DIRECT methodologies will be kept to a minimum, and only engaged as needed and in collaboration with ONC. Any adaptation of DIRECT based on the presentations and guidance of the DIRECT Boot Camp (and information published on related web-pages) will be devised to accurately represent the Nw-HIN DIRECT approach that fits NV-HIE while continuing to conform to Nw-HIN objectives and compatibility requirements.

An important and ongoing service available to all NV DIRECT Messaging stakeholders will be enrollment services which will issue NV DIRECT Message addresses. DHHS has developed stakeholder communication for NV DIRECT messaging enrollment, ensuring that each provider and stakeholder participating in NV DIRECT messaging has access to and correctly applies for and acquires their needed NV DIRECT address(es).

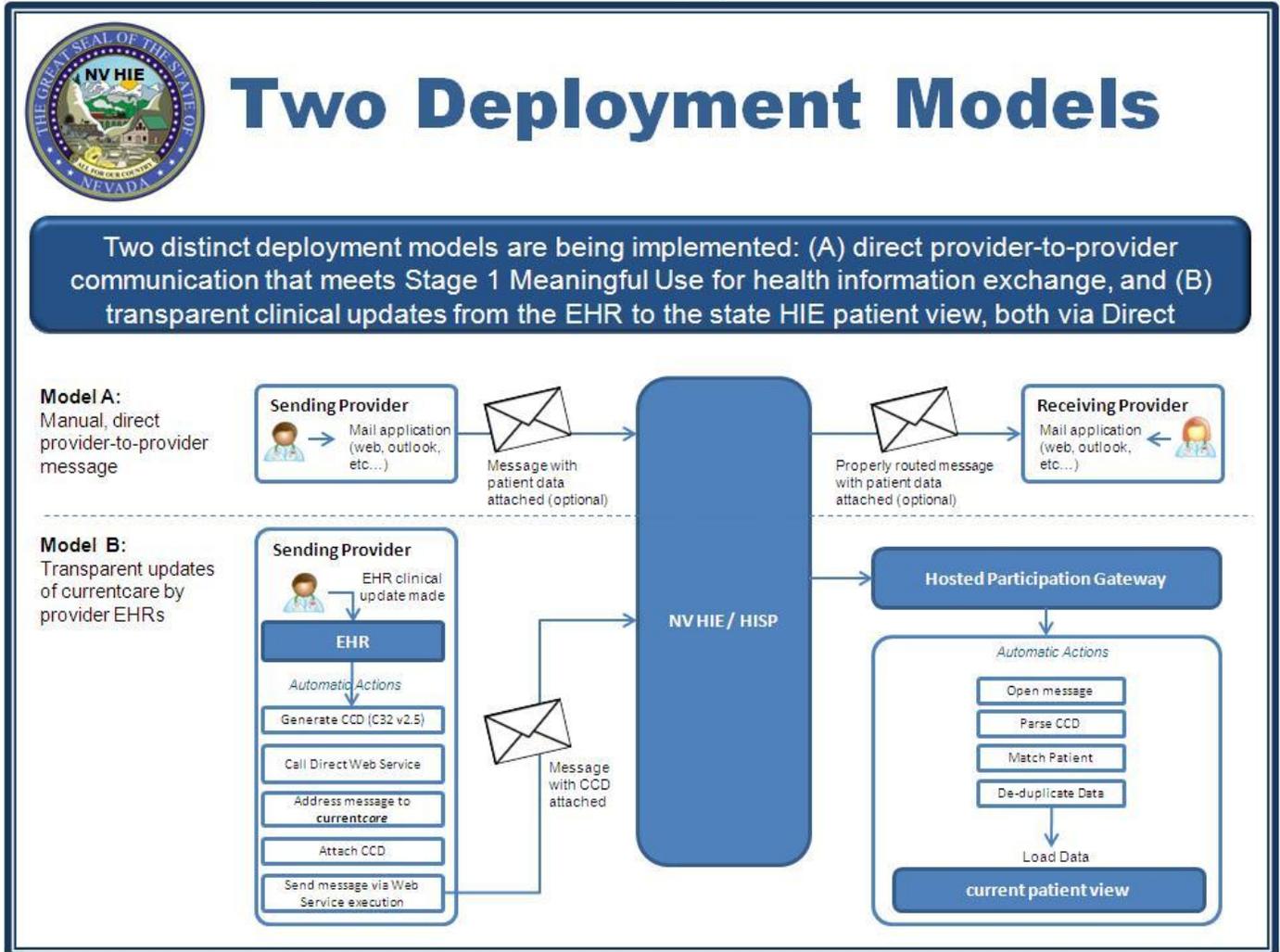
7 NV DIRECT Deployment Models

The state will adopt one or both Deployment models that were presented in the Nw-HIN DIRECT Boot Camp and supporting materials.

Deployment Model A represents a manual, point-to-point secure message transport that will meet all requirements for attaining Meaningful Use. Deploying Model A is the State's priority.

Deployment Model B represents clinical updates from EHRs through the NV DIRECT Messaging infrastructure.

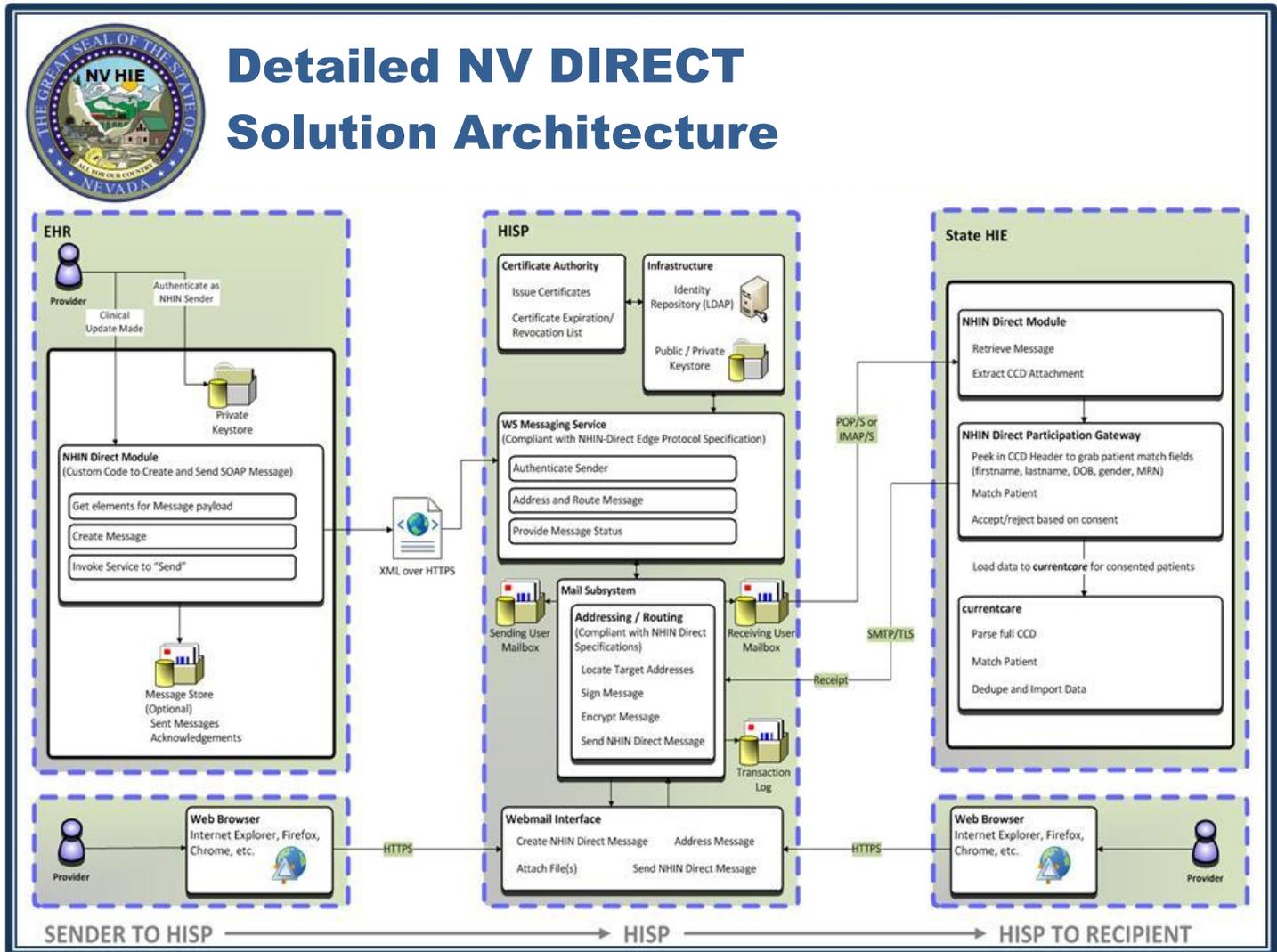
Figure 7-1. NV DIRECT Messaging Deployment Models



8 NV DIRECT Messaging Solution Architecture

The State is adopting the following conceptual architecture.

Figure 8-1. NV DIRECT Messaging Solution Architecture



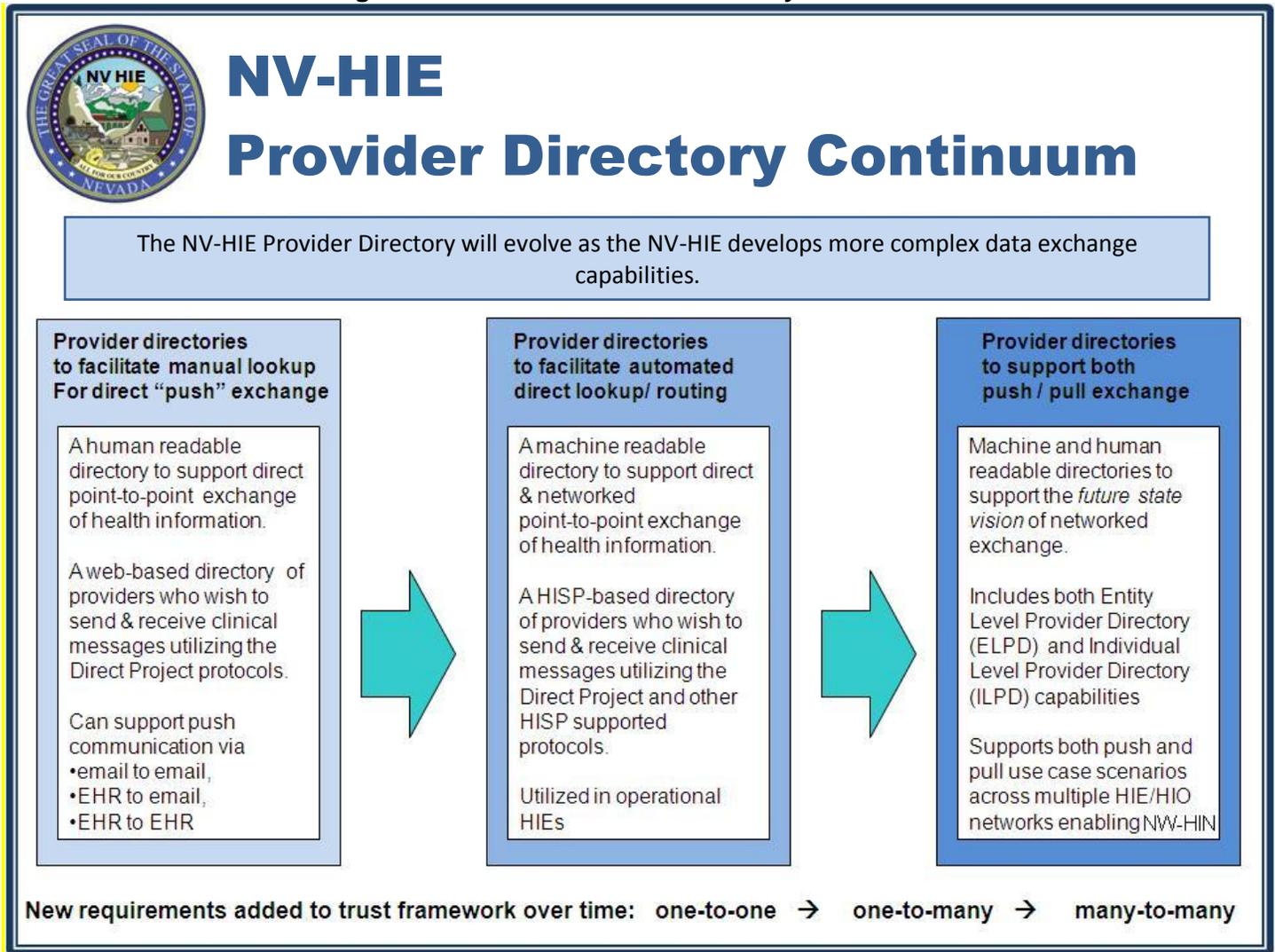
8.1 Provider Directory

A central provider directory will be maintained for all stakeholders participating in the NV-HIE and the NV DIRECT Project messaging once it is transferred to the NV-HIE by late calendar year 2013. The Provider Directory will be an electronic searchable resource that lists all information exchange participants, their names, addresses and other characteristics required and used to support secure and reliable exchanges of health information.

For the NV-HIE, the Provider Directory will provide 3 primary functions;

- **Discover certificates**- A cataloguing of end nodes and corresponding certificates allowing for secure electronic routing between computers
- **Discover entity**- Entity-Level Provider Directory (ELPD) - A directory listing provider organizations
- **Discover provider**- Individual-Level Provider Directory (ILPD), a (human readable) directory listing individual providers

Figure 8-2. NV-HIE Provider Directory Continuum



This graphic represent NV-HIE and is based on provider directory example extracted from the April 2011 Nw-HIN DIRECT Boot Camp document ‘Session+5_Direct+Boot+Camp_Providers+Directories_FINAL.pptx’.

Provider Directory sources of data include but may not be limited to sources like the following:

- Licensing authorities
- Integrated Delivery Networks
- Hospitals/health systems

- Clinics
- Payors
- Medicaid
- Health Insurance Exchange (HIX)
- Professional associations such as state medical societies, etc.
- Public Health
- Vendors
- Other

Within the Provider Directory, data fields may include but not be limited to:

- Last Name
- First Name
- Middle Name or Initial
- Name suffix (Jr., III)
- Degree / Title (free form, 1 time, 20 char max)
- Date of Birth
- Gender
- Office / Practice Name
- Parent Organization/Group
- Street name
- Suite / building number
- Address Line 2
- City
- County
- State
- Zip code + 4
- Email Address
- General Clinic Phone
- General Office Fax
- Office Site NPI number
- Hospitals to which this provider is affiliated
- e-Prescribing
- Electronic Medical Record
- Specialty
- State License From
- License number
- Type of license
- NPI number
- Medicare Provider Number
- Medicaid number

- Digital Certificate/Public Key
- DIRECT Address

8.2 NV DIRECT Addressing

NV DIRECT Addressing;

Figure 8-3. DIRECT Project – Addressing Specification (page 1)

Capgemini
CONSULTING. TECHNOLOGY. OUTSOURCING

Nevada Pilot HIE
PMO / Operations / Core Services / HISP

Nevada Rural Hospital Partners
Supporting Nevada's Rural & Frontier Hospitals

**Nevada HIE Pilot
NW-HIN DIRECT Addressing Specification**

**ONC Issues
NW-HIN
Direct
Address**

**the Direct
Project**

Synopsis
Health Internet Addresses consist of a Health Domain Name portion, which is a fully qualified domain name, and a Health Endpoint Name. The intent of a Health Internet Address is to provide a method of routing from an origination point to the addressed recipient, not to provide a single, definitive ID for the intended recipient. The same real-world person may have multiple Health Internet Addresses (e.g. one address for each practice location, multiple addresses for different processing purposes such as labs, routed to the EHR, vs unstructured messaging, routed to the secure messaging client and copied to the chart).

Health Domain Name
A Health Domain Name is a string conforming to the requirements of [RFC1034](#).

A Health Domain Name identifies the organizations that assigns the Health Endpoint Names and assures that they correspond to the real-world person, organization, machine or other endpoint that they purport to be. Example: nhin.sunnyfamilypractice.example.org. A Health Domain Name MUST be a fully qualified domain name, and SHOULD be dedicated solely to the purposes of health information exchange.

Organizations that manage Health Domain Names MUST maintain NHIN Direct HISP Address Directory entries for the Health Domain Name, as specified by the [Abstract Model](#), and corresponding to rules established for concrete implementations of the Abstract Model.

Organizations that manage Health Domain Names MUST ensure that at least one concrete implementation of the HISP to HISP abstract transaction is available for each Health Endpoint Name.

Organizations may take on the HISP role or assign this function to another organization playing the HISP role.

Health Endpoint Name

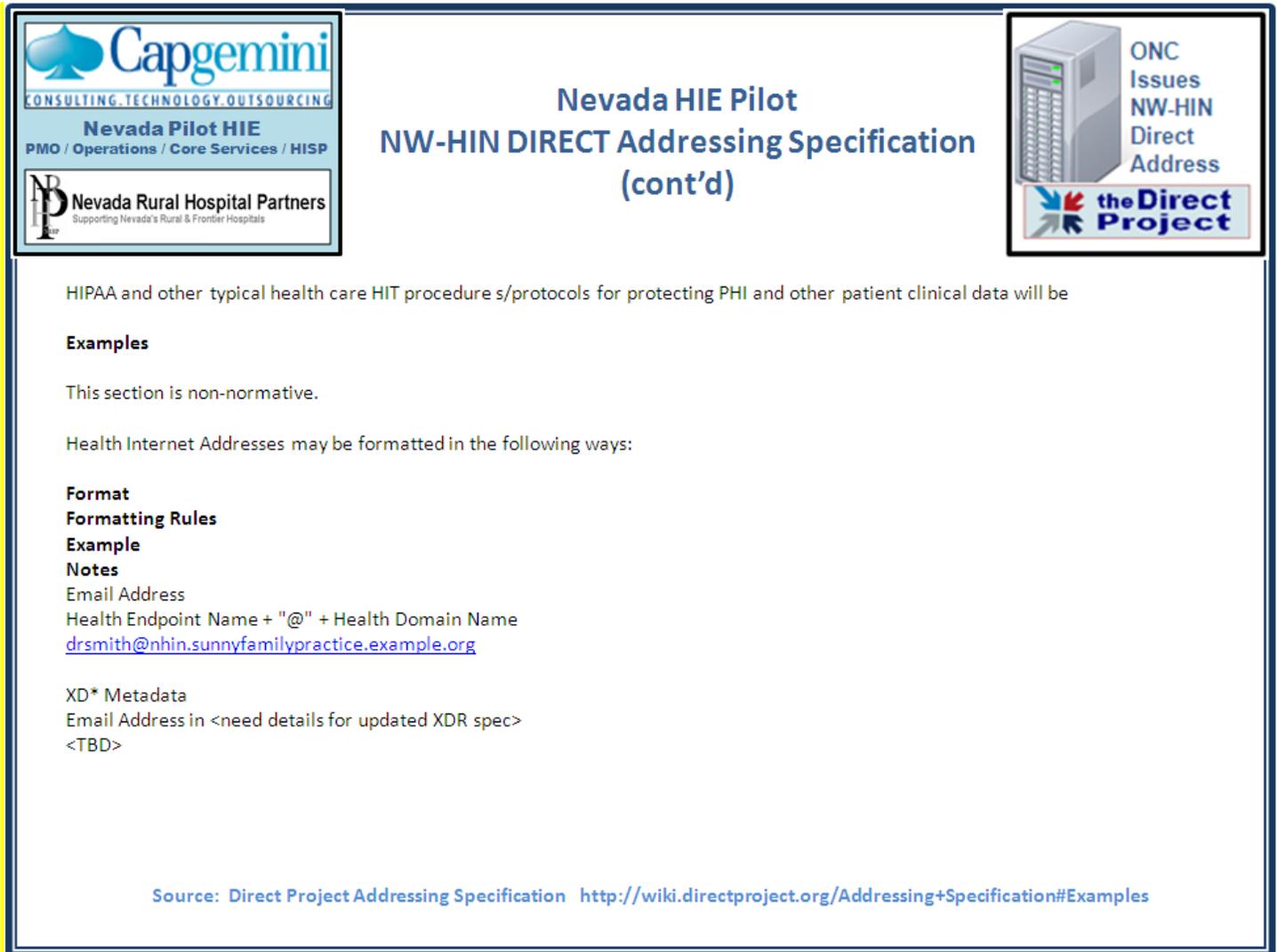
A Health Endpoint Name is a string conforming to the local-part requirements of [RFC5322](#)

Health Endpoint Names express real-world origination points and endpoints of health information exchange, as vouched for by the organization managing the Health Domain Name. Example: drsmith (referring to in individual), sunnyfamilypractice, memoriiallab (referring to organizational inboxes), diseaseregistry (referring to a processing queue).

Source: Direct Project Addressing Specification <http://wiki.directproject.org/Addressing+Specification#Examples>

NV DIRECT Addressing;

Figure 8-4. NV DIRECT Project – Addressing Specification



The slide features a central title "Nevada HIE Pilot NW-HIN DIRECT Addressing Specification (cont'd)". On the left, there are logos for Capgemini (CONSULTING, TECHNOLOGY, OUTSOURCING) and Nevada Rural Hospital Partners (Supporting Nevada's Rural & Frontier Hospitals). On the right, there is a server rack icon with the text "ONC Issues NW-HIN Direct Address" and the Direct Project logo. The main text discusses HIPAA and HIT procedures, provides examples of email addresses, and lists formatting rules and notes. A source link is provided at the bottom.

HIPAA and other typical health care HIT procedure s/protocols for protecting PHI and other patient clinical data will be

Examples

This section is non-normative.

Health Internet Addresses may be formatted in the following ways:

Format
Formatting Rules
Example
Notes

Email Address
Health Endpoint Name + "@" + Health Domain Name
drsmith@nhin.sunnyfamilypractice.example.org

XD* Metadata
Email Address in <need details for updated XDR spec>
<TBD>

Source: Direct Project Addressing Specification <http://wiki.directproject.org/Addressing+Specification#Examples>