

## ORACLE HEALTH INFORMATION EXCHANGE: SECURE, SEAMLESS DATA SHARING



## ORACLE® HEALTH SCIENCES

Healthcare organizations and governmental agencies around the world envision the secure electronic exchange of healthcare information—and many are putting this into practice. Oracle Health Information Exchange solutions enable these stakeholders to realize the promise of that vision and to move forward on their initiatives.

**Oracle Health Information Exchange is a set of solutions built to optimize the secure exchange of electronic health information. Here are the key solutions:**

- **Oracle Health Sciences Information Manager** is a management- and performance-optimized solution that delivers international, standards-based, read-write Web services and longitudinal electronic health record (EHR) data storage to portals and health gateways for health industry users.
- **Oracle Health Sciences Information Gateway** leverages the CONNECT open-source application, enabling secure, health policy-based communication over the Internet, including transmittal of protected health information (PHI) and other EHR data.
- **Portals and Applications** provide the business process GUIs for consumers, providers, and other health information stakeholders in a standards-based presentation environment.

### **Health information exchange: Progress on a global scale**

As healthcare costs continue to spiral upwards, and higher levels of care and access remain elusive for many countries, providers and governmental agencies alike are actively pursuing initiatives focused on health information exchange (HIE)—the seamless, secure, electronic sharing of health data across networks. Many challenges remain, but the progress is encouraging: In the U.S., with the guidance of National Health Information Network (NHIN) standards, there are currently more than 230 active HIE initiatives, and of these, more than 70 are operational (i.e., currently transmitting data that is being used by stakeholders). Major HIE initiatives in Singapore, the U.K., Canada, and Spain are being implemented, and like those in the U.S., they are beginning to bear fruit. Now more than ever, it's clear that the right information, in the right hands at the right time, can have a dramatic impact both on care levels and the bottom line.

### **Oracle Health Information Exchange: An Integrated Set of Solutions for HIE**

Helping to drive this progress is Oracle Health Information Exchange, an extensible, open, standards-based set of solutions built upon a reliable technology infrastructure for the secure exchange of electronic health information. These solutions are empowering healthcare entities globally to reduce costs; enhance revenues; and, most importantly, improve patient care.

Further, they are helping providers in three vital areas: complying with governmental regulations; realizing a higher level of personalized healthcare; and, particularly in the U.S., meeting “meaningful use” requirements.

- **Governance and compliance:** Moving forward, providers will experience even higher demands from federal and local agencies to establish and maintain compliance with an evolving range of regulatory requirements. Oracle Health Information Exchange solutions enable these organizations to manage risk by

**CONNECT:**  
**Linking providers and networks**

CONNECT is an open-source software solution that supports health information exchange at the local and national levels in the United States. CONNECT uses U.S. federal standards and governance to make sure that HIEs are compatible with other exchanges being set up throughout the country. Oracle Health Information Exchange solutions implements the CONNECT architecture and components with health information organizations (HIOs). This CONNECT architecture can be used to set up an HIE within an HIO, and from there to securely share information with other public and private HIE networks.

implementing systems to safeguard critical patient data—while ensuring these patients access to their own health information. They also help providers with the auditing and enforcement of government-mandated e-trading partner legal contracts, lowering the risk of collaboration with business partners.

- **Personalized healthcare:** The secure sharing of health data across networks can help providers move toward a model of personalized healthcare, whereby they can better meet patients' expectations for transparency and security—and securely utilize longitudinal patient information (such as disease states or reactions to certain medicines) to provide higher-quality care. Oracle Health Information Exchange solutions can also enable providers to support translational research by getting critical data to—and from—the point of care, and to establish the consent management needed to deliver care that is more personalized.
- **Meaningful use implementation:** In the U.S., the American Recovery and Reinvestment Act of 2009 (ARRA) has set aside funding to help healthcare organizations with the meaningful use of health information technology (HIT), with the ultimate goal of increasing efficiencies in healthcare while improving care delivery and patient choice. The ARRA incentives commence in 2011, and these—along with the specter of government-mandated reductions in Medicare reimbursements

beginning in 2015—are driving organizations to establish secure sharing of health information. Oracle Health Information Exchange solutions will give U.S. providers the ability not only to comply with meaningful use requirements regarding the collection, transformation, and aggregation of data, but also to substantiate their progress in care quality and the integration of HIT.

Next we'll present the key components of the Oracle Health Information Exchange:

- Oracle Health Sciences Information Manager
- Oracle Health Sciences Information Gateway
- Portals and Applications

**Oracle Health Sciences Information Manager**

Oracle Health Sciences Information Manager v1.0 is a software—i.e., virtual—appliance delivered as an Oracle VM template assembly (TA) that supports secure electronic communication of health information.

Its TA architecture includes support for a DMZ Gateway template and a datacenter adapter template, along with adapter plug-in template integrations that provide both data persistence capabilities and integration with consumer/provider end-user applications. In various implementation combinations, Oracle Health Sciences Information Manager TAs support federated HIE, including enterprise, regional, statewide, or NHIN HIE models that might be highly distributed, highly centralized, or hybrid in nature.



Oracle Health Sciences Information Manager leverages the CONNECT reference architecture and Oracle server virtualization to provide a broad range of international standards-based Web services to HIE applications, in a management- and performance-optimized solution.

Oracle Health Sciences Information Manager includes these key components:

- **Healthcare Master Person Index** provides a single point of reference to a patient, clinician, payer, or other healthcare entity within a healthcare organization or across HIE networks. It's a comprehensive offering for the standardization, matching, cleansing, and profiling of individual entities, ensuring that data is capable of being retrieved regardless of how many systems reference this entity with different identifiers or names. The result: a single source of truth for person management.
- **Health Record Locator** enables the registering and storing of documents by tracking document location. It supports centralized, federated, and hybrid data models, and it facilitates interaction between the master patient index (MPI), registry, and repository in the query-and-response process.
- **Health Policy Monitor** aids providers in complying with governmental regulations, by centralizing EHR-access audit records and providing data to monitoring tools for the privacy officer.

- **Healthcare Transaction Base** provides organizations and HIEs with a “gold-standard” terminology-normalization functionality, supporting critical requirements for data aggregation and improved data quality. It enables a multiuse repository that supports a variety of deployment options such as document repository, HIE infrastructure, and application development. And it improves access to critical information, enabling healthcare analytics, detailed reporting, and timely information exchange with both internal and external entities.

#### Efficiencies across a range of stakeholders

Oracle Health Sciences Information Manager offers significant benefits to a range of stakeholders:

- **For patients:** It enables secure, confidential, and timely access to patient information across providers, for efficient treatment at lower costs.
- **For providers:** It accelerates the implementation of meaningful use objectives through scalable health information data capture, data transformation, data persistence, and data retrieval Web services. It also provides a platform for personalized, patient-centric healthcare.
- **For clinical researchers:** It ensures that optimal recruitment into clinical research is supported by consumer consent for release of health information and a complete set of phenotypic information.

- **For academia and life sciences companies:** It reduces the cost and time needed to obtain consumer consent for release of health information for research purposes, thereby improving the research-dollar ROI. It also enables “cohort identification” for clinical trials and provides patient registries and a foundation for quality/efficiency research.
- **For payers:** It provides payers with key benchmark data, enabling them to perform analysis versus peers using de-identified data. It also enables payers to better understand future healthcare trends.

#### Oracle Health Sciences Information Gateway

Oracle Health Sciences Information Gateway leverages the CONNECT open-source application and Oracle server virtualization to orchestrate secure, health policy-based communication over the Internet for the protection in-flight of health information. This solution includes these two key components:

1. **DMZ Gateway** protects electronic health information by enforcing privacy policies regarding release of information, encrypting information in-flight over the Internet and ensuring NHIN compatibility.
2. **Datacenter adapter** enables the standardized orchestration of HIE business processes and supports release-of-information policies. It also ensures the encryption of information in-flight through the firewall and inside the datacenter.



### Accelerating HIE implementation and cost reductions

Oracle Health Sciences Information Gateway empowers organizations to drive HIE initiatives and reduce the time and cost associated with research:

- **For providers:** It accelerates the implementation of meaningful use objectives through HIE—between certified and noncertified EHR modules and other health information organizations.
- **For academic medical centers:** It facilitates HIE for research purposes and patient care purposes at a very low IT cost.
- **For clinical researchers:** It reduces the cost of obtaining and executing on consumer consent for release of health information for clinical research purposes.

### Portals and Applications

Portals and Applications present the business process GUIs for consumers, providers, and other health information stakeholders. They are supported by Oracle Health Sciences Information Manager and Oracle Health Sciences Information Gateway in an open, flexible, standards-based presentation environment, and they are securely protected by Oracle's Sun Ray desktop virtualization and hardware.

Oracle is the leading provider of life sciences applications, which are increasingly aligned and integrated with evolutions in HIE, patient care, and healthcare analytic applications.

### A Value-Added Partnership with Oracle

Oracle brings unmatched resources and experience to the challenge of improving healthcare globally. We offer our partners the benefit of our targeted investments through collaborative relationship models; the open, standards-based products that drive transformation and innovation; and a commitment to a long-term enterprise roadmap designed to realize vision and value.

Consultants from Oracle Health Sciences are part of a global consulting organization with extensive domain expertise and proven experience in implementing Oracle's healthcare and life sciences solutions. Oracle's consultants complement Oracle Health Sciences products to provide a comprehensive solution, helping organizations to:

- Reduce project risk and improve quality with Oracle's distinctive resources and expertise
- Diminish total cost of ownership
- Realize faster time to value by leveraging Oracle's unique library of consulting assets and accelerators
- Address current and future challenges and opportunities

### Solutions for an urgent mission

The establishment of secure electronic sharing of health information is an urgent global mission—for both medical and business reasons—yet many challenges remain. With the Oracle Health Information Exchange set of solutions, healthcare organizations can rise above these challenges, elevating their levels of care and profitability, and improving their capacity to compete in a rapidly evolving environment.

### CONTACT US

To learn more:

Join us for a Web-based overview on Oracle Healthcare Information Exchange solutions. See [www.oracle.com/us/industries/healthcare](http://www.oracle.com/us/industries/healthcare).

call **+1.800.633.0738** to speak with an Oracle representative.

Outside North America, visit [oracle.com/corporate/contact](http://oracle.com/corporate/contact) to find the phone number for your local Oracle office.