

## Oracle Healthcare Foundation

**ORACLE**  
Health Sciences

From individuals to populations, bridging the care gap for better health

### Challenges facing the healthcare industry

The current healthcare delivery landscape is changing dramatically. Major regulatory reimbursement models are evolving from fee for service to fee for value. This transformation to value based contracting involves multiple facets of the organization and an even greater demand for data.

This shift requires health systems to leverage actionable patient outcome and cost analytics, as well as manage several other constraining challenges to address value base contracting, quality measure performance, and internal cost and care team effectiveness. Each health system must maintain market share in an environment of ever-increasing competition, as well as ensure quality of care at reduced costs.

- » **Value Based Contracting** – The healthcare market is transforming from units of care to covered lives. Organizations must grow their covered lives base, attract provider networks, measure and monitor coding practices for payer negotiations, and be prepared for at-risk contracting.
- » **Quality Performance** – Heterogeneous payers and quality measures create huge challenges for ongoing reporting and performance management. Quality Performance is the gatekeeper for earnings on Total Medical Expense Savings in most shared savings and performance contracts.
- » **Internal Cost / Care Team Effectiveness** – Cost savings vs. revenue generation is an expanding paradigm in value based care (e.g. mandatory Medicare bundle payment program). Operational efficiency requires healthcare operations to restructure for the type of clinical effectiveness that will lead to internal cost savings before the care is provided to the covered lives.

Dispersed, independent, and randomly federated IT systems and data sources do not provide support for these emerging business needs. A comprehensive architecture for data integration, interoperability, and performance -- including data governance, data quality, and analytics adoption – is critical to address these industry challenges.



## Healthcare Provider Challenges



Figure 1. Healthcare provider challenges and priorities

Oracle Healthcare Foundation (OHF) is a fit-for-purpose, analytics platform for data acquisition, validation, integration, warehousing, and analytics solutions for healthcare. It serves as a complete, modular, unified, and extensible single source of truth for an entire organization across all data types and sources. The OHF solution addresses a healthcare organization's need for a modular approach to its analytics adoption roadmap alignment with its deployment and use of relevant subject areas. The modular approach allows an organization to prioritize and emphasize its preferred areas of need in the initial deployment.

### Healthcare Analytics – From Aggregation to Action

In light of rising demands to reduce costs, enhance patient outcomes, and improve financial results, healthcare organizations require analytics to support financial and clinical decision making for internal, as well as external, reporting. These analytics can help to lower costs, optimize treatment plans, enhance service delivery, advance performance indicators, and streamline operational processes. OHF offers a fit-for-purpose, analytics platform that provides a data acquisition, data integration, data warehousing, and data analytics solution to evaluate an organization's information, turning data-driven insight into action.

OHF eliminates the silo analytics of the past by integrating data from disparate source systems and aggregating the clinical, financial, administrative, and omics data from all care settings into a single source of truth for decision making at all organizational levels, from departmental to enterprise. OHF accelerates the ability to visualize integrated data through its Self-Service Analytics module. These analytics assist caregivers and administrators in making informed decisions that can improve patient outcomes and reduce cost of care for both financial and total resource demands.





The following diagram illustrates the OHF solution:

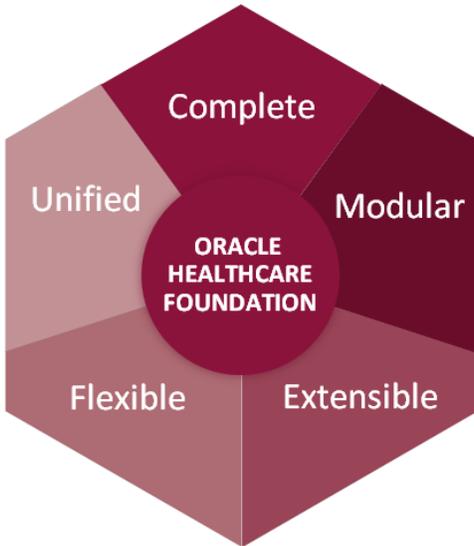


Figure 2. Oracle Healthcare Foundation (OHF) – Key attributes

### Data Integration and Reliability

Healthcare providers, integrated delivery networks, clinical integrated networks, academic medical centers, and other public/private healthcare systems have implemented transactional information systems (electronic medical records (EMR), billing, enterprise resource planning (ERP), etc.). They now want to leverage their system-wide data for integrated analytics to target performance improvement, population health management, and precision medicine initiatives. These capabilities can enable providers to participate in Medicaid delivery reform organizations, ACOs, and improve their contracting position with payer organizations.

OHF is comprised of existing components. This includes all data integration and data warehousing of various healthcare data types ranging from clinical episodes of care, claims, third party benchmark data, and genomics. The solution brings together and normalizes data from a variety of source systems. It also includes pre-built functions that allow for ease of data mapping from these systems. This approach shortens client implementation timing and provides more value from the client's current system investments.

### Data Governance and Quality

OHF also provides a framework for organizations to codify and enforce their data warehouse and data governance policies. It allows them to formalize their data governance function through the deployment of data warehouse metadata, rules-based data integration, and a comprehensive data model. Further, it also enables conformance across analytic artifacts (data marts and cubes) and the end user interface. This approach facilitates stakeholder trust related to information and data quality, access and usability, and risk management. OHF also gives health system executives confidence in the reliability of the data as a single source of truth underlying the analytics used for critical decisions.



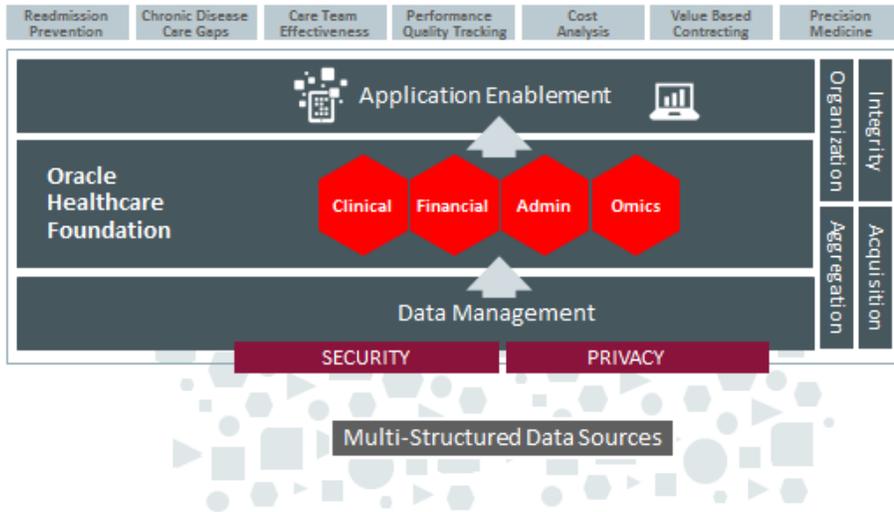


Figure 3. Oracle Healthcare Foundation (OHF) aggregates disparate data sources into the purpose-built data model. This enables both off-the-shelf, flexible, user defined, analytic applications.

OHF is a “fit for purpose,” healthcare-specific, data model that serves as an “out of the box” solution. It is both comprehensive and extensible. It also addresses the current and future analytic needs of a healthcare organization and its roadmap for analytics adoption.

The OHF solution currently supports more than 35 subject areas around clinical, financial, administrative/operational, and genomics-based data domains, all integrated to ensure that the data is consistent and trustworthy. It is also modular, allowing an organization to prioritize the areas of need that it wants to emphasize initially in its deployment.

Given its pre-built format, and its single-time installation capability, OHF reduces time to value and complexity of implementation. OHF also provides a path for future requirements, while maintaining the highest standards of security and privacy. OHF’s forward design impacts its long term total cost of ownership/value. OHF’s fit for purpose, modular approach scales as use increases and as the organization grows.

## From Data Aggregation to Actionable Insights

### Oracle Healthcare Foundation - *Single Installation*

*From Aggregation to Action*

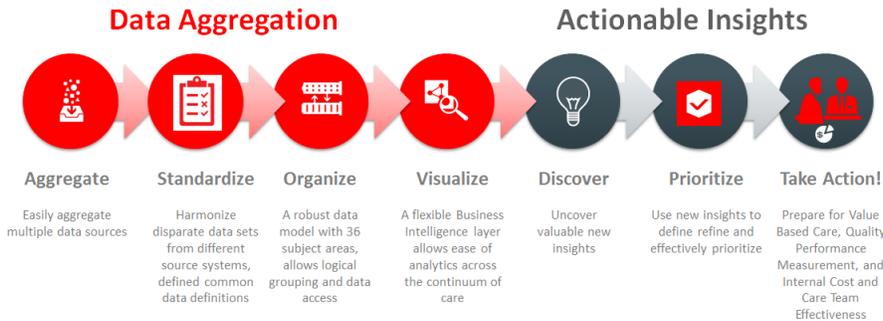


Figure 4. Data Aggregation through visualization to action

Built-in data mapping tools supporting a robust healthcare data model allow for aggregation and standardization of a variety of data sources and types across the enterprise. This approach provides an environment for data access and visualization tools that can be used for insight discovery, prioritization, and action for change and improvement. In light of accelerating reimbursement changes, this type of data model can ensure better financial and clinical decision making to optimize treatment planning. The ability to be nimble and responsive, as well as deliver optimal care, is dependent on data availability, actionable insight, and effective prioritization.

### Analytics that Align to your Roadmap

A variety of pre-built, partner and self-service analytics support a range of initiatives from value based contracting, to internal cost and care team effectiveness measurement, to population health management, to precision medicine initiatives. Real-time, easy access to data allows some of the largest health systems in the US and abroad to extract data insights quickly in support of their initiatives. These insights include population identification and stratification, cost and quality analysis, service line utilization, care coordination, eligibility and enrollment, and claims based analytics. Using OHF, organizations can begin focusing on aggregated value based contracting and departmental performance. They then can move to cross-functional service line analysis, and ultimately, to population level analysis, including executive level dashboards across their enterprises.

OHF also supports flexibility and customer choice through an application partner ecosystem called Oracle Validated Integration. This includes pre-integrated, validated, best of breed applications from third parties, to address a wide range of solutions for maximum leverage of investment.



Figure 5. Example – OHF, along with Oracle Business Intelligence and Data Visualization, enables population health management through a Self Service Analytics capability.

## Conclusion

Oracle Healthcare Foundation is a comprehensive offering supporting the data integration and data quality challenges that enable the type of analytics needed in today's complex and changing healthcare environment. The shift to value-based healthcare and its associated reimbursement model requires more sophisticated analysis than can be drawn from a solid, trusted foundation.

Rigorous data integration, data governance, and data quality enable healthcare executives and other stakeholders to be confident when making critical decisions. With its complete, modular, yet unified and extensible, single source of truth, OHF ultimately provides an organization with the analytics that can support the operations, financial management, and clinical care delivery of a healthcare enterprise.

Starting with departments or service lines, both tactical and strategic efforts can be addressed across the enterprise. Supporting a lower total cost of ownership and a shorter time to value, Oracle Healthcare Foundation enables value based contracting, internal cost and care team effectiveness, performance improvement, as well as, precision medicine and population health initiatives.

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