Transforming Healthcare Through Technology

How Oracle Customers Are Enabling Operational Excellence, Accelerating Medical Innovation and Delivering Better Patient Outcomes
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New technology is transforming healthcare across the globe, enabling innovative services, improving the quality of care, fostering collaboration, and delivering better patient outcomes. But to take full advantage of these new opportunities, organizations must find answers to a number of challenges.

Introduction: Issues

Technology Challenges in Healthcare

Healthcare organizations must provide integrated and accountable care while implementing the latest scientific advances and handling unprecedented data growth. Without an IT infrastructure that has the power and scalability to cope with rapid change, it can be difficult to ensure interoperability, keep costs under control and meet stringent regulatory mandates.

Many organizations adopt a tactical approach to these issues, deploying point solutions to tackle each challenge. But often this approach can create more problems than it solves.

Integration and interoperability become even bigger challenges, with siloed systems impeding efficiency and driving up costs. Point-solution vendors are not equipped to address integration challenges, so it falls to the healthcare organization itself to pull all its disparate systems together.

To take advantage of the incredible innovation in healthcare, it is vital to have a strategic partner that can provide both the best healthcare-specific solutions and the underlying technology to make everything work together.

Read on to discover how organizations like yours are working with Oracle to transform the way they plan, manage and deliver healthcare—and improve patient outcomes.
Introduction: Oracle Solutions

Oracle’s Complete Healthcare Solutions

By integrating its leading-edge, industry-specific technologies into every layer of the complete IT stack, Oracle enables a holistic approach to operational improvements, analytics, research and healthcare provision—giving organizations the capabilities needed to fulfill the transformational potential of a new era in healthcare.

Oracle solutions are built on an open architecture that offers the flexibility to deliver services in the way that best suits each organization’s unique requirements, whether on the premises, in the cloud, or through a hybrid model. With a choice of deployment options and complete integration between systems, Oracle can help you reduce costs while implementing the innovative technology you need to drive continual improvements in operations and patient care.

US$10 billion

Take UPMC, for example: this US$10 billion integrated global health enterprise has chosen Oracle as a key technology partner to help it handle a data explosion. Oracle is supporting UPMC as it implements a state-of-the-art analytics initiative, designed to help unlock the secrets of human health and disease by consolidating and analyzing data from 200 sources across its network.
Introduction:

Oracle’s Complete Healthcare Solutions

Operational Efficiency

Oracle’s solutions for healthcare enable you to drive operational efficiency by managing resources more effectively while setting meaningful performance goals.

These solutions include:

- Human-capital and workforce management
- Process efficiency and effectiveness
- Finance and business strategy
- Profitability and cost management

Analytics

Oracle’s comprehensive suite of advanced analytics, predictive modelling and data-warehousing solutions accelerate the insights that enable better clinical and business decision-making and optimized performance.

These solutions include:

- Analytics for integrated healthcare
- Knowledge through structured and unstructured data
- Translational research and genomics

Connected Health

Oracle also provides solutions for connected health—enabling secure, seamless data sharing and collaboration, and faster, better patient care.

These solutions include:

- Health information exchange
- Patient engagement and population health
- Vendor-neutral storage and content management
- Patient monitoring and data management

This e-book provides a brief overview of what just a few of Oracle’s customers in the healthcare industry are achieving. To learn more about Oracle’s healthcare solutions, explore the resources on the final page.

These solutions are already helping healthcare organizations take advantage of huge advances in technology.
Operational Efficiency
Adventist Health System

Greater Efficiency and Better Patient Care

The Challenge

Adventist Health System is a not-for-profit healthcare organization supporting 43 campuses across the United States. With a growing patient population, the healthcare system needed to improve visibility into key information and provide effective collaboration tools.

The organization chose Oracle to develop an integrated Enterprise Resource Planning (ERP) and Enterprise Performance Management (EPM) environment as a platform for delivering more efficient and effective patient care.

The Solution

The organization’s integrated ERP and EPM environment is based on a combination of Oracle’s PeopleSoft applications, Oracle Fusion Analytics, Oracle Database and Oracle Hyperion applications. After an exhaustive vendor search, the healthcare system selected Oracle due to the tight integration between its applications and the comprehensive functionality those applications provide.
The Benefits

• **Optimized efficiency**: With improved insight and collaboration from fully integrated applications, Adventist Health System will be able to increase operational efficiency across business functions and throughout its multiple sites.

• **Improved patient care**: Greater visibility into performance data will accelerate decision-making and improve accountability.

• **Lower costs**: Alongside reduced operational costs from new efficiencies, the organization will benefit from the low total cost of ownership of its Oracle solutions.

“This will allow us to put even more resources at the patient bedside so that we can do more for our patients, their families, and the communities we serve.”

Don Jernigan, President and CEO, Adventist Health System
Operational Efficiency

CSAM Health AS

Modernizing Healthcare and Enhancing Data Access

The Challenge

CSAM Health AS (CSAM) is a privately-owned international software company that develops products for healthcare organizations in Norway, Sweden, and the UK. The company was founded in 2005 and in 2010 was recognized by Deloitte as the fastest-growing e-health company in EMEA.

By developing a single, integrated Web interface linking many existing software systems, the company sought to help its customers replace paper-based processes with electronic processes, provide medical staff and patients with access to up-to-date, centrally stored information and simplify regulatory compliance.

The Solution

CSAM implemented a range of Oracle solutions to help it modernize its healthcare solutions. Oracle SOA Suite has enabled the integration of disparate systems, Oracle Database stores a huge range of important clinical data, and Oracle WebLogic Server provides simple and consistent access to updated information via the Web.
The Benefits

- **Seamless integration:** CSAM’s customers can now easily integrate health systems across a department, a hospital, several hospitals, or an entire region.

- **Increased efficiency:** The company’s customers are now able to eliminate paper-based processes to enhance workflow efficiency, decrease lead times, and reduce costs.

- **Simplified compliance:** The Oracle solution guarantees compliance with national legislation – particularly those regarding patient safety.

“Today, many healthcare providers are facing great challenges with budget constraints and increasing demands for service provisioning. Oracle’s solutions help us meet these challenges with tools that replace paper-based processes with electronic processes, reduce lead times and costs, and provide our customers with a comprehensive information platform.”

Kjetil Sanders, Chief Technology Officer, CSAM Health AS
The Challenge

The University of Texas MD Anderson Cancer Center (MD Anderson) is one of the world’s most respected centers devoted exclusively to cancer patient care, research, education and prevention.

With data volumes increasing by 30 to 40 per cent a year, MD Anderson needed a powerful analytical infrastructure to turn data into the insight that can accelerate the delivery of next-generation cancer treatments.

The Solution

MD Anderson selected Oracle Health Sciences applications and Oracle technology as the foundation of its enterprise analytics initiative to help it provide personalized cancer treatments. This analytic platform will also support the center’s Moon Shots Program, which aims to accelerate the conversion of scientific discoveries into clinical treatments that improve patient outcomes dramatically.

The Benefits

- **Greater insight:** The analytics platform will integrate clinical, genomic, financial, administrative and operational information to provide organization-wide insights that drive efficiency and innovation.
- **Increased efficiency:** MD Anderson will enable more effective resource utilization and greater operational efficiency.
- **Faster innovation:** World-class analytics will help the center transform huge quantities of data into meaningful insight to drive rapid advances in its groundbreaking treatments.

“Oracle’s integrated health sciences applications, enterprise applications and technology stack will help provide one of the robust foundations that we need to accelerate deployment, and ultimately, discovery of life-saving treatments.”

Dr. John Frenzel, Chief Medical Information Officer, University of Texas MD Anderson Cancer Center
“Through the use of Oracle Enterprise Healthcare Analytics, we are creating the platform to improve delivery of actionable information to our customers so they can effectively improve processes.”

Craig Owen, Director of Clinical Analytics and Informatics, University of Texas MD Anderson Cancer Center
The Challenge

The University of Louisville is a state-supported research facility comprising 17 health sciences centers and institutes. The university was looking for solutions to help build the Louisville Informatics Institute (LOUI) initiative – a state-wide informatics network being designed from the ground up.

This network aims to improve public health, advance medical knowledge and reduce the cost of caring for more than one million patients in Kentucky. The university predicts a significant annual ROI from LOUI through early intervention, improved patient compliance and avoided hospitalizations.

The Solution

The university selected Oracle Enterprise Healthcare Analytics, Oracle Database 11g and Oracle Fusion Middleware as the foundation for LOUI. The project will also use Oracle Health Sciences solutions to create a data and analytical foundation that yields new insight into care outcomes and cost management, and organizes patient information more effectively.

The university is also using Oracle WebCenter, Oracle Business Intelligence Enterprise Edition and Oracle Identity Management to provide team members with a secure, personalized portal from which to work.

“By implementing a robust suite of Oracle solutions, including Oracle Enterprise Healthcare Analytics, the LOUI team can focus on business requirements rather than building and knitting individual components. This better positions the university to meet its mission of improving patient care in the state of Kentucky and developing best practices that can be shared globally.”

Dr. Russell Bessette, Associate Vice President for Health Affairs and Health Information, University of Louisville
The Benefits

- **Enhanced analysis:** Users can access and analyze integrated data to support current and future clinical, research and regulatory requirements, and new business models.

- **Improved collaboration:** Out-of-the-box social-media functionality and a highly personalized, secure portal to view, analyze and share patient-specific test results.

- **Simplified compliance:** The university now has near-real-time clinical data and easily accessible and understandable metrics.

="Over the years, we have come to trust and rely on Oracle’s innovative solutions. For LOUI we immediately saw the benefits of an integrated solution, including healthcare analytical applications, from a single vendor.”

Dr. Priscilla Hancock, Vice President of IT and CIO, University of Louisville

Find out more

To learn more about how the University of Louisville is working with Oracle, read the full story here.
The Challenge

The University of Pittsburgh Medical Center (UPMC) is one of the leading healthcare systems in the United States, operating more than 20 academic, community and specialty hospitals and 400 outpatient sites, and employing more than 55,000 staff.

UPMC needed to develop a powerful analytic platform to integrate huge volumes of clinical, genomic, financial, administrative and operational data from more than 200 sources, enabling it to deliver personalized care and support better clinical decision-making.

The Solution

UPMC implemented a wide range of Oracle solutions, including Oracle Enterprise Healthcare Analytics and Oracle Fusion Analytics. Oracle Exadata Database Machine was chosen as the hardware foundation for the new analytic environment because Oracle applications and technology are optimized for superior performance and scalability on the engineered system.

“With Oracle technology and Oracle Enterprise Healthcare Analytics, we will create a new foundation for insight that supports personalized, accountable care and accelerates the translation of scientific advances in care.”

Dr. Steven D. Shapiro, Chief Medical and Scientific Officer, UPMC
The Benefits

- **New insight:** Advanced analytics and predictive modelling solutions will enable clinicians, researchers and business managers to advance research, achieve better patient outcomes and improve patient care while reducing operational costs.

- **Better quality of care:** Patient outcomes will be improved through truly personalized care and better-informed clinical decisions.

- **Advanced reporting:** Improved measurement and reporting throughout the healthcare system provide visibility into treatment effectiveness and cost variations, and will improve disease prevention through predictive alerts.

Find out more
To learn more about how UPMC is working with Oracle, read the full story here.

See how UPMC is transforming patient care with advanced analytics.
The Challenge

The Basque Country is an autonomous community in Northern Spain, with around 2.2 million inhabitants. The community needed to find more cost-effective ways to serve an aging population, with 19 per cent of the population over 65—expected to rise to 39 per cent by 2050—and chronic illness accounting for 77 per cent of the community’s health budget.

To meet these challenges, the Basque Country developed a strategy to manage and prevent chronic illness, and a multichannel health service to support chronic disease awareness and patient relationship management was a key part of this strategy.

The Solution

The community deployed a broad range of Oracle applications, middleware, database and hardware—including Oracle Exadata Database Machine—to deliver its new multichannel service. The Oracle Health Management Platform provides complete visibility of all patient activity and interactions, enables virtual patient communications and better case management, and delivers telemonitoring and self-monitoring capabilities. An integration, storage and control layer to the multichannel platform provides secure access to integrated information from key source systems.
The Basque Country is transforming chronic illness care—and reducing healthcare costs—through telemonitoring, online and telephone health advice, and greater insight into complete patient information.

**The Benefits**

- **Improved service utilization:** Patients now have quicker and more convenient access to health services, and those with chronic illness now have better and faster access to the right medical resources.

- **More cost-effective care:** More telephone and online contact with patients and improved telemonitoring reduce the number of more costly face-to-face appointments. The health advice contact center receives around 15,000 calls a month, with 85 per cent of cases resolved by nurses on the call.

- **Improved clinical effectiveness:** The Basque Country has seen a 67 per cent reduction in pharmaceutical registered incidents, and with fewer acute admissions and readmissions, it has been able to drive down healthcare costs.
The Canadian Partnership Against Cancer brings together cancer experts, government representatives and patient-survivor groups to help enhance the quality of life and survival rates of cancer sufferers, and increase the efficiency of cancer control throughout Canada.

When the organization decided to implement a knowledge-management platform to make it easier for both healthcare professionals and patients to access information, it knew it would need a well-integrated enterprise system to meet its long list of business requirements.

The Solution

In 2012 the Canadian Partnership Against Cancer launched a redesigned version of its portal (cancerview.ca) to help enrich the user experience and enable users to find information more easily. Enhancements included streamlining navigation, reorganizing content and applying SEO best practice to help users gain quick access to tools and resources.

The organization used Oracle WebCenter and Oracle Identity Management to streamline back-end processes, enhance basic search functionality and make it easy for non-expert IT users to add and update content and communities. It can now provide professionals and patients with a wealth of easily accessible information and has improved portal interactivity for all users.

Find out more

To learn more about how the Canadian Partnership Against Cancer is working with Oracle, read the full story here.
The Benefits

- **Increased accessibility**: Oracle Identity Management enables different entry points to be created for professionals and patients.

- **Greater customer satisfaction**: Online self-service tools provide an interactive, modern user experience built on Oracle WebCenter Content and Oracle WebCenter Portal.

- **Less IT support**: Users can turn on new functionality as they need it, and the new portal supports more sophisticated online communities (including social capabilities like blogs, wikis, and discussion forums). Business users can also create collaborative groups and independently maintain content.

“We are a small organization with limited resources, so we needed a robust system that was sophisticated enough to provide us the tools we needed, but was simple enough that our business users and partners could easily manage the platform. Oracle has provided that and more.”

Wayne Roberts, Director of IT, Canadian Partnership Against Cancer
Connected Health
Clalit Health Services
Enhancing Customer Service

The Challenge

Clalit Health Services (Clalit) is one of the largest HMOs in the world, operating 1,300 community clinics and 14 hospitals across Israel and employing more than 40,000 staff. With a constantly growing customer base—already more than four million—Clalit needed to ensure it could provide the very best customer service.

The Solution

Clalit deployed Oracle Siebel applications to provide a next-generation customer-services IT platform. The organization now intends to extend the functionality of this new system to even more customers and across further services.

The Benefits

• **Outstanding customer service**: Clalit will be able to provide world-class service as the number of people it serves, and the number of services it offers, continues to grow.

• **Scalable functionality**: The HMO will be able to add further functionality as needed and scale its service offerings quickly and cost-effectively.

“We regard Oracle and Oracle partners in Israel as Clalit partners—and we expect the good relationship we have with those companies to continue for a long time.”

Yechiel Gepner, Chief Information Officer, Clalit Health Services
Watch Clalit CIO Yechiel Gepner reveal why the organization chose Oracle Siebel solutions, and the plans for future expansion.
Conclusion

Transforming Healthcare with Oracle

Oracle is committed to enabling healthcare organizations to solve today’s challenges and plan for a sustainable future. By working with healthcare customers, Oracle is starting to build an ecosystem of connected health that enables organizations to learn from each other, share best practices, implement common ideas and improve patient care.

Oracle’s solutions for the healthcare industry provide the performance, scalability, flexibility and low total cost of ownership that are critical to the success of today’s healthcare organizations. Explore the resources on the next page to discover how organizations worldwide are preparing for the future of healthcare—and how you can, too.
Additional Resources

Oracle Healthcare Overview

**Interview:** Oracle CEO Larry Ellison: The Impact of IT on Healthcare

**White paper:** The Oracle Health Management Platform

**White paper:** Health Information Exchange: From Meaningful Use to Personalized Health

**White paper:** The Oracle Health Management Platform: Supporting Healthcare Organizations and Citizens in the transformation from Episodic to Chronic Care

**White paper:** Achieving Clinical and Operational Excellence: How to Establish Healthcare Service Line Costs

**White paper:** eHealthcare—Patient Management Without Walls

**White paper:** Powering Tomorrow’s Information-Driven Healthcare Today

**White paper:** Improving the Patient Experience: The Rise of Healthcare Consumerism

**White paper:** The Role of Analytics in Transforming Healthcare

**Article:** Making Healthcare Work

**Article:** Why Data Must Be Liquid—The Next Generation of Healthcare

**Article:** Oracle Applications Enable Personalized Cancer Treatment