

A photograph of three business professionals in a modern office setting. A woman in a white lab coat is sitting on a glass ledge, looking at a laptop held by a man in a suit. Another man in a white shirt and red tie is sitting next to him, also looking at the laptop. The office has large windows and a clean, minimalist design.

IT is changing the health ecosystem

How CIOs will modernize technology and operations
to give health plans a competitive advantage

Presented by Optum

A health ecosystem driven by innovation

As technology advances and payers innovate health systems, a CIO must anticipate and respond to diverse stakeholder needs to deliver a cohesive, integrated and secure digital ecosystem.

| | | | | | |
|--------|---|--|-------------|---|---|
| Page 3 | • | The demand for change | Page 9 | • | Process accuracy |
| Page 4 | • | The CIO is the architect of modern health care | Page 10 | • | Consumer engagement / member satisfaction |
| Page 5 | • | The consumer-focused market | Page 11 | • | Data and analytics |
| Page 6 | • | The journey to digital transformation | Page 12 | • | Connected |
| Page 7 | • | Modernized operations | Pages 13-14 | • | Optum Health Care as a Service |
| Page 8 | • | Data security | Page 15 | • | Where are you on the journey? |

The demand for change

CIOs have a powerful opportunity to move the health system forward. They can lay the foundation for technology to connect consumers with care, information with security, and opportunity with growth. An opportunity that pivots on a modernized digital ecosystem. With each deliberate move, the health system becomes stronger and more connected, less siloed and more complementary, more flexible to new challenges, more scalable for growth.

\$6.2 B

lost in the health care industry due to data breaches.¹

By 2018, data pipelines feeding intelligence into digitally transformed (DX) payer organizations will expand **3-5x**²

CIOs say the **top 3** growth areas in health care IT are DX, analytics, and cloud.³

As cost sharing rapidly shifts from employers and payers to consumers, there is growing demand for “retail-like” convenience and choice, price transparency and digital tools.

¹ Ponemon Institute, Sixth Annual Benchmark Study on Privacy & Security of Healthcare Data, May 2016.

² IDC, Nov 2015

³ <http://www.damoconsulting.net/wp-content/uploads/2017/01/Healthcare-IT-Services-2017-outlook-Damo-Consulting.pdf>

The CIO is the architect of modern health care.

As fee-for-service shifts toward an outcome-driven care model, the necessity of breaking down barriers to capture, secure, and share data within the health ecosystem is absolute.

More than ever before, the CIO must expand interoperability, scalability and overall performance — by championing an ecosystem that can convert information into intelligence and support evolving consumer demands.

The CIO steers digital modernization by moving operations to the cloud, closing security gaps, and ensuring that existing and new technologies connect to meet stakeholder needs as well as strategic business goals.

76% of payers are not delivering digital maturity.

Across all industry sectors, U.S. health care payers are the least advanced in digital business strategies.⁴

The consumer-focused market

The transition toward outcome-driven care puts the provider and health consumer relationship at the center of the health system. Now, instead of merely capturing data for payment, technology can connect data to create accurate, predictive recommendations for decision support and risk management, identify opportunities to increase health value and respond to consumer preferences and needs — all while lowering costs. The CIO harmonizes the business of health with technologies that support a consumer-centric, data-driven approach.

Payers recognize that stakeholders in the ecosystem — including patients, members and providers — desire better access to information and insights. The movement to open digital channels can keep members out of expensive care situations, identify and support high-performing providers, and protect the payer organization from growing risk.

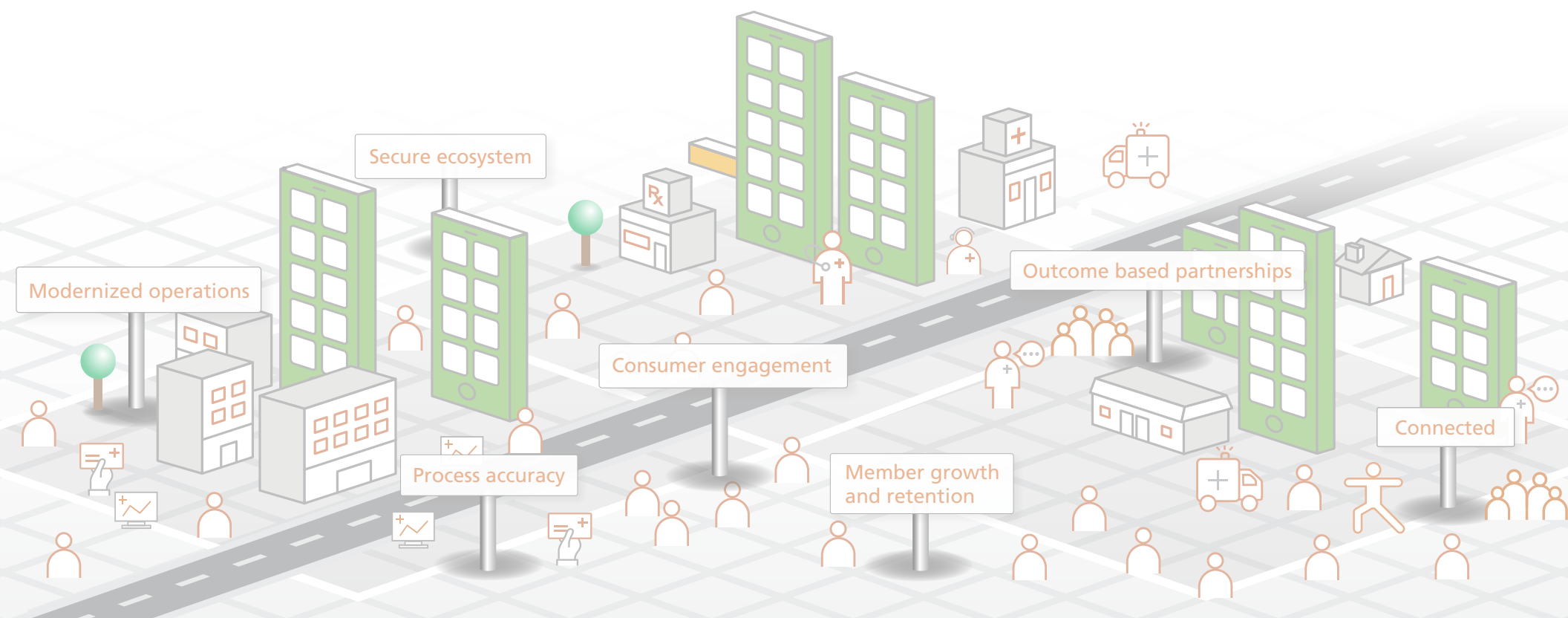


The journey to digital transformation

The digital transformation of health care relies on IT convergence to help achieve cost reductions, higher patient satisfaction, more effective collaboration and data-driven decision-making in every phase.

Because the risk-shifting paradigm requires platform technologies that make it feasible to understand and manage the health risk of individuals and large populations, the CIO must manage the evolution, simplification and connection of systems to make way for enterprise data and business analytics.

The CIO brings a holistic view of a connected ecosystem and ensures technologies serve the goal of data-driven decision-making.





Modernized operations

Staying agile while managing costs is the cornerstone of competitive advantage. But managing systems to keep up with change can quickly become overwhelming and expensive for both information technology and administration. Migrating health plan technologies to the cloud shifts the focus from managing infrastructure to supporting members and providers. Business Process as a Service and Information Technology as a Service deliver best-in-class business operations and technology, regular updates, regulatory currency and lower costs.

Supporting technology

A secure, reliable, elastic cloud infrastructure enables a consumption-based service model that accelerates modernization and reduces capital expenses, operational expenses and recurring investments.

| | |
|------------|---|
| Efficiency | Lower total per member per month (PMPM) administrative and medical costs. Eliminate recurring investments on technology platforms and applications. |
| Optimize | Reduce friction, increase interoperability among processes and achieve stronger security posture with as-a-service IT. |
| Transform | Add new process capabilities without capital expenditure to improve member and provider access to information, data and insights. |
| Innovate | Utilize interoperable technology, data and analytics, to glean insights to support outcome-driven care, population health, compliance and eHealth. |

FIRST STEP: Learn how to modernize business and IT with an end-to-end, as-a-service platform.

BEST PRACTICE
As-a-service cloud operations address competing goals with administrative cost control and innovation support.

⚠ Data security

The demand for data accessibility to improve health outcomes combined with the growing threats posed by hackers, insider negligence, vulnerable technologies and privacy violations is a difficult conundrum. Data sharing will make health care better, while data privacy is a mandate. Though many understand the risks, few have a right-sized and responsive plan to assess risk probability, infrastructure weakness and prioritized response.

What can the CIO do to minimize risk, comply with security-related regulations and protect the institution's confidential data?

Supporting technology

Protect data with a leading security framework, technology and integrated cyber-defense capabilities.

| | |
|------------|---|
| Efficiency | Manage user authentication to track how and where information is being used and shared. Establish and reinforce security policies with ongoing education. Encryption of sensitive data is required by regulators. |
| Optimize | Plan for a successful, phased migration to a purpose-built cloud. Evaluate cloud provider's strategy for meeting demand for regulatory and privacy compliance, high availability and redundancy, encryption and key management and communication protocols. |
| Transform | Easily scale compute and storage capacity to handle 3 to 5X data growth in the coming years; support big data analytics, interoperability and security through managed services. |
| Innovate | With cloud support enabling fast, secure connections and interoperability among providers, payers and members, seek new secure, digital engagement opportunities — such as real-time, point-of-care health collaboration tools. |

BEST PRACTICE

Apply an outside-in approach to examine vulnerabilities in each layer: perimeter, networks, databases, endpoints and users, along with physical assets like computers, tablets, eHealth and mobile devices.

▶ **FIRST STEP:** Learn about health care focused cybersecurity and business continuity solutions to address constantly evolving risk and compliance needs.



Process accuracy

To contribute successfully to a coordinated care model and improvements in population health — and maintain payment integrity — payer business and payment models must be aligned and digitized, accurate and agile.

Transforming business processes while “keeping the lights on” is complex. It requires a robust operational performance strategy focused on increasing transparency across operations to streamline billing, enrollment, claims adjudication and processing — without provider abrasion. The evolution itself poses risks: organizations need the ability to test new tools in sandbox environments to vet efficacy without alienating stakeholders or increasing costs.

Supporting technology

Select partners that can deploy machine learning and artificial intelligence to automate processes, minimize manual interventions and prioritize issues.

| | |
|------------|--|
| Efficiency | Break down silos and barriers between functional work areas. Support improvements such as auto-adjudication, claims accuracy and payment integrity. |
| Optimize | Support the CMO in improving member experiences with end-to-end communication and support in the digital channels that members and providers prefer. |
| Transform | Rapidly improve payment integrity and reduce provider abrasion by aligning objectives, stakeholders and claims systems on a single platform. |
| Innovate | Modernize payment portals, offer mobile pay, and connect care services, claims and payment transparently—like a true retail model. |



FIRST STEP:

Assess operations performance to identify high-impact opportunities for improvement and priorities for rapid intervention.

BEST PRACTICE

Make payment integrity a strategic enterprise imperative, not a siloed activity.

Consumer engagement and member satisfaction

With an increasing number of members purchasing their own health insurance, consumers seek price and services transparency and lower costs, convenient access and a care model that fits their demographic. Health plans can respond by educating members on cost-effective behaviors, offering easy payment options, and delivering personalized communication and care options.

The new ecosystem must be able to gather and provide key data to stakeholders. Advanced technologies create avenues to present cost-effective and personalized care, and drive efficiency and predictability throughout the health ecosystem.

Supporting technology

Modern pre-built APIs enable rapid deployment of new analytical and service capabilities without capital expenditure.

| | |
|------------|---|
| Efficiency | Support care coordination among all providers, including specialists, with a single platform. |
| Optimize | Build in solutions to identify and close care gaps, reduce claims friction and speed workflows. |
| Transform | Track provider performance, identify potential risks and cultivate a network that aligns to the population it serves. |
| Innovate | Expand digital and mobile care delivery capabilities and use data and analytics to support local population health. |

FIRST STEP: Establish customer experience or value metrics critical to success. Then track business performance, identify areas for improvement and build a business case for change.

BEST PRACTICE

The business strategy and enterprise vision must drive decisions and priorities for IT and business investments.

Data and analytics

Value-based health care accelerates the need for data accessibility and analytics to reduce costs, improve health, and predict clinical and financial outcomes. The urgency to utilize data to support lines of business, administrative processes, payer/provider collaboration and personalized care, demands that payer organizations rapidly move beyond data governance to enterprise data strategy. An enterprise data strategy is the foundation for understanding and capitalizing on data to improve health, reduce costs and improve the consumer experience.

Supporting technology

Develop an enterprise data strategy to support business processes that produce and consume data across your entire organization, decision-making, and innovation in health care.

| | |
|------------|---|
| Efficiency | Transition to an aggregated data platform that ensures cross-network collaboration, interoperability and safe transfer of patient data. Ensure accessibility of data by tiering data stores according to utilization, i.e., archival, warm and contextual data — that is utilized in decision-making. |
| Optimize | Incorporate real-time dashboards and information sharing within workflows and delivered at the point of care. Identify high-performing specialists and care options. |
| Transform | Support your CMO in tracking provider performance, identifying potential risks and cultivating a network that aligns to the population it serves. |
| Innovate | Expand digital and mobile care delivery capabilities and use data and analytics to support local population health. |

FIRST STEP: Establish an enterprise data strategy and platform that aggregates, normalizes and enriches data and delivers insights for improving population health.

BEST PRACTICE

Digital transformation starts with data. Modernizing data platforms and infrastructure yields the best ROI.

Connected

Payers have experience connecting, managing and monitoring many aspects of the system. Building on a history of cost containment expertise, payers can integrate providers and members into an interoperable, context-enriched system where every action adds to a knowledge base that can monitor, model and recommend improvements.

The explosion of data and the profound capability of analytics have made cloud, API and blockchain technologies critical to growth — and innovation. Insights derived from collected data support wellness, prevention, care coordination, payment and compliance.

Supporting technology

Combine disparate data sources on an open source, API-capable data platform to enable actionable insights, connectivity between business applications and enterprise-level data security.

| | |
|------------|---|
| Efficiency | Ensure that the right infrastructure is established across the entire ecosystem to provide multi-institutional access, data security and the care insights stakeholders need. Tier data in terms of criteria for archival, warm and contextual use. |
| Optimize | Utilize blockchain innovation to support secure interoperability between hospitals and all health care stakeholders. |
| Transform | Connect patient data across various organizations for up-to-date, lifetime views that inform integrated care and highest outcomes. |
| Innovate | Advance data and analytics to track provider performance and identify superior care approaches to improve population health. |



FIRST STEP:

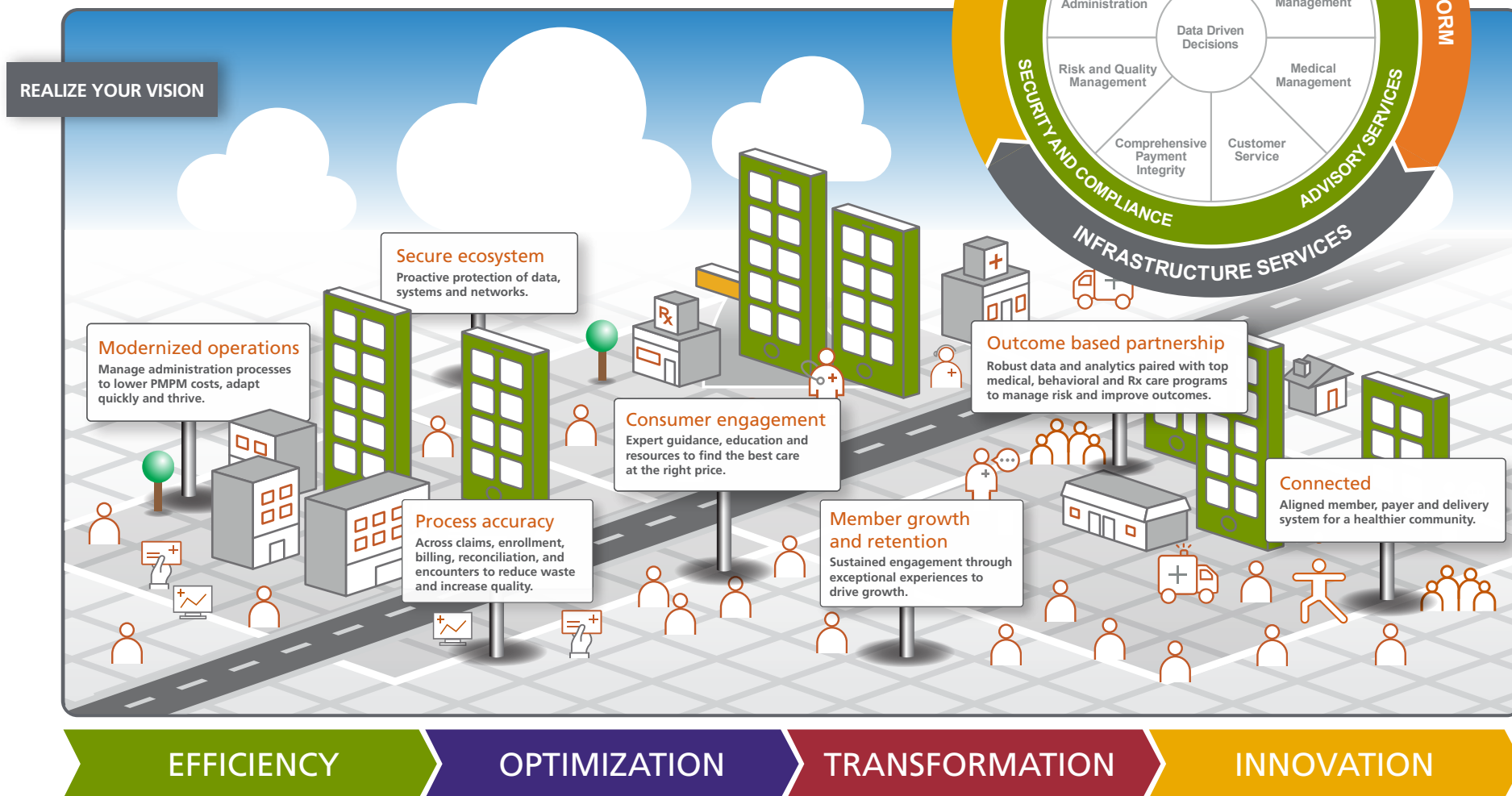
Ensure that you understand all the stakeholders in your ecosystem that have information to share and utilize.

BEST PRACTICE

Understand all data sources and support interoperability for a 360-degree, multi-institutional, lifetime view of each patient.

Introducing Optum Health Care Technology as a Service.

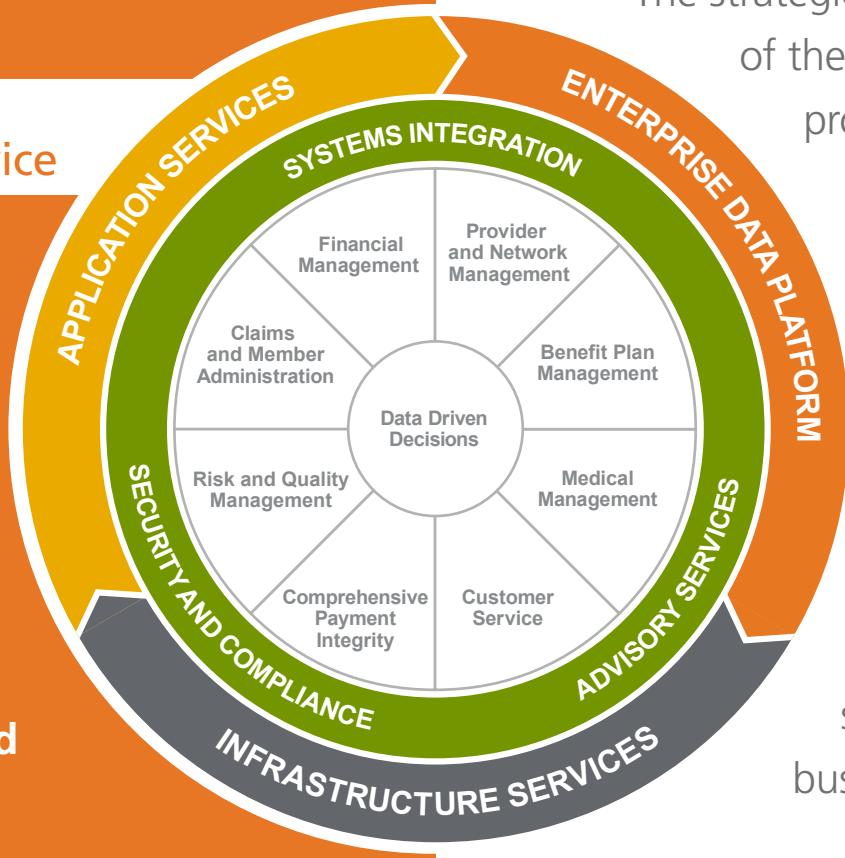
A considered and phased approach allows for the safest evolution from outdated technologies to a high-performing health plan.



Connecting the business of health and IT

Optum Health Care Technology as a Service

The payer organization must modernize to shift from volume to value, to respond to consumers, and to learn and profit from the data trapped in disparate systems.



The strategic and collaborative leadership of the CIO is fundamental for a payer/provider partnership in which care is integrated, consumers are engaged and well served, operations are efficient, effective and high-performing and the community reaps the benefits of better health. The CIO architects the digital transformation by aligning stakeholders and connecting the business of health with technology.

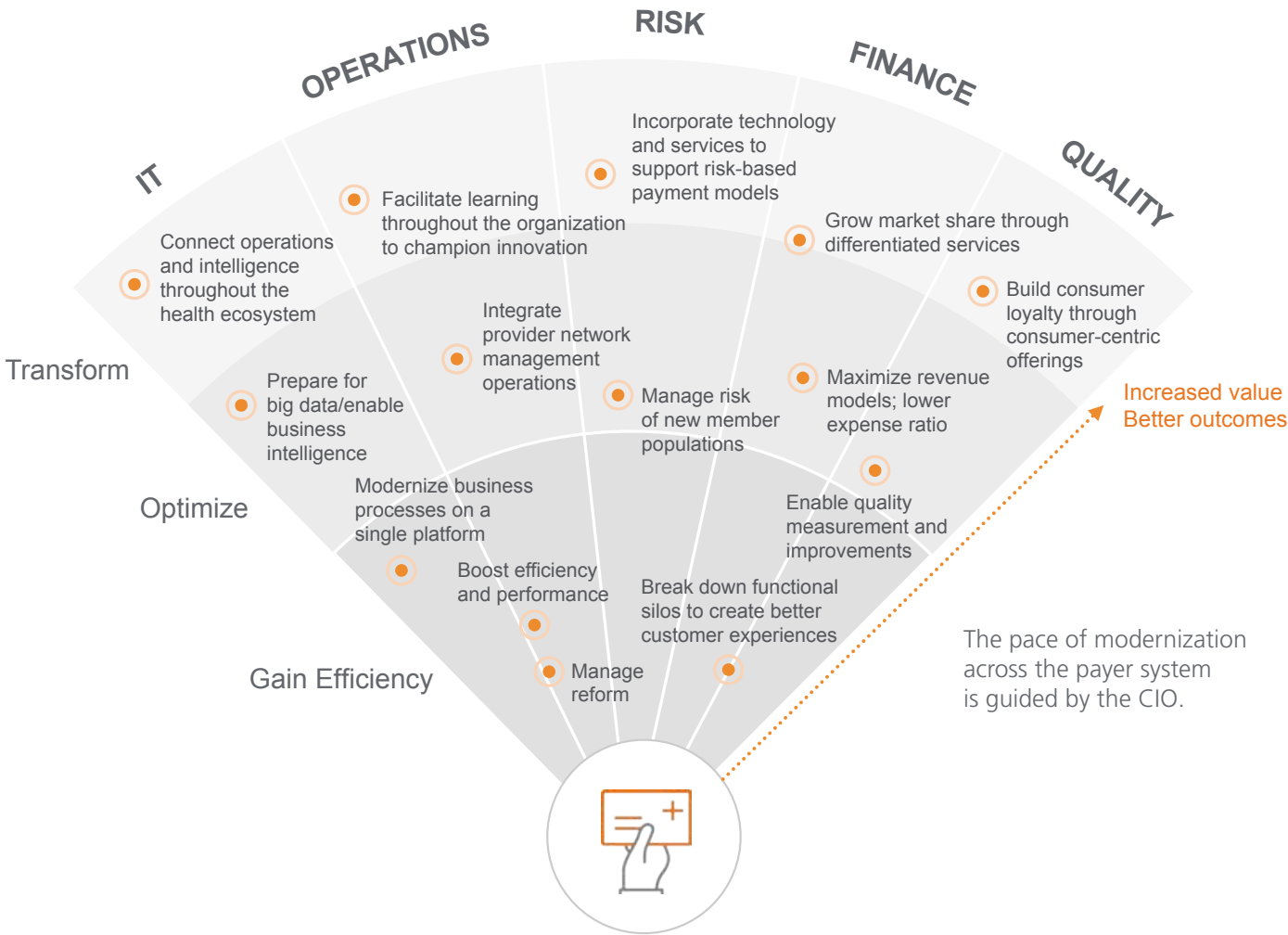
Where are you on the journey?

The health plan CIO will lead the charge to create an integrated platform to support data access, interoperability and security, while preparing for data growth across all modes.

The CIO supports stakeholders' ability to gain insights from data to make fiscal decisions with the right evidence and to keep members well and costs down.

The most important features of success will be the ability to respond to stakeholder needs (including consumer demands), and meet organizational goals without large capital outlay. Gartner estimates the window of opportunity for transformation from siloed to big data is three to five years.⁵

Digitize health administration and technology platforms to increase value and improve outcomes.



⁵ Gartner, 2016.

Connect  all

Optum Health Care Technology as a Service helps your organization prepare for disruption and growth with consulting, cloud services, data and analytics and managed services.

Learn more at optum.com/CIO

