

AI-Driven Value-Based Care Transformation in Saudi Arabia's Vision 2030

Executive Summary

Saudi Vision 2030 represents a comprehensive transformation of the Kingdom, built on fundamental pillars that unite public, private, and non-profit sectors under the leadership of His Royal Highness Crown Prince Mohammed bin Salman. The Vision's realization programs translate strategic objectives into actionable delivery plans, following clear timelines toward successful completion.

By royal decree, the Health Sector Transformation Program (HSTP) was established to restructure healthcare into a comprehensive and effective ecosystem. The Kingdom's healthcare faces critical challenges: chronic diseases like diabetes and cardiovascular conditions affect growing numbers of Saudis, healthcare costs rise faster than economic growth, and the fee-for-service payment system compensates providers for volume rather than health outcomes achieved.

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Value-based care (VBC) shifts focus from volume to value, rewarding healthcare providers for outcomes rather than services delivered. However, implementing VBC at scale requires sophisticated capabilities: analyzing data from millions of patients, predicting high-risk individuals, coordinating care across multiple providers, and measuring outcomes comprehensively. Artificial intelligence provides the technological foundation that makes value-based care operationally feasible across the Kingdom's healthcare system.

Persivia's CareSpace®, an Intelligent Digital Health Platform, represents a proven solution specifically designed to power AI-enabled value-based care transformation. As Saudi healthcare organizations work to realize the vision’s objectives, Persivia delivers integrated capabilities required for success: predictive analytics identifying high-risk patients before complications occur, care coordination tools connecting providers across the patient journey, automated quality measurement aligned with national standards, and population health management at scale.

This whitepaper examines how AI-enabled value-based care directly supports HSTP objectives, exploring the current state of healthcare in Saudi Arabia, VBC principles, AI's enabling role, and how Persivia's platform accelerates transformation toward the vision’s healthcare goals.

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Introduction: The Convergence of AI, Healthcare, and National Vision

The Kingdom of Saudi Arabia has embarked on one of the most ambitious national transformation initiatives in modern history. Vision 2030 charts a course toward economic diversification, social development, and technological advancement that will reshape every sector of Saudi society. Within this broader transformation, healthcare occupies a position of strategic importance. AI is projected to contribute $235.2 billion to the Kingdom's GDP by 2030, according to research from PwC cited by the Atlantic Council and the American Chamber of Commerce in Saudi Arabia. This represents 12.4 percent of total economic output, positioning AI as a cornerstone of the economic diversification strategy, with healthcare standing as one of the most promising sectors for demonstration of AI's practical value.



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Current KSA Healthcare Technology Landscape

Understanding where Saudi Arabia stands today is essential for paving the path forward. The Kingdom has made remarkable progress in healthcare over the past several decades, but significant challenges remain.

AI and Technology Adoption: Growing but Uneven

Currently, the AI adoption in the Kingdom is in its early stages but showing promise. Some hospitals have implemented AI-powered diagnostic tools for radiology, using algorithms to detect abnormalities in medical images. Chatbots and virtual assistants handle routine patient inquiries at some facilities. Predictive analytics are being used experimentally to forecast patient volumes and optimize staffing.

Yet these implementations tend to be isolated projects rather than integrated systems. The challenge is not the absence of AI capability, but the lack of coordinated strategic deployment focused on outcomes that matter most to patients and the healthcare system.

According to Gartner's **AI in Value-Based Care: Part 1 Roadmap Planning for Healthcare CIOs report,** "AI is not just another tool but the critical enabling technology for achieving advanced VBC models. Healthcare organizations implementing AI across multiple domains gain competitive advantage by improving clinical outcomes, reducing costs, and enhancing patient and provider experiences. This positions AI as foundational infrastructure rather than optional enhancement".

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Challenges: The Problems AI-VBC Must Solve

The Rising Cost Challenge

Healthcare expenditure in Saudi Arabia has grown significantly over the past two decades, driven by multiple factors. The population is growing and aging, creating increased demand for services. Chronic diseases are becoming more prevalent, requiring ongoing management rather than one-time treatment. Medical technology continues to advance, often at costs that are higher than the technologies they replace. And the current fee-for-service payment model creates incentives for more services rather than better outcomes.

The financial sustainability concerns are prominent. If healthcare costs continue growing faster than the economy, an increasing share of national resources must be devoted to healthcare. This crowds out investments in other priorities and becomes particularly challenging when oil revenues fluctuate.

The Chronic Disease Burden

Diabetes prevalence in Saudi Arabia is among the highest in the world, affecting a substantial portion of the adult population. Cardiovascular disease is a leading cause of mortality. Obesity rates have risen sharply, particularly among young people. These conditions are chronic, meaning they require ongoing management over years or decades. They are also largely preventable or can be managed effectively with lifestyle interventions and appropriate medical care.

Quality Variation and Measurement Gaps

Healthcare quality varies significantly across facilities and regions in Saudi Arabia. Some hospitals meet international accreditation standards and deliver care comparable to the best institutions globally. Others struggle with basic quality and safety measures. Patients cannot easily assess quality differences or make informed choices about where to seek care.

Part of this challenge is measurement. The Kingdom has made progress in establishing quality standards through the Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) and adoption of international standards like those from the Joint Commission International (JCI). However, measuring and reporting outcomes consistently across all providers remains a work in progress. Without comprehensive outcomes data, it is difficult to identify quality gaps, share best practices, or hold providers accountable for results.

Saudi Vision 2030: Healthcare Transformation Imperatives

Vision 2030 is not simply a collection of aspirational goals. It represents a comprehensive blueprint for transforming Saudi Arabia's economy and society, with healthcare playing a central role. Understanding how it approaches healthcare transformation is essential for anyone working in or with the Kingdom's health sector.

Vision Healthcare Mandate

One of Vision’s most significant healthcare targets is increasing private sector participation from approximately 40% to 65% of total healthcare provision. This shift recognizes that government alone cannot meet the growing demand for healthcare services. The private sector brings capital, innovation, and operational efficiency. However, this transition must be managed carefully to ensure that increased privatization serves public health goals and does not create a two-tiered system where quality care is available only to those who can afford it.

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AI as the Critical VBC Enabler: Insights from Global Experience

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Why Traditional VBC Failed Without AI

The United States has pursued value-based care transformation for over two decades with mixed results. Organizations that achieved breakthrough VBC results shared a common factor: the deployment of AI-powered platforms addressing fundamental challenges.

Without AI, healthcare organizations faced insurmountable obstacles:



Data silos

Patient information is scattered across multiple systems with no unified view



Manual care coordination

Tracking patients across providers using spreadsheets and phone calls



Reactive risk identification

Simple rules-based approaches that identified problems too late



Administrative burden

Documentation requirements that consumed physician time

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These challenges are identical to those facing Saudi healthcare. Global experience demonstrates that organizational restructuring and payment reform alone cannot solve these problems - sophisticated technology is essential.

Organizations that achieved breakthrough VBC results shared a common factor, i.e. the deployment of AI-powered platforms addressing fundamental challenges. These platforms used machine learning to integrate data from disparate sources, employed predictive analytics to identify high-risk patients before acute events, automated administrative tasks, and provided care teams with actionable insights rather than raw data requiring manual analysis.

High-ROI Use Cases for Saudi Healthcare

Gartner research identifies specific AI applications delivering the highest demonstrated return on investment for healthcare organizations:

1. Population Health Management (High ROI, Medium Complexity)

AI-powered analytics identify high-risk patients, recommend interventions, and measure outcomes at scale. For Saudi Arabia's high chronic disease burden, this capability directly addresses diabetes and cardiovascular management challenges while supporting prevention focus.

2. Predictive Risk Stratification (High ROI, Medium Complexity)

AI-powered predictive models identify rising-risk and high-risk patients earlier and with greater accuracy, enabling proactive intervention and better care management. This benefits both providers and payers by preventing expensive acute episodes through early intervention.

3. Data Integration and Interoperability (High ROI, High Complexity)

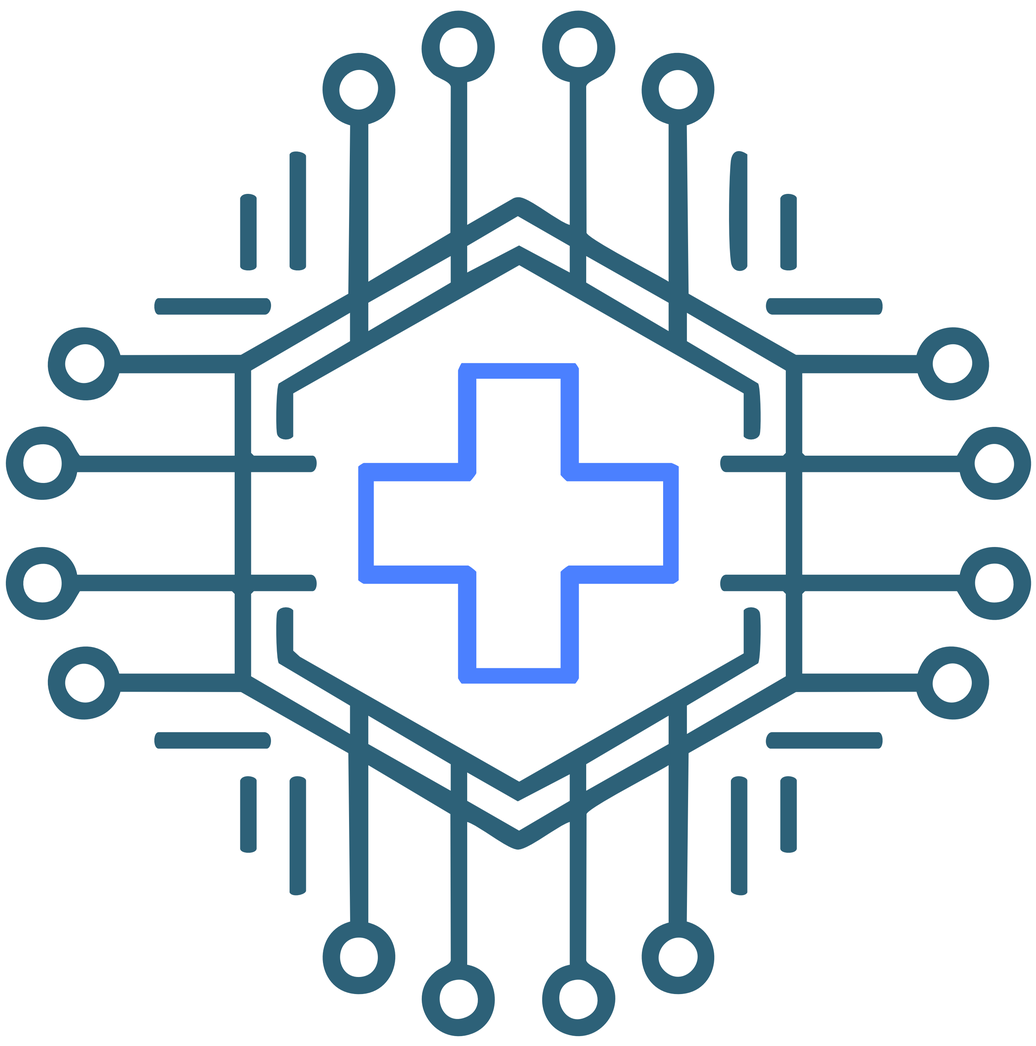
AI solves the data fragmentation challenge by ingesting information from disparate sources including EHRs, laboratory systems, claims databases, and pharmacy records, creating unified longitudinal patient records.

4. Point-of-Care Clinical Intelligence (High ROI, Medium Complexity)

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Bridging Healthcare Domains

One of AI's most transformative impacts is its ability to bridge traditionally siloed healthcare domains. Gartner identifies critical integration opportunities like connecting population health insights to point-of-care decision support, linking clinical documentation with quality measurement, and enabling seamless care coordination across multiple providers.



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Persivia: Driving VBC Success to Support Vision 2030 Through Intelligent Digital Health Platform

Saudi Arabia's Health Sector Transformation Program requires technology partners who understand value-based care deeply, have been successful in complex healthcare environments, and can deliver integrated solutions rather than point products. Persivia brings over 20 years of experience helping healthcare organizations succeed in value-based care in the US, with a track record directly relevant to Saudi Arabia's transformation objectives.

Persivia's CareSpace®, is a digital health platform that provides comprehensive AI-enabled value-based care capabilities built on four foundational pillars. The Integrated Data Fabric addresses data silos by ingesting information from hundreds of diverse sources including EHRs, laboratory systems, claims databases, pharmacy records, and social determinants of health (SDoH) data. CareSpace® is a highly interoperable, flexible and composable system, designed to integrate seamlessly with existing healthcare IT infrastructure rather than replacing it. Advanced AI algorithms normalize this data, resolve identity matching across systems, and create a single, complete longitudinal patient record. The Soliton® AI Engine transforms reactive healthcare into proactive population health management by analyzing vast real-time datasets to identify high-risk patients, predict future health issues, and recommend timely interventions. This supports the Modern Care Model's prevention emphasis by enabling care teams to intervene before diabetics develop complications or heart failure patients require hospitalization, with prioritized work lists showing which patients need urgent attention.

CareSpace® delivers embedded clinical decision support within existing workflows through its EHR-agonistic tool CareTrak®, which provides care teams with real-time visibility into patient status, care gaps, and required actions without requiring separate system logins. This workflow integration addresses physician burnout by reducing documentation burden through automated quality measure extraction and AI-generated documentation support, allowing clinicians to spend more time on direct patient care.

Proven Results: The McLaren Healthcare Case Study

McLaren Healthcare in Michigan provides a good example of CareSpace® platform impact at scale. McLaren operates a complex network of hospitals, physician practices, and other care facilities serving diverse populations across Michigan.

Before implementing CareSpace®, McLaren faced challenges familiar to Saudi healthcare organizations:

- Fragmented patient data across over 1,140 provider practices
- Reactive care delivery with limited ability to identify high-risk patients proactively
- Difficulty coordinating care across multiple facilities and specialties
- Administrative burden constraining physician productivity and satisfaction

The organization participated in Medicare Shared Savings Program (MSSP) as an Accountable Care Organization (ACO) but struggled to achieve consistent results.

CareSpace® implementation produced measurable outcomes:



$34 million in Medicare savings

generated through better population health management, reduced hospitalizations, and prevention of complications.



100% improvement in physician quality scores,

with McLaren providers achieving top performance on clinical quality measures.



90% increase in operational efficiency,

as automation reduced administrative workload and care coordinators managed larger patient panels more effectively.



Unified data from 1,140 practices,

creating a single source of truth for population health management.

These results are directly relevant to Saudi health clusters managing populations of approximately one million people across multiple facilities. The McLaren experience demonstrates that AI-powered platforms can operate at this scale while delivering measurable improvements in outcomes, quality, efficiency, and financial performance.

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Conclusion:
A Vision Realized Through AI-Enabled Value-Based Care

AI-enabled value-based care provides the operational capabilities to make this framework effective by solving data fragmentation, enabling proactive care, automating administrative tasks, and supporting care teams with actionable intelligence. Persivia's CareSpace® platform, with over two decades of proven success in value-based care environments, delivers the integrated AI capabilities Saudi healthcare organizations need: the Integrated Data Fabric for unified patient records, the Soliton® AI Engine for predictive analytics, embedded clinical decision support, and comprehensive quality reporting aligned with HSTP requirements. The framework exists, the technology is proven, and the mandate is clear. What remains is execution. The implementation of AI-enabled value-based care at scale, measuring results rigorously, and adapting based on evidence to realize the Kingdom’s transformative healthcare objectives.

Contact Persivia today to learn how CareSpace® can support your organization's transition to AI-enabled value-based care.

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