Rhapsody Digital Infrastructure Maturity Model (RDIMM): A Checklist and Guide for Healthcare Leaders

Introduction: Why Digital Maturity—and Why Now?

The future of healthcare is data-driven, connected, and powered by AI. But achieving that future requires more than bold investments in analytics, and infrastructure—it requires a clear, strategic path forward. As highlighted in the State of Interoperability Report, meaningful AI adoption in healthcare depends first on a strong interoperability foundation—without trusted, connected data, even the most advanced AI initiatives will fail to scale.

That's why we created the **Rhapsody Digital Infrastructure Maturity Model (RDIMM).**

Built specifically for health systems and provider organizations, this model provides a practical framework for evaluating where you are today,and identifying what it takes to become AI-ready. It focuses on four critical capabilities that impact every health system's ability to scale innovation and performance:

- Integration & Infrastructure
- Identity & Security
- Governance & Standardization
- AI Readiness & Innovation

Developed through a survey of 200+ healthcare leaders and Rhapsody's direct work with over 1,900 healthcare organizations , the RDIMM zeroes in on interoperability maturity—the defining capability for operational efficiency, trusted data, and enterprise-wide AI adoption.

Importantly, the RDMM doesn't stand alone. It complements and builds upon trusted industry frameworks, including:

- HIMSS Digital Health Indicator (DHI)
- HIMSS EMRAM
- CHIME Digital Health Most Wired

The result is a model grounded in real-world experience, shaped by proprietary research, and aligned with the best-in-class standards that define digital health today.

How to Use This Guide

This guide breaks down the Rhapsody model into four stages: **Connect, Integrate, Optimize, and Innovate**. Each stage includes a checklist of milestones across the four core dimensions—helping you:

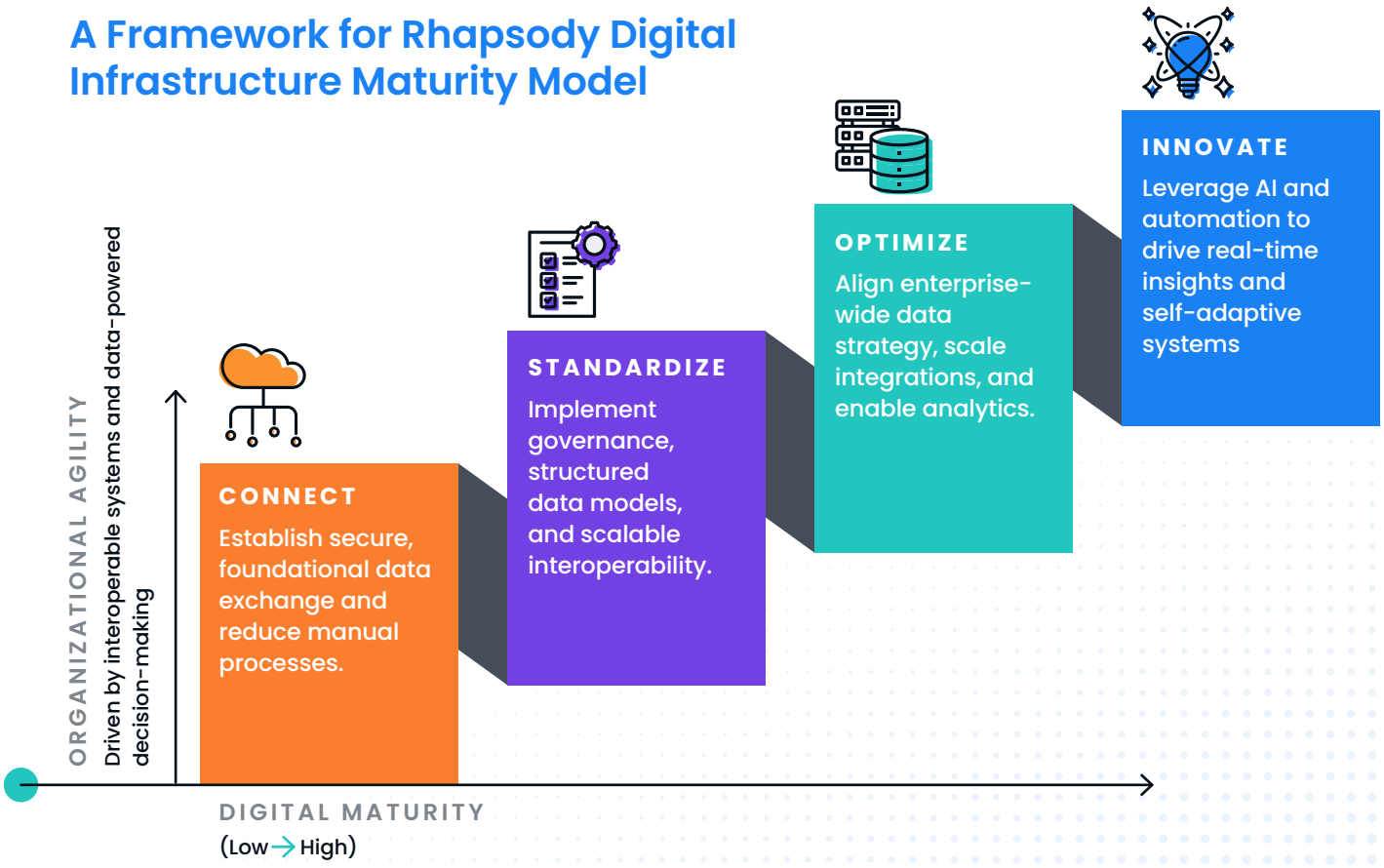
- Benchmark your current maturity
- Identify overlooked gaps
- Plan your next phase of AI-readiness and digital transformation

Whether you've already taken the assessment or are reviewing the model for the first time, use this guide to spark strategic discussions and shape your roadmap forward.

Understanding the 4 Stages of Digital Maturity

The Rhapsody Digital Infrastructure Maturity Model outlines four stages most healthcare organizations progress through as they build strategic interoperability and adopt AI. Each stage represents a deeper level of digital capability and AI-readiness, driving a greater ability to deliver consistent, high-quality care and strong business outcomes. The RDMM provides a clear roadmap for advancing interoperability maturity—enabling organizations to move from fragmented data environments to trusted, scalable foundations required for enterprise-wide AI adoption.

A Framework for Rhapsody Digital Infrastructure Maturity Model



Use the checklists below to evaluate your current stage and identify the key steps needed to advance. This section is designed to help your team align on where you are—and what it will take to move forward.

Stage 1: Connect

What This Means:

At this starting point, organizations focus on establishing secure, foundational interoperability to make core data accessible. While key systems are in place, data exchange is often fragmented and manual, limiting scalability, security, and the ability to support AI. The priority is to connect core platforms, introduce early standards, and reduce manual processes to establish a reliable interoperability baseline.

☑ CHECKLIST:

Goal of this stage: Establish a secure, foundational data exchange and reduce manual processes.

- [ ] **Deploy foundational IT infrastructure**
  - Ensure EHR systems are implemented across departments
  - Establish basic network connectivity between departments and facilities
  - Begin formal data-sharing agreements between internal departments, owned facilities, and first-order external partners (e.g., labs, imaging centers)
- [ ] **Adopt initial interoperability standards**
  - Enable structured data exchange using HL7 v2 or FHIR standards
  - Begin integrating external data sources (e.g., referral labs, ancillary services)
- [ ] **Ensure compliance with basic security frameworks**
  - Achieve HIPAA compliance for data privacy and security
  - Begin assessing alignment with HITRUST, NIST CSF, ISO 27001, SOC 2, HITECH Act, and 21st Century Cares Act frameworks
  - Conduct security risk assessments and identify critical vulnerabilities
- [ ] **Introduce early workflow automation**
  - Replace fax-based communications with secure direct messaging
  - Automate routine tasks (e.g., appointment scheduling, billing, documentation)

Move to the next stage when:
Your organization has established reliable access to core data and is ready to standardize governance, security, and data exchange to support trusted analytics and early AI use cases.

Stage 2: Standardize

What This Means:

At this stage, organizations move beyond basic connectivity toward building trust in their data. Interoperability becomes more intentional and enterprise-wide, shifting from fragmented, point-to-point integrations to standardized, governed data exchange. Clinical, operational, and IT leaders align around shared data definitions, governance models, and security practices—creating consistent, reliable data that can support scalable operations

CHECKLIST:

Goal: Implement governance, structured data models, and scalable interoperability.

- [ ] **Modernize and expand integration capabilities**
  - Expand FHIR and API-driven integrations to enable bidirectional, real-time data flow across internal and external systems
  - Begin migrating core systems to the cloud, leveraging a hybrid or multi-cloud approach
  - Extend integration with external organizations, including health tech vendors, HIEs, and referral networks

- [ ] **Improve patient matching and data quality**
  - Establish a master patient index (MPI) to efficiently reduce duplication and enable seamless patient matching across departments and facilities at scale
  - Implement advanced patient-matching algorithms, achieving >95% identity resolution
  - Create enterprise-wide data dictionaries and enforce the use of structured data standards (SNOMED, LOINC, ICD-10)
  - Develop data quality metrics (completeness, timeliness, accuracy) and implement continuous monitoring

- [ ] **Strengthen cybersecurity and compliance posture**
  - Enhance intrusion detection and prevention capabilities (IDS/IPS) across the enterprise

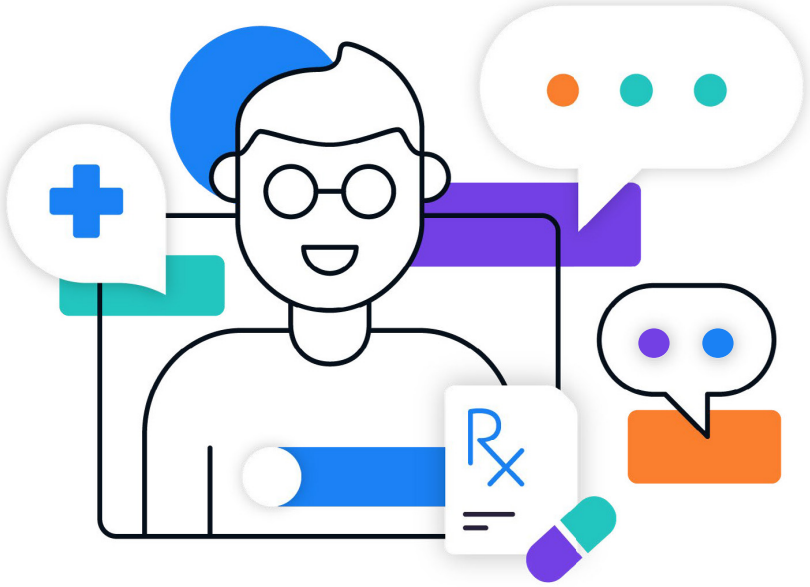
- Implement real-time security monitoring
- Begin automated compliance reporting for CMS, HIPAA, and Joint Commission standards
- Establish formal data governance policies, aligning departments to common security and privacy requirements

Experiment with AI, focusing on targeted use cases

- Launch pilot projects for RPA (robotic process automation) in areas like billing, patient intake, and coding
- Begin introducing machine learning (ML) to support error detection, anomaly monitoring, and basic predictive analytics
- Introduce AI and agentic AI tools from third party vendors to streamline workflows
- Establish success metrics for AI pilots to measure results

Move to the next stage when:

Your organization has established trusted, governed, and standardized data exchange—and is ready to operationalize that foundation to support scalable analytics and expand AI use cases with confidence.



Stage 3: Optimize

What This Means:

At this stage, organizations move from standardization to execution. With governed, secure, and interoperable data in place, the focus shifts to operationalizing data and AI in support of enterprise clinical, operational, and financial priorities. Interoperability enables data to flow reliably across the organization, allowing analytics, predictive insights, and AI-driven capabilities to be embedded directly into workflows—supporting faster decisions, measurable outcomes, and cross-functional alignment.

CHECKLIST:

Goal: Operationalize enterprise data and interoperability to scale analytics and AI across clinical, operational, and financial workflows.

- [ ] **Develop an enterprise-wide interoperability strategy**
  - Align IT and clinical/business priorities for seamless, cross-functional decision-making
  - Adopt a cloud-first approach and standardize API connections across departments and facilities
  - Expand data access and sharing with external partners, including HIEs, payers, other local care delivery organizations, and vendor partners

- [ ] **Modernize infrastructure for scalability**
  - Consolidate redundant EHR instances and other core systems across departments and facilities
  - Reduce duplicate vendors by aligning on enterprise-wide platforms and reusable services, while ensuring best-of-breed solutions
  - Build resilience by leveraging stable, vendor-supported platforms and services

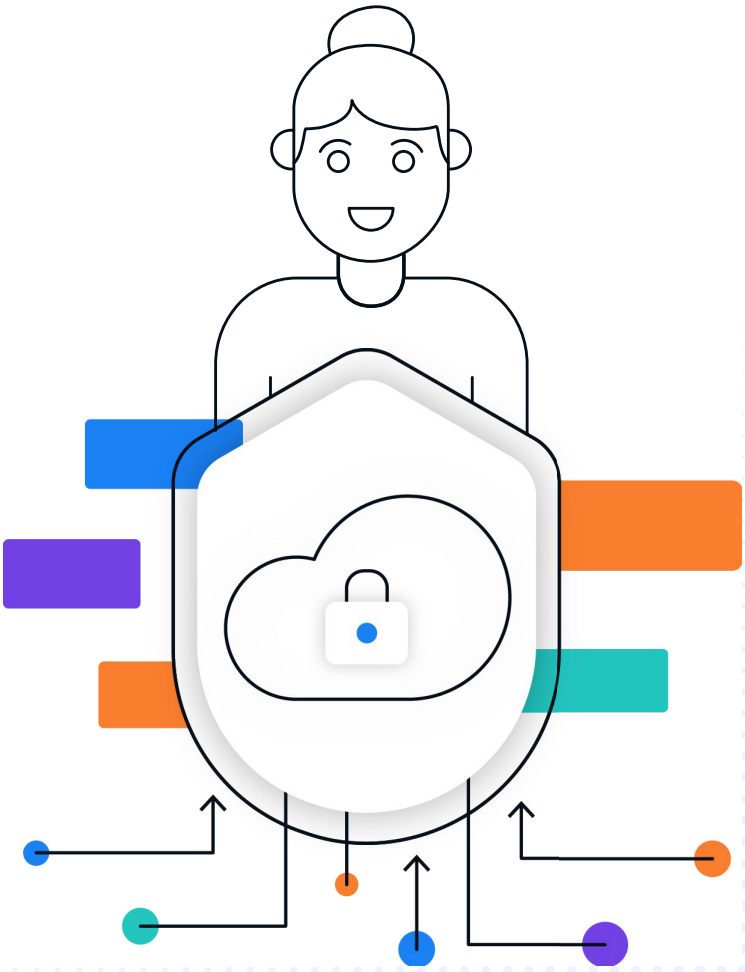
- [ ] **Establish enterprise-level data governance**
  - Implement centralized data stewardship roles across clinical, operational, and IT departments
  - Maintain a single source of truth for enterprise-wide reporting and analytics
  - Apply role-based access controls and data policies across departments and service lines

Leverage advanced analytics and early AI

- Launch predictive analytics capabilities for clinical, operational, and financial use cases
- Embed AI-driven alerts and recommendations into clinical and operational workflows
- Begin automating routine data quality, patient matching, and error detection
- Scale successful AI pilots across the organization;
- Identify additional use cases that can be improved with AI solutions

Move to the next stage when:

Data and interoperability are fully operationalized across the enterprise, enabling AI-driven automation and predictive insight to run reliably at scale, with governance and infrastructure mature enough to support continuous innovation.



Stage 4: Innovate

What This Means:

At this stage, organizations operate as adaptive, AI-enabled enterprises. Interoperability provides real-time, governed access to data across the ecosystem, allowing analytics, automation, and AI to continuously inform and act within clinical, operational, and financial workflows. AI moves beyond isolated use cases to power self-optimizing systems, predictive decision-making, and new models of care. Interoperability is no longer an IT function—it is the enterprise foundation that enables resilience, sustained innovation, and scalable growth.

CHECKLIST:

Goal: Leverage AI and automation to drive real-time insights and self-adaptive systems.

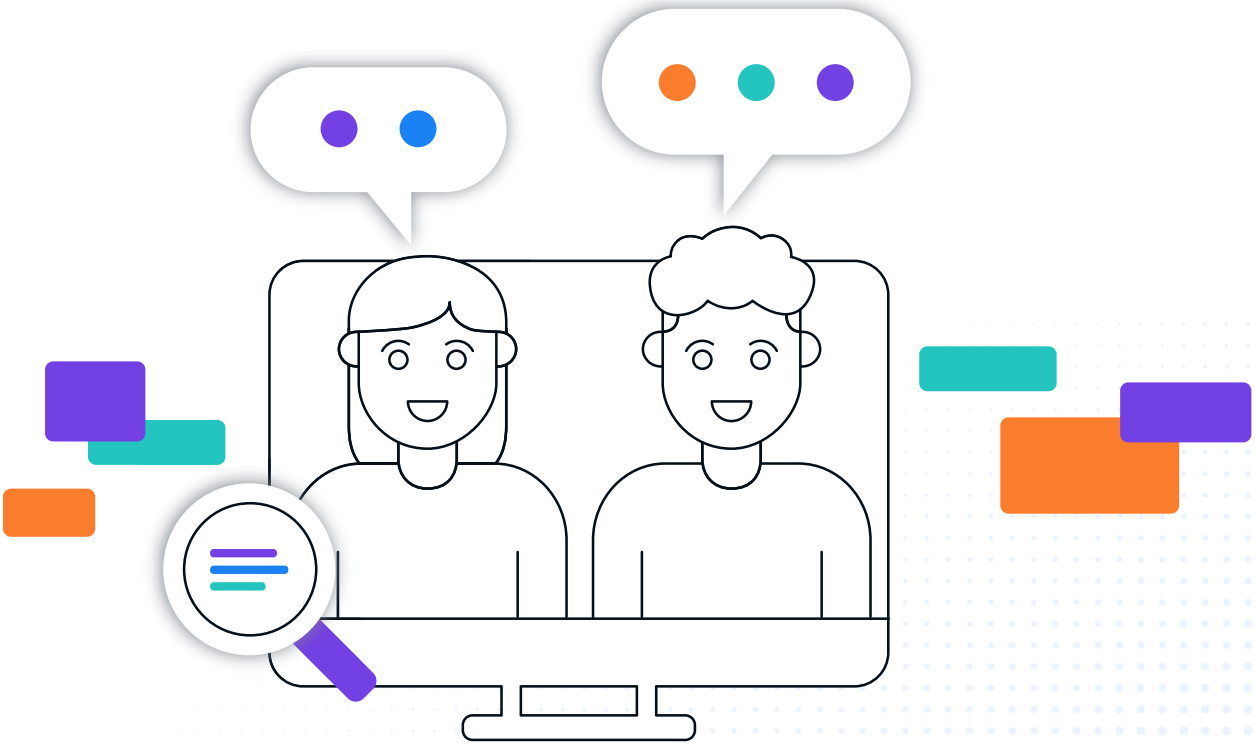
- [ ] **Operationalize AI at Scale**
  - Embed AI and agents into clinical and operational decision-making
  - Enable predictive patient risk scoring, clinical alerts, and precision staffing recommendations
  - Launch AI-assisted patient matching and medical coding at scale
- [ ] **Deploy Real-Time, Event-Driven Architecture**
  - Operate a seamless, real-time data exchange across departments and external stakeholders
  - Enable intelligent actions in clinical, operational, and financial workflows
  - Leverage AI-driven anomaly detection to proactively identify risk, inefficiency, and care gap
- [ ] **Develop a Self-Healing, Resilient Infrastructure**
  - Adopt self-healing, AI-assisted data pipelines for automatic error detection and correction
  - Maintain predictive compliance monitoring to stay ahead of evolving regulations
  - Establish fully automated, cloud-native platforms for seamless scalability and event-driven integration

Lead with AI-Powered Care Models

- Deliver personalized patient engagement and precision care recommendations at scale
- Use predictive AI to support population health, clinical trial matching, and proactive intervention
- Enable clinical staff with AI-powered decision support, voice interfaces, and automation tools across the enterprise

What Comes Next?

Interoperability and AI function as the foundation of the operating model—enabling continuous optimization, faster adaptation to market and regulatory change, and sustained innovation across the enterprise.



Your Path to the Next Level

Each stage of the Rhapsody Digital Infrastructure Maturity Model is more than a milestone — it's an inflection point for your organization. Together, these stages reveal where you stand, where you can go, and what it will take to evolve from a fragmented, manual state to a fully connected, intelligent, and AI-powered digital ecosystem.

With this assessment, you now have:

- A clear view of your current digital and interoperability maturity
- Actionable insights into your biggest gaps and opportunities
- A roadmap to help align your people, processes, and technology with long-term clinical and business priorities

What's Next?

The right path is unique for every organization, but you don't have to walk it alone. Rhapsody has worked with some of the largest and most complex health systems in the world to build tailored strategies that drive lasting digital transformation - and has scaled these down for the smallest local community hospitals as well.

Connect with our team to review your results, understand your gaps, and build a roadmap that positions your organization for a more connected, intelligent, and innovative future.




Visit: rhapsody.health for more information.

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