



HOW CLINICAL INFORMATICS IMPROVES VETERAN HEALTH OUTCOMES

*Safeguarding Veteran patient safety and population
health leveraging clinical informatics best practices
and solutions*

March 27, 2026

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Introduction

Tribility is partnered with Clinical Architecture and ReMedi Health Solutions to bring clinical informatics solutions to the Department of Veterans Affairs (VA). Working within this domain, we often get the question: “What is Clinical Informatics?” In this paper, we provide an operational definition and demonstrate how clinical informatics helps improve Veteran health outcomes.

Background

Our operational definition of Clinical Informatics:

Clinical informatics is a multidisciplinary field at the intersection of healthcare, information science, and technology. It focuses on the effective use of data, information systems, and digital tools to improve patient care, enhance clinical workflows, support decision-making, and optimize health outcomes.

Healthcare providers (i.e., doctors, nurses, social workers, and specialists) use technology to manage patient data and deliver care. Providers who design, implement, and optimize patient data and information systems are functioning as informaticists. Clinical informatics professionals (e.g., clinical informaticians, clinical informatics nurses, and clinical informatics physicians) serve as liaisons between the clinical and IT domains, to align technology solutions with the needs of practitioners and patients for optimal health outcomes.

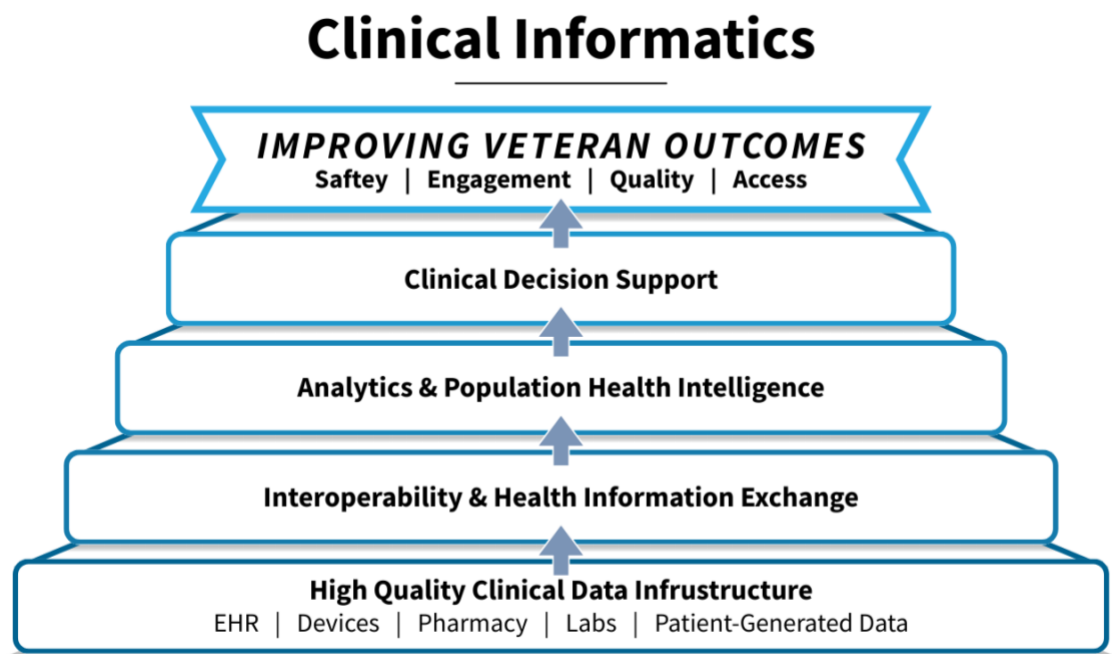


Figure 1: Clinical Informatics Improves Veteran Health Outcomes

Key activities for clinical informaticists include:

1. Analyzing and managing clinical data to support evidence-based practice, monitor patient safety, and drive healthcare quality initiatives.
2. Integrating clinical knowledge with modern information and communication technologies to facilitate efficient, effective, and secure healthcare delivery.
3. Supporting both providers and patients to access patient data to manage Veteran care.

Strategic Landscape

The Veterans Health Administration (VHA) stands as the largest integrated healthcare system in the United States, serving over nine million enrolled Veterans through an extensive network of nearly 170 medical centers and more than 1,190 outpatient clinics nationwide. As a direct provider of care, rather than an insurer-based system, the VHA is uniquely equipped to advance clinical informatics on a system-wide scale, fostering consistency, coordination, and high-quality care for Veterans across diverse settings.

Central to this effort is the VHA Office of Health Informatics (OHI) and Office of Clinical Informatics (OCI), which together oversee a comprehensive portfolio of informatics products and initiatives. OHI and OCI are responsible for the development, governance, and standardization of clinical information systems to promote interoperability and effective use of health data throughout the VHA enterprise. By establishing standards, managing data architecture, and implementing clinical decision support (CDS) tools, OHI and OCI lay the foundation for data-driven improvements in care delivery, patient safety, and clinical outcomes.

Additionally, VHA's Office of Connected Care (OCC) plays a crucial role in expanding access to care through telehealth, mobile applications, and patient-facing digital platforms, enabling Veterans to manage their health and communicate with their care teams regardless of location. In collaboration with VA Office of Information & Technology (OI&T)'s Electronic Health Record Modernization Integration Office (EHRM IO), the Office of Health Equity (OHE), and the Office of Healthcare Innovation and Learning (OHIL), these offices help create a coordinated, adaptive informatics ecosystem. This unified strategy not only supports real-time data sharing and care coordination but also drives continuous innovation and enhances the overall quality of healthcare services delivered to the nation's Veterans.

Safeguarding Veteran Patient Safety with Quality Data

High-quality, actionable data is critical to safeguarding patient safety and improving health outcomes for Veterans. Standardizing data enhances interoperability between VA and community providers, to improve accurate patient identity matching and enable safe, evidence-based care. From a value set and mapping quality perspective, as a member of Team Tribility, Clinical Architecture's proprietary tools and services enable fit for purpose content creation to support clinical informatics initiatives. Discrepant value sets and/or maps across VHA, Defense Health Agency (DHA), and Oracle Health exchange pathways can be significantly reduced by

using Symedical®, the same data quality platform that enables semantic interoperability, to identify discrepancies and contradictions, resolve them and version the VA assets used across the VA enterprise.

More broadly, the open-source Patient Information Quality Improvement (PIQI) framework allows for the deployment of modular data quality assessments across clinical systems. The PIQI framework is currently being balloted as a Health Level Seven (HL7®) informative standard. Clinical Architecture is a founding member of the PIQI Alliance, a multi-sector alliance dedicated to collaboratively identifying, developing, and advancing tools, dashboards, and metrics that measure the quality of patient data through a consensus-based process.

Accessing Veteran Patient Data at the Point-of-Care

Veterans' care increasingly depends on access to complete, actionable health information across VHA, DHA, and community settings¹. As VA modernizes its EHR, persistent gaps, such as medication identifier errors², delays in community care record integration³, and downtime events⁴, continue to threaten data continuity and clinical decision-making at the point-of-care. These barriers can impede safety, disrupt workflow, and undermine both clinician confidence and care outcomes.

Team Tribility's Approach for Ensuring Point-of-Care Data Access Readiness:

- **Clinically-Governed Chart Preparation:** We deploy experienced clinical abstractors, supported by physician and nursing oversight, to systematically review, validate, and enter high-value clinical data from legacy EHRs and care sources. This ensures chart completeness and accuracy when clinicians need it most. Our workflow incorporates automated validation, data harmonization, and stringent quality controls, directly improving the performance of CDS tools that rely on accurate Problems, Allergies, Medications, Procedures, and Immunizations (PAMPI) data.
- **Physician-Led Training and Personalization:** We address not only data integrity but also clinician readiness through one-on-one, specialty-specific training and EHR personalization, led by physician informaticists. We optimally align note templates, order sets, and workflow tools to each specialty, minimizing alert fatigue, reducing cognitive burden, and boosting system efficacy, particularly within VHA's diverse clinical environments.
- **Interoperability and Downtime Readiness:** Our solutions leverage standards-based APIs, HL7, and FHIR interfaces to facilitate seamless data flow and timely chart updates, supporting operational continuity even across system cutovers or downtimes. Real-time analytics monitor system adoption and highlight emerging risks, enabling rapid intervention and sustained operational resilience.

Through this multifaceted approach, Team Tribility ensures that accurate, veteran-centric patient data is reliably available at the point-of-care, directly supporting clinical efficiency, patient safety, and the mission of VA EHR modernization.

Cutover Data Continuity for Admitted Patients

EHR activation introduces heightened risk for patients who are admitted during cutover. In that moment, active medications, orders, allergies, vitals, and pending results must be accurately reflected in the new system to support uninterrupted care. Addressing this risk requires licensed clinicians to perform role-based clinical data entry during cutover windows. Team Tribility supports this process by sequencing registration, nursing, pharmacy, and physician workflows so that active clinical information from the legacy system is accurately transcribed into the new record and validated by the receiving care team. For VHA medical centers managing complex inpatient populations, this approach supports continuity of care, reinforces patient safety, and reduces avoidable risk during activation.

Analytics-Driven Oversight

Current oversight of EHR modernization also underscores the importance of reliable operational metrics during and after deployment. Both Government Accountability Office (GAO) and OIG reviews emphasize the need for stronger visibility into system performance, operational readiness, and user adoption. Effective oversight requires real-time visibility across chart preparation, training, personalization, and go-live support. Through a Command Center model (see Figure 2), Team Tribility enables leadership teams to monitor abstraction progress, training participation, readiness scores, alert override patterns, and cutover readiness in real time. These dashboards are not passive reports; they are operational tools that enable leaders to identify emerging gaps, make informed decisions, and intervene before issues escalate.

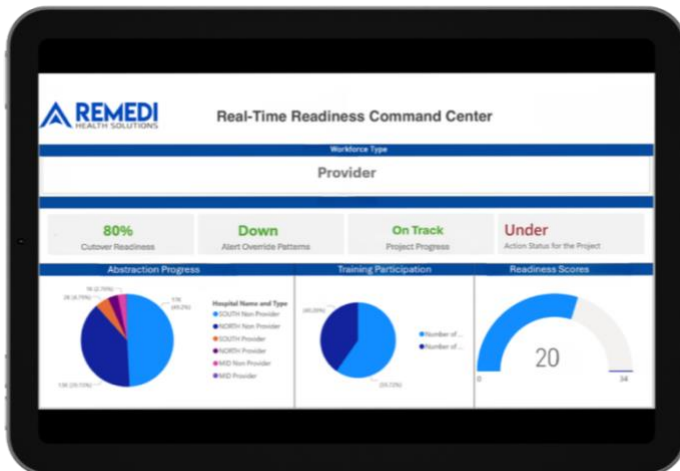


Figure 2: Real-Time Readiness Command Center

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Implications for Veteran Care

Deployments to date, including the joint VHA and DHA implementation at the Captain James A. Lovell Federal Health Care Center in March 2024, demonstrate that access to Veteran data at the point of care is not solely a technical migration issue. Interface testing at Lovell revealed cross-agency workflow gaps that required manual workarounds even after activation. Ensuring clinical readiness requires a disciplined approach to data continuity, workflow-aligned configuration, effective clinician training, structured cutover execution, and real-time operational

oversight. Together, these capabilities strengthen clinician confidence, support operational continuity, and improve the likelihood that EHR modernization will deliver its intended value for Veterans and the clinicians who serve them.

Providing Veteran Patients Access to Their Data to Manage Their Care

Providing Veterans with direct, timely access to their health data is a cornerstone of modern clinical informatics and a powerful driver of improved health outcomes. Within VHA, digital tools such as **My HealthVet**, **VA.gov**, and the **VA: Health and Benefits app** enable Veterans to securely view, download, and share their personal health data. Easy and secure access to health data empowers Veterans and promotes engagement, improves medication adherence and patient safety, supports Veteran care across multiple healthcare settings, and enables data-driven self-management.

Promoting Patient Empowerment and Engagement

Access to their health data provides Veterans with greater control of their health and fosters improved participation in healthcare decisions. Health record transparency transforms Veterans from passive recipients of care into active participants engaged in their health journey. Patients involved in creation of their treatment plans are more likely to follow treatment plans, attend appointments, and participate in preventive care. Evidence consistently shows that engaged patients have better adherence, improved disease control, and lower hospitalization rates. Accessible information empowers Veterans to make informed choices aligned with their values and goals.

Improving Medication Adherence and Patient Safety

Veterans frequently manage multiple prescriptions, particularly those with service-connected injuries or chronic illnesses. Patient access to medication refill features and clinical notes can improve medication adherence.⁵ Real-time access to medication lists, history and medication refill status reduces confusion, duplication, and errors, and enhances Veteran patient safety.

Supporting Veteran Care Across Multiple Settings

Across the U.S., patients are increasingly seeking care from multiple sources. Within VA, this same trend is occurring as the MISSION Act of 2018 expanded Veteran access to community care providers. Providing digital access to downloadable and shareable health records enables Veterans to coordinate care with community providers more effectively. For example, Veterans can share lab and test results, imaging reports, or their medication history, reducing duplicate testing and improving continuity of care. This is particularly important during care transitions, such as hospital discharge or referral to specialty care, when information gaps can lead to preventable complications.

Enabling Veteran Self-Management

When Veterans can view their lab results, medication lists, appointment history, and clinical notes, they are better positioned to manage chronic conditions such as diabetes, hypertension, posttraumatic stress disorder (PTSD), and chronic pain. Access to health data allows Veterans

to review care plans and follow-up instructions, monitor trends or changes, and prepare informed questions prior to clinical appointments.

Enabling Patient Generated Health Data

Many additional VHA virtual care technologies now also support the collection and sharing of patient generated health data (PGHD), (i.e., data that is created, captured, or recorded by patients in-between healthcare appointments). PGHD can support the ability to diagnose and manage chronic conditions and has the potential to improve health outcomes and to facilitate more “connected health” between patients and their care teams. This data can add significant depth and dimension to a clinician’s understanding of a patient’s health, which, in turn, can lead to improved clinical decision-making and better care delivery. It can also benefit patients in understanding their health and treatment options, and in self-management of symptoms. Further engaging patients in their own care, in turn, has the potential to improve the patient experience and increase satisfaction, enable patients to achieve better health outcomes, and enhance system efficiency, thereby reducing cost.

Despite the tremendous growth in PGHD and anticipated benefits, broadscale use of PGHD has been challenging to implement with significant gaps in current knowledge about how PGHD can best be employed in the service of high-quality, patient-centered care. While the role of PGHD in patient self-management continues to grow organically, we need a deeper understanding of how data collection and sharing translate into actionable information that supports shared decision-making and informs clinical care in real-world settings. This, in turn, will foster both clinical adoption and patient engagement with PGHD. We developed an agenda for PGHD-related research at VHA that emphasizes clinical value to focus attention on what we believe will be a promising inflection point for use of PGHD.⁶ This research agenda will engage clinicians to partner with patients to expand patient-provider communication, enhance healthcare delivery, and improve patient and population health outcomes.

Clinical informatics is foundational to delivering high-quality, coordinated, and patient-centered care for Veterans. By improving data accessibility, clinical informatics directly contribute to better health outcomes. When Veterans can both view and contribute data to their health record, care becomes more dynamic and personalized. Providing Veterans with easy and secure access to their health data improves safety, engagement, adherence, and outcomes.

Advancing Population Health Management

VA manages care for millions of Veterans living with chronic conditions, including PTSD, traumatic brain injury, diabetes, cardiovascular disease, and toxic exposure-related illness. Many of these patients receive care across both VA medical centers and community care providers. As reflected in OIG findings, some VHA facilities continue to face challenges incorporating community care records within required timeframes, limiting visibility into recent diagnoses, procedures, and treatment changes. These documentation gaps complicate care coordination and weaken the data foundation needed to understand current population health needs. Clinical informatics helps address this challenge by integrating community care documentation into the longitudinal record and structuring EHR data so it can be used more

effectively for population-level analysis, giving leadership clearer visibility into emerging health trends, care gaps, and resource demands.

At the facility level, clinical informatics supports earlier identification of Veterans whose conditions may be worsening, allowing care teams to intervene before those issues become more acute. That capability is particularly important in a system managing large populations with complex chronic disease burden. Honoring the PACT Act of 2022 offers a clear example of how informatics can help operationalize policy at scale. By aligning presumptive condition criteria and screening requirements with available EHR data, informatics teams can help identify eligible Veterans, support proactive outreach, and improve follow-up. These efforts depend on a reliable, integrated record. When clinicians can see a more complete view of the patient across VA and community settings, they are better positioned to coordinate care, close follow-up gaps, and reduce the likelihood of avoidable deterioration. The resulting data also gives leadership a stronger basis for planning, prioritization, and long-term population health strategy.

Team Tribility works at the intersection of clinical informatics and healthcare strategy, helping organizations move from fragmented data to actionable population health insight. Team Tribility's clinical consultants work alongside leadership and care teams to assess data readiness, strengthen community care integration, improve outcomes tracking, and align EHR capabilities with operational and planning goals. This work includes CDS optimization, workflow design, and the use of structured data to support more informed resource allocation and measurable improvement in chronic disease management. Without that clinical informatics layer, even well-resourced organizations may struggle to turn available data into coordinated action, better outcomes, and more strategic use of resources.

Engaging Team Tribility

Team Tribility is poised to support VA with an integrated clinical informatics model that advances data quality, point-of-care readiness, workflow optimization, patient engagement, and operational oversight. Through Integrated Product Teams (IPT) composed of clinicians trained in informatics, the team can help design, implement, and optimize solutions that strengthen patient safety, improve care continuity, and support better outcomes for Veterans.

Get Started

Reach Team Tribility at: contact@tribility.com

About Us



Tribility is a mentor-protégé joint venture (JV) that combines the management consulting capabilities of Trilogy Federal (Trilogy) with the healthcare innovation expertise of Ibility. Tribility has Service-Disabled Veteran Owned Small Business (SDVOSB), Economically Disadvantaged Women-Owned Small Business (EDWOSB), and Women-Owned Small Business (WOSB) status with the Small Business Administration. Tribility is led by Ibility CEO, Danielle Krakora, and Trilogy Chief Transformation Officer Brandon Bridwell, as well as partners Eric McNutt, Mike Sotak, and Ken Beecher. Together their leadership, vision, and passion to serve federal government organizations are central to Tribility's strategy for growth.



Clinical Architecture helps healthcare organizations transform complex data into trusted, usable information. Our scalable data quality solutions support providers, payers, life sciences, and public agencies in assessing and normalizing data to ensure it is fit for purpose and meaningful exchange. The PIQXL Gateway, our implementation of the Patient Information Quality Improvement (PIQI) framework, offers a real-time, score-based view into patient data quality. It flags missing, invalid, or non-standard elements for targeted remediation. By improving data integrity and trust, we help organizations build a reliable data foundation to maximize AI investments, care coordination, and analytics.



ReMedi Health Solutions is a physician-led healthcare IT consulting firm focused on improving clinical efficiency, patient safety, and provider satisfaction through optimized electronic health record (EHR) systems. Founded by physician informaticists and healthcare executives, ReMedi delivers workflow-driven implementation, training, and optimization services that align technology with real-world clinical practice. Through its peer-to-peer training model, the firm empowers clinicians to use EHR systems more effectively, strengthening clinical informatics programs and supporting safer, more efficient, high-quality patient care across complex health systems.

Acknowledgements

Danielle Krakora, CEO, Ibility/Tribility JV

Elaine Dueland, Sr. Solutions Architect, Trilogy Federal

Ro Weaver, VP of IT, Trilogy Federal

Kim Nazi, PhD, Advisor, Trilogy Federal

Francene Lord, VP, Clinical Architecture

Kate Dosmann, Director, Clinical Architecture

Alec Dwaik, MD, VP, ReMedi Health Solutions

Jasdeep Mann, VP, ReMedi Health Solutions

Elli Blonde, Director, ReMedi Health Solutions

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