



# Soarian Clinicals

Driving clinical excellence — Enterprise wide.

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Compassionate care and sound financial management: How does your organization pursue these objectives with equal expectations for success? How do you realize higher levels of clinical excellence at dramatically lower costs?

For more and more healthcare organizations, the answer is Healthcare Process Management (HPM). It's the principle behind the design of Soarian® Clinicals — helping you model best clinical practices and streamlined efficiency into your processes. Healthcare Process Management also plays a critical role in realizing the promise of computerized physician order entry (CPOE) with Soarian Clinicals.

The principles of business process management, applied for years in other industries, are relatively new to healthcare. One reason has been the design of conventional healthcare information solutions as passive utilities that rely on user action and instruction. These traditional transaction-based healthcare solutions weren't designed to help clinicians build knowledge of the process into the system in ways that promote efficiency, foster best practices, and enhance clinical quality.

**“We realized that business process management was one of the keys to the survival of a healthcare system in the 21st century. With the Healthcare Process Management capabilities provided in Soarian Clinicals, The Chester County Hospital system upholds the fundamental principles of medicine — the desire to make people well, and to do so in the safest, most effective way possible.”**

Ray Hess  
Vice President  
Information Management  
The Chester County Hospital

## Put Healthcare Process Management to work — driving outcomes and coordinating teamwork

Soarian Clinicals Healthcare Process Management technology extends the benefits of business process management into the life-critical healthcare environment. It's a formula for reshaping operations, rethinking patient outcomes, and reinvigorating care teams. It results from the application of proactive process management that promotes the coordination of best-practice tasks, synchronization of hand-offs, and flexible distribution of information to every practitioner in each process.

Today, the Healthcare Process Management technology built into Soarian Clinicals connects real-time human interactions with enterprise data transactions in a way that only Siemens can. It helps healthcare organizations bring new levels of automation to their current processes and make meaningful improvements to the processes themselves.



With an industry-leading workflow engine that simultaneously pushes multiple tasks to multiple people — across care settings, departments, and disciplines — Soarian Clinicals makes information available when and where it’s needed. It presents clinicians not only with alerts and reminders, but can help coordinate teamwork among clinicians with a diverse array of roles — by allocating tasks, adjusting to changes in patient conditions, and moving process steps forward at the right time and in the right sequence.

A single set of Web-based software standards makes this degree of interdepartmental coordination possible by bridging people, departments, and systems, sharing information, and linking steps in a process.

Soarian Clinicals tracks process tasks in terms of role, time, and sequence. It notifies clinicians of the next defined step in a process, and helps to escalate tasks and actions when needed.

The traditional structure of healthcare organizations, with islands of care and departmental information solutions that segregate people who need to coordinate their efforts to make care safe and effective, poses another significant barrier to HPM adoption and success.

Healthcare enterprises equipped with Soarian Clinicals are proving to be the exception. More than 65 Soarian workflows — from infection control management to deep-vein thrombosis prevention — help drive performance and achieve higher levels of care quality in a growing number of organizations.

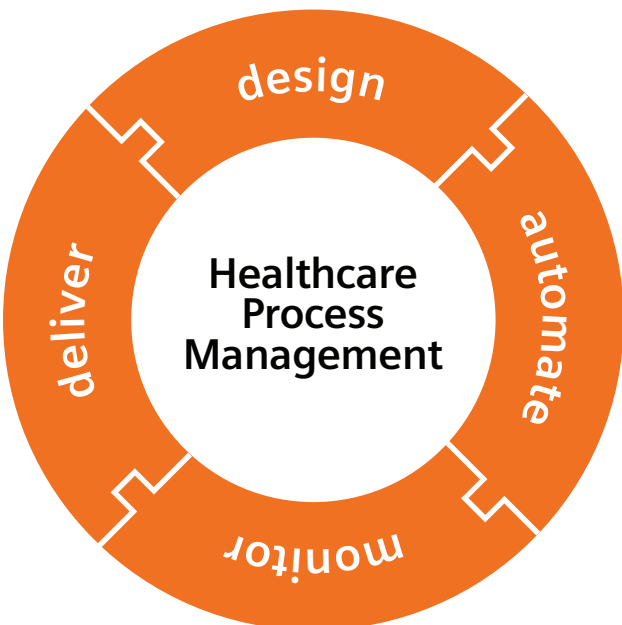
Soarian Clinicals Healthcare Process Management uses a four-step sequence for designing efficient healthcare processes, providing tools to streamline each step:

- Use a proven process modeling environment to design clinically effective and financially efficient processes into your workflow
- Automate the transfer of information with an industry-leading workflow engine
- Monitor processes with business activity monitoring technology embedded in the system
- Take advantage of the Soarian Service-Oriented Architecture, which enables you to deliver the benefits of Healthcare Process Management through the organization

## Build best practices into the process

**“We are excited to form this alliance with Siemens and eager to capitalize on our organizations’ respective areas of expertise in order to deliver unprecedented healthcare IT innovation to the market. Our teams are collaborating and immersing themselves in this first-of-its-kind service-oriented architecture (SOA) project.”**

John Glaser  
Vice President and Chief Information Officer  
Partners HealthCare System



By some measures, more than 80 percent of medication errors can be reduced through use of computerized physician order entry (CPOE).<sup>\*</sup> Benefits only start by overcoming legibility problems that can lead to errors. Clinical decision support incorporated into Soarian Clinicals provides an additional level of safety at the time of the physician order.

Effective CPOE is not just about entering orders. It's about improving the entire care delivery process — creating an interactive care model that supports decision-making and reduces variance in care. Soarian Clinicals CPOE tools, combined with its HPM capabilities, make order information accessible across the healthcare enterprise. These tools can help to reduce errors, improve compliance, shorten cycle times, and decrease length of stay.

Soarian Clinicals draws on Siemens experience in developing INVISION, the industry's most widely used CPOE system, which today is used by more than 18,000 physicians. Siemens CPOE clinician users typically place 75 to 100 percent of the patient care orders they issue, including medication orders, electronically.

**“At many levels, CPOE is enhancing patient care at Holy Redeemer. We are finding that communication among the care team is better coordinated and doctors’ orders are acted upon more quickly. CPOE is an important component of Holy Redeemer’s strategy to reduce errors, enhance patient safety, and improve the quality of care.”**

Jonathan Sternlieb, MD, FACC  
Chief Medical Information Officer  
Holy Redeemer Health System  
An INVISION Customer for 16 years  
currently migrating to Soarian Clinicals

**“Soarian will help us direct our resources to the right place at the right time to treat people. And with that workflow, technology, and artificial intelligence, we really believe we’re going to save lives.”**

Lex Ferraiola  
Vice President of Information Technology  
Chief Information Officer  
Hackensack University Medical Center

## Breakthrough improvements to computerized physician order entry (CPOE)

Key strengths of Soarian Clinicals CPOE:

- Consistent presentation of alerts with suggested actions to help close the medication ordering process loop
- Functionality that enables clinicians to enter orders as written with the pharmacy dealing with the dispensing details
- Access to order entry from different points in the healthcare delivery processes, such as alerts, results review, and clinical summary
- Use of embedded analytics for reporting on all clinical and operational order processing data
- Advanced medication order functions, such as weight-based dosing and IV drips

<sup>\*</sup>Koppel et al. Role of Computerized Physician Order Entry Systems in Facilitating Medication Errors. *JAMA*. 2005; 293:1197-1203.

## Broad strides in unifying patient information

**“Soarian Clinicals makes patient information, clinical assessments, and interventions available organization wide. With Soarian Clinicals, different disciplines such as therapies, case management, nutritional services, respiratory therapy, and nursing have the information at their fingertips. In fact, the usefulness of this tool for us is limited only by our vision. The build tools, combined with the Web-based Soarian Clinicals design and work listing capability, has allowed us to strategically challenge how we deliver care.”**

Margaret Campbell, RN  
Director of Applications  
HealthAlliance

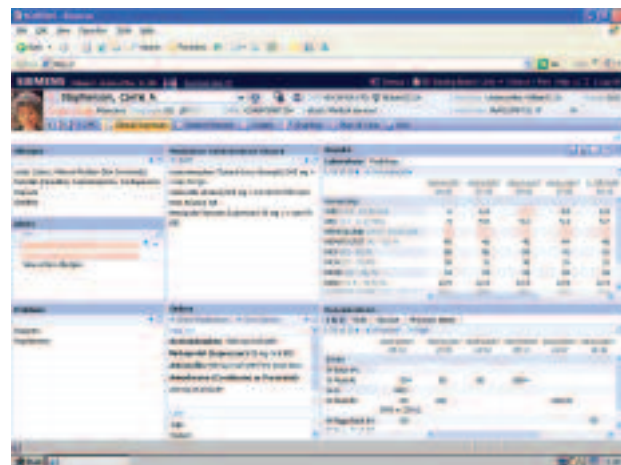
The capture of patient information — medications, vital signs, past medical history, immunizations, laboratory reports — in one secure and up-to-date record is fundamental to streamlining workflow and enabling advanced approaches to care, such as evidence-based decision support, quality management, and outcomes reporting.

Soarian provides a series of technologies for realizing this vision, which have become the centerpiece for strategies to improve clinical performance and sustainable management of healthcare costs:

**Clinical summary** — A single display presents information such as results, alerts, orders, medications, problems, and vital signs, providing a snapshot of patient status at a point in time. This consolidated view is useful in supporting more consistent hand-offs of communication between clinicians and in providing key clinical information to rapid response teams.

**Physician documentation** — Part of the Soarian strategy for eliminating boundaries between clinicians, Soarian’s physician documentation tools, such as the clinical letter, summarize the care of a patient for communication among providers within the organization and externally. It affords quick and accurate data capture and a summary of patient experiences, supporting hospital documentation polices and minimizing delays in reporting.

The Clinical Summary consolidates comprehensive patient information in one display.





## Mobility — taking process management anywhere, everywhere

Soarian Clinicals connects people, systems, and processes in new ways. Paired with mobile computing and radio frequency identification (RFID) technology, Soarian provides clinicians with vital information accessible at any time, anywhere — at the bedside, on another unit, or in the office or home.

Mobile access to information eliminates the need for clinicians to locate a computer — often a scarce resource in busy hospitals and clinics — to take advantage of healthcare information technology (IT). And that makes mobile computing a logical extension to Soarian's Healthcare Process Management approach. It lets clinicians initiate a process at the point of care — or at virtually any other location — making information immediately available to other users and further driving execution of process steps.

## The foundation for evidence-based care

Patients, regulatory agencies, and advocacy organizations increasingly demand healthcare to be based on documented clinical knowledge. The application of evidence-based care holds the promise of increasing consistency and reducing medical errors that can lead to faster, more predictable, and less costly patient recovery.

The missing link is a solution that helps to execute these plans of care and follow the standardized, structured processes proven in clinical environments.

Soarian's Healthcare Process Management capabilities provide the foundation for the next step in providing reliable and predictable levels of clinical excellence: evidence-based care — the use of the best available evidence from real-world clinical experience — in the planning and delivery of patient care. It's the link between knowledge, process, and practice.

Soarian Clinicals provides tools for mapping the latest clinical evidence, performance measures, and regulatory standards into your order sets and plans of care. The tools enable clinicians to make decisions and direct care in accordance with recognized best practices that optimize quality.

Through collaboration with knowledge vendors and academicians, Siemens provides Soarian Clinicals users with dynamic access to current practice information. This open, vendor-neutral approach lets you choose the clinical evidence sources that are best for your individual organization.



Soarian Clinicals removes barriers between departmental islands of information, in which caregivers have incomplete access to the full patient record. As a result it helps to minimize inconsistent hand-offs of tasks, that can cause delays and errors.

Instead of building interfaces between disparate systems, Soarian Clinicals provides a single clinical platform that helps organizations connect people and processes across the enterprise, enabling patient information to flow from the emergency department to critical care, or to virtually any other department or acute setting.

**Technology introduced with Soarian Clinicals is so innovative that the solution earned Siemens Medical Solutions more than 15 US patents. The powerful, patented Soarian Clinicals CPOE order search algorithm is only one example.**

**Clinicians take advantage of real-time access and updates of information across these departmental solutions:**

**Soarian Cardiology** adds a key component for a complete electronic patient record by adding cardiovascular data derived from multiple sources — modalities, lab, imaging systems, and Soarian Clinicals. It helps healthcare providers to synchronize cardiology processes across the enterprise.

**Soarian Cardiovascular Enterprise** combines the multimodality diagnostic image management capabilities of *syngo*® Dynamics with the nursing documentation, orders, cardiology workflow management, powerful reporting knowledge bases, and outcomes analysis functions of Soarian

Cardiology. Clinicians get all images and cardiology data combined in one cardiology repository and viewable on one workstation.

**Soarian Critical Care\*** addresses the process management challenges of the critical care team by proactively integrating medical devices and information, automatically collecting patient data from the bedside, and creating an electronic flowsheet that consolidates information on fluid

balance, medication drips, nursing observations, and lab results.

**Soarian Emergency Department** helps to automate emergency department processes, and can significantly improve departmental throughput by tracking patients accurately and expediting documentation.

One information  
resource for the  
coordinated enterprise

\* Available in a future release

**Soarian Oncology\*** supports the increasingly complex nature of cancer treatment and the subsequently growing information needs of the professionals involved in cancer care delivery.

**Soarian Operating Room\*** helps to minimize scheduling inefficiencies, resource mismanagement, lost or invalid surgical consents, communication obstacles, and implant recalls.



Built for the Web, Soarian Clinicals can be accessed by mobile computing tools to bring vital information to the point of care.

**Spanning each of these departments, one common Soarian Clinicals information infrastructure yields important business benefits:**

- **Minimized training — Clinicians learn one set of skills for managing information across departments**
- **Economies of scale — A single, enterprise-wide information solution eliminates the need to acquire hardware for each department, and can be managed with fewer IT staff**

**Soarian Clinicals** also provides bi-directional information sharing with Siemens solutions for managing information about medications and their administration to patients.

**Medication Administration Check** closes the loop in the medication use process by validating and documenting medication administration using bar-code technology. With online, real-time point-of-care information technology, Med Administration Check helps reduce medication administration errors. Siemens Pharmacy is integrated with Med Administration Check, providing a common view of medication data among pharmacists and nurses to facilitate communication and enhance patient safety.

**Siemens Pharmacy** helps promote patient safety by improving the quality of medication therapy through pharmacist intervention documentation, clinical conflict screening, and drug-lab clinical rules. A bidirectional interface with Soarian Clinicals communicates information on admissions, discharges, and transfers as well as details about allergies and physician orders. The Soarian Clinicals workflow engine can use rules to generate alerts displayed on the pharmacy monitor.

# A unified information environment connecting care everywhere

Equipped with proven Healthcare Process Management technology for coordinating teamwork, clinicians can have more time to focus on the patient instead of systems and procedures — for improved patient safety, measurable positive outcomes, and lower costs.

Soarian Clinicals provides complete tools for channeling the right information within the right process to the right people. With the tools for designing processes to adapt to evolving clinical challenges, you establish new, higher standards of care. You aim high with the confidence that these standards will be met — boosting patient satisfaction, bottom-line performance, and your hospital's reputation.



# About Siemens Medical Solutions

Siemens Medical Solutions, with headquarters in Malvern, Pennsylvania, and Erlangen, Germany, is a healthcare technology innovation leader.

Bringing together a unique set of innovative medical imaging, clinical diagnostics, healthcare information technology, management consulting, and related services, Siemens helps healthcare providers achieve improved clinical workflow, gains in productivity and efficiency, and higher levels of quality, accuracy, and safety.



The complete Soarian suite of solutions can help your organization streamline and navigate the complex web of financial and clinical tasks and processes. For information on the Soarian family of solutions, contact your account representative.

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