Julie's caregivers created a secure Web page all about her.

They made it with TrakCare, the unified healthcare information system that provides a full range of clinical, administrative, laboratory and community care capabilities.

TrakCare displays a single, comprehensive view of Julie's medical records: An Electronic Patient Record that her authorized healthcare professionals can access at any time, with any device that connects to the Internet.

Julie is getting world-class care, enabled by TrakCare. She has a reason to smile.
# Contents

The Key to Better Patient Care ................................. 1  
InterSystems – Your Creative Technology Partner .......... 3  
A Track Record of Success .................................... 3  
Case Study: Federal District Government of Brasilia, Brazil 4  
Case Study: National Health Service, Scotland .......... 7  
Case Study: Groupement des Hôpitaux de l’Institut Catholique de Lille, France 8  
Case Study: State of Victoria, Australia .................. 11  
Case Study: United Family Hospitals and Clinics, China 12  
Case Study: Sultan Qaboos University Hospital, Oman 15  
Case Study: Santorso Hospital, Italy ....................... 16  
What Sets TrakCare Apart .................................... 18  
TrakCare’s Unified Application Modules ............... 21
The Key to Better Patient Care

Today, in leading healthcare organizations in 25 countries, InterSystems TrakCare® is making care delivery more effective and efficient. Clinicians and administrators are using TrakCare to improve safety and outcomes, control costs by eliminating duplicate tests and other redundancies, expedite billing, and maximize resource utilization.

TrakCare is a world-class healthcare information system with clinical, administrative, laboratory, and community care capabilities that are unified by a single database and a common user interface across all platforms. TrakCare automatically detects the type of device in use to optimize specific functionality, such as touch on a tablet or smartphone, for a more seamless, more efficient user experience.

For clinicians, working with TrakCare means less time spent searching for information, and more time spent with patients. Clinicians can work with complete patient records at any point of care, on any Internet-connected device. Unlike similar products, TrakCare comes pre-configured to reflect the work practices within a geographic region, enabling our customers to be up-and-running quickly.

For IT staff, TrakCare offers a unique combination of advanced technology and our ARIES rapid implementation methodology for successful deployments. Since TrakCare is Internet-based, it provides the hardware cost benefits of a thin client while minimizing the IT and administrative overhead associated with software upgrades in a traditional client/server environment.

Much of the power of TrakCare derives from the fact that all of its modules share the same data model, and a single database system called InterSystems Caché®. So with TrakCare, there is no need to integrate separate modules with one another, and that saves time and expense. Additionally, because it was built as one unified system, TrakCare requires just one login for users, and data entered once is immediately available throughout the system.

InterSystems' Global Leadership in Healthcare Information Technology

Since 1978 we have provided innovative software technology that powers many successful healthcare information systems. TrakCare leverages these advanced technologies for breakthrough applications.

InterSystems Caché® is the world’s most widely used database technology in clinical applications. It is the database system at the heart of TrakCare that unifies all of its capabilities.

InterSystems Ensemble®, the rapid integration technology in TrakCare, has been ranked the #1 or #2 interface engine since 2006 by KLAS, a leading healthcare information technology research firm in the United States.

InterSystems DeepSee® and iKnow™ technologies provide real-time active analytics capabilities in TrakCare for better clinical and operational decisions at every point of care.

InterSystems HealthShare® is the strategic healthcare informatics platform that is enabling the implementation of connected healthcare strategies around the world, including large government projects in Australia, Europe, South America, and the United States.

KLAS has identified InterSystems TrakCare as the EPR system selected by the most hospitals internationally (excluding the U.S. market).

KLAS International EPR Market 2012 report, March 2012
“InterSystems has extensive global experience with multiple languages and countries, leverages its global presence, and is financially strong.”

Gartner Magic Quadrant for Global Enterprise EHR Systems, Thomas J. Handler, M.D., 18 October 2012
InterSystems – Your Creative Technology Partner

InterSystems is a privately-held global company founded in 1978, with corporate headquarters in Cambridge, Massachusetts. Major hospitals, laboratories, and healthcare application providers in 90 countries use our innovative products.

We have become a worldwide leader in healthcare information technology by being a creative technology partner, not just a software vendor. With our 24x7 support, expert trainers, advanced technologies, successful implementation methodology, and focus on customers (instead of shareholders), there are compelling reasons to partner with us.

You can watch a demonstration of TrakCare, and read more about its advanced technology and core capabilities, at InterSystems.com/TrakCare.

A Track Record of Success

TrakCare deployments have ranged from single hospitals to nationwide healthcare systems. TrakCare can be adapted to varying public- and private-sector healthcare delivery approaches. It is a multi-language, multi-currency system that comes pre-configured to meet the local requirements of geographic regions so that deployment can be expedited.

High user adoption rates, especially among clinicians, is crucial to successful deployments, but previous generations of healthcare information systems have been underutilized or even abandoned for lack of user adoption. Two key factors about TrakCare help to maximize user adoption:

- The benefits of a complete Electronic Patient Record (EPR) are delivered quickly using InterSystems’ ARIES implementation methodology. ARIES stands for “Architecture for Rapid Implementation of Enterprise Systems,” and is our unique methodology for rapidly implementing healthcare information systems at any scale.
- Healthcare professionals have easy and secure access to the information and clinically rich functionality they need on fixed and mobile devices, whenever and wherever they need it.

The TrakCare case studies on the following pages are typical of the many hospitals, community care facilities, laboratories, and governments worldwide that are improving outcomes by enabling their healthcare professionals to make decisions based on complete patient data.
The government of the federal district (GDF) of Brasilia, the capital of Brazil, is modernizing the delivery and administration of healthcare for its population of more than 2.5 million citizens by deploying TrakCare. The GDF healthcare delivery network includes 15 hospitals with 4,400 beds, plus 65 health centers, polyclinics, diagnostic laboratories, and pharmacies.

GDF recognized that moving from its paper-based system and automating manual processes could yield huge improvements in quality of care and significant cost reductions. GDF chose TrakCare for this effort because:

- TrakCare has been successful elsewhere in the world, in public and private healthcare settings
- TrakCare can be implemented one module at a time and deliver the benefits of an Electronic Patient Record (EPR) from deployment of the first module
- TrakCare is built on InterSystems’ technology, known for its performance, reliability, and scalability

GDF also is distributing to all of its 2.5 million citizens a smart card that holds a unique healthcare system ID plus demographic, registration, and clinical EPR data. “The use of TrakCare and the smart card already is increasing our worker productivity, lowering operating costs, and reducing wait times,” says Cláudio Freitas, MD, Associate Professor of the College of Medicine of the University of Brasilia.

GDF has implemented the TrakCare Lab, Clinicals, and Patient Administration modules, and is now realizing significant benefits, including:

- Increased revenue of R$1 million per month through TrakCare bed management, with only 257 beds currently managed out of the 4,400 total beds (projected savings of R$12 million per year). Systemwide, GDF expects the use of TrakCare to double bed occupancy from 2.3 to 4.6 patients per month, effectively creating 4,400 more beds.

- Use of a Web portal for access to lab results that will save a minimum of R$18 million per year by eliminating lost test results and duplicate tests.

- Control of single-dose drug dispensing via TrakCare Pharmacy is saving 70% on injectible drugs and 75% on tablets.

- Additional pharmacy savings on the purchase of drugs will approach R$60 million per year by eliminating lost quantities of medications, duplicate prescriptions, and distribution of medicine without a doctor’s prescription.

The Federal District Healthcare Department predicts that when the integrated GDF healthcare system is completely operational, total savings will reach R$100 million per year.
Unifying Healthcare in Scotland with TrakCare

The NHS Scotland Patient Management System program for hospitals gives authorized users immediate access to better clinical and administration information from one standard healthcare information system. The program implements TrakCare to replace aging disparate systems with one unified, Internet-based healthcare information system to share best practices, minimize harmful variation of processes, and standardize reporting. It is a strategic part of the Scottish Government’s e-health transformation to empower a 21st century Scottish NHS to provide effective, fair, and affordable care.

A consortium of five Health Boards comprising of NHS Ayrshire & Arran, NHS Borders, NHS Grampian, NHS Greater Glasgow and Clyde, and NHS Lanarkshire created a team of more than 160 users to agree on requirements and select the patient management system. When the contract was signed, Alan Lawrie, eHealth Program Board Chairman, said, “We believe that TrakCare will play an important role in streamlining patient services leading to faster diagnosis and treatment while enhancing patient safety.”

With NHS Lothian, which was already using TrakCare, the consortium Boards are responsible for over 70% of the Scottish population, and account for 131 separate NHS Scotland facilities that currently provide over 13,000 inpatient beds. The Boards chose extended functionality depending on their specific clinical and administrative needs, including pharmacy, laboratory, maternity, and mental health administration. Each Board maintains one TrakCare implementation, and during busy periods, together they will support more than 114,000 staff working in emergency, inpatient, outpatient, radiology, and mental health care settings. In a supplementary contract, NHS National Services Scotland chose Ensemble as the national integration platform to share information, processes, and workflow for interoperability between other systems.

Key Benefits for Scotland

- Patient information entered once and shared by all authorized users, avoiding the costly storage, transport, and tracking of paper records between departments and care facilities.

- Immediate and effective recording of patient admissions, discharges, and transfers at all points-of-care to ensure continuity of care, and maintain detailed audits for service level management and reporting.

- Easy to use Internet-based access with visual alerts that highlight patient waiting times, and critical care information such as allergies, as well as dashboards and reports for management insight.

- Easier test ordering and access to results, including radiology and PACS images, that minimizes lost and unnecessarily repeated tests.

- Real-time bed management within coordinated care processes that makes efficient use of resources.
The French healthcare system is widely recognized as one of the best in the world. Therefore, when InterSystems entered the French market through its acquisition of Siemens Health Services (SHS) in 2011, it inherited a group of sophisticated clients with ambitious requirements.

The Groupement des Hôpitaux de l’Institut Catholique de Lille (GCS-GHICL) was one of the first French hospital groups to decide to deploy TrakCare. The decision was based on having had a positive experience with the InterSystems database technology that was embedded in many of the existing systems at GHICL, including SHS’s Clinicom administration and billing system.

GHICL is a private, non-profit teaching hospital group with 900 beds, offering comprehensive healthcare services in state-of-the-art facilities. It provides health services, within an inclusive service cost, that extend into their patients’ homes, so the IT systems it relies on must be robust and innovative.

InterSystems’ ARIES implementation methodology provided a reliable and disciplined approach that enabled GHICL to deploy TrakCare in just seven months. By deploying the French Country Edition of TrakCare, GHICL minimized risks and expedited the implementation process. User adoption has been strong, aided by TrakCare’s intuitive interface and workflows that reflect the healthcare practices in France.

The management team at GHICL appreciates that TrakCare’s comprehensive clinical functionality and inherent interoperability with other systems enables them to achieve a shared electronic health record that can meet new government requirements and ensure high patient service levels well into the future.

The IT department at GHICL will now spend much less time on issues concerning performance, integration, and software development. Instead, IT personnel can provide dramatically increased value by advising the organization on how to unlock the full potential of TrakCare. This, in turn, will enable GHICL’s hospitals to attain their full potential. High on the list of goals is to fully leverage the embedded analytics capabilities of TrakCare.

According to Philippe Włodyka, CIO of GHICL, “InterSystems’ ARIES rapid implementation methodology has proven to be a valuable factor in the success of a program as complex as this one. Only seven months into the program, the patient record is already being used throughout our hospitals, and our facilities can process electronic prescriptions.”

Over the coming months, GHICL will roll out their new information system across their entire organization, giving them the distinction of being the first TrakCare-based “digital hospital” in France.
State of Victoria, Australia

State of Victoria Uses TrakCare to Improve Community Healthcare

In the Australian state of Victoria, the Victorian Department of Human Services selected TrakCare, in its community configuration, to be implemented by 22 community health agencies throughout the state, serving a population of 5.6 million. The decision to use TrakCare came after evaluation by a panel of over 150 healthcare professionals. One of the Department of Human Services’ key requirements was the ability for the community health information solution to integrate with Victoria’s statewide healthcare integration architecture. TrakCare is meeting this requirement with its powerful embedded integration technology.

The TrakCare solution provides community healthcare professionals with fingertip access to client information that supports improved coordination between agencies, more efficient delivery of services, and better health outcomes for the residents of Victoria. For the first time, hundreds of community health staff in each of the 22 agencies are able to manage their clients through a central case management system that removes duplication, enhances efficiency, and removes the need for both staff and clients to repeatedly enter and supply their demographic information and past clinical history.

Benefits to agencies that have implemented TrakCare include efficiency gains, improved client experience, better resource allocation to meet current and future community health needs, and improved healthcare outcomes through preventative health initiatives.

“We achieved those business benefits and benefits for clients very early on,” said Clare Amies, CEO of Western Region Health Center, with 13 different sites around inner and outer Melbourne. “TrakCare is already leading to efficiency gains, with improved coordination of resources.”

“State of Victoria, Australia”

“We achieved business benefits and benefits for clients very early on. TrakCare is already leading to efficiency gains, with improved coordination of resources.”

Clare Amies, CEO, Western Region Health Center
United Family Hospitals and Clinics (UFH) is China’s largest U.S.-invested healthcare network and the provider of choice for those who want the very best in personalized healthcare. UFH selected TrakCare to support its aggressive expansion plans and quality of care objectives.

Roberta Lipson, CEO of Chindex International, which owns and operates UFH, notes, “The consistency and standardization of processes provided by TrakCare has greatly assisted the rapid expansion of the UFH network in China. As we continue to expand, we rely on InterSystems to continually enhance TrakCare to remain at the forefront of best practices and support our world-class quality of care.”

TrakCare provides UFH with advanced clinical and administrative functionality, and a shared Electronic Patient Record with embedded integration capabilities. InterSystems worked closely with UFH to configure an HIS solution for local conditions and the implementation formed the basis of the Chinese Country Edition of TrakCare. This was rapidly deployed at three hospitals and seven clinics in Guangzhou, Shanghai, Beijing, and Tianjin.

As deployment has expanded across its healthcare network, UFH has realized ongoing operational and clinical benefits. TrakCare has been a key element in UFH’s success, providing consistency and standardization of processes via a shared data repository, workflow support, and integration capabilities to increase efficiencies across multiple operational sites.

Automated ordering and faster turnaround on laboratory results and pharmacy, for example, mean doctors can see more patients. Tracking bar-coded laboratory specimens has the additional benefit of improved patient safety. The standardization of medication codes and the ability to clearly read prescriptions supports UFH’s world-class quality of care objectives.

“Improved clinical documentation and faster access to patient data has enabled us to improve patient service levels and cut waiting times,” says Randy Jemejic, MD, Chief Medical Officer for UFH. “Because we are now using diagnosis codes with the same terminology, doctors find it easier to analyze clinical data and can communicate and review treatment information more consistently. With less waiting for drugs, laboratory results, and settling of accounts, patients have a better experience and care providers can work more efficiently.”

UFH’s Electronic Patient Record has reduced the time nursing and administrative staff spend searching for medical records. Clinical orders and results are all available in one place and underpin consistent and efficient billing processes. Aided by TrakCare’s multi-currency and multi-language support, patient accounts are now readily available prior to discharge.
Sultan Qaboos University Hospital (SQUH) in Oman is considered one of the leading hospitals in the Middle East, offering education, medical research, and tertiary medical care. SQUH recognizes the benefits of investing in the latest healthcare technology and the importance of turning the vision of connected healthcare into reality.

Officially opened by His Majesty Sultan Qaboos Bin Said in February 1990, SQUH has 528 beds and plans for further expansion. SQUH employs more than 2,400 skilled staff, and offers the broadest range of specialties in Oman.

The use of TrakCare at SQUH has led to measurable and significant outcomes across key areas such as patient safety and the overall quality of care. For example, the number of unreported radiology results has decreased by 66 percent in the past two years. The number of patients being treated without access to data on their previous history has fallen from 38 percent to 9 percent over the last five years. In 91 percent of the cases, the doctor now has access to the patient’s previous medical history, which helps improve clinical decision-making, the overall quality of care, and the doctor-patient relationship.

TrakCare provides SQUH comprehensive fully integrated medication management capabilities including formulary management, prescribing, decision support, dispensing, and medication administration. After implementing these capabilities, the number of rejected pharmacy prescriptions fell by 83 percent compared to the previous year, despite the volume of prescriptions issued doubling during the same period. Drug information is fully integrated into TrakCare workflows, so issues such as overdosing, drug-drug interaction, and drug duplication are now minimized, with system alerts prompting the doctor to modify the prescription while still consulting with the patient.

“By using TrakCare, we have achieved positive outcomes in many areas such as patient safety, and patient record availability. Implementing TrakCare features such as computerized physician order entry, online physician documentation, and integration of drug database information into workflows has offered evidence-based clinical guidance to our physicians and led to significant improvements in the quality of patient care.”

Ahmed Al-Mandhari, MD, PhD, Director General at SQUH

Sultan Qaboos University Hospital Achieves Measurable Improvements in Patient Safety and Quality of Care with TrakCare

SQUH is currently in the process of implementing TrakCare Analytics to enable management teams to make timelier and better-informed decisions, as well as to set goals and actively measure performance against them.
The new Santorso Hospital in Santorso, Italy provides healthcare and social services within the local health unit, ULSS 4 Alto Vicentino of the Veneto region. The hospital has an innovative vision, based on patient-centered care, that makes it one of the most advanced healthcare organizations in Italy.

Instead of the traditional model where patients are moved to specialist functions offered by individual departments, the hospital has adopted a new patient-centered care methodology. Based on the intensity of care required, the patient goes to a multi-disciplinary ward where resources can be concentrated to provide the best possible care, while increasing the efficiency of services provided. This transformation makes it easier for care providers and administrators within the hospital and across the community to share patient information and collaborate.

Santorso Hospital has implemented TrakCare for emergency, laboratory, radiology, consulting, pharmacotherapy, triage, discharges, and patient workflows, and plans to implement additional TrakCare capabilities for day care, electronic referrals, attendance lists, and the ambulatory and intervention areas.

InterSystems’ ARIES methodology for rapidly implementing complex large-scale enterprise software systems provided Santorso Hospital with an iterative approach that led to rapid adoption. The Italian Country Edition of TrakCare enabled Santorso Hospital to quickly implement a system that meets their requirements without costly and time-consuming software customization.

TrakCare’s Internet-based interface allows the healthcare professionals of Santorso Hospital to access the Electronic Patient Record from anywhere they have Internet access. TrakCare’s single database lowers clinical risk, while allowing faster systems implementation, lower costs, and easier maintenance.

Because all patient information is immediately available from a single source, medical staff can make faster and better decisions which improve the quality of care. For example, thanks to TrakCare, clinicians get real-time information about bed availability, what medications their patients are taking, the potential for drug interactions, whether patients suffer from any specific allergies, and details of their ongoing care process. The system also offers decision support so clinicians can verify the effectiveness and efficiency of diagnostic and therapeutic protocols as well as the cost of each patient’s treatment.

The new system also enhances the control and accountability that clinical staff have concerning decisions they make about patients, with any changes, irregularities, or emergencies immediately reported back to them. This has led to a greater sense of responsibility and, because the system saves time and controls costs by eliminating duplicate tests and other redundancies, staff can focus their attention on patients.
What Sets TrakCare Apart

An Advanced Electronic Patient Record
TrakCare is built around an advanced EPR that captures the continuum of clinical and administrative information about every patient. Patient information can be captured from legacy and other systems linked via our InterSystems Ensemble integration technology, or the information can be obtained directly from TrakCare’s single data repository.

Real-Time Operational Analytics
TrakCare Analytics provides real-time access to management information through reports, graphs, and dashboards. Based on InterSystems’ embedded active analytics technology, TrakCare Analytics provides users with predefined data models and key performance indicators (KPIs) for clinical and administrative data throughout the TrakCare system. With pre-configured dashboards and the ability to drill down on dashboard content, clinicians and hospital administrators are able to rapidly understand what is happening operationally and can make smarter decisions based on comprehensive, real-time data. Examples of how customers are using TrakCare Analytics include:

- Tracking compliance with service targets such as waiting list control and referral-to-treatment time
- Monitoring infection rates for early intervention
- Measuring capacity-related KPIs so they can maximize resource allocation

A Unified System Built for the Internet and Mobile Devices
TrakCare has been selected by more hospitals than any other system in the international Electronic Patient Record (EPR) market*. One reason for TrakCare’s success is that it is built on our Caché database system. Because all of TrakCare’s modules share a single data repository, it operates seamlessly as a single system, giving users access to all features with a single login. This means that a complete patient record is immediately accessible to care providers wherever they can connect to the Internet, on their choice of device. TrakCare’s touch-optimized support for iOS and Android smartphones and tablets extends the benefits of TrakCare’s EPR across the entire spectrum of care settings.

The ARIES Rapid Implementation Methodology
The risk of time and cost overruns, and the risk of low rates of user adoption of the new system are potential issues for every large-scale software implementation project. InterSystems’ ARIES methodology (“Architecture for Rapid Implementation of Enterprise Systems”) is how we minimize your risk when deploying TrakCare.

ARIES is our unique approach for rapidly implementing complex large-scale enterprise software systems, including multi-facility, regional, and national systems. It relies on pre-built geographic configurations of TrakCare that already reflect the procedures and workflows common in your region. ARIES also follows these additional principles for successful implementation:

- Client executives are involved in the implementation process
- Clients see value quickly and provide feedback in an iterative implementation process
- Rapid user adoption of a fully-functioning system with changes based on user feedback during the first 90-day period after “go-live”
- Client validation to ensure that the deployment matches specifications
- All-at-once “go-live” to provide the benefits of a fully-functioning system sooner

* KLAS International EPR Market 2012 report. Note: This report excludes the United States market.
The TrakCare EPR provides a visual display of all information that has been collected, consolidated on a single Web page for quick access to patient demographics, observations, clinical history, medications, procedures, orders, results, and much more. An episode-based timeline lets users move quickly from general to encounter-specific views of the information.
TrakCare’s Unified Architecture

TrakCare is designed to keep all of your healthcare professionals informed and synchronized, ensuring that your organization will efficiently deliver the safest, highest level of care to every patient. All relevant patient data reside in a single repository, and shared program logic allows doctors, pharmacists and nurses to work collaboratively. This unified, closed-loop approach reduces medication mistakes, which are one of the biggest sources of preventable errors for most healthcare organizations. It also makes it easier to achieve time savings through reductions in data entry and unnecessary communications, and cost savings through better stock control and reduced waste.

TrakCare functionality is divided into three main categories: Clinical Information System, Patient Administration System, Departmental and Add-Ons.

TrakCare Foundation CIS (Clinical Information System):
Provides workbenches and tools for healthcare providers to assist with the safe and efficient delivery and documentation of patient care while seamlessly building patient-centric information.

TrakCare Foundation PAS (Patient Administration System):
Provides the full suite of patient-focused care functions for managing patient demographic and administrative information in community care, inpatient, and outpatient settings.

TrakCare Departmental and Add-Ons:
Provide a full range of departmental and specialist modules. TrakCare Lab, for example, integrates all clinical laboratory functions, including biochemistry, immunology, serology, hematology, blood transfusion, cellular pathology, and microbiology, from common phlebotomy through EPR-reported results.

TrakCare in Community and Other Care Settings:
TrakCare offers configurations and advanced functionality specific to multiple care settings beyond the acute care environment, including community care and emergency.