IBM Global Business Services

Transformation Services:
Health Analytics, Clinical & Business Transformation

Healthcare industry leaders are facing issues which are poorly addressed by traditional operating data systems. Globally, healthcare organizations have made substantial investments in information systems to solve these issues. These investments will continue, but it is essential for healthcare organizations to begin to realize value from them. IBM solutions for Health Analytics, Clinical Transformation and Business Transformation bring value to our clients resulting from our healthcare industry depth supported by the world's strongest technology company.

Health Analytics

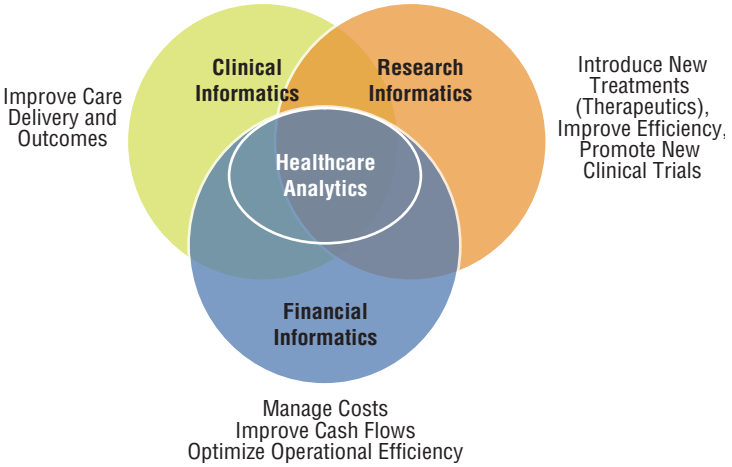
Healthcare organizations understand both the vast potential as well as the challenge of leveraging data out of their existing IT systems and investments. With the maturity of Electronic Medical Record (EMR) solutions enriching clinical data availability, there is an emerging demand for analytics solutions to enable healthcare organizations to demonstrate their organizations' value, comply with the ever increasing reporting to external agencies, and to demonstrate quality care and improved patient safety.

Industry drivers for Health Analytics include:

- Clinical Informatics: Improved patient care delivery and outcomes, improved patient safety
- Financial Intelligence: Management of costs, improvement cash flows, operational efficiencies
- Research Informatics: Introduce new treatments (Therapeutics), improve efficacy, new clinical trials, translation of research from bench to bedside
- Chronic Disease Prevalence: Increasing costs and changing reimbursement
- Public Reporting Requirements to external agencies and informed consumers: The Joint Commission, The Centers for Medicare & Medicaid Services (CMS), Institute for Healthcare Improvement (IHI).

Traditional Decision Support Systems and Key Performance Indicator (KPI) Dashboards do not incorporate discrete clinical data, or the ability for complex queries that are easy and accessible to management for effective data-driven decision making. Healthcare leaders need the power of data warehousing and the ability to tie IT solutions together solutions together for effective decision making, quality performance, Pay for Performance (P4P), and patient safety. In the research space, extended periods of time and siloed systems do not enable timely identification of cohorts of patients or candidates for clinical trials to support the research mission.

There is increased visibility to the power of data warehousing and the value of bringing clinical, research, and administrative information systems together.



IBM has the healthcare industry expertise combined with the world's strongest technology capabilities to transform your decision making through analytics

We combine deep knowledge of the healthcare industry (provider and payer) and business processes with business intelligence expertise, data governance, and technology development. We begin with a Health Analytics "Roadmap" to develop an analytics strategy and implementation plan to build out an analytics environment. We continue with the "Design & Build Out" - a project to execute the implementation plan. This phase requires a diverse team of healthcare operations (clinical, administrative, research) experts, healthcare IT expertise and technical business intelligence expertise (e.g., technical architect, data modelers, Extract, Transform and Load (ETL) builders, etc.) During the final phase, "Transformation", we drive change and incorporate new knowledge throughout the organization. We help answer the question, "now that you have the access to this information you have been waiting for, what do you do with it?" With new capabilities for value realization, we improve an organizations' ability to measure program results and monitor effectiveness.

Gartner Inc. has positioned IBM Business Consulting Services in the Leaders Quadrant of their Magic Quadrant for Business Intelligence Implementation Services, North America, 2007 across other industries. We are now applying this same Business Intelligence Implementation expertise to healthcare. With our Cognos acquisition, IBM now adds the business intelligence and performance management capabilities already implemented in 2,000 healthcare and life sciences customers, including 140 healthcare customers in North America.

With our Convergence CT (CCT) business partner, IBM now offers an analytics accelerator that provides clients with a more "ready to install" option that includes: an extensible clinical data model, pre-defined queries, disease management cubes, patient centric analysis, and a user presentation business intelligence tool set on which to perform further analysis. An automated semantic mapping tool to normalize pharmacy data "Rxnorm" and laboratory tests to the Logical Observation Identifiers Names and Codes (LOINC) nomenclature is part of the CCT solution that has already been mapped to multiple clinical information system vendors. This provides the ability to match source system data with the targeted provider data model and resolve medical vocabulary issues among providers. The initial "ready to install" packaged analysis is focused on Diabetes Management, with additional packages to be developed for Quality Indicators, Regulatory reporting, Program evaluation and Cardiovascular disease management.

Clinical Transformation

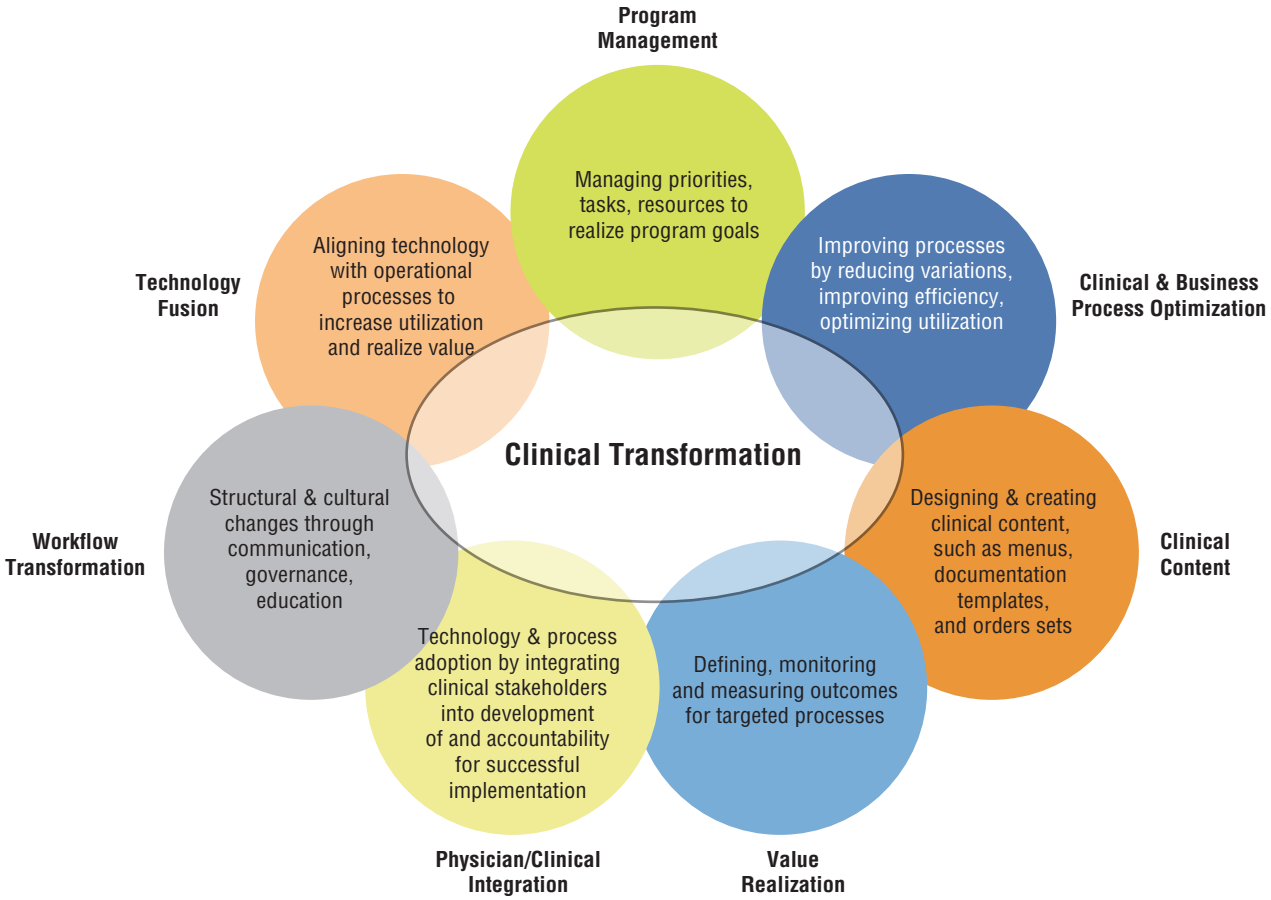
Our Clinical Transformation Services team improves healthcare operations, quality and safety, financial outcomes, and technology infrastructure. In contrast to the prevalent fragmented approach to change, clinical transformation integrates the changes to process, technology, and organizational structure, as well as culture that drives sustainable improvement throughout the organization.

Industry drivers for Clinical Transformation include:

- Operational Excellence: widespread recognition of operational problems in healthcare delivery
- Clinical Quality and Patient Safety: concern for patient safety and clinical outcomes
- Healthcare Costs: burdensome and escalating
- New-Generation Healthcare IT Solutions: increasing focus on the clinical aspects of care delivery.

Change impacts the entire clinical care delivery system with or without the implementation of an advanced Clinical Information System (CIS). Often misunderstood as primarily a technology effort, the more profound challenge and effort is on underlying process and workflow changes. Our Clinical Transformation solution addresses organizational policies, structures, culture, behaviors, processes, workflows, procedures, workforce skills and workforce motivation – leveraging the power of technology to achieve organizational goals. Our goal is to help you realize the return on investment made in CIS. Information systems may be fully implemented, yet not optimized to take advantage of all available features/functions. Our solution helps you through all dimensions of your strategy and implementation. We help you address the critical questions you need to ask: When should we change? Are we ready? What information is needed for a successful clinical transformation? We provide organizational readiness assessments, assessment of project alignment with your organization's mission, strategic goals, and relevant IT solution(s). For example, our Computerized Physician Order Entry (CPOE) Assessment addresses physicians' use of standardized order sets and makes recommendations about approaches to accomplishing the goals and objectives of the CPOE implementation, with a focus on physician adoption.

IBM has an industry leading team of clinical consultants who can lead your transformation initiatives and leverage your system investment.



Continuing into Implementation, we lead you through the critical success factors for Clinical Transformation - Governance, Communication, Process/Workflow Redesign, Risk Management, and Value Realization.

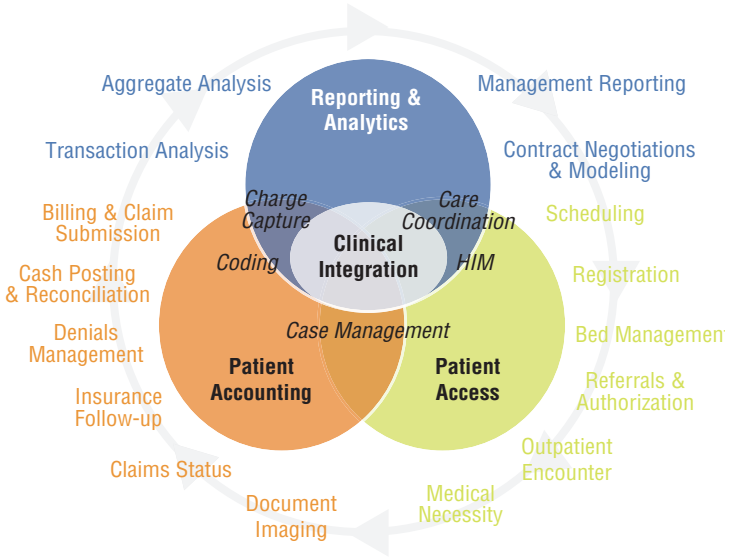
Business Transformation

Revenue Cycle operations in the healthcare industry is at a crossroads with opportunities to fundamentally transform how healthcare services are delivered and funded. Current processes and systems tend to be fragmented and divided into distinct silos resulting in revenue leakage, collection delays, higher than necessary administrative costs and dissatisfied and confused patients. In contrast to the current fragmented approach, the 21st century revenue cycle needs to be transformed to a closed loop of interrelated administrative and clinical processes.

The key industry drivers for revenue cycle transformation are:

- Consumerism: Patient control over healthcare decisions including access to information and tools to help navigate through the healthcare system
- Integration with Payers: Ability to seamlessly and electronically interact with payers at all appropriate points of care
- Regulatory Compliance: Proactive approach to compliance as an outcome of day-to-day operations versus a retrospective administrative task
- Transparency: Open access and full disclosure to procedure pricing and quality track record that are easily accessible to everyone; Supports Consumerism
- Quality Measures: Proactive approach to defining and reporting quality outcomes in an automated method; Supports Consumerism, Compliance, Pay for Performance
- Pay for Performance: Payment mechanisms which adjust payment amounts based upon specific quality measures for services rendered
- Financial Stability: Costs continue to rise while net revenues are decreasing causing industry wide financial instability
- Technology Advancements: Ability to leverage enabling technology to support the Revenue Cycle process
- Changes in Federal Healthcare Policies, e.g., transition from ICD-9 to ICD-10 coding.

Our Revenue Cycle Transformation Roadmap takes stakeholders through a structured decision-making process designed to provide clarity, strategic direction, and measurable results. We assess your current state revenue cycle practices and align them to industry drivers. We then frame your revenue cycle future state vision, and evaluate the gaps between current and future states. We Identify



alternatives for achieving revenue cycle goals and bridging future state gaps, and evaluate potential alternatives and the impact on people, process, & technology. We develop the action steps for achieving your defined objectives. Solutions for bridging future state gaps include Operational Assessments, Process Redesign, Implementation Support, Financial Assessments, Key Performance Indicator development, and Cash Acceleration analysis.

The Healthcare Financial Management Association (HFMA) Healthcare Finance Outlook, 2008 – 2013 noted that, "expense growth outpaced revenue growth based on nearly 400 FY 06 audits Moody's conducted of not-for-profit hospitals." Our solution offerings focus on strengthening the financial performance of our clients. With our ExactCost business partner, IBM pinpoints opportunities that will significantly improve the results of transformation initiatives. We provide a level of financial visibility that is unique in the healthcare industry. Our solutions:

- Leverage existing financial, operational, and clinical data to accurately determine the costs of actual activities performed
- Transform operational data into actionable information that allows leaders to make decisions based on accurate benefits realized, costs saved, return on investment
- Provide continuous monitoring of the financial results of process changes
- Improve patient care through better management

ExactCost solutions bring pre-defined process and cost information to clients delivered via a web-based ASP model, allowing our teams to rapidly identify opportunities for improved profitability.

Moving from traditional to actionable financial information

Traditional Cost Methods	
Medical/Surgical Unit	
Labor	$525,000
Benefits/Payroll Taxes	90,000
Supplies	60,000
Depreciation	60,000
Other costs	40,000
	$775,000

Activity-Based Methods	
Medical/Surgical Unit	
Deliver Care	$225,000
Document Care	115,000
Process Patient Orders	110,000
Transport Patients	75,000
Obtain Test Results	70,000
Admit Patients	50,000
Process Transfers/ Discharges	30,000
Develop Care Plan	25,000
Perform General Admin.	$75,000
	$775,000

IBM combines healthcare expertise and global consulting expertise in Financial Management, Supply Chain Management, and Customer Relationship Management.

Prolink4

Our solutions are delivered using Prolink4, an industry-leading methodology that helps you manage your transformation. We have an excellent track record of using Prolink4 to define, build, measure, and realize future state visions. Prolink4 helps you prepare for the transformation of people, process, and technology that will accompany a successful strategy. Prolink4 was built for the healthcare industry, by healthcare professionals. It is the premier methodology in the industry.

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