

CTIS CEO's Vision for Tomorrow's Healthcare

"Continuous Education and Optimization (CEO) Driven Healthcare" Building a Personalized Health Solution for Prevention, Intervention and Management of Diseases

The **Purpose and Goal** is to develop a new paradigm of a highly personalized and comprehensive information-based healthcare solution. This model is to be integrated with, and driven by, translational and comparative research designed to converge life science and healthcare. An effective model will improve the quality and outcomes of therapy, prevent/detect disease as early as possible, increase patient safety, and decrease the cost of care.

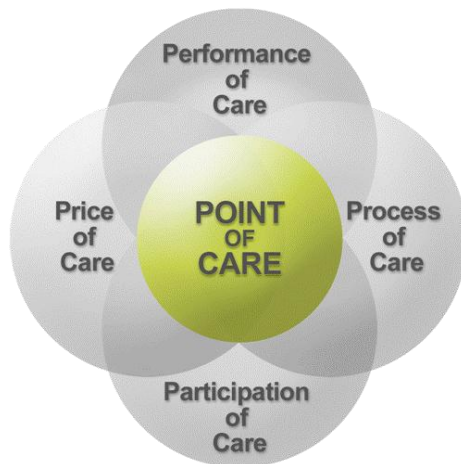


Figure 1: Impacting the Point of Care



Figure 2: Integration of Individualized Health Information through PHR/EHR

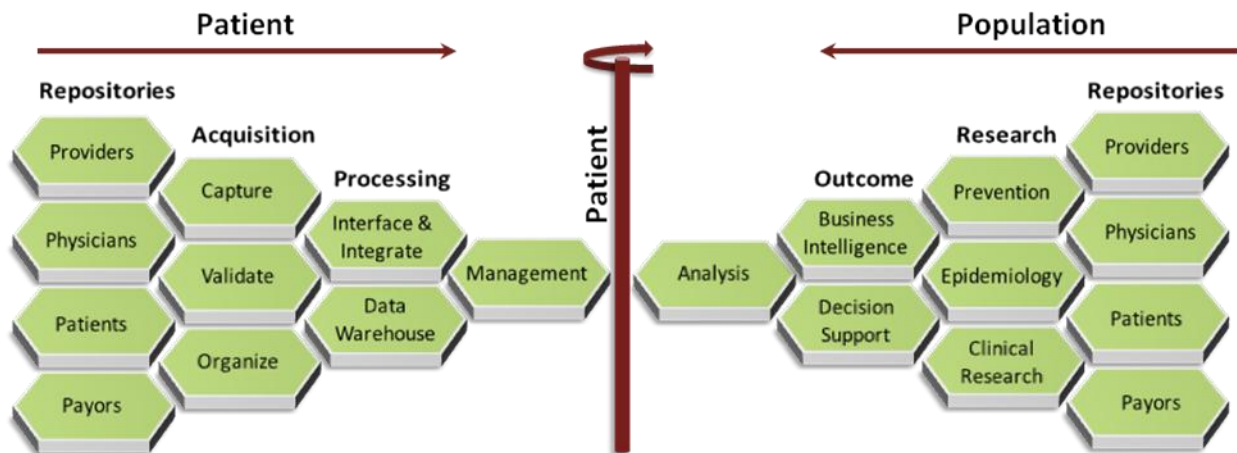
Such a model maximizes patient-specific healthcare intelligence at the point of care. Additionally, it improves the **Process, Performance, Participation, and Price of Care** by utilizing novel analytical tools and informatics resources to provide comprehensive biological/genomics, clinical/medical, lifestyle/behavior, social/cultural, and administrative/financial patient-specific data. The data is subsequently delivered through standardized, regulatory and privacy compliant informatics platforms in a user friendly and informative manner that is easily navigated by the caregivers and understandable to the patients using mobile devices.

The **Specific Elements** of this new model are to:

1. Source, collect, store, and process integrated patient-specific data and make it available on-demand in an affordable way, and enable fully-analyzed decision making at the point of care. Portals, digital dashboards, and mobile devices will be used to facilitate fast intervention.
 - a. Select and define a target population to serve as the *"Learning Model"*
 - b. Define comprehensive data set for the targeted disease population

- c. Build and assemble a virtual center for biological characterization
- d. Build modules for collection of patient-specific data as described in *Figure 2 above*
- e. Build systems for disease-specific outcomes and provide guidance in patient therapy
- f. Educate healthcare stakeholders about the changing needs about healthcare
- g. Assure security and privacy for patient protection through robust infrastructure
- h. Develop a social network (blogs) for patients and physicians for collaboration
- i. Provide feedback to the informatics backbone that can support prevention, epidemiology, and clinical research

Figure 3: Patient-to-Population Health Informatics Cycle



2. Through public/private partnerships, establish, build, acquire and integrate the required open-source tools and standards to build interoperability, data coding, terminology, IT infrastructure, clinical practice and IT development on an informatics platform. This platform is used for sourcing, acquisition, integration, storage, processing, and application of analytic tools in a secure and private environment (*Refer to Figure 3 above*).
 - a. Focus on process streamlining by establishing care process workflows and connecting all of the healthcare stakeholders for efficient collaborative participation
 - b. Develop community-based processes to become national data resources
 - c. Focus on communities in need (Health Disparity)
 - d. Establish measures that allow determination of quality of care and outcomes, process efficiency, organizational effectiveness, stakeholder productivity and information integrity that translate to measurement of Return on Investment (ROI)
3. Develop public/private partnerships with Government, Foundations, Academic Medical Institutes (AMIs), Pharmaceuticals, Biotechnology Organizations, Contract Research Organizations (CROs), and others who require new infrastructure and characterized patient cohorts in order to conduct highly targeted drug development. Build a “*National Virtual Chronic Disease Management Patient Cohort*”. Establish a public/private sector roundtable with thought leaders with subcommittees of Life Sciences, Healthcare, Social Sciences, Standards and Regulations, Innovation and Technology Consortiums. The roundtable and subcommittees will strive to achieve required changes at government organizations to impact policy, to improve healthcare, and to optimize drug approval in this new era.