

Case Study: Juvenile Diabetes Management using HealthVault

Client Requirements

Client is a large healthcare network with hospitals and clinics across central United States with over 1500 physicians.

Client needed to launch a Juvenile Diabetes Wellness Project to address the rising incidence of Juvenile Diabetes. CitiusTech was selected by the client for overall project management and HealthVault integration.

The project required overall design and architecture of the diabetes management application based on existing technology platform in the organization. The diabetes management application would serve physicians and nurse practitioners associated with the juvenile diabetes program. As part of the overall project, Client also desired to develop a scheduler to periodically fetch clinical information (e.g., blood glucose) from HealthVault and push the data into existing HIS platforms deployed at Client hospitals.

CitiusTech was selected to develop this solution based on its experience in HealthVault and expertise in health standards including HL7, CCR and CCD.

HIS and other applications

- Periodically fetch clinical information (e.g., blood glucose) of the patients in cohort from HealthVault in an offline mode
- Convert the HealthVault data type into HL7 ORU messages
- Send the HL7 messages to the hospital's HIS over MLLP

Development and Deployment

The CitiusTech team leveraged its knowledge of HealthVault to develop an integrated application for diabetes management. The application also had a Scheduler module with the ability to periodically fetch patient clinical data from HealthVault in an offline mode. The Scheduler invokes a data mapping component that generates HL7 messages encapsulating the clinical data for the patient. The generated messages are then sent using MLLP to Client's interface engine. A robust reconciliation logic was developed to ensure that the same data is not re-sent to the interface engine.

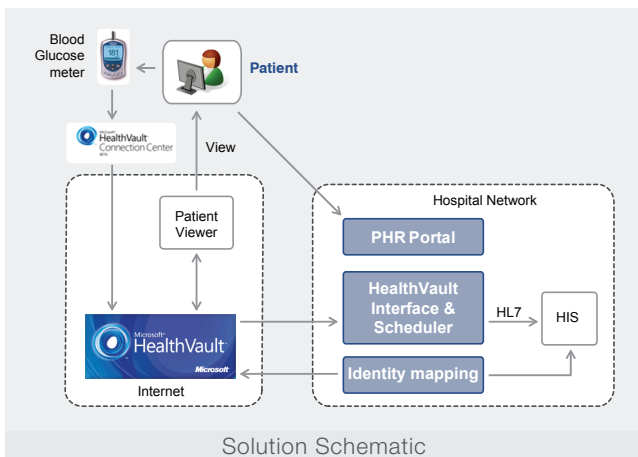
The development required significant interaction with Client and HIS application teams – especially for patient identity mapping.

CitiusTech was responsible for the end-to-end design, development, testing and deployment of the solution, in addition to overall program management. Given the integration of several disparate systems, intensive regression testing was done by CitiusTech. CitiusTech also provided post-deployment support to ensure a smooth launch of the Juvenile Diabetes program on HealthVault.

Value Delivered

The CitiusTech solution delivered enhanced value to the client by:

- Leveraging CitiusTech's expertise in HealthVault and HL7 interoperability standards
- Resolving identity mapping issues between HealthVault and HIS
- Rapid solution design and development – given CitiusTech's experience in clinical workflows
- Providing overall technology consulting and solution design expertise to key stakeholders



CitiusTech Solution

Solution Design

CitiusTech designed the overall HealthVault-based diabetes management application – including an approach for HIS integration. The key features of the solution include:

- Manage patient identity mapping between HealthVault,

About CitiusTech

CitiusTech (www.citiustech.com) is a specialist provider of technology and business services to Healthcare Technology companies, Healthcare Services companies, Providers and Payers. We offer a range of product engineering and technology services - from solution design and development to testing, integration, and technical support.

CitiusTech brings strong Healthcare domain expertise - across technologies, applications and standards. Our ability to provide

this expertise, together with our world-class service quality and our global resource base, enables us to offer a distinctive value proposition to our global Healthcare clients.

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