CASE STUDY:
Improving patient care and reducing costs with M2M

The mHealth Challenge
Healthcare across the globe is facing unprecedented change as providers and governments struggle to improve care in the face of rising costs, growing populations and increased reporting requirements. The dramatic increase in chronic disease among patients of all ages and expanding elderly populations are creating an overwhelming burden for healthcare systems. In addition, the ratio of patients to caregivers is growing at an alarming rate. The U.S. alone is expected to face an estimated shortage of over 120,000 healthcare professionals by 2025. Compliance with healthcare mandates and regulations such as HIPAA have made accountability and reporting a requirement for all aspects of healthcare which further burdens care systems.

The good news is that innovative mobile health technology, or mHealth, and Remote Patient Monitoring (RPM) solutions are improving diagnosis and treatment for a wide variety of medical conditions. These solutions leverage Machine-to-Machine (M2M) wireless communications technology and the Internet of Things (IoT) to improve efficiency and access to care. mHealth devices measure patient health parameters and automatically analyze and send secure patient data to physicians and caregivers, reducing the frequency of office visits while improving patient oversight. RPM helps to unburden healthcare resources by improving patient treatment and outcomes while reducing both the number and duration of hospital stays - a win-win for patients and healthcare systems alike.

Vignet and Gemalto take healthcare mobile

Vignet and Gemalto are at the epicenter of the global healthcare transformation offering mHealth solutions to complex challenges faced by the industry. Vignet’s next generation managed health solutions such as the “patient-enabled gateway” are using Gemalto’s M2M wireless connectivity to make healthcare smarter. These solutions provide improved wellness, chronic disease management and telemonitoring and allows individuals young and old to maintain their independence outside of a dedicated care facility.

The award-winning Vignet “patient-enabled gateway,” connected and secured by Gemalto, is a convenient mHealth solution offering a touch-screen display for ease-of-use. The device integrates with a secure and HIPAA-compliant, cloud-based server that protects patient privacy while handling a variety of tasks including care and treatment planning, patient/provider communication and care coordination.
On the backend, the solution also provides data management and analytics, application maintenance and business logic as well as strong authentication, authorization, and encryption. Patients improve the ability to adhere to prescribed care plans throughout the day by using devices such as pedometers, wristbands, blood pressure monitors, ECG, heart rate, glucose meter, pulse oximeters and weight scales. The cloud-based server then aggregates and stores data from all of these different biometric sensors and combines it with patient reported outcomes collected from feedback forms. After verifying identification credentials of authorized users, the secure solution pairs patient data with web applications designed for specific stakeholders including patients, physicians and nurses, customer service administrators, and healthcare providers and insurers. This allows access to only the patient data relevant to specific users while keeping sensitive patient data confidential. Easy-to-understand dashboards in the responsive web portal provide a fast and powerful way for providers, caregivers, researchers and administrators to make sense of large datasets. The flexible system can be used anywhere at any time - at home, in a clinic, in a hospital, in a community based health center or a nursing home.

To put this in context, the Vignet platform powers a product called FitNinja™. FitNinja allows a healthcare provider or researcher to “bring your own program” to the system. In essence, FitNinja™ transforms any clinical program into an end-to-end mobile solution that helps improve patient engagement, compliance and adherence to prescribed care plans, therapies, daily regimens and protocols and improve treatment outcomes. For instance, healthcare providers can log on securely via tablet, smartphone or laptop, glance at the responsive design based Vignet Provider Portal home screen and instantly know which patients need immediate attention. Caregivers can quickly triage, analyze a patient’s collected data and respond to care needs within a few minutes. The system also proactively notifies healthcare providers when critical thresholds and events are met alerting them in real time when immediate help is needed. The system speeds up medical response time and improves resource utilization while reducing office visits and hospital re-admission rates. Patient reported data and treatment outcome data is available to healthcare providers and insurance companies and some of the day-to-day overhead is alleviated, freeing doctors and nurses to spend their precious time on direct patient care rather than paperwork and logistics.

Gemalto is leading the industry in enabling an end-to-end infrastructure that can handle disparate data and groups across the health and wellness landscape,” said Praduman Jain, CEO, Vignet Corp. “The M2M solution’s connectivity across any network is crucial to addressing global needs such as extending physician oversight and medical care delivery to rural areas, and hard to reach populations.

The Gemalto advantage: thin, future proof modules for small mHealth devices
The Vignet “patient-enabled gateway” relies on Gemalto’s Cinterion® 3G/4G M2M modules for secure wireless connectivity and transmission of data across virtually any global cellular network. Gemalto’s compact and thin module – about the size of a postal stamp - is ideal for easy integration in the Vignet gateway device and it’s designed to operate for more than a decade to protect technology investments. Advanced power management features conserve battery life for mobile or remote location use. The module’s future proof design allows seamless evolution to next-generation networks as they become available. Reliable, secure connectivity provided by the Gemalto M2M module is crucial to the Vignet solution’s success allowing operation virtually everywhere – extending physician oversight and medical care delivery even to rural areas and hard to reach populations.

Juniper Research estimates that the market for smart health and home systems will grow globally to $620.3 billion, saving the world’s healthcare systems up to $36 billion in costs and expenses. The Gemalto-enabled featured Vignet “patient-enabled gateway” provides an excellent example of how M2M and mHealth solutions are helping to transform and optimize the global healthcare sector.

Global technology leaders such as Gemalto are investing heavily in M2M to enable the growing Internet of Things (IoT), which is helping improve operations, service quality, process and profits across many vertical markets. The Company’s proven Cinterion technology is designed to simplify application design and development and speed time to market for new implementations. Gemalto’s secure M2M solutions open up a world of possibilities and opportunities to truly improve the lives of patients and health-care practitioners through personalized healthcare and provider collaboration.

Vignet Corp and Gemalto are at the center of the Internet of Things with innovations in remote patient monitoring that can reduce hospital re-admission, the duration of hospitalization, or the number of clinical visits for a more comfort oriented healthcare experience,” said Paul Kobos, Head of M2M, Gemalto North America. “The growing aging population and an increase in chronic conditions are pushing healthcare systems to their limits, highlighting the need for modern solutions like the Vignet Hub that provide superior efficient management.

1. Source: http://www.juniperresearch.com/reports/mobile_health_fitness