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M+edisanté

Remote Patient Monitoring powered by Global Cellular IoT Connectivity

Medisanté and Thales enable a seamless and secure device interoperability with compliant virtual care platforms across the world

COVID-19 drives digital healthcare transformation

The rapid embrace of telehealth solutions in the wake of COVID-19 is nothing short of astonishing and is here to stay. Its widespread adoption for punctual interactions between patients and their care teams is now the new baseline for a value-based health care (VBHC): large scale deployment of devices in remote patient monitoring (RPM) will deliver better outcomes in population health for elderly chronic patients and make these outcomes measurable for national health care systems.

With COVID-19, a visit to see the doctor brought hesitation. And in a matter of weeks, healthcare providers shifted from rarely doing virtual visits to conducting internet enabled appointments as the new normal. In this context, IoT-enabled remote monitoring and home medical devices became of great help providing blood pressure, heart rate, blood glucose, temperature and other health indicator readings.

The pandemic proves that digital transformation and technology adoption can happen faster than we ever imagined. Frost & Sullivan, for example, estimates that U.S. telehealth and RPM uptake increased by 64.3% during the pandemic.

Remote Patient Monitoring improves care outcomes at a lower cost

Although the pandemic has placed enormous pressure on global health systems, the industry has long been stressed by the challenge of improving care in the face of rising costs and a growing number of patients, as people are living longer than ever, with age-related chronic conditions.

RPM is poised to transform global healthcare delivery while drastically reducing costs. It supports a large amount of older adults who chose to ´age-in-place´, independently, at home.

However, concerns pertaining to integration and security still persist. Traditionally, RPM is achieved by collecting readings from a Bluetooth medical device via a vendor app on a smartphone or tablet - that serves as the cellular hub in the home - to a proprietary device cloud. Unfortunately, this method of deployment is fraught with connectivity failures and security vulnerabilities. What's more, it causes backend interoperability headaches for healthcare providers.

Enter Medisanté.
First of its kind Medisanté Hub simplifies RPM for patients and care providers

Medisanté, an innovator in medical IoT (Internet of Things), has launched the first vendor agnostic telehealth device cloud – **Medisanté Hub** – that delivers seamless device interoperability with compliant health IT systems.

A key aspect of Medisanté Hub's success is that it brings secure cellular IoT connectivity to the home, instead of bothering patients with device configuration via device vendor apps. This ensures a reliable and automated transfer of readings to the care team as soon as the patient takes his/her measurements.

Source: https://iot-analytics.com/top-10-iot-applications-in-2020/

Teaming up with Thales to connect and manage medical devices in the home

Medisanté teamed up with digital security and IoT connectivity leader Thales to connect and manage a broad range of medical devices that securely and seamlessly communicate readings to health IT systems in RPM no matter where these devices and systems are located. The Medisanté solution integrates Thales ultra-reliable 4G/LTE Cinterion®PLS62-W IoT module and a global roaming IoT SIM card from Vodafone to deliver instant, zero touch, global cellular connectivity.

The tiny IoT module delivers reliable connectivity, directly embedded into either a medical device or a Bluetooth-to-cellular gateway. And though it's packed with features, it's small enough for the most size-constrained hardware in the patient's home.

The module's powerful embedded Java engine boosts device processing power and it also supports device configuration over-the-air: a lifecycle management that keeps medical devices operating at peak performance.

Direct-to-cloud connectivity: enabled by Thales and embedded in Medisanté´s OEM devices

Thales's Cinterion IoT connectivity solution is embedded in a suite of Medisanté medical monitoring devices including blood glucose and blood pressure monitoring devices and a body composition scale. It is also embedded in gateways that connect Bluetooth devices direct-to-cloud (D2C) instead of app-to-cloud (A2C) for a broad range of vital signs such as blood pressure, blood glucose, temperature, SpO2 and weight. The Thales solution can be integrated with any other medical device or gateway that needs to communicate with Medisanté Hub. Ultimately, Thales and Medisanté allow medical devices and gateways to securely send data directly over cellular networks to the cloud-based Medisanté Hub without the need to go through a mobile app on a smartphone or tablet in the patient´s home.

Direct-to-cloud connectivity in the home keeps device deployment simple and secure at scale in RPM regardless of patients´ social determinants of health (SDoH).

The AWS-based Medisanté Hub enables a seamless device interoperability across vendor and country silos

Medisanté Hub is compatible with a broad range of medical IoT devices and gateways that all connect directly to it. The medical devices do not have to speak the same language. Medisanté Hub receives raw device data from a multitude of devices directly over cellular networks. It normalises the data, before sending it to any target clinical backend system, in formats as diverse as FHIR, HL7, XMl or JSON.

In this sense, Medisanté Hub acts like an IoT postman. By abstracting a wide range of IoT devices in a single cloud, it redefines device management and interoperability while shielding care teams from device complexity, networking setup and privacy risks.

Secure transfer of non-identifiable device data to health IT systems

Medisanté Hub allows healthcare providers to collect medical readings in their compliant backend systems without unveiling the identity of their patients to any device vendor.

How does it work?

Medisanté Hub receives non-identifiable device data such as device 33, blood pressure 120/80, battery level 4.5 volts, target system XYZ. The vital signs get pushed automatically to a compliant health IT system where they enrich the patient record of the individual patient to whom the device was initially assigned by a health care professional.

This ensures privacy-by-design in addition to the many other security advantages offered by Medisanté's seamless device interoperability in remote patient monitoring.
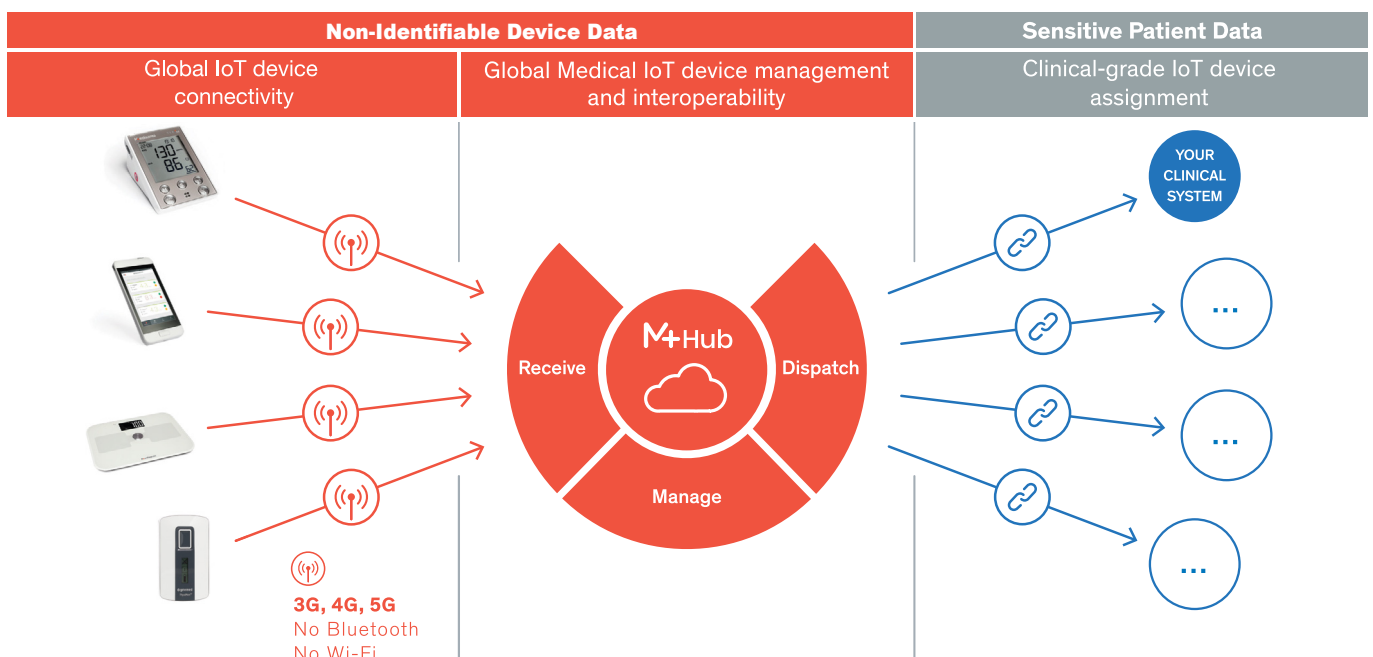
The data transmission of non-identifiable device readings is fully encrypted over a global cellular network. It is pushed to the AWS-based device cloud via a double IPsec and further pushed to the target health IT system, via the most advanced required authentication methods.

All in all, this puts the data collection that Thales and Medisanté offer together in another privacy and security league than any other more traditional options, which still rely on device vendor apps on smartphone or tablet. It massively reduces risks of cyber-attacks and ransomware that have recently plagued healthcare systems and meets the demands of large-scale clinical-led data collection initiatives.

Medisanté Hub: winner of a prestigious Frost & Sullivan Best Practice Award

Medisanté earned the prestigious Frost & Sullivan Global Enabling Technology Leadership Award in Remote Patient Monitoring for creating the first cloud-based medical IoT infrastructure that streamlines medical device data direct-to-cloud into any clinical system.

Non-Identifiable Device Data		Sensitive Patient Data
Global IoT device connectivity	Global Medical IoT device management and interoperability	Clinical-grade IoT device assignment

3G, 4G, 5G
No Bluetooth
No Wi-Fi

By giving care teams seamless, secure and global access to real time health indicators beyond the walls of their hospital or practice, Medisanté and Thales empower connected care.

They pave the way for value-based health care (VBHC) in a new data-driven world where care teams leverage the latest and greatest IoT and cloud technologies to deliver better care outcomes at a lower cost.

Contact us at: [Medisanté](#), [Thales.](#)

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