CareClix

Remote Patient Monitoring

Providing Better Access and Higher Quality Care to Patients

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Recap and Introduction

In our last whitepaper, we examined the concept of virtual urgent care and demonstrated how a virtual urgent care system is the most convenient option for patients seeking immediate care. In previous papers, we have delved into how to incorporate telemedicine programs in your existing facility, how telemedicine can enhance chronic care management, and how virtual triaging can improve outcomes and efficiencies in urgent care centers.
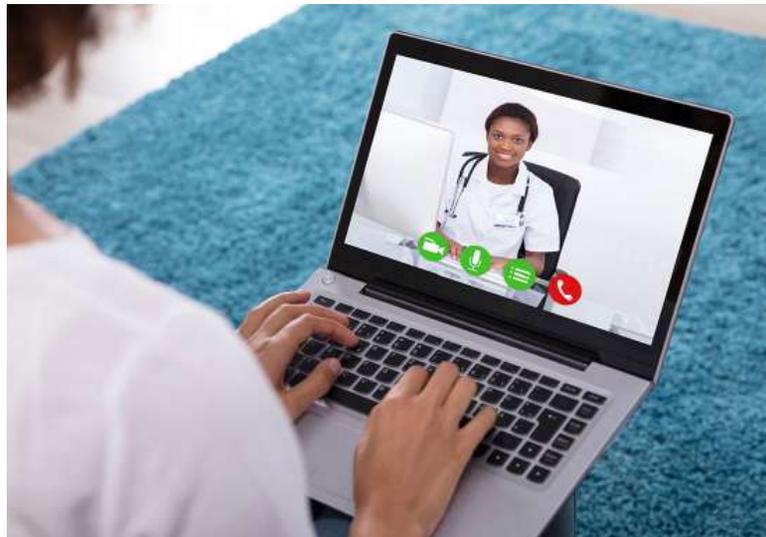
In our newest whitepaper, we explore how Remote Patient Monitoring (RPM) devices capture various biometrics that are applicable within virtual health and how these different device verticals can benefit patients and healthcare providers. This paper examines how CareClix incorporates Remote Patient Monitoring (RPM) into its system to realize key benefits for providers, including, but not limited to:

Preventing readmissions
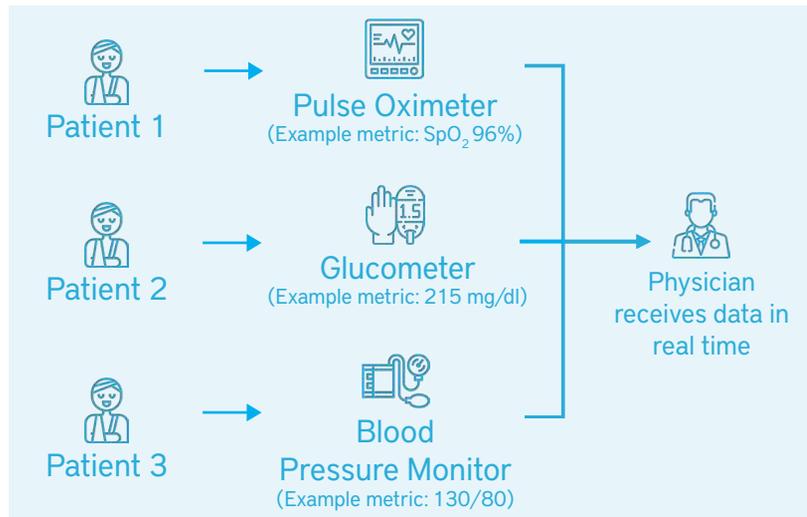
Shortened patient stays

Increasing treatment adherence

Improving post-discharge planning

What is Remote Patient Monitoring?

Remote Patient Monitoring (RPM) is an essential tool that supports post-discharge planning and helps patients adhere to treatment after they leave a hospital.

Through the use of wearable medical devices that transmit data in real-time, patients are able to maintain constant contact with their providers.

Patient 1 → Pulse Oximeter (Example metric: SpO_2 96%)

Patient 2 → Glucometer (Example metric: 215 mg/dl)

Patient 3 → Blood Pressure Monitor (Example metric: 130/80)

Physician receives data in real time

The types of devices today vary in scope of technology. There are a number of devices for managing blood pressure, glucose levels for diabetes, spirometers for asthmatics, pulse oximeters, and weight scales. Each device has a different application for patients depending on the disease, condition, or other parameters being monitored.

Chronic disease management, post-acute care management, and safety monitoring are key applications of RPM technologies for the older adult population. While chronic care management and post-acute care are more obvious uses for RPM technologies, there are several applications, such as patient care safety, that people often overlook. Many RPM technologies are now focusing on detecting and preventing falls and wandering, particularly in dementia patients. Fall detection, fall prevention, and location tracking technologies allow caregivers to track patients through continuous surveillance.

All in all, RPM technology will continue to expand, particularly as the aging population grows, as it can help slow the progression of chronic disease, ensure a steady recovery post-discharge, and alert caregivers when a vulnerable patient is at risk. There is ample opportunity in the remote monitoring space, and CareClix's offerings support hundreds of RPM devices to provide the best benefits to patients and providers.

CareClix's RPM

CareClix's RPM services allows patients to be remotely monitored from anywhere in the world by their medical providers. CareClix integrates over 200 medical devices covering 10 key vital signs. This out-of-the-box support allows providers to expand their telemedicine program without having to buy new equipment, saving both time and money.

Pulse Oximeter

A non-invasive monitoring method for measuring a person's blood oxygen level. Pulse oximeters are simple to use and are typically common in emergency settings or with patients facing respiratory or cardiac problems.

Thermometer

A temperature sensor typically used to check for a fever in patients. There are several types of thermometers, including: oral, rectal, axillary, tympanic (ear), and temporal (forehead) thermometers. CareClix supports devices for all age groups, such as thermometers for women and Smart Baby Thermometers for young children.

Blood Pressure Cuffs

A device used to measure blood pressure consisting of an inflatable cuff, specifically used for diagnosing hypertension (high blood pressure). Blood pressure measurements are typically taken in standard healthcare consults.

Glucometer

A device used to determine the concentration of glucose in the blood. This device is typically used for patients with diabetes to better monitor the levels of glucose, track food intake, and notify patients when medicinal treatment might be needed.

RPM Real World Applications

Improved access to care, decreased healthcare delivery costs, and greater patient independence are just a few reasons why hospitals and healthcare providers are relying on remote patient monitoring solutions more and more for their patients.

There are several real-world applications with opportunities for remote patient monitoring. We will discuss a few examples, specifically looking at chronic care management, hospital readmissions, and sleep medicine.

Chronic Care Management

Hypertension, diabetes, cognitive heart failure, and chronic obstructive pulmonary disease (COPD) are all common chronic conditions that can be better managed using RPM technology. Through regular monitoring and management, patients can learn to understand and better manage their condition so they can live successfully with it.

While hypertension is one of the most prevalent conditions among the elderly population that can be tracked using RPM technology, the other conditions affect large portions of the population as well. Devices to track these conditions can range from blood pressure monitors to track changes in blood pressure to glucometers and oximeters to better monitor variations from a patient's normal state.
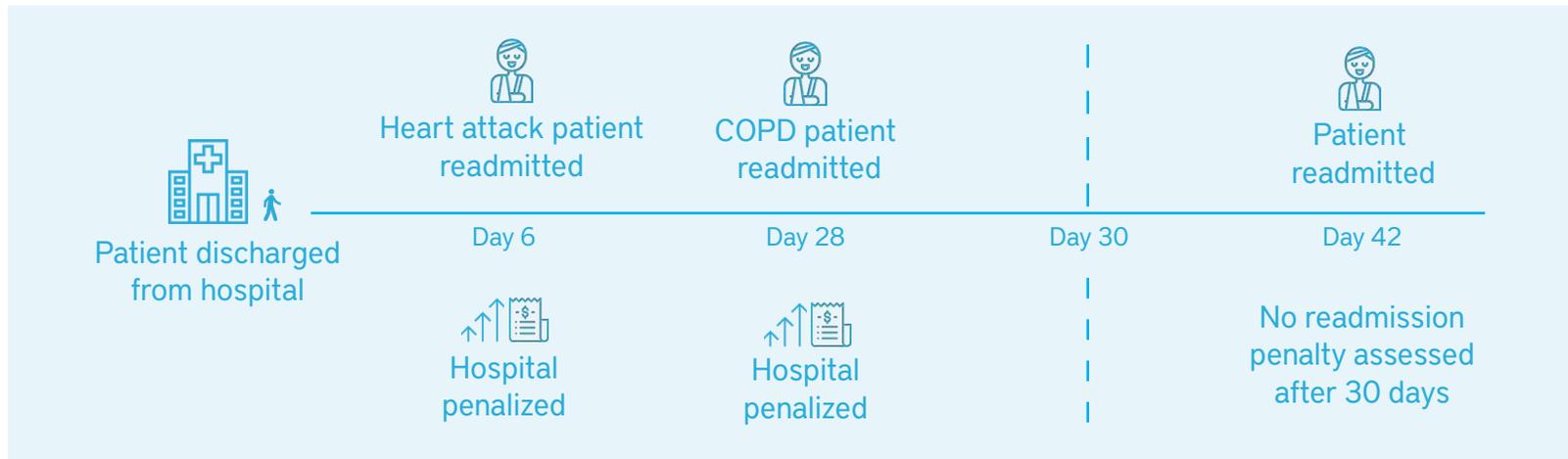
Condition	RPM Technology Utilized	Vitals to Monitor
Hypertension	Blood Pressure Monitor	Blood Pressure
Diabetes	Glucometer	Blood Glucose Levels
Cognitive Heart Failure	Weight Scale	Fluid Retention
COPD	Pulse Oximeter	Oxygen Levels

These four common and costly conditions are the leading causes for avoidable hospitalizations and readmissions. Focusing on addressing these conditions through RPM technology and the devices that can be used to counter patient readmissions will only help potential revenue streams and unlock savings on potential penalties.

RPM Real World Applications

Reducing Hospital Readmission Penalties

The Hospital Readmission Reduction Program (HRRP), which financially penalizes hospitals with higher rates of Medicare patients who are readmitted, has incentivized hospitals to utilize new system-wide interventions to reduce the likelihood of readmission. For Medicare patients, a readmission is defined as any hospital stay within 30 days of being discharged. Specifically, the program focuses on readmissions for conditions such as heart attack, heart failure, and pneumonia.

|	Heart attack patient readmitted	COPD patient readmitted		Patient readmitted
Patient discharged from hospital	Day 6	Day 28	Day 30	Day 42
	Hospital penalized	Hospital penalized		No readmission penalty assessed after 30 days

Under the HRRP, hospitals with readmission rates exceeding the national average are penalized by a reduction in payments across their entire Medicare admissions. The penalty started as 1% when the program was introduced in 2013 and has since been increased to 3%. While there has continued to be variations in penalty rates in the 5+ years of the program, national readmission rates have steadily declined since the onset of the program.[1] The downward trend of readmission rates suggests that hospitals may have started to implement strategies to lower their readmissions, such as utilizing remote monitoring practices.

RPM Real World Applications

Reducing Hospital Readmission Penalties

National Medicare Readmission Rates Started to Fall in 2012
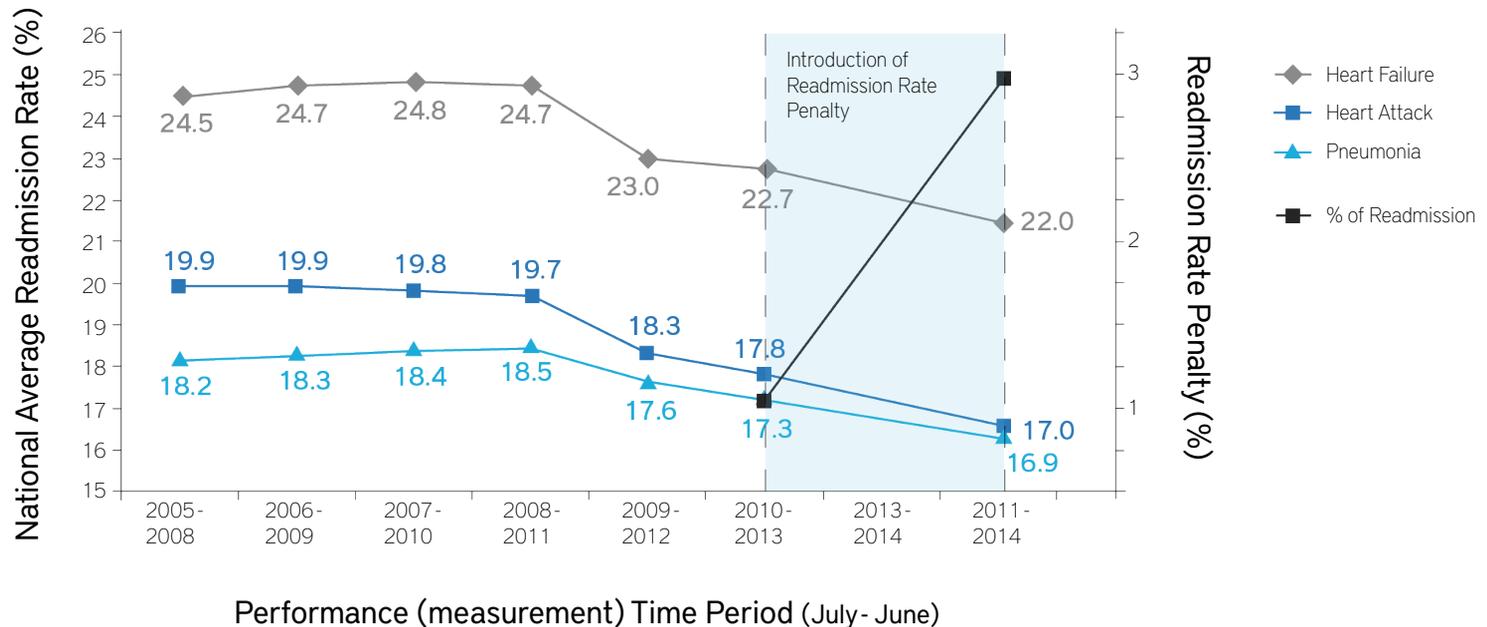
To continue the downward trend of readmission rates, RPM technology can help resolve issues in communication and challenges that come with post-acute and self-care. With these devices, data can be quickly and securely transmitted to family caregivers and providers, allowing the proper individuals to intervene or adjust the course of treatment before a patient feels the need to return to the hospital.

RPM Real World Applications

Sleep Medicine

Medical treatment compliance is a huge issue for medical providers and hospitals. For sleep issues specifically, only about half of patients follow the prescribed treatment. In an effort to study and help resolve this national problem, mobile health companies, such as ResMed, are using remote patient monitoring platforms to track patient behavior. A recent study found that online self-monitoring tools engage patients and significantly improve their willingness to comply and adhere to treatment.[2]

The study focused specifically on Positive Airways Pressure (PAP) users using a continuous positive airway pressure (CPAP) device and self-monitoring app. CPAP devices can be used for sleep apnea, which is linked to several serious conditions including heart failure, atrial fibrillation, and type 2 diabetes. While the study was specific to PAP users, the results show great promise for the role remote patient monitoring can have in improving medical treatment compliance overall.

Sample CPAP device with self-monitoring app

As these examples show, RPM cannot exist in a vacuum. These devices alone cannot ensure patients maintain their health and avoid hospital stays. However, integrating these devices into your medical practice can help ensure patients comply with prescribed treatment plans. With this technology, the patient's care team can actively monitor real-time data and arrange for the appropriate course of care, improving patient outcomes overall and transparency between patient and doctor.

Case Study: Remote Patient Monitoring at Clinics

Nearly 20% of the US population lives in rural areas, miles from any hospital or medical clinic and without reliable internet access.[3] While clinics can be difficult to reach for these patients, many facilities are starting to utilize telemedicine software to reach and monitor patients beyond traditional clinical settings.

Recently, Caring Angels Home Health, a clinic in Winchester, VA, reached out to CareClix hoping to incorporate CareClix Home into their existing solution offerings.

CareClix Home merges CareClix's telemedicine platform with specialized services, combining traditional telemedicine services with remote patient monitoring.

This enables the clinic's staff to monitor and manage diabetic patients' conditions from a distance.

Through the use of RPM and virtual health, diabetic patients in rural areas are granted access to the same medical care they would receive in a more populated area and can instantly connect to their provider any time they have a question or issue. RPM's integration with the devices needed to measure glucose levels allows doctors to receive vital information about the patient, without the need for the patient to travel far away from their home, saving time for both the patient and doctor.

The patients receive medical advice faster and know that their doctor is accurately providing answers based on their present vitals and condition.

Conclusions and Next Steps

Remote patient monitoring uses telemedicine to connect patients with providers via a monitoring device. The goal is to educate patients on the importance of self-care and how these devices can save them both time and money.

As your office or facility plans an entry or expansion of telemedicine capabilities, keep our strategic healthcare and business concepts in mind. Know your market, work with your providers, and cater to patient demand for convenience and quality care delivery.

When CareClix partners with health systems, we offer a solution that is branded to your organization and geared to your targeted population of patients and providers.

After reading this guide, please feel free to contact us anytime if you would like to learn more about any of the concepts featured in this whitepaper or if you'd like to learn more about how CareClix can help your organization. We can be reached by phone anytime at 1 (855) CARECLX, or by email at info@careclix.com.

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About CareClix

CareClix provides comprehensive, integrated telehealth applications, technology, and services that health systems can self-brand. As the only open telemedicine platform, CareClix provides out-of-the-box support for the most popular telemedicine carts, EHRs, and over 200+ medical devices. Healthline ranks CareClix as the #1 telemedicine company because we offer a seamless solution with advanced technical features and a dedicated team who helps tailor solutions to each of our clients. We've used this platform to help our customers implement telemedicine programs impacting over 4 million patients a year and counting.

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Sources

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