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Remote Patient Monitoring: Future Directions

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The use of remote patient monitoring (RPM) technology has increased in recent years, largely driven by the restrictions on in-person visits imposed by the COVID-19 pandemic.[4] RPM holds tremendous potential in empowering patients, equipping healthcare professionals with real-time health information, and enhancing overall patient satisfaction[2]. The field of RPM is expanding rapidly, and some companies are exploring new areas for growth, such as enrolling patients in acute-care settings like the emergency department.

As defined by the Center for Medicare and Medicaid Services (CMS), RPM is the collection and analysis of patient health data used for the treatment of both chronic and acute conditions.[2] Currently, RPM technology is predominantly used for the management of chronic conditions, with CMS estimating that 64% of users have two or more chronic conditions, commonly including heart failure, chronic obstructive pulmonary disease (COPD), diabetes, or hypertension.[2] However, the application of RPM is gaining momentum in acute care settings.[1]

RPM offers multiple benefits, including enhanced patient autonomy and active engagement with their own health, early detection of decompensation, and the potential for increased revenue for health systems while improving patient satisfaction.[2] The RPM market encompasses numerous companies, such as Abbott, i-Health, and Omron, to name a few. When choosing between companies and devices, medical practices must consider factors such as cost and accuracy, as well as the ease of integration into their preferred physician network or electronic medical record (EMR). Some devices lack integration capabilities, such as the

standard blood pressure cuffs readily available at pharmacies. In such cases, patients manually record their readings and share them with their healthcare providers. Alternatively, there are devices that offer integration through Bluetooth connectivity and accompanying apps. Another viable option is integrating the device with the user's cellular network, which is often easier for both end users and EMR integration.[2]

According to Robert Longyear, Co-Founder of Avenue Health, an RPM company, the biggest barriers to the widespread use of RPM include integration into health systems, adoption by providers, cost, and technological barriers. Physicians are often cautious about new technologies, with only about 20% of physicians at participating RPM programs being responsible for 80% of RPM patients.[4] Avenue Health takes a unique approach by employing its own healthcare practitioners to monitor everyday readings and flagging any noteworthy data points that warrant attention and review by the patient's physician. This offloads some of the burden of monitoring from the providers, potentially making RPM more appealing. Longyear emphasizes four key impacts of RPM implementation on clinic operations: patient motivation for self-monitoring, fostering a sense of connection between the patient and the care team, enabling the care team to receive and analyze out-of-range metrics, and the ability to develop a longitudinal care plan for each patient based on a larger volume of data.[4]

Since the approval of RPM billing codes by CMS in 2019, as well as the allowance of non-primary care physicians to bill for RPM services, the use of this technology has been expanding.[1,2] However, despite Medicare patients being eligible for RPM programs, less than 1% are enrolled in such programs, highlighting the need for greater application.[4] The implementation of RPM technology in emergency departments has the potential to reach a distinct group of patients who may otherwise not be enrolled in such a program, thereby enhancing the

management of both acute and chronic conditions. During the COVID-19 pandemic, for example, discharged COVID-19 patients were monitored through pulse oximeters, thermometers, and online technology to help detect the earliest warning signs of decompensation.[1] The expansion of RPM use into the acute care setting gives way to many new directions for this technology. Furthermore, for individuals with chronic conditions like hypertension and diabetes, encouraging enrollment in RPM programs during an emergency room visit could improve their health conditions before they lead to more serious illness. The increasing coverage of RPM services by insurance companies also contributes to their affordability and accessibility, making them more readily available to patients in need.

RPM technology is a valuable yet underutilized resource with significant potential for growth. With strategic planning and innovative approaches, RPM has the capacity to revolutionize the management of chronic conditions, increase patient engagement, and reduce readmission and hospitalization rates.[2] Enrolling and engaging patients in RPM programs in the emergency department holds particular promise. This approach has the power to improve patient well-being and cater to a demographic that may otherwise remain untapped by conventional healthcare practices.

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