



Providers and Remote Patient Monitoring (RPM)

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Background

- 1950 Monitoring with vital sign alarms
- 1967 electrocardiograms (EKG) were transmitted by telephone wires
 - first form of remote patient monitoring (RPM)
- 1970 RPM program to oversee healthcare on “Papago Indian Reservation” (Tohono O’odam Nation) in Arizona
 - Funded by Kaiser Foundation and Lockheed
 - Many problems with connectivity so discontinued in 1977
- 1980 X-rays images could be transmitted
- 1983 Internet allowed computer networks to communicate
- 2008 Broadband fiber (light not electricity) allowed RPM to take off due to increased bandwidth and speed
- 2020 COVID demonstrated the importance of allowing people to stay in their homes and be monitored
 - Medicare reimbursement for RPM
 - 37 states Medicaid reimbursement

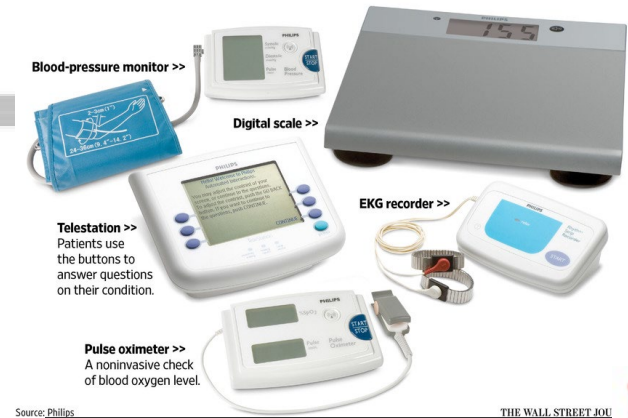
So Many Devices !

Home Health and Wearable Device Innovation

Watch	Eyeglasses	Hearing Aid	Activity Tracker	Deflection
				
				
Pebble Smart Watch	Google Smart Glasses	Sonitus in the Mouth Hearing Aid	Fit Bit Activity Monitor	Scansadu Tricorder

Long Reach

Wireless devices for remote patient monitoring



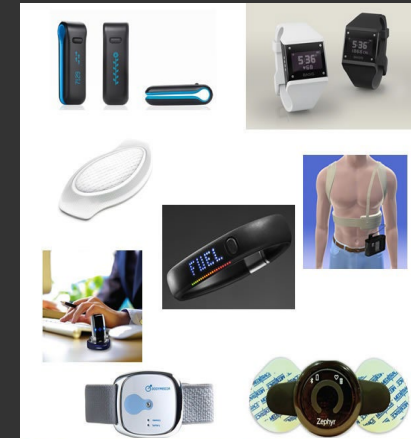
Blood-pressure monitor >>

Digital scale >>

Telestation >>
Patients use the buttons to answer questions on their condition.

EKG recorder >>

Pulse oximeter >>
A noninvasive check of blood oxygen level.

Rx

NAME _____ DATE _____

Try these apps



SIGNATURE _____ RESULTS _____

RPM USES (Telehealth.hhs.gov)

There are many symptoms and conditions that can be tracked through remote patient monitoring, including:

- High blood pressure
- Diabetes
- Weight loss or gain
- Heart conditions
- Chronic obstructive pulmonary disease
- Sleep apnea
- Asthma

Many of the devices that patients will use may be familiar to them, including:

- Weight scales
- Pulse oximeters
- Blood glucose meters
- Blood pressure monitors

Other conditions require more complicated devices that will require patient training, including:

- Apnea monitors
- Heart monitors
- Specialized monitors for dementia and Parkinson's disease
- Breathing apparatuses
- Fetal monitors

As the popularity and convenience of telehealth grows, so does remote patient monitoring. More providers are implementing remote patient monitoring for several reasons, including:

- Advanced medical technology
- A growing awareness of telehealth for providers and patients
- The ability to monitor and prevent serious complications in remote locations


Medicare policies

- “RPM” applies only to physiological monitoring, not psychological
- An established patient-physician relationship prior to RPM
- Must have a signed consent for physiologic RPM from the patient (or legal rep)
- Physician and non-physician practitioners with scope of practice for assessment and management of patient care may bill for RPM
- Can only use FDA –cleared wireless medical devices
- RPM reimbursement protocol is more flexible than telehealth
- RPM is NOT considered telehealth by Medicare



3 major billing differences between telehealth and RPM

(<https://tenovi.com/remote-patient-monitoring-telehealth/>)


- Type of Service –RPM:
 - amount of interaction is not explicitly stated
 - reimbursed for data review time AND interaction
 - is not a substitute for in-person visits
 - FDA approved technology for at least 16 days per month
 - Location-RPM
 - No originating site requirements
 - Service
 - Third party RPM companies can be hired to review data
 - Licensed providers not required
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American Nurses Association's Core Principles on Connected Health (2021)

- Guide for health care professionals using communication technology to provide healthcare.
- *"Connected Healthcare" instead of "Telehealth"*
 - Partner's Healthcare has endorsed the term
 - *Connected Healthcare* is the type of care and *telehealth* is the professional certification terminology (Chapter 13, Krupinski & Shea, 2022)
 - Focus on technology use to efficiently and effectively connect patients and healthcare providers.
 - Facilitates remote diagnosis and treatment, continuous monitoring and adjustment of therapies, support for patient self-care, and the leveraging of providers across large populations of patients.




Need for explicate conversations between patient, caregiver and provider

- Why you are prescribing RPM
 - Use a telehealth interaction to discuss the reason for each monitoring device
 - Discuss the data that you will receive and what you will do with it.
 - 26% of patients didn't know what was being done with the information that was sent daily (Shea et al., 2011)
 - How to use the device(s)
 - Investigate the at-home medical equipment provider company to make sure that they follow a manual for use instructions
 - Instructions on how to access manual for use instructions
 - Depending on type of monitor, IT support availability (24 hrs/day???)
 - Importance of routine times for sending data
 - Communicate that data is being received, check-ins
 - Benefits to patients
 - Fewer visits to the ED
 - Preventative management
 - Self-care
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Shea research

- Self-care
 - Telehomecare perceptions of communication and self-care (*Worldviews on Evidence-based Nursing*)
 - Interactions and outcomes using the Social Relations Model in a healthcare group (*The Social Science Journal*)
 - Patient reactions to vital sign measures: Comparing home monitoring technology to face-to-face delivery (*Home Health Care Management Practice*)

Conclusions

- RPM is the future of healthcare
 - Reimbursement structures agree with the need to use RPM technologies in the home
 - Communication between the provider, patient and caregiver influences the use of the data into daily lifestyle
 - Self-care is influenced by RPM
 - Communication frequency can influence the provider's interpretation of the value of RPM for the patient
 - Care needs to be taken to not create passive patients (from my perspective as a nurse)
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Thank you!!

- References available on request
 - Questions??
- Contact me any time!
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