Medical Policy

Blue Cross Blue Shield Blue Care Network of Michigan

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(See policy history boxes for previous effective dates)

Title: Telemonitoring- Remote Patient Monitoring and Remote Therapeutic Monitoring

Description

Telehealth and telemedicine are terms that are frequently used interchangeably. Telehealth is an umbrella term that describes all the possible variations of healthcare services and education using telecommunications. Telehealth includes healthcare services such as telemedicine, telemonitoring and store and forward, in addition to healthcare education for patients and professionals and related administrative services.

Remote patient monitoring (also referred to as remote physiologic monitoring) uses technology (a medical device) to collect patient data and then electronically transmits that data to a platform where a healthcare provider reviews it, over a period of a month. Remote patient monitoring is a tool to monitor a particular condition, over a period of time, to identify patterns that can be acted upon to improve a patient's clinical outcome; it is one component of a plan of care.
Remote therapeutic monitoring (RTM), the remote monitoring of a therapeutic plan, may be useful for individuals who have musculoskeletal or respiratory conditions, to collect non-physiological data related to adherence and response to the medical treatment plan. Information may include medication adherence (e.g., smart pill reminder systems), therapy adherence (e.g., physical therapy exercises), medication and therapy responses (e.g., pain levels), and patient feedback (e.g., patient reports of medication adverse reactions). Any information that is not physiological may be considered appropriate for remote therapeutic monitoring. Remote therapeutic monitoring services are considered general medical services.

Medical Policy Statement

The use of remote patient monitoring (RPM) to collect physiological or psychological data in the medical management of individuals is **established** when criteria are met.

The use of remote therapeutic monitoring (RTM) in the medical management of an individual's respiratory or musculoskeletal treatment plan is **established** when criteria are met.

Inclusionary and Exclusionary Guidelines

Remote Patient Monitoring (RPM) is not intended to be an ongoing modality; it is intended to be an intervention in response to a complication, decompensation or instability of a medical condition. It may be used during the stabilization period, while a patient returns to the baseline of their condition or establishes a new baseline. Once baseline is achieved, RPM is no longer an integral part of a plan of care.

When Blue Cross of Michigan has an existing medical policy that is specific to the technology or device being considered for RPM, that policy supersedes the information in this policy.

Inclusions:
Remote Patient Monitoring (RPM) is approved when both of the following are met:

- A physician or qualified healthcare practitioner (QHP) has determined that the patient's condition:
  - Is high-risk for decompensation or complication that may lead to hospitalization or another acute intervention, or
  - Requires monitoring for a current or new treatment plan
- There is an order written by a physician or QHP that specifies the medical condition and the length of time for RPM, up to 90 days

Remote Patient Monitoring (RPM) POLICY GUIDELINES

- RPM Data
  - Data may include common physiological parameters such as heart rate, blood pressure, temperature, respiratory rate, weight, oxygen saturation, peak flow, blood glucose levels, well-being information, etc.
- RPM Device Guidance*
  - The device used for data collection must be a medical device, as defined by the FDA
  - The device is non-invasive and has the potential to be connected to a wireless network through Bluetooth, Wi-Fi, or cellular connection
  - The device transmits a patient's measurements directly to their healthcare provider, or to a monitoring company affiliated with the healthcare provider
  - Some devices may have the potential to apply algorithms to the data, which result in notifications of parameters that are outside the ideal range for that patient
  - The device used must provide secure, HIPAA-compliant transmission of the data

* Examples: devices may include wearable, hand-held, stationary in-home units, and digital interfaces. A device may be a clinical electronic thermometer, electrocardiograph, cardiac monitor, pulse oximeter, non-invasive blood pressure monitor, etc.

- Services included in RPM:
  - Initial set-up and patient instruction of the monitoring device
  - RPM for up to 90 days
  - Each 30-day billing cycle can include monitoring times of 2-16 days **Or** more than 16 days.
  - Remote patient monitoring should include daily monitoring or programmed alert transmissions
  - Remote patient monitoring programs can be offered by health plans, hospital systems, medical specialty groups or clinical practices
  - Reimbursement for remote patient monitoring is driven by current BCBSM payment policy

- Complex patients with chronic conditions who are at elevated risk for intermittent exacerbations and poor long-term clinical outcomes may benefit from longer-term RPM within the context of a Provider-Delivered Case Management (PDCM), health plan-administered care management program, or an approved provider-organization or vendor-managed care management program.

RPM Exclusions:

- RPM is not separately billable if performed during a 90-day global payment period (e.g., following surgery)
- The RPM device itself (including any additional apps, software, digital interfaces, etc.) is not covered

Remote Therapeutic Monitoring (RTM)

Remote therapeutic monitoring services (e.g., musculoskeletal system status, respiratory system status, therapy adherence, therapy response) represent the review and monitoring of data related to signs, symptoms, and a function of therapeutic response. These data may represent objective device generated integrated data or subjective inputs reported by an individual. These data are reflective of therapeutic responses that provide a functionally integrative representative of patient status.[9]

When Blue Cross of Michigan has an existing medical policy that is specific to the technology or device being considered for RTM, that policy supersedes the information in this policy.

Inclusions:

Remote therapeutic monitoring (RTM) is approved when:

- There is an order written by a physician or qualified healthcare practitioner that specifies the medical condition and the length of time for RTM, up to 90 days

POLICY GUIDELINES

- RTM Data
  - Data may be self-reported by the individual or may be electronically captured by a device.
  - Data is for a respiratory or musculoskeletal condition.
- RTM Device Guidance (when a device is used)*

    - The device used for data collection must be a medical device, as defined by the FDA
    - The device used must provide secure, HIPAA-compliant transmission of the data

* Examples: devices may include wearable, hand-held, and digital interfaces.

- Services included in RTM:
    - Initial set-up and patient instruction of the monitoring device
    - RTM for up to 90 days
- Each 30-day billing cycle can include monitoring times of 2-16 days **Or** more than 16 days.
- Reimbursement for remote therapeutic monitoring is driven by current BCBSM payment policy
- Complex patients with chronic conditions who are at elevated risk for intermittent exacerbations and poor long-term clinical outcomes may benefit from longer-term RPM within the context of a Provider-Delivered Case Management (PDCM), health plan-administered care management program, or an approved provider-organization or vendor-managed care management program.

RTM Exclusions:

- The RTM device itself (including any additional apps, software, digital interfaces, etc.) is not covered

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CPT/HCPCS Level II Codes

Established codes:

98975	98976	98977	98979	98984	98985
98986	98980	98981	99091*		
99445	99453	99454	99457	99458	99470

**99091 provided on the same date of service as E&M services (face-to-face or telemedicine) is considered included in the E&M service and should not be reported separately.*

Other codes (investigational, not medically necessary, etc.):

NA

Notes:

- *Code(s) may not be covered by all contracts or certificates. Please consult customer or provider inquiry resources at BCBSM or BCN to verify coverage.*
- *Individual policy criteria determine the coverage status of the CPT/HCPCS code(s) on this policy. Codes listed in this policy may have different coverage positions (such as established or experimental/investigational) in other medical policies.*

Background

Telemonitoring, or more specifically, remote patient monitoring, is the use of digital technologies to collect physiological and psychological health data from individuals in one location and electronically transmit that information securely to health care providers in a different location for assessment and clinical management recommendations. This allows a provider to continue to track healthcare data for a patient released from the hospital to home or to a care facility, potentially reducing readmission rates. Monitoring programs collect physiological signs such as temperature, respiratory rate, heart rate, blood pressure, blood sugar, blood oxygen levels, weight, and electrocardiograms. Data for psychological health may include well-being information. The data is transmitted to healthcare professionals in office settings or hospitals, or the data may be transmitted to monitoring centers or centralized off-site case management programs. Healthcare professionals monitor these patients remotely and respond to the information received as part of the treatment plan.[1]

Remote monitoring is not a recent technological development. Dr. Willem Einthoven, who received a Nobel Prize for his work in electrocardiography, was the first person to use telemonitoring. In 1905 Dr. Einthoven transmitted an ECG from his physiology laboratory to the Academic Hospital, about a mile away, by connecting immersion electrodes via telephone lines to a remote galvanometer.[2,3] An impressive example of telemonitoring involves the National Aeronautics and Space Administration. In the early 1960s, NASA developed medical monitoring systems which were used in animal test flights to assess circulation and respiration. The medical scientists' priority was understanding what effects spaceflight had on the physiological and psychological processes of the human body. This drove the development of increasingly sophisticated monitoring technologies – the Integrated Medical and Behavioral Laboratories and Measurement Systems (IMBLMS). The advanced IMBLMS upgraded the existing technology, but it was also viewed as a support in longer human spaceflights, providing monitoring of biometric data as well as directing medical treatment by non-physicians. The IMBLMS validation testing was a result of a partnership between NASA and the Lockheed Missiles and Space Company. A program was developed and offered to the people of the Tohono O'odham (Papago) reservation, remotely located in Southern Arizona. The technology linked rural patients in mobile support units with physicians in Indian Health Service hospitals in Sells and Phoenix, Arizona. The program was operational from 1973 to 1977.[4,5]

As with remote patient monitoring, devices used for remote therapeutic monitoring must be approved by the U.S. Food and Drug Administration. The use of a device is not required. If a platform is able to track data from an individual (e.g., software, a wearable, self-reported information), remote therapeutic monitoring is achieved. Information that is collected may be both quantitative and subjective. Because the data collected is related to adherence and response to a treatment plan, a wellness device is not appropriate for RTM.

Mobile health, mHealth, is a new and rapidly evolving aspect of technology-enabled health care. The National Institutes of Health defines mHealth as the use of mobile and wireless devices (cell phones, tablets, etc.) to improve health outcomes, healthcare services, and health research[,6,7] Mobile health apps do not undergo the rigorous testing that is required by medical equipment, including validation through clinical trials. In addition, they do not require oversight by a healthcare provider. For the purpose of this policy, mobile health applications are considered to be self-care, self-management, and self-monitoring tools.

Summary of Evidence

Evidence reviews assess the clinical evidence to determine whether the use of a technology improves the net health outcome. Broadly defined, health outcomes are length of life, quality of life, and ability to function including benefits and harms. Every clinical condition has specific outcomes that are important to individuals and to managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms. The following is a summary of the key literature to date.

Remote patient monitoring captures data relevant to the patient's medical condition. The data points can be tracked for trends that may reflect deterioration of the condition, and real-time interventions can be implemented that may prevent further decline or hospitalization. The technology is advancing quickly and it is clear that the objective data obtained is useful in medical management. However, more rigorous studies are needed to determine its effect on clinical outcomes, cost effectiveness and impact on utilization of health services. Even though we do not yet have strong empirical evidence, many health systems, including the Department of Veterans Affairs, are effectively integrating RPM into patient management. RPM is an effective adjunct to care that is provided virtually.

Remote therapeutic monitoring is the reporting or collection of non-physiologic therapeutic data, such as pain levels, adherence to medications, and adherence to therapy. The information collected may be both quantitative and subjective in nature. The data may be self-reported by the individual or a device may automatically record and report the health data to the care team. Healthcare providers use the data to make more comprehensive patient evaluations and determine more effective care strategies. Remote therapeutic monitoring is to be used for the management of respiratory or musculoskeletal conditions.

Rationale

Evidence reviews assess the clinical evidence to determine whether the use of a technology improves the net health outcome. Broadly defined, health outcomes are length of life, quality of life, and ability to function including benefits and harms. Every clinical condition has specific outcomes that are important to individuals and to managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms. The following is a summary of the key literature to date.

Remote patient monitoring may potentially be used as an adjunct to treatment of any condition. However, most of the research found in published literature focuses on the value of remote patient monitoring in those who have chronic diseases.

Heart Failure

Jayram et al (2017) reported on telemonitoring's impact on health status in those with heart failure. Among the 1,521 patients with recent heart failure hospitalization who were randomized in the Telemonitoring to Improve Heart Failure Outcomes trial, 756 received telephonic monitoring and 765 received usual care. Health status was measured with the Kansas City Cardiomyopathy Questionnaire (KCCQ) within 2 weeks of discharge and at 3 and 6 months. Over the 6-month follow-up period, there was a statistically significant, but clinically small, difference between the two groups in their KCCQ overall summary and subscale scores. The average KCCQ overall summary score for those receiving telemonitoring was 2.5 points (95% confidence interval [CI], 0.38 to 4.67; p=.02) higher than usual care, driven primarily by improvements in symptoms (3.5 points; 95% CI, 1.18 to 5.82; p=.003) and social function (3.1 points; 95% CI, 0.30 to 6.00; p=.03). The authors concluded that telemonitoring results in statistically significant, but clinically small, improvements in health status when compared with usual care. Additional studies were recommended.[10]

A Cochrane Review (2015) investigated randomized controlled trials of structured telephone support or non-invasive home telemonitoring compared to standard practice for people with heart failure, in order to quantify the effects of these interventions over and above usual care. This was an update to a previous 2010 review and included 17 new studies. The reviewers concluded that for people with heart failure, structured telephone support and non-invasive home telemonitoring reduced the risk of all-cause mortality and heart failure-related hospitalizations. These interventions also demonstrated improvements in health-related quality of life, heart failure knowledge and self-care behaviors.[11]

Kitsiou et al (2015) performed a review of systematic reviews on the effects of home telemonitoring interventions in patients with chronic heart failure. Fifteen reviews published between 2003 and 2013 were selected. Evidence from high-quality reviews with meta-analysis indicated that home telemonitoring interventions reduced the relative risk of all-cause mortality (0.60 to 0.85) and heart failure-related hospitalizations (0.64 to 0.86) compared with usual care. Absolute risk reductions ranged from 1.4% to 6.5% and 3.7% to 8.2%, respectively. Improvements in heart failure-related hospitalizations appeared to be more pronounced in patients with stable heart failure: hazard ratio (HR) 0.70 (95% credible interval [CrI] 0.34 to 1.5]). Risk reductions in mortality and all-cause hospitalizations appeared to be greater in patients who had been recently discharged (≤28 days) from an acute care setting after a recent heart failure exacerbation: HR 0.62 (95% CrI, 0.42 to 0.89) and HR 0.67 (95% CrI, 0.42 to 0.97), respectively. However, the reviewers noted that quality of evidence for these outcomes ranged from moderate to low suggesting that further research is likely to have an impact on the confidence in the observed estimates of effect and may change these estimates.[12]

Hypertension

Milani et al (2017) evaluated blood pressure control in 156 patients with uncontrolled hypertension who were enrolled in a home-based digital-medicine blood pressure program, and compared them with 400 patients (matched to age, sex, body mass index, and blood pressure) in a usual-care group after 90 days. Digital-medicine patients completed questionnaires online, were asked to submit at least 1 blood pressure reading/week, and received medication management and lifestyle recommendations via a clinical pharmacist and a health coach. Blood pressure units transmitted data directly to the electronic medical record. Digital-medicine patients averaged 4.2 blood pressure readings per week. At 90 days, 71% of digital-medicine versus 31% of usual-care patients had achieved target blood pressure

control. Mean decrease in systolic/diastolic blood pressure was 14/5 mm Hg in digital medicine, versus 4/2 mm Hg in usual care (p<.001). Excess sodium consumption decreased from 32% to 8% in the digital-medicine group (p=.004). Mean patient activation increased from 41.9 to 44.1 (p=.008), and the percentage of patients with low patient activation decreased from 15% to 6% (p=.03) in the digital-medicine group. The authors concluded that a digital hypertension program is associated with significant improvement in blood pressure control rates and lifestyle change.[13]

Asthma

A Cochrane Review (2016) investigated whether home telemonitoring added benefits for people with asthma compared with their usual monitoring. Eighteen studies (12 included adults, 5 included children, 1 included both age groups) and a total of 2,268 individuals were studied. The intervention groups were given 1 of a variety of technologies to record and share their symptoms and were compared with a control group who received usual care. Evidence from these studies did not show clearly whether asthma telemonitoring with feedback from a healthcare professional increases or decreases the odds of exacerbations that require a course of oral steroids (odds ratio [OR]=0.93, 95% confidence Interval [CI]=0.60 to 1.44; 466 participants; 4 studies), a visit to the emergency department (OR=0.75, 95% CI, 0.36 to 1.58; 1018 participants; 8 studies) or a stay in hospital (OR=0.56, 95% CI, 0.21 to 1.49; 1042 participants; 10 studies) compared with usual care. Confidence was limited by imprecision in all 3 primary outcomes. Evidence quality ratings ranged from moderate to very low. Evidence for measures of asthma control was imprecise and inconsistent, revealing benefit over usual care for quality of life (mean difference [MD]-0.23, 95% CI, 0.01 to 0.45; 796 participants; 6 studies; I^2 = 54%), but the effect was small and study results varied. Telemonitoring interventions may provide additional benefit for two measures of lung function: FEV1 and peak expiratory flow.[14]

Chronic Obstructive Pulmonary Disease

Alshabani et al (2019) reported on a retrospective pre- and post-analysis of a quality improvement project at the Cleveland Clinic. Thirty-nine patients with COPD and high healthcare utilization were provided with electronic inhaler monitoring devices for controller and rescue inhaler utilization for 1 year. Patients were contacted when alerts indicated suboptimal adherence to controller inhaler or increased use of rescue inhalers. Compared with the year prior to enrollment, electronic inhaler monitoring was associated with a reduction in COPD-related healthcare utilization per year (2.2 (±2.3) versus 3.4 (±3.2), p=0.01). Although there was a reduction in all-cause healthcare utilization, this was not statistically significant (3.4 (±2.6) versus 4.7 (±4.1), p=0.06).[15]

Kruse et al (2018) performed a systematic review of literature to determine how telemonitoring has been used to manage COPD. In a search from 2011 to 2017. Twenty-nine articles were selected for analysis. In examining outcomes of these studies, the authors found mixed results. Positive outcomes included reduced hospitalization rates, improved patient satisfaction, lower patient reported anxiety and depression as well as better clinical outcomes. Others found no significant improvement or actual reduced patient outcomes. Specifically, 31% of the studies showed a reduced number of clinical visits including primary care and emergency department visits. One study showed improvement, especially among rural patients. Three studies found that adding videoconferencing and phone support to monitoring services reduced admissions for exacerbations.[16]

Taylor et al (2021) summarized a systematic review and RCT on Remote Physiologic Monitoring (RPM) demonstrate moderate evidence of benefit for patients with chronic cardiovascular disease and chronic obstructive pulmonary disease (COPD), with mixed results for other conditions. RPM can reduce acute care use for patients with cardiovascular disease and COPD. However, effectiveness varies within and between populations. RPM's effect on other conditions is inconclusive due to limited studies. Further analysis is required to understand underlying mechanisms causing variation in RPM interventions. These findings should be considered alongside other benefits of RPM, including increased quality of life for patients. [30]

Tan et al (2025) preformed a systematic review to determine Patient monitoring (RPM) technology has gained traction in recent years. While the effects of specific RPM interventions are known, few published reviews examine RPM in the context of care transitions from an inpatient hospital setting to a home environment. In this systematic review, we addressed this gap by examining the impacts of RPM interventions on patient safety, adherence, clinical and quality of life outcomes and cost-related outcomes during care transition from inpatient care to a home setting. Tan et al searched five academic databases (PubMed, CINAHL, PsycINFO, Embase and SCOPUS), screened 2606 articles, and included 29 studies from 16 countries. These studies examined seven types of RPM interventions (communication tools, computer-based systems, smartphone applications, web portals, augmented clinical devices with monitoring capabilities, wearables and standard clinical tools for intermittent monitoring). RPM interventions demonstrated positive outcomes in patient safety and adherence. RPM interventions also improved patients' mobility and functional statuses, but the impact on other clinical and quality-of-life measures, such as physical and mental health symptoms, remains inconclusive. In terms of cost-related outcomes, there was a clear downward trend in the risks of hospital admission/readmission, length of stay, number of outpatient visits and non-hospitalization costs. Future research should explore whether incorporating intervention components with a strong human element alongside the deployment of technology enhances the effectiveness of RPM. The review highlights the need for more economic evaluations and implementation studies that shed light on the facilitators and barriers to adopting RPM interventions in different care settings. [31]

Diabetes

Lee et al (2018) performed a systematic review and meta-analysis systematic reviews of RCTs to create an evidence-base for the effectiveness of telehealth interventions on glycemic control in adults with type 2 diabetes. Two reviewers selected and reviewed eligible studies published between 1990 and 2016. Of 3,279 references retrieved, 4 systematic reviews reporting 29 unique studies were included. Evidence from pooling found that telehealth interventions produced a small but significant improvement in hemoglobin A1c (HbA1c) levels compared with usual care (mean difference: -0.55, 95% CI: -0.73 to -0.36). The greatest effect was seen in telephone-delivered interventions, followed by internet blood glucose monitoring system interventions and lastly, interventions involving automatic transmission of self-monitoring if blood glucose using a mobile phone or a telehealth unit.[17]

Michaud et al (2018) examined the relationship between hemoglobin A1c outcomes in type 2 diabetic patients and participant characteristics. The study sample included 955 patients with type diabetes who were admitted to an urban Midwestern medical center for any reason from 2014 to 2017, and used remote patient monitoring for 3 months after discharge. Clinical outcomes included HbA1c, weight, body mass index (BMI), and patient activation scores. Most patients experienced decreases in HbA1c (67%) and BMI (58%), and increases in patient

activation scores (67%) (p<.001 in all 3 cases) at the end of RPM. Logistic regression analyses revealed that among patients who had HbA1c >9% at baseline, men (OR = 3.72; 95% CI, 1.43 to 9.64), those who had increased patient activation scores after intervention (OR = 1.05; 95% CI, 1.01 to 1.09), those who had higher baseline patient activation scores, and those who had a greater number of biometric data uploads during the intervention (OR = 1.02; 95% CI, 1.00 to 1.04) were more likely to have reduced their HbA1c to <9% at the end of RPM. The authors concluded that RPM for post-discharge patients with type 2 diabetes might be a promising approach for HbA1c control with increased patient engagement.[18]

Depression

Although there is an abundance of published literature regarding the management of depression via telemedicine, information regarding the use of remote patient monitoring in those with depression is lacking.

Lawes-Wickwar et al (2018) performed a systematic review with the aim of identifying various uses and efficacy of telehealth technology for severe mental illness. Literature was searched from inception to 2016; 31 articles describing 29 trials were selected as eligible for the review. Many of the study interventions focused on improving management. Monitoring strategies included telephones for prompting medication use and remote sensors to monitor medication use. Telephone support was found effective in improving medication adherence and reducing the severity of symptoms and inpatient days.[19]

Dickerson et al (2011) introduced a novel real-time depression monitoring system for the home. The integrated system, Emotional Monitoring for PATHology (EMPATH), consisted of sensors and analysis code. Data that was continuously monitored and collected included sleep quality by a novel monitoring sensor system, weight, speech analysis and activity. The authors performed a week-long case study, concluded that the sleep monitoring system was accurate and that EMPATH could be useful to both the patient and caregivers. Follow-up studies with this technology could not be found.[20]

The Department of Veterans Affairs reported on telehealth services offered by the Veterans Administration. They defined that home telehealth “monitors patients and manages diseases through video into the home and use of mobile devices for acute and chronic case management and health promotion/disease prevention.” It was reported that in fiscal year 2013, chronic disease management provided via home telehealth devices supported 7,340 patients with chronic mental health conditions to live independently in their homes. The devices used to support the patients were not specified.[21]

Mehta et al (2020) reported on a randomized controlled trial of 242 patients at 2 urban hospitals, between February 2018 and April 2019.[22] Participants were between 18 to 85 years of age, with a median age of 66 years; 78.1% were women, 45.5% were White, and 43.4% were Black. The participants were randomized to receive usual care (n=124) or remote monitoring (n=118). Those in the intervention arm agreed to receive a wearable activity monitor to track step count; to message regarding postoperative goals and milestones, and pain score tracking; and to connect with clinicians as needed. Patients assigned to receive monitoring were further randomized to remote monitoring alone or remote monitoring with gamification and social support. Remote monitoring was offered before surgery, began at hospital discharge, and continued for 45 days following discharge. The primary outcome was discharge status (home versus skilled nursing facility or inpatient rehabilitation). Prespecified secondary outcomes included change in average daily step count and re-admissions to the

hospital setting. There was no significant difference in the rate of discharge to home between the usual care arm (57.3%; 95% CI, 48.5% to 65.9%) and the intervention arm (56.8%; 95% CI, 47.9% to 65.7%). There was no significant increase in step count in those receiving remote monitoring plus gamification and social support compared with remote monitoring alone. There was a statistically significant reduction in re-hospitalization rate in the intervention arm (3.4%; 95% CI, 0.1% to 6.7%) compared with the usual care arm (12.2%; 95% CI, 6.4% to 18.0%; p=.01). The authors concluded that the remote monitoring program did not increase rate of discharge to home after hip or knee arthroplasty; and further, gamification and social support did not increase activity levels. However, there was a significant reduction in re-hospitalizations among those receiving the intervention, which the authors suggested may have resulted from goal setting and connection to the care team.

Mosnaim et al (2021) evaluated a study of adherence to inhaled medication, comparing self-reported information with electronic medication monitor data.[23] Adults diagnosed with uncontrolled asthma and who were prescribed inhaled corticosteroids and short-acting beta 2-agonists were enrolled. One hundred participants (80% female, mean age 48.5 years, 60% completed college, 80% privately insured) had complete data over 14 days. Participants were asked to complete paper diaries of medication usage, while objective data was obtained from the electronic medication monitors that had been fitted to the inhalers. Participant self-report data of short-acting beta 2-agonist use (median: 0.8 [0.0, 2.0]) was greater than objectively measured (median: 0.43 [0.1, 2.1]), but the difference was not statistically significant (p=.64). Participant self-report inhaled corticosteroid adherence (median: 97 [67, 100]) was significantly greater than objectively measured (median: 75 [54, 93]; p=.002). The authors reported significant discrepancies between self-reported and objective inhaled corticosteroid use. The authors concluded that electronic medication monitoring can provide clinicians with accurate data on medication adherence, thus reducing medication regimen complexity, side effects, and costs.

Supplemental Information

PRACTICE GUIDELINES AND POSITION STATEMENTS

Agency for Healthcare Research and Quality

The Agency for Healthcare Research and Quality published a brief (2016) to provide an overview of the large and disparate body of evidence about telehealth. One of the key messages from the review included the following:

•There is sufficient evidence to support the effectiveness of telehealth for specific uses with some types of patients, including remote patient monitoring for patients with chronic conditions.[24]

American Heart Association

The American Heart Association (2025), which states:[32]

“Telehealth interventions, including out-of-office BP monitoring using Home Blood Pressure Monitoring (HBPM) with remote BP data transfer between the patient and health care staff, lifestyle education, and/or medication management, demonstrated greater BP lowering compared with usual clinic care alone.”

Recommendations for (ABPM) Ambulatory Blood Pressure Monitoring) and (HBPM) Home Blood Pressure Monitoring:

- In adults with suspected hypertension, out-of-office BP measurements by either ABPM or HBPM are recommend to confirm the diagnosis of hypertension.
- In adults who are taking antihypertensive medications, HBPM is recommended for monitoring the titration of BP-lowering medication, along with cointerventions such as patient education, telehealth counseling, and clinical interventions.

The American Heart Association (2019) issued a Guidance, Using Remote Patient Monitoring Technologies for Better Cardiovascular Disease Outcomes, which states:

> "Remote patient monitoring (RPM) can empower patients to better manage their health and participate in their health care. When used by clinicians, RPM can provide a more holistic view of a patient's health over time, increase visibility into a patient's adherence to a treatment, and enable timely intervention before a costly care episode. Clinicians can strengthen their relationships with, and improve the experience of, their patients by using the data sent to them via RPM to develop a personalized care plan and to engage in joint decision-making to foster better outcomes. The American Heart Association supports initiatives that increase access to and incentivize the appropriate design and use of evidence-based remote patient monitoring technologies."[25]

Regulatory Status

Per Section 201(h) of the Food, Drug, and Cosmetic Act, a medical device is:

- "an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including a component part, or accessory which is: recognized in the official National Formulary, or the United States Pharmacopoeia, or any supplement to them,
- intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals, or
- intended to affect the structure or any function of the body of man or other animals, and which does not achieve its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of its primary intended purposes."

The FDA document "Enforcement Policy for Non-Invasive Remote Monitoring Devices Used to Support Patient Monitoring During the Coronavirus Disease 2019 (COVID-19) Public Health Emergency – Guidance for Industry and Food and Drug Administration Staff," March 2020, updated in May 12, 2023, informed this policy review, specifically the "RPM Device Guidance" in the Inclusions section.[8]

Government Regulations

National:

There is no National Coverage Document on this topic.

Local:

There is no Local Coverage Document on this topic.

The 2026 Medicare Physician Fee Schedule has reimbursement for codes 99453, 99454, 99457, 99458, 99091, 98975, 98976, 98977, 98980, and 98981

Federal Register, A Rule by the Centers for Medicare & Medicaid Services on 12/28/20, 11/16/23:
Remote physiologic monitoring treatment management services were added to the general care management services.

mlnconnects 2020-03-31-MLMC-SE, Special Edition - Tuesday, March 31, 2020
December, 2023 MLN Connects Special Edition for March 31, 2020
CMS is making it clear that clinicians can provide remote patient monitoring services to patients with acute and chronic conditions and for patients with only one disease. For example, remote patient monitoring can be used to monitor a patient's oxygen saturation levels using pulse oximetry.

(The above Medicare information is current as of the review date for this policy. However, the coverage issues and policies maintained by the Centers for Medicare & Medicare Services [CMS, formerly HCFA] are updated and/or revised periodically. Therefore, the most current CMS information may not be contained in this document. For the most current information, the reader should contact an official Medicare source.)

Related Policies

Telemedicine
Home Cardiorespiratory Monitoring – Pediatric
Home Monitoring Device for Age-Related Macular Degeneration
Home Spirometry

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The articles reviewed in this research include those obtained in an Internet based literature search for relevant medical references through 2/20/26, the date the research was completed.

Joint BCBSM/BCN Medical Policy History

Policy Effective Date	BCBSM Signature Date	BCN Signature Date	Comments
7/1/23	4/28/23		Combine Remote Patient Monitoring and Remote Therapeutic Monitoring Policy to one policy. Telemonitoring- Remote Patient Monitoring and Remote Therapeutic Monitoring (jf) Remote Patient Monitoring and Remote Therapeutic Monitoring (jf) -Services included in RPM moved up to 3rd bullet. o Each 30-day billing cycle must include at least 16 days of monitoring o Remote patient monitoring should include daily monitoring or programmed alert transmissions o Remote patient monitoring programs can be offered by health plans, hospital systems, medical specialty groups or clinical practices o Reimbursement for remote patient monitoring is driven by current BCBSM payment policy o Added ref 5,8 Vendor Managed: NA
7/1/24	4/16/24		Routine maintenance (jf) Vendor Managed: NA Added ref: 29 remove the KX modifier from policy guidelines Removal of Beyond 90 days from inclusions
7/1/25	4/15/25		Routine maintenance (jf) Vendor Managed: NA • Revision of nomenclature of codes 98975,98976 and 98977 effective 1/1/25

			• Edited MPS: removed patients and replaced with individuals Added Ref: 30
7/1/26	4/21/26		Routine maintenance (jf/lc) Vendor Managed: NA • Codes reviewed from 2026 CPT Annual code Update: • Revision to nomenclature to the following codes effective 1/1/26: 98976, 98977,98978,98980,98981 ,99453,99454,99457,9945 8 **Formatting changes made:** • Sections rearranged for better flow • Added Description and Background separated • MPS edited • Note edited in code section • Ref added: 30,31,32,33,34 • Post JUMP: Add as EST effective 1/1/26: 98979,98984,98985,98986 ,99445,99470 • Edits to policy guidelines

Next Review Date: 2nd Qtr, 2027

BLUE CARE NETWORK BENEFIT COVERAGE
POLICY: TELEMONITORING-
REMOTE PATIENT MONITORING AND REMOTE THERAPEUTIC MONITORING

I. Coverage Determination:

Commercial HMO (includes Self-Funded groups unless otherwise specified)	Covered
BCNA (Medicare Advantage)	See Government Regulations section.

II. Administrative Guidelines:

- The member's contract must be active at the time the service is rendered.
- Coverage is based on each member's certificate and is not guaranteed. Please consult the individual member's certificate for details. Additional information regarding coverage or benefits may also be obtained through customer or provider inquiry services at BCN.
- The service must be authorized by the member's PCP except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Services must be performed by a BCN-contracted provider, if available, except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Payment is based on BCN payment rules, individual certificate and certificate riders.
- Appropriate copayments will apply. Refer to certificate and applicable riders for detailed information.
- CPT - HCPCS codes are used for descriptive purposes only and are not a guarantee of coverage.