

# Practices Can Benefit from Remote Patient Monitoring

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► Patients often visit orthopaedic surgeons because their pain has affected their ability to exercise and be active. We often are the primary instructive voice regarding how patients should increase their activity levels. Unfortunately, real knowledge about our patients' activity levels is limited to six- to eight-week intervals of snapshot medicine. However, new codes created in 2019 by the Centers for Medicare & Medicaid Services (CMS) allow remote monitoring of patients' activity and may have a dramatic impact in this new, post-COVID-19 world.

We are all adjusting to the new social distancing recommendations and economic strains that have accompanied this crisis, which presents an opportunity for orthopaedists to embrace technology and improve healthcare outcomes. Utilizing the remote patient monitoring (RPM) codes 99453, 99454, and 99457 allows orthopaedists to provide more precise care through the use of digital patient-engagement tools and create an ancillary income stream to prop up practices hit with economic strains due to the pandemic. Practices that are able to navigate new business models will more likely be able to resist the consolidating pressures driving the marketplace.

## Opportunity

RPM codes 99453, 99454, and 99457 were created with the goal of encouraging physicians to engage with patients in a more longitudinal fashion by allowing remote monitoring of physiologic parameters between clinical visits. The codes offer reimbursement for monitoring patients on a near-real-time basis and providing monthly interventions.

RPM, as defined by CMS, is the "remote monitoring of physiologic parameter(s) (e.g., weight, blood pressure, pulse oximetry, respiratory flow rate)." Monitoring occurs on a monthly basis and requires a platform that allows a patient to share any number of physiologic parameters with a physician electronically. Code 99453 offers reimbursement for the onboarding of new patients, code 99454 reimburses for providing a patient with an RPM device for a 30-day period, and code 99457 reimburses for 20 minutes of monthly monitoring by a health provider or clinical staff member.

Billing is done under general

supervision. This allows qualified clinical staff, even vendor-supplied offsite personnel, to monitor and alert a physician when an intervention is needed. Although CMS' language regarding what constitutes a physiologic parameter is somewhat vague, options include patient-reported outcome measures, activity tracking, and heart rate variability as appropriate parameters that may be applicable in orthopaedics. No other measurement provides as much information about someone's overall health than their ability and willingness to engage in physical activity. In that vein, monitoring this vital sign on a weekly basis offers an opportunity to dramatically improve patient outcomes.

## An example

As part of routine care for patients, a physical activity vital sign is obtained with two questions: How many days a week do you get moderate exercise? What length of time do you exercise on those days? A physical activity vital sign gives you the minutes/week of physical activity. The recommended level of activity for adults is 150 minutes per week. Patients who fall below that threshold should be enrolled in an activity improvement program, with the goal of raising their activity level to greater than 150 minutes per week for four straight weeks. Patients can utilize activity trackers, with data reported back to physicians. Automatic notifications may be set up to alert a physician's staff to variances, and interventions can be recommended weekly by the physician to keep a patient on course.

Reimbursement requires 20 minutes of data review per month with chart documentation of activity. Financially, there is a one-time billing of code 99453 (average Medicare rate, \$19.46) for setup and onboarding, followed by monthly billing of codes 99454 (\$64.15) and 99457 (\$51.54) for monthly device fee and monthly monitoring, respectively. Costs of the programs vary; however, most turnkey solutions provide trackers but charge a monthly per-patient subscription fee that is on the order of the monthly device fee reimbursement level (\$64.15)

## Device and service considerations

There are several options for getting

started with an RPM program. Examples include monitoring relayed data and information from consumer devices such as an Apple Watch or Fitbit. This represents an easy entry into RPM, as those devices and their software are already familiar to patients, and they might already own the devices. One challenge is managing the high volume of unfiltered data. An important point to understand is that reimbursement is not tied to any particular device; in fact, it is not necessary to utilize a device at all.

Other solutions include apps like Fusionetics. In this model, customized rehabilitation and exercise programs are provided to patients based on specific diagnoses or movement-pattern deficits. Progress reports are sent to doctors and clinical staff, allowing for interventions and adjustments as needed. Finally, Spire Health has a "Health Tag" that utilizes a smart clothing concept in which adhesive devices are attached to a patient's underwear or bra. The devices have the capability to measure heart rate, respiratory rate, and activity level. The data points are filtered through a dashboard that uses customized thresholds to send notifications to the care team. This solution is easy to use, as the devices do not require recharging and can be placed in the washer and dryer.

There are several keys to good outcomes for an RPM program. One is a required high compliance rate, as the device must be used for 16 of 30 days. A device or platform that is difficult to use, requires frequent charging, or is easily forgotten to be worn may limit compliance. Another consideration is that the transmitted data should be user friendly for both the patient and physician. With remote monitoring, large data sets will be transmitted, so a device and platform that provide actionable and human-readable dashboards are critical. Additionally, having customizable notification settings for variances is important to make incoming data more manageable.



## Concerns

Currently, patient copays are still required on a monthly basis, on the order of 10 percent of the monthly fees, which could be a barrier to implementation for some patients. Security and privacy concerns must always be considered when dealing with wearable devices. This may require appropriate legal consultation and understanding of the particular system's vulnerabilities and its associated risks. The codes are approved with Medicare and are being reimbursed; however, reimbursement with commercial payers is varied and requires discussion and negotiation.

## Conclusion

Digital patient-engagement platforms have been shown to expand the reach of physicians and improve a number of clinical markers. A study by Campbell et al., showed that an SMS bot-enabled remote engagement tool led to a 22 percent increase in exercise, fewer calls to the office, improved mood, and lower narcotic use in patients following total knee arthroplasty. RPM programs have great potential, and orthopaedic surgeons are well positioned to move this innovative approach forward for both our patients and practices. Making use of this time to explore new ways of delivering care will likely pay dividends in the near future for practices that are willing to lead the way.

A reference for the study cited can be found in the online version of this article, available at [www.aaosnow.org](http://www.aaosnow.org).

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