

Remote Patient Monitoring for Preventive Cardiac Care

Improving Outcomes for Patients with Chronic Cardiac Conditions

About This Guide

Nearly <u>half of all</u> Americans are living with some type of cardiovascular disease. One person in the US dies of heart disease every <u>36 seconds</u>. And it costs our country over \$360 billion per year.

With these staggering numbers, it is no surprise that the <u>Center</u> <u>for Medicare and Medicaid Services (CMS)</u> has been promoting innovative solutions to treat and prevent cardiac disease.

Remote patient monitoring (RPM) can be the solution that helps millions of Americans take a more proactive approach to living with chronic, cardiology conditions.

Optimize Health has helped hundreds of practices successfully implement cardiac RPM programs. This guide will explain how RPM can benefit your cardiac patients and help you take the first steps to learn how to launch a program.

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Part of Our RPM Best Practices Series



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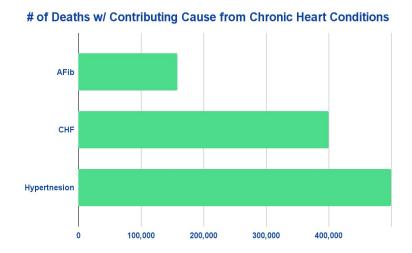
Introduction

Facts about Cardiac Conditions in the US

- Over <u>116 million Americans</u> (or 47%) have high blood pressure
- High blood pressure was a primary or contributing cause of death for over <u>500,000</u>
 <u>Americans</u> in 2019
- High blood pressure costs the
 US healthcare system <u>\$131</u> <u>\$198 billion dollars</u> each year
- Over <u>12 million Americans</u> will have Atrial fibrillation (AFib) by 2030



Only 1 in 4 adults with hypertension have their condition under control



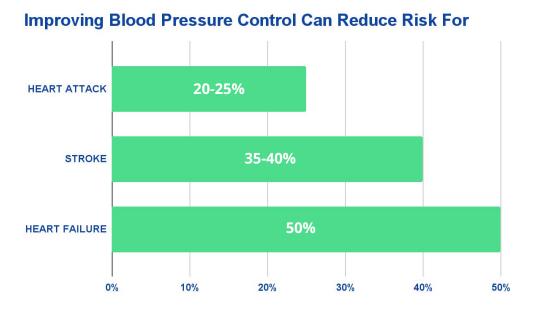
 AFib causes <u>1 in 7 strokes</u>, over 450,000 hospitalizations, and contributes to 158,000 deaths per year

- Over 6 million Americans have Congestive Heart Failure (CHF); over
 500,000 new CHF cases are diagnosed each year
- CHF is one of the most common causes of hospitalization for those 65 and older and contributed to nearly 400,000 deaths in 2018



Lowering Blood Pressure is Critical for Improved Cardiac Outcomes

Research from the <u>American Heart Association (AHA)</u> and other <u>clinical studies</u> have demonstrated that RPM can significantly <u>reduce blood pressure</u>, a major risk failure for many cardiac conditions.



With so many Americans suffering from cardiac chronic conditions, most clinicians are already directly or indirectly managing patients with or at risk for cardiovascular disease. This guide can help you understand how RPM could benefit your cardiac patients.



PART 1: HYPERTENSION



Why Use RPM to Manage Hypertension?

The <u>American Heart Association</u> has long recommended that <u>everyone with high</u> <u>blood pressure</u> monitor their blood pressure at home, maintain a blood pressure journal, and <u>share the data</u> with their physician. This can alert your team to potential issues between patient visits and help evaluate the impact of your prescribed treatments.

These recommendations, while effective, place the burden of care on your patients. It's no surprise that adherence to keeping a blood pressure journal and sharing the data between routine appointments is low.

RPM can quickly and easily automate this AHA recommendation making it far easier for your patients to be compliant. RPM provides more data and insights so your clinicians can intervene and provide timely coaching when it is most impactful.





Benefits of RPM for Hypertension

By analyzing and detecting trends in blood pressure, your clinicians can make the right recommendations on treatment plans and medication before an adverse event happens. Clinical benefits could include:

- Reduced blood pressure
- Reduced medications with improved blood pressure control
- Reduced risk of AFib, stroke, and heart failure
- Reduced emergency room visits and hospitalizations
- Healthier lifestyle choices for patients through frequent, pro-active health coaching
- More engaged patients with their care plans
- More appropriate and tailored medications regimes for each patient

Results from hypertensive patients using Optimize Health's managed RPM service:

- 5-point decrease in systolic BP within three months
- 7-point decrease within six months



Clinical Research Supports RPM

Clinical research demonstrates a powerful and promising role for RPM in managing hypertension. These studies support that the best results are achieved not just from patients taking readings at home, but the combination of at-home readings with timely, remote interventions based on the additional data. We created a <u>collection of relevant research</u> that healthcare organizations can use to educate clinicians and justify investing resources in RPM.

Highlights of the Research Include:

- After RPM, <u>systolic blood pressures decreased an average 16.9</u> mmHg and diastolic blood pressures fell an average 6.5 mmHg.
- After 5 years, <u>5.3% of the remote care group had heart attacks</u>, strokes, stent placements, or heart failure hospitalizations compared to 10.4% for the routine care group.
- <u>337 patients</u> saw an average decrease of 4.7 mmHg in systolic blood pressure [in 6 months].
- Home BP monitoring led to more <u>frequent antihypertensive medication</u> <u>reductions</u>.
- <u>51% of RPM group</u> met blood pressure targets compared to 31% of control group.



How to Use RPM to Monitor Hypertensive Patients

Remote patient monitoring (RPM) can help your patients take control of their high blood pressure. We recommend taking the following steps to monitor your hypertensive patients.

- 1) <u>Talk to your patients</u> about how RPM will be beneficial to their health and collect consent
- 2) Establish RPM treatment plans, goals, and escalation policies with your team
- 3) Choose the <u>right devices</u> for your patient population
- 4) Onboard hypertensive patients to your RPM program
- 5) Monitor and triage patients daily
- **6)** Provide ongoing coaching and patient education





1. Talk to your patients about RPM

Remote patient monitoring requires patient consent and a physician order. To obtain consent, we recommend framing the benefits of RPM from a patient perspective. Explain the benefits of RPM in terms your patient can understand.

For example:



Your high blood pressure puts you at risk for atrial fibrillation, heart disease, and stroke. With daily blood pressure readings, we can make timely adjustments to your medications and help you make healthy lifestyle choices that can keep you out of the hospital.



You may have unusually high blood pressure in the office because you are nervous. Remote monitoring allows us to see what your blood pressure really is on a regular basis so we can prescribe the right medication and treatment plan for you.



We know keeping a blood pressure journal is cumbersome. With RPM, you can stop writing down your readings and trying to make sense of what to do if you have a high or low reading. A trained care team member will review your data every day to help you make the right decisions.



If you worry about your high blood pressure (or your family does), you can rest easy knowing that someone from the office is checking you on every day.



High blood pressure can lead to more complicated and costly cardiac conditions. Remote monitoring can help prevent more adverse, expensive outcomes.



2. Establish treatment plans, goals, and escalation policies

Your practice can choose to create a general treatment plan that covers all hypertensive patients or when necessary, treatment plans per patient.

Treatment plans and goals

A treatment plan helps ensure your care team members, patients, and caregivers are all working towards the same goals for the duration of the RPM program. A good treatment plan should include:

- RPM order instructions
- Goals and expected outcomes
- Projected duration



Treatment goals for hypertension could include:

- A specific target for blood pressure readings
- Medication reduction
- Medication adherence
- Improved diet, exercise, or weight loss
- Decreased ER and hospital visits

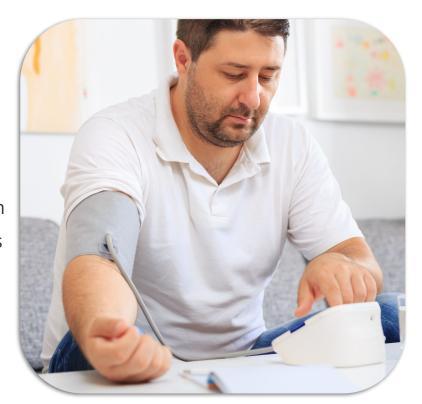


Escalation policies

Establishing escalation policies is critical to driving quality care and ensuring your clinicians are on the same page. Your monitoring staff should know exactly what the criteria are to escalate a reading to another provider. Escalation policies should include:

- Specific target ranges that trigger an escalation
- A clear workflow of what your care team member should do
- Who to contact

RPM is designed to be a preventative care program, not an emergency response system. Your staff and patients should understand that that RPM is not being monitored 24/7. Escalation policies should include protocols on when to call 911.





3. Choose the right devices

Ease of use is critical in selecting devices that match the needs of your patient population. Many of your hypertensive patients may already be using blood pressure devices at home. An <u>RPM-enabled</u>, <u>cellular blood pressure cuff</u> will be very familiar to these patients.

With these devices, your patients simply push one button to take a reading and the data is automatically transmitted to your RPM software.

Cellular devices can transmit data from virtually anywhere with cell service. Unlike Bluetooth devices, there is no set-up, no downloads, no mobile apps, and no syncing. Cellular devices are ready to go right out of the box.



Since they are so easy to use, cellular devices have higher rates of patient adherence in taking the prescribed number of readings. And, cellular devices do not require the patient to have any additional technology, such as smartphones or high speed internet, which can be cost prohibitive for some patients.



4. Onboard hypertensive patients

Effective onboarding sets the foundation for ongoing patient adherence and engagement, which drives both the clinical and financial benefits of RPM.

Onboarding is such a critical, yet often difficult process that we have dedicated an entire resource guide on how to identify and onboard patients.

We recommend reviewing the full guide, but below is a summary or what an onboarding appointment should include.



Discuss the importance of daily readings for improving blood pressure control and preventing more severe outcomes.



Show your patients how to use the blood pressure cuff and coach them through their first reading (watch for feet on the floor, legs not crossed etc.) Ensure your patients feel confident using the device on their own.



Discuss daily timing for blood pressure medication, if applicable, and how that impacts when your patients should take readings.



Review how the data will be used and the benefits of being able to trend data with regular readings.



Set expectations for a live check in or "wellness" phone or video chat at least once per month to meet RPM CPT® Code requirements.



5. Monitor and triage patients daily

To keep the momentum for RPM going, it is critical to start engaging with each patient immediately after onboarding. Dedicating sufficient staff to conduct the daily monitoring and patient communication is essential. If RPM becomes everyone's job, it can quickly become no one's job.

How much staff do you actually need? In our experience, one full-time dedicated clinician can monitor 150 – 250 patients, depending on the nature and complexity of your patients' needs. If your staff doesn't have the time, you may want to consider a managed RPM service, where your RPM partner's clinical team serves as an extension of your own team.

Your RPM software should make monitoring intuitive for your staff with real-time alerts and functionality that makes it easy to filter and triage patients.

We recommend the triaging patients as follows:

- Crisis readings (severe and/or sudden in onset): Contact the patient, assess
 if symptomatic, and follow the escalation protocol if needed.
- 2. Outside normal limits readings (per the treatment plan): Contact the patient, assess if symptomatic, and follow the escalation protocol if needed.
- **3. Normal readings:** Review current and previous readings and provide positive reinforcement for taking readings.
- **4. Patients not taking readings:** Provide ongoing encouragement and continue to reach out to patients about taking readings.

Your RPM software should automatically clock care team time. Your care team members should also be documenting notes in the software to ensure continuity of care.



6. Provide ongoing patient education

RPM provides a unique opportunity to educate and coach your patients when it matters most – immediately after an out-of-range reading. We strongly recommend having a standard set of patient education materials, including questions to ask when a patient has an elevated (or abnormally low) reading.

These questions will help your care team members assess the situation. They can also highlight where patients may have deviated from their treatment plan in a non-threatening way. This can provide real-time awareness and coaching so your patients can make healthier choices next time.



One of the RPM CPT® Codes requires a live, interactive call with each of your RPM patients every month. If you did not speak with a patient about an elevated reading, we recommend having a "wellness" call each month to check-in and provide ongoing hypertension education.

There are many free, educational resources about high blood pressure that you can use during your wellness calls. We've included a number of links to resources published by the <u>American Heart Association (AHA)</u> in the <u>Appendix</u> on page 32 of this guide.

When implemented correctly, RPM can dramatically improve outcomes for your hypertensive patients. Improving blood pressure control also has the potential to impact your patients with cardiac conditions beyond hypertension, including atrial fibrillation and heart failure.



Sample Hypertension Assessment and Education Questions

- Is there anything unusual in your daily routine today that could explain your elevated blood pressure?
- Did you take your blood pressure reading <u>before taking your blood</u> <u>pressure medication</u> or any other medication?
- Did you take your blood pressure after activity?
- Are you feeling any <u>stress</u>, anxiety, or pain?
- Have you eaten more <u>salty foods</u> than usual (including adding salt to your food, restaurant food, frozen food, and canned food)?
- How much <u>alcohol have you consumed</u>?
- Have you been <u>smoking</u>? More than usual?
- Have you used an anti-inflammatory drug, such as ibuprofen? How much?
- Are you on any new medications, including prescription, over the counter or illicit drugs (decongestants, steroids, stimulants)?
- Have you gained weight (if not using an RPM scale)?
- How much <u>physical exercise</u> have you had? Any changes to your regular exercise program?



PART 2: HEART FAILURE

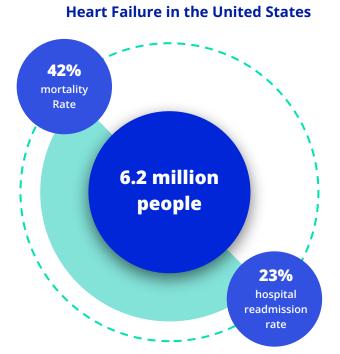


Why Use RPM for Heart Failure?

Heart failure (HF) affects approximately 6.2 million people in the United States and has a 5-year mortality rate of approximately 42%. The 30-day heart failure hospital readmission rate is 23%.

In many cases, these readmissions could have been avoided if blood pressure and other early indicators were proactively managed.

RPM enables clinicians to intervene as soon as there is a high blood pressure



reading. They can adjust treatment and/or medication at home before a hospital admission is needed. In addition, connected weight scales can be used to detect spikes in weight from fluid retention, an early sign of heart failure exacerbations.

Research indicates that remote monitoring is effective in reducing both rehospitalization and mortality for heart failure patients. Structured telephone support can improve patient engagement, quality of life, self-care behaviors, and overall patient satisfaction.



Clinical Benefits of RPM for Heart Failure

While many of the benefits of RPM for hypertension apply, explaining the value of RPM for your heart failure patients could also include:

- When your heart failure flares up, you may experience symptoms like difficulty breathing and swelling. Managing these symptoms with RPM can improve your daily quality of life.
- Sudden worsening of heart failure symptoms, if not detected early, can land you in the emergency room or hospital. Fortunately, we can often catch the signs early simply by monitoring your weight every day to check for fluid retention.
- If we catch a heart failure exacerbation early, we may be able to treat it at home with medication and avoid the expense, pain, and inconvenience of an ER visit or hospitalization.

Treatment Goals

Treatment goals for your heart failure patients can include:

- Decreasing blood pressure
- Managing heart failure symptoms
- Reducing ER visits and hospitalizations
- Improved quality of life and patient satisfaction



Clinical Research Supports RPM for Heart Failure

In the research studies, clinicians reported they could manage heart failure patients more effectively with access to more regular physiological data. This enables better decision-making for treatment and medication titration at an earlier stage of decompensation.

Highlights of the Research Include:

- The 30-day hospital readmission rate at Mt. Sinai Hospital was 10% for heart failure patients enrolled in RPM, compared to 23% for non-RPM patients.
- Home telemonitoring <u>reduced mortality</u> (risk ratio = 0.64; 95% CI: 0.48-0.85)
 compared with usual care.
- In one study, <u>70% of telemonitoring patients</u> completed at least 80% of their possible daily readings. Findings showed telemonitoring improved self-care, quality of life, and clinical management.
- Home telemonitoring interventions reduced the <u>relative risk of all-cause</u> <u>mortality</u> (0.60 to 0.85) and heart failure-related hospitalizations (0.64 to 0.86) compared with usual care.
- Structured telephone support and telemonitoring interventions <u>reduced</u> <u>heart failure-related hospitalizations</u> in older patients (RR 0.81; 95% CI=0.67-0.99).



How to use RPM to Monitor Heart Failure

The monitoring process would be similar to using the blood pressure cuff to monitor hypertension, but could also include an RPM-connected scale to monitor fluid retention.

A sudden change in daily weight can be an Indicator for fluid retention, a potential early sign of a heart failure exacerbation. Patients can gain weight from fluid before feeling any other symptoms. RPM can allow your team to intervene before hospitalization is needed and provide real-time coaching on sodium and fluid intake.





Sample Heart Failure Assessment and Education Questions

Patient education for heart failure primarily involves coaching on salt and water intake. Assessment questions could include:

- Have you eaten more <u>salty foods</u> than usual (including adding salt to your food, restaurant food, frozen food, and canned food)?
- Have you drunk more water or other fluids than usual?
- How much <u>alcohol have you consumed?</u>
- How much caffeine have you consumed?
- Do you have any swelling in the feet, ankles or lower legs?
- Do you have any swelling or pain in your abdomen?
- Have you been taking medications as prescribed?

We've included a number of helpful AHA educational resources on heart failure in the <u>Appendix on page 33</u> of this guide.





PART 3: OTHER CARDIAC CONDITIONS



Why Use RPM for Other Cardiac Conditions?

In addition to monitoring hypertension and heart failure, blood pressure devices also provide pulse rate data. Irregularities in pulse rate can be a sign of numerous health issues, including arrhythmias, beta-blocker overdose, or even anxiety.

Early detection and assessment of pulse rate irregularities can help determine if changes in medication or additional testing, such as an EKG is necessary. It can also lead to earlier implementation of a pacemaker and other treatments.

Monitoring pulse rate, in conjunction with blood pressure, can prevent or provide early detection of Atrial Fibrillation (AFib or AF), Ventricular Fibrillation (VFib), heart failure, and strokes.





Clinical Benefits of RPM for Heart Rate Irregularities

While many of the RPM benefits for hypertension and heart failure would apply, explaining the value of RPM for your arrhythmia patients could also include:

- With AFib, you have a five-times greater risk of stroke and increased risk for heart attack. Managing your blood pressure and heart rate can reduce these risks.
- Making heart healthy lifestyle choices and taking your medication can also reduce the risk of stroke.
- Catching pulse rate irregularities early can help us determine if you need additional testing, such as an EKG, which can diagnose arrhythmias early. Early detection can lead to more proactive treatments, such as pacemaker implantation.



Treatment Goals

Treatment goals for your arrhythmia patients can include:

- Decreasing blood pressure
- Reducing strokes and heart attacks
- Reducing ER visits and hospitalizations



Clinical Research Supports RPM for Arrhythmias

Several key studies show that hypertension <u>is a risk factor for AFib</u> and longitudinal analysis of blood pressure vs. a single reading can help identify risk for AFib.

Highlights of the Research Include:

- Hypertension <u>increases the risk of cardiovascular events</u> in patients with AF. Blood pressure control as well as rate control are key to the managing AF.
- <u>Longitudinal BP assessment</u>, rather than a single BP reading, may be more helpful in identifying older adults who are at higher risk of atrial arrhythmias.
- An automated device for home blood pressure (using oscillometric blood pressure measurement) has an <u>excellent diagnostic accuracy</u> for detecting AFib.

There is also <u>significant clinical research</u> that demonstrates the effectiveness of RPM in lowering blood pressure. These studies support the combination of at-home readings with timely remote interventions lead to the best outcomes.

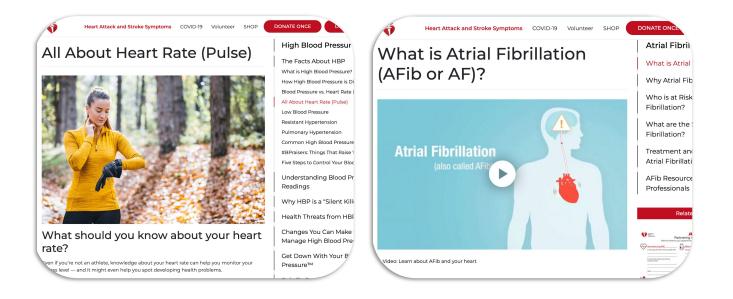


How to use RPM to Monitor Heart Rate Irregularities

RPM enables your clinicians to analyze blood pressure and pulse rate trends over time, not just a single data point. RPM also provides timely patient education and coaching that is essential for making heart healthy lifestyle choices. Regular communication with care team members can also help with medication adherence which is critical for managing blood pressure.

Many cardiac conditions are risk factors for other cardiac conditions. AFib <u>can</u> <u>lead to heart failure</u> and heart failure increases risk for AFib. Many patients have both AFib and heart failure, as well as high blood pressure. Managing and/or lowering blood pressure through RPM has the potential to improve outcomes of all cardiac conditions.

We've included free patient education resources from the AHA on arrhythmia and heart rate in the <u>Appendix on page 33</u> of this guide.





Conclusion:

Providing Effective, Preventative Care for Patients with Chronic Cardiac Condition

Chronic cardiac conditions are extremely common, impacting almost <u>half of all</u>
Americans.

- 1 in 4 deaths in the US is caused by heart disease
- Heart disease costs the US
 healthcare system over \$360 billion
 per year

Attempts at preventative care are often ineffective and the majority of Americans with high blood pressure do not have their condition under control.



Remote patient monitoring has the potential to fundamentally change how we manage chronic cardiac patients. With daily insights on a patient's vital signs, we can dramatically improve outcomes while substantially lowering costs. Clinical research as well as hundreds of Optimize clients have already demonstrated that these results are real.



The Path to RPM Success

Improving cardiac patient outcomes with RPM does not happen on its own. A successful RPM program requires your practice to commit significant resources to drive effective onboarding and monitoring.

Fortunately, the right RPM vendor can provide services that make it much easier to launch, manage, and grow your cardiac RPM program. That may mean comprehensive training and support for patient onboarding and monitoring or using managed RPM services if your practice doesn't have enough staff time.

To help you launch or evaluate your current program, we have developed resource guides to share our extensive knowledge on these key topics, including:

- RPM Onboarding Best Practices Guide: How to Grow Your RPM
 Program with Effective Patient Onboarding
- Remote Monitoring Best Practices Guide: How to Effectively Monitor
 RPM Patients in 4 Steps

If you want to improve outcomes for your chronic cardiac patients, please visit optimize.health or schedule a free consultation with one of our RPM experts.



Appendix: Patient Education Materials



Hypertension Patient Resources from the American Heart Association (AHA)

- Monitoring Your Blood Pressure at Home
- Partnering With Your Doctor to Treat High Blood Pressure
- Understanding Blood Pressure Readings
- What You Should Know About High Blood Pressure and Medications
- Managing Blood Pressure with a Heart-Healthy Diet
- Health Threats From High Blood Pressure
- Shaking the Salt Habit to Lower High Blood Pressure
- How Potassium Can Help Control High Blood Pressure
- Getting Active to Control High Blood Pressure
- Managing Weight to Control High Blood Pressure
- <u>Limiting Alcohol to Manage High Blood Pressure</u>
- Smoking, High Blood Pressure and Your Health
- Managing Stress to Control High Blood Pressure



Heart Failure Education Resources from the AHA and Keeping it Pumping

- Warning Signs of Heart Failure
- Managing Heart Failure Symptoms
- Heart Failure Symptom Checker
- Heart Failure Diet Tips
- Signs of Heart Failure
- What is Heart Failure?
- Staying Active with Heart Failure

Arrhythmia and Heart Rate Education Resources from the AHA

- All About Heart Rate (Pulse)
- What is an Arrhythmia?
- Atrial Fibrillation
- Ventricular Fibrillation
- Prevention and Treatment of Arrhythmias
- Heart Conduction Disorders
- Risk Factors for Heart Disease and Stroke