WHITE PAPER

How Nephrology Practices Can Align Clinical Outcomes With Operational Gains Using CCM & RPM

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1. Introduction

This guide empowers nephrology practices to improve patient outcomes and achieve the quality benchmarks necessary for success in value-based programs through Chronic Care Management (CCM) and Remote Patient Monitoring (RPM). It provides:

- **Criteria and workflow** for enrolling eligible CKD patients
- **Operational steps** for care delivery and billing CPT codes (e.g. 99490 for CCM, 99454/99457 for RPM)
- **Best practices** to enhance patient care quality, stickiness and revenue sustainability

2. Why Nephrology Practices Are Uniquely Positioned to Benefit from CCM & RPM

CKD patients nearly always present with multiple chronic conditions-making them ideal candidates for CCM services under CMS criteria.

RPM adds real-time monitoring of key nephrology metrics like BP, weight, and heart rate, helping avoid hospitalizations. Studies show RPM reduces admissions by ~0.36 per patient-year and cuts over 6 hospital days per year in peritoneal dialysis patients.

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3. Billing & Reimbursement Overview

CCM (CPT 99490 & 99439)

- **CPT 99490** covers the first 20 minutes of clinical staff time monthly
- **CPT 99439** captures additional time
- Medicare reimburses providers per eligible patient each calendar month for **CPT 99490** (basic CCM) and supplemental **CPT 99439** (additional minutes), with reimbursement rates varying by geography, facility status, and time logged.

RPM (CPT 99454, 99453, 99457, 99458)

- **CPT 99453** covers patient onboarding and education
- **CPT 99454** covers device setup and monitoring supplies
- **CPT 99457** covers ≥20 minutes of remote monitoring management time
- **CPT 99458** captures additional time
- For CKD practices, RPM provides both early intervention benefits and

4. Evidence & Trends: Impact on Revenue & Efficiency

- Based on recent CMS analysis, in 2023 Medicare billing for RPM grew ~29% YoY, exceeding 1.64 million claims; CCM billing grew ~23%, over 5.7 million CCM claims
- These services align with value-based care strategies, supporting both financial sustainability and quality outcomes

5. Implementation Roadmap

A. Eligibility & Enrollment

- Identify CKD patients with 2+ chronic conditions, expected ≥12 months of care
- Obtain CMS-required patient consent (document verbal or written consent before device deployment)
- Educate patients on program goals and expectations via standardized and customizable scripts

B. Care Coordination & RPM Delivery

- Develop an intervention care plan based on clinical best practices, providing comprehensive, whole patient care
- Schedule monthly CCM check-ins covering nutrition, medication adherence, medication reconciliation, closure of care gaps, risk assessments, depression screenings, etc.
- Deploy easy-to-use, 4G cellular-enabled devices such as scales, BP monitors, glucose monitors, and pulse oximeters directly to the patient

C. Billing & Compliance

- Document CCM care time and RPM management time distinctly
- Do not bill RPM and RTM in the same month per patient
- Use EHR templates to standardize documentation and time tracking

D. Outcomes Monitoring

- Track metrics: Patient vitals improvements, hospitalizations, readmissions, patient satisfaction, revenue trends
- Do not exceed 3 units of 99458 claims in a given month
- Use regular audits to refine workflows and identify gaps in compliance

6. Clinical Vignette: Illustrative Use-Case

Case Study (anonymized):

"Anne", is a late-stage CKD patient with hypertension and diabetes who lives in a LTCF. She is enrolled in CCM and RPM which has resulted in:

- ✔ **Consistent Blood Pressure Monitoring:** RPM provided reliable, real-time blood pressure data to her nephrologist—critical for managing CKD—despite inconsistent monitoring at the patient's facility.
- ✔ **Improved Care Coordination:** Timely RPM data enabled the nephrologist and other specialists to make informed, proactive treatment decisions.
- ✔ **Patient and Family Empowerment:** CCM supported ongoing education, helping the patient better understand her chronic conditions and empowering both her and her family to advocate for appropriate care.
- ✔ **Holistic Chronic Disease Management:** The care team reinforced the importance of managing all chronic conditions—not just CKD—by ensuring regular glucose monitoring and coordinating a timely restart of insulin therapy after a lapse, helping to prevent complications and support better overall outcomes.
- ✔ **Navigating Facility Challenges:** CCM served as a bridge for the family, offering guidance on addressing facility concerns and exploring better care environments.
- ✔ **Stronger Provider-Patient Connection:** Together, RPM and CCM helped deliver more personalized, patient-centered care that prioritized the patient's day-to-day needs and long-term kidney health.

7. Real-World Challenges & Best Practices

Challenge	Mitigation Strategy
Patient tech literacy issues	Offer simple devices + vendor or in-person onboarding support
Enrollment resistance	Use clear patient education scripts explaining privacy, benefits, workflows and lowered overall healthcare costs to patients resulting from reduced ER visits
Staff burden and workflow changes	Employ standardized care coordination roles; pilot small cohorts first
Compliance complexity	Ensure legal documentation, CMS-consent protocols, documentation for claims and compliance with HIPAA, BAA, etc.

8. Checklist for Nephrology CCM & RPM Programs

- ✔ Identify and consent eligible CKD patients
- ✔ Distribute RPM devices (BP cuffs, weight scales) and support onboarding
- ✔ Log CCM and RPM service time separately in EHR (99458, 99453)
- ✔ Submit appropriate CPT billing codes (99490, 99439, 99454, 99457)
- ✔ Monitor outcomes: hospitalizations, satisfaction, revenue streams
- ✔ Run process audits to refine workflows

9. Quick reference: RPM vs CCM

Category	Remote Patient Monitoring (RPM)	Chronic Care Management (CCM)
Primary Benefit	Real-time physiologic data helps detect issues early	Ongoing care coordination improves chronic condition management
Use Case	Acute or chronic conditions needing close monitoring	Patients with 2+ chronic conditions expected to last 12+ months
Devices Required	Yes – e.g., BP cuffs, glucometers, pulse oximeters	No – care is service-based, not device-based
Patient Interaction	Interactive communication monthly (e.g., phone call, portal)	Monthly outreach and care planning via phone or electronic means
Time Requirement	≥ 20 min/month of monitoring/ interaction (CPT 99457)	≥ 20 min/month of care coordination (CPT 99490)
Data Requirement	≥ 16 days of device data per 30-day period for 99454 billing	No data threshold, but must maintain a care plan and patient consent
Documentation Needed	Device setup and supply; Data review & communication time	Time logs; Care plan updates; Coordination notes
Reimbursable Codes	99453, 99454, 99457, 99458	99490, 99439, 99487, 99489
Billing Restrictions	Cannot bill with RTM in same month; 1 provider per patient per 30 days	Cannot overlap time with RPM; time must be distinct and trackable

10. Conclusion

By combining structured enrollment, clear patient education, careful workflow design, compliant billing, and outcome monitoring, practices can establish sustainable CCM and RPM programs. Tellihealth's accuRPM and signalCCM services support nephrology practices in delivering high-value kidney care while unlocking recurring Medicare reimbursements.

Want to Learn More? Explore our supporting resources:

Blog: Kidney Care Is Fragmented. Value-Based Models Can't Wait

Infographic: RPM & CCM Impact on Kidney Care

Ready to see how this works for your practice? Book a 1:1 Demo

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