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QI INITIATIVE

Sustaining a Remote Monitoring Program for Diabetes & Hypertension

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Background

Remote patient monitoring (RPM) has consistently demonstrated its value in managing chronic conditions such as diabetes and hypertension, particularly when integrated with a multidisciplinary team model that includes nurses and pharmacists providing medication management and early intervention. RPM for diabetes has been shown to significantly reduce HbA1c, as demonstrated by a meta-analysis.[1] Additional evidence indicates that digital health interventions incorporating RPM can significantly lower systolic blood pressure in populations experiencing health disparities.[2]

The University of Mississippi Medical Center's (UMMC) RPM program has shown similarly promising outcomes in managing hypertension, as demonstrated in our prior institutional work.[3] Despite these successes, the program's long-term sustainability remains uncertain, particularly because it operates without ongoing grant funding or research infrastructure. In response, our quality improvement (QI) team focused on two key goals: increasing internal referrals and improving program retention to bolster sustainability while maintaining strong clinical outcomes for patients with diabetes and hypertension.

Objectives

- Strengthen the sustainability and reach of our RPM program for patients with diabetes and hypertension by increasing referrals, enrollment, and retention.
- Track referral sources, enrollment patterns, and program completion through structured monthly reporting,
- Expand program access and improving chronic disease management, particularly for patients in rural communities.

Methods

This QI project was implemented within our pharmacist- and nurse-led RPM program for diabetes and hypertension, with the aim of increasing referrals, enrollment, and retention. Interventions were designed collaboratively, tracked through structured monthly reporting, and refined based on provider and patient feedback.

Referral strategies included targeted provider education and outreach, incorporation of provider feedback through a REDCap survey distributed to department chairs and frontline providers, and enhanced awareness of the RPM program during resident orientation sessions. To promote accountability, quarterly reports were shared with department chairs summarizing outcomes at the department level, including changes in blood pressure and HbA1c, referral volumes, and patient compliance.

Enrollment strategies included educating providers on payer coverage, maximizing contact attempts by using alternate numbers and varying call times, and providing patients with educational materials and after-visit summaries (AVS) that included program information and contact details.

Retention strategies focused on assessing patient readiness through chart reviews and structured onboarding conversations, setting clear expectations and goals during pharmacist and nurse onboarding calls, reinforcing adherence at follow-up, and mitigating technical concerns by providing patients with direct vendor support lines and maintaining close communication with the RPM vendor to ensure timely troubleshooting.

Ongoing work includes expanding patient-facing promotional materials within clinics and finalizing modifications to BPA criteria to further optimize referral capture.

Results

Following implementation of QI interventions, we observed measurable improvements in referral activity, enrollment, and patient engagement. In Q1, the program received 86 referrals, with 40 patients enrolled (47%). By Q2, referrals increased to 107, with 53 patients enrolled (50%). Patient compliance with scheduled reviews was high, with 243 of 286 reviews completed in Q1 (85%) and 258 of 293 completed in Q2 (88%).

Clinical outcomes demonstrated promising trends. Among patients contacted, the proportion achieving blood pressure control (<140/90 mm Hg) improved from 56% in Q1 to 72% in Q2. Among patients with diabetes, 45% (10/22) met the HbA1c goal of <9% in Q1, compared to 48% in Q2. Pharmacist-led medication adjustments and consistent nurse outreach contributed to these improvements, supported by quarterly reporting to department chairs that reinforced accountability and engagement.

At this time, results include only Q1 and Q2 data. Collection will continue through Q3 and Q4 to evaluate whether early improvements are sustained or further enhanced.

Thus far, these collective data suggest that the enhanced RPM workflow not only increased program uptake and sustainability but also supported meaningful early improvements in hypertension and diabetes management.

Conclusions

Targeted interventions within a pharmacist- and nurse-led RPM program effectively increased referrals, enrollment, and patient engagement for diabetes and hypertension management. Early clinical outcomes show improvements in blood pressure and HbA1c, suggesting that enhanced workflows, structured onboarding, and consistent follow-up support both program uptake and patient outcomes. Quarterly reporting to department chairs reinforced accountability and provider engagement, contributing to program sustainability without reliance on external funding.

While findings are specific to UMMC and limited to early data, ongoing tracking through Q3 and Q4 will help determine the durability of these results. This work highlights a team-based approach to chronic disease management that may improve access to care and outcomes, particularly in rural populations.
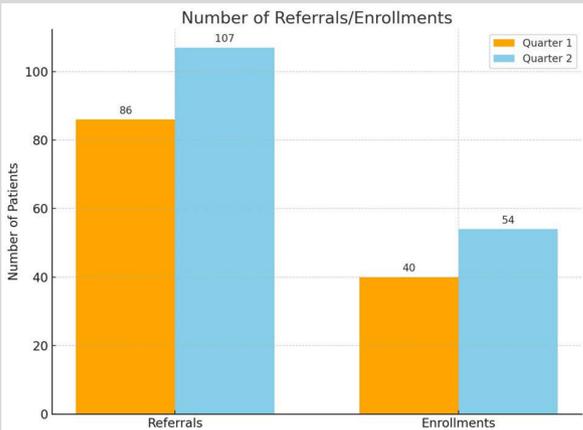
Figure 1: Number of Referrals/Enrollments

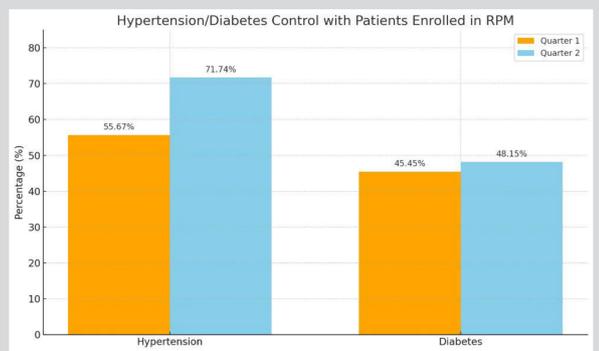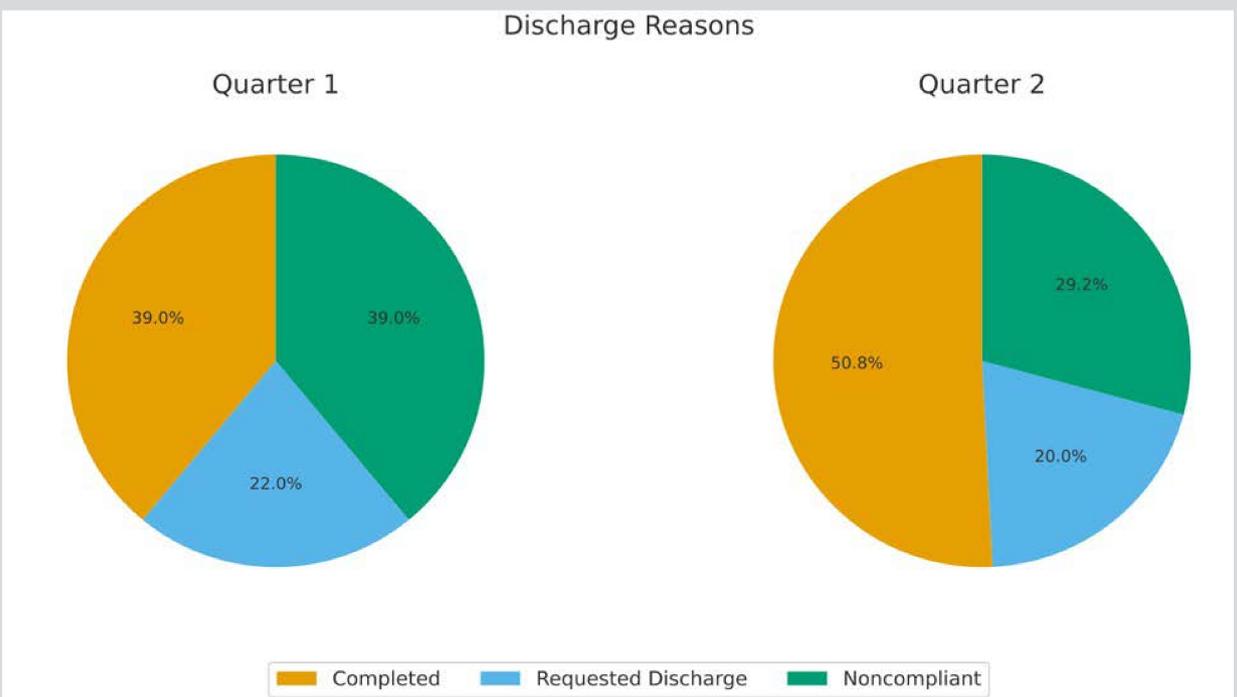Figure 2: Hypertension/Diabetes Control with Patients Enrolled in RPM

Figure 3: Discharge Reasons

References

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2. Katz, M. E., Mszar, R., Grimshaw, A. A., Gunderson, C. G., Onuma, O. K., Lu, Y., & Spatz, E. S. (2024). Digital health interventions for hypertension management in US populations experiencing health disparities: A systematic review and meta-analysis. JAMA Network Open, 7(2), e2356070. https://doi.org/10.1001/jamanetworkopen.2023.56070
3. Clark, D. III, Lee, S. Y., & Lyles, C. R. (2021). Home blood pressure telemonitoring with remote hypertension management: A cluster randomized clinical trial. Hypertension, 78(8), 1927–1936. https://doi.org/10.1161/HYPERTENSIONAHA.121.18153

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