



Title: Acceleration of Virtual Care through Remote Patient Monitoring and Interactive Care Plans

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Background: Mayo Clinic is the largest integrated, not-for-profit medical group practice that is sought to be the global leader in advancing healthcare. At the start of 2023, The Mayo Clinic Arizona (MCA) campus set out to leverage new technology by implementing Virtual Care plans that allow patients to continue to receive expert care from the comfort of their home. The Virtual Care plans include Remote Patient Monitoring (RPM) and Interactive Care Plan (ICP). Remote Patient Monitoring program uses remote monitoring technology to provide care to patients in their homes and decrease their risk of adverse health events. ICP functions as an app-based continuation of care that helps patients carry out their plan of care and maintain or improve health.

Objective: The aim of this project was to kick-off twelve (12) Virtual Care plans that provide real-time clinical insights and meaningful connections back to the care team to reduce hospital length of stay, reduce ED visits and admissions, and connect patients to alternative care delivery options.

Methods: The Center for Digital Health (CDH) consulted multiple stakeholders to conclude which specialty areas of MCA would most benefit from the creation of a Virtual Care plan. The targeted areas selected were Gastroenterology & Hepatology, Hematology & Oncology, Cardiology, Primary Care, Nephrology, Endocrinology, and Kidney Transplant. Based on the area’s needs, they were either assigned a Remote Patient Monitoring (RPM) plan or an Interactive Care (ICP) plan, the former being appropriate for high acuity patients. CDH leadership submitted an internal grant to support a catalyst team focused on accelerating the adoption of RPM and ICP plans in the selected specialties. The proposed catalyst team was comprised of a physician champion for each clinical product (RPM/ICP), float pool nursing resources dedicated to these practices, project manager, statistical support, evaluation and statistical support, and nursing and operations leadership.

The twelve plans were parsed out throughout the calendar year and specialty areas were introduced to and trained on utilizing the Virtual care plans. Patients applicable for enrollment were identified based on specialized inclusion and exclusion criteria in combination with care team recommendation. Once enrolled in a plan, patients were given a technology kit including Bluetooth enabled biometric vitals wearables and access to a Virtual Care plan portal. With patient specific alerting presets enabled for the devices, the care team was notified when a patient’s vitals were outside of a safe range. Once triaged by a virtual nursing team, the patient’s alert was escalated to their physician to access their condition.

Results: Of the enrolled patients, 42.4% were female and 57.5% were male; 46.1% were enrolled from inpatient setting and 53.9% were enrolled from outpatient settings.

RPM Plans implemented in 2023 at MCA

| | CAD RPM | CAR-T RPM | Cirrhosis RPM | COPD RPM | Respiratory Infection RPM/ COVID-19 | SHF RPM | Hypertension RPM | Neutropenic Fever RPM |
|--|---------|-----------|---------------|----------|-------------------------------------|---------|------------------|-----------------------|
| Enrollments | 34 | 28 | 4 | 13 | 59 | 91 | 355 | 5 |
| ED visits 3 months prior | 6 | 2 | 0 | 0 | 366 | 21 | 15 | ~ |
| Number of ED Visits in 30 days | 5 | 3 | 0 | 0 | 4 | 7 | 9 | ~ |
| Number of patients hospitalized 3 months prior - Unplanned | 0 | 1 | 0 | 1 | 42 | 10 | 1 | ~ |
| Number of patients hospitalized in 30 days - Unplanned | 5 | 7 | 0 | 0 | 8 | 10 | 9 | ~ |

ICP Plans implemented in 2023 at MCA

| | SHF ICP | IBD ICP | Type 2 Diabetes ICP | Hypertension ICP |
|-------------|---------|---------|---------------------|------------------|
| Enrollments | 29 | 41 | 42 | 0 |

Next Steps:

- Conduct in-depth research analysis of patient satisfaction, overall effect on ED visits, and value add to the practice.
- Share successes and best practices with other specialties and Mayo Clinic Campuses to increase Virtual Care plan usage.
- Continue building Virtual Care plans for specialty areas that have a large demand for at-home continued care.

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