Improving Access to Health Care for High-Risk Patients with Poor Weight Gain

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Background

Population

- Pediatric patients hospitalized for poor, or inadequate, weight gain
- 86% of cases are due to insufficient caloric intake secondary to socio-environmental factors
- If not properly treated, can lead to long term complications
- Require frequent weight checks and follow up after hospitalization

Remote Patient Monitoring (RPM)

- Form of telehealth in which caregivers submit diagnosis-specific qualitative and quantitative biometric data via a mobile app
- Centralized team of nurses assess data and mange plan of care in partnership with primary care teams
- On-demand HIPAA-compliant messaging, phone, or video call 365 days a year from 7am-7pm
- 24 populations within 12 different divisions
- Graduation criteria individualized for each patient
- Interpreters utilized for families who communicate in different languages

Purpose

1) **Support patients:** monitor weights and make formula recipe changes to support individualized needs
2) **Patient centered care:** education on goals and allows caregivers to see progress towards those goals
3) **Decrease readmissions:** triage and manage acute needs (feeding intolerance, weight loss, etc.) in real time and
4) **Decrease in-person weight checks**: digitally transmit weights and check in with healthcare team to avoid low-value, in-person visits
5) **Decrease Child Protective Services (CPS) involvement:** aid in daily care support, triage and manage patient concerns and barriers to follow up
6) **Increase well child visits (WCV):** increase connectivity to and communication with the medical home to facilitate and combat barriers to attending WCV

Methods (Figure 1)

Onboarding

RPM registered nurses (RNs) meet with caregivers while they are inpatient to provide education for RPM

- Demonstrate and validate scale instructions for app required for data reporting
- Download and provide instructions for app required for data reporting
- If caregivers are unable to read, write, or speak English, RPM RNs set with weekly phone call or video calls, including an interpreter as needed

Monitoring

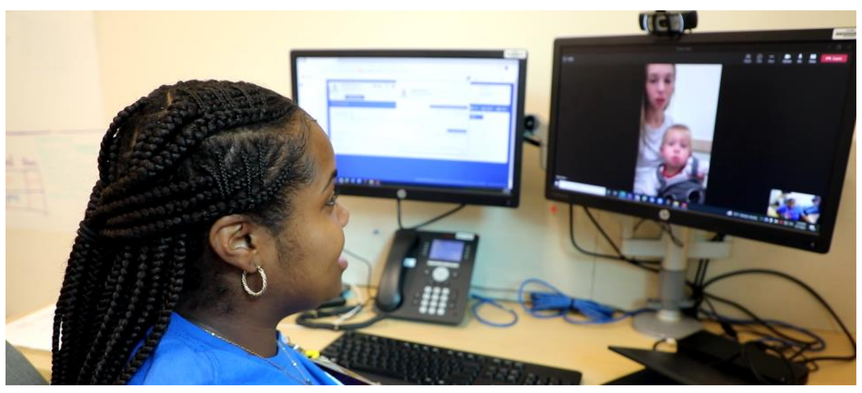
Caregivers obtain weights via the scale provided and complete qualitative questionnaires through the app once a week or more as needed. Question topics include:

- Recipe for mixing formula
- Vomiting, constipation or diarrhea
- Concerns for running out of formula
- General comments or concerns for the care team
- Barriers to attending medical appointments

Review

RPM RNs receive data and triage based on responses

- On demand video calls can be performed to triage feeding tube/pump issues, complete visual assessment of patient with an illness, and more
- On demand HIPAA-compliant messaging is available for concern reporting and additional triaging outside of scheduled check ins
- Weights are sent to the managing care teams for review and weight gain goal determined in conjunction with a registered dietician on the team.
- Each population has specific criteria for graduation determined by the care team



Findings

Programmatic Total Metrics Review

- 100 patients enrolled January 2021-June 2024
  - 45 successful completion
  - 11 transfer care (4 NICU, 2 GI, 1 complex care, 4 ineligible PCP)
  - 39 discharge (34 non-adherence and inability to contact)
- 336 RPM visits from November 2023-June 2024
- 29 video visits from January 2021-June 2024
  - Average time spent: 8 mins

Utilization Outcome Review

- Eligible patients enrolled January 2021-February 2023
- 37 infants in RPM group and 40 infants in pre-RPM group
- Overall outpatient PCP visits, readmission rates, and weight change were similar in both groups
- ***RPM group: 60% increase in recommended WCVs (from 50% to 83%)***
- ***RPM group: 40% decrease in CPS involvement (from 50% to 33%)***

Impact

- Expansion to additional RPM programs**:** Two additional divisions within CCHMC + community PCPs that allows for increased patient outreach with managing providers
- Inclusion of non-English speaking patients through interpreter phone calls and video calls
- Higher adherence to recommended WCV attendance with a decrease in CPS involvement
- Reduced barriers to care like transportation by asking weekly about concerns for in person medical appointments

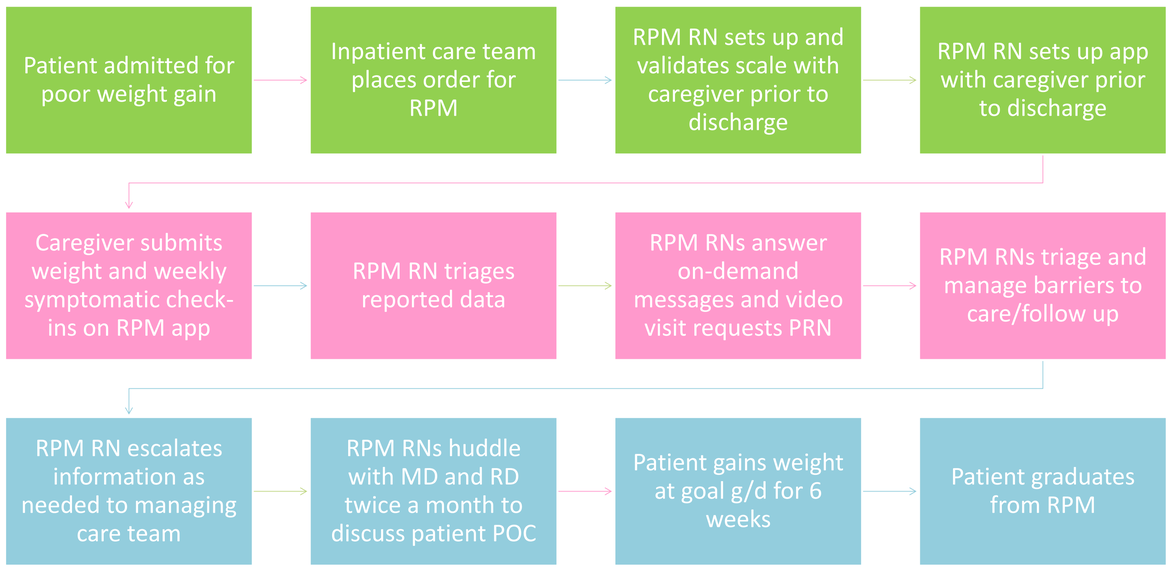


Figure 1. RPM for Poor Weight Gain Process Map

Conclusion

RPM offers:

- Solutions to support safety plans at discharge
- Increased support to keep families together
- Improved outcomes for children diagnosed with PWG
- Improved communication between caregiver and care teams
- Encouragement and support for increased caregiver involvement in care

Improvement Opportunities:

- Health literacy: Completing video or phone calls with caregivers to aid in completing check ins
- Expanding support for Non-English speakers: Collaborating with app to develop a Spanish version, enabling caregivers to message their concerns in real time
- Patient/Caregiver Engagement: Improving engagement rates to avoid discharges from the program prior to reaching weight gain goals.

References

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