

Remote Patient Monitoring in Diabetes Learning Exchange

Meeting Report

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Table of Contents

Executive Summary 1

Background. 2

RPM in Diabetes Workflow Model. 3

Process and Information Gathering 5

- Participant Projects. 6

Key Themes and Insights. 7

- Data Infrastructure and Technology 7
- RPM Programs Vary in Design and Maturity 7
- Data Must Lead to Action 8
- Workflow Design Matters 8
- Workforce Capacity Is Critical 8
- Patient Engagement Drives Success 9

Common Challenges 10

Emerging Priorities 11

Learning Exchange Outcomes. 14

Executive Summary

In the spring of 2026, The Leona M. and Harry B. Helmsley Charitable Trust brought together clinicians, researchers, health system leaders, diabetes educators, implementation specialists, and program administrators to examine the current state of remote patient monitoring in diabetes care. This Remote Patient Monitoring (RPM) Learning Exchange provided a forum for organizations to share implementation experiences, compare RPM models, discuss common barriers, and identify opportunities to improve effectiveness, scalability, and sustainability.

Participants represented organizations at different stages of RPM maturity, ranging from pilot programs to well-established monitoring initiatives. Although the programs varied considerably in design, participants shared a common belief that RPM has significant potential to improve diabetes outcomes, strengthen patient engagement, and support more proactive care. The discussions highlighted key constraints related to technology integration, staffing, reimbursement, interoperability, and long-term sustainability.

A recurring theme throughout the meeting was that RPM should be viewed not simply as a technology solution but as a comprehensive model of care requiring coordinated attention to patient engagement, data management, clinical workflows, workforce capacity, reimbursement, and organizational support. Participants identified opportunities to improve implementation by standardizing workflows, creating sustainable automated processes, enhancing interoperability, generating evidence, facilitating greater data integration into the electronic health record (EHR) data, supporting inclusion of RPM in standards of care, and continuing collaboration across organizations.

Background

The *RPM in Diabetes Learning Exchange* brought together researchers and key opinion leaders in a peer-learning collaborative to accelerate the adoption of effective, sustainable remote monitoring programs for people living with diabetes. Participating organizations included pediatric and adult diabetes centers, health systems, technology partners, and implementation experts who are actively developing, evaluating, or scaling RPM initiatives. Many of the participants were Helmsley grantees or partners. The collaborative provided a structured environment for sharing operational models, workflows, staffing approaches, outcomes data, and lessons learned.

The Learning Exchange was grounded in the recognition that connected technologies such as continuous glucose monitors (CGMs), insulin pumps, and digital health platforms increasingly support diabetes management. While these technologies created opportunities for more proactive care, their successful implementation required substantial organizational infrastructure and coordination. The Learning Exchange sought to identify best practices while addressing common barriers to adoption and sustainability.

RPM in Diabetes Workflow Model

The RPM in Diabetes Model was developed using information that participants shared before the meeting about how they integrate remote patient monitoring into patient-centered diabetes care. Facilitators used the Model as a tool to represent the factors at play in implementing RPM and pressure test it with participants to help identify gaps, assumptions, and areas that need refinement. It comprises six interconnected domains that work together to translate patient-generated data into meaningful clinical actions and improved health outcomes. (**Figure 1**)

Patient engagement and participation are essential to success. Patients generate health information through connected devices, including continuous glucose monitoring (CGM) systems, insulin pumps/automated insulin delivery (AID) systems, and blood glucose monitoring systems. Technology and Access provide the infrastructure necessary to collect and transmit this information through digital platforms and connected devices. Data are then captured, aggregated, validated, and organized into actionable formats. Clinical Operations transform information into care through workflows that support patient prioritization, outreach, education, treatment adjustments, and care coordination. Payment and Reimbursement provide the financial resources necessary to support staffing and infrastructure. Policy, Evidence, and Sustainability ensure that programs demonstrate value and can be maintained over time. Participants viewed this framework as a tool for mapping key dependencies and identifying barriers to implementing a sustainable clinical RPM model that improves patient outcomes.

Figure 1

RPM in Diabetes Model Workflow

Workflow Elements and Dependencies

Patient

Person living with diabetes

Depends on:

- Health literacy and self-management capacity
- Motivation and engagement
- Trust in technology and care team
- Social and economic support

Technology and Access

Access to and use of connected diabetes technology

Depends on:

- Insurance coverage and affordability
- Availability of devices and supplies
- Usability and digital literacy
- Broadband / cellular connectivity
- Device interoperability

Data

Data generated and transmitted to health care provider / clinic / health care organization

Depends on:

- Reliable data capture from devices
- Secure data transmission
- Platform to receive and aggregate data (e.g., manufacturer portal, Tidepool, EHR)
- Data accuracy and completeness

Clinical Operations

Care team reviews data and determines next steps

Depends on:

- Defined workflows and protocols
- Staffing capacity and roles
- Frequency and intensity of data review
- Escalation criteria
- Tools and EHR integration
- Communication workflows (reach out, education, dosing adjustments, follow-up)

Payment and Reimbursement

Ability to bill and receive payment for RPM services

Depends on:

- Availability of RPM and related CPT/HCPCS codes
- Payer policies and differences (commercial, Medicare, Medicaid)
- Documentation requirements
- Whether payment covers full cost of staffing and operations

Policy, Evidence and Sustainability

Creates conditions for long-term sustainability

Depends on:

- Sustainable payment models and alignment
- Policy and regulatory environment
- Evidence of clinical value, cost impact, and equity
- Operational innovation and continuous and scale
- Partnerships across stakeholders

Key Considerations

Where are the primary bottle necks?

- ❑ Technical
- ❑ Operational
- ❑ Financial
- ❑ Policy
- ❑ Other

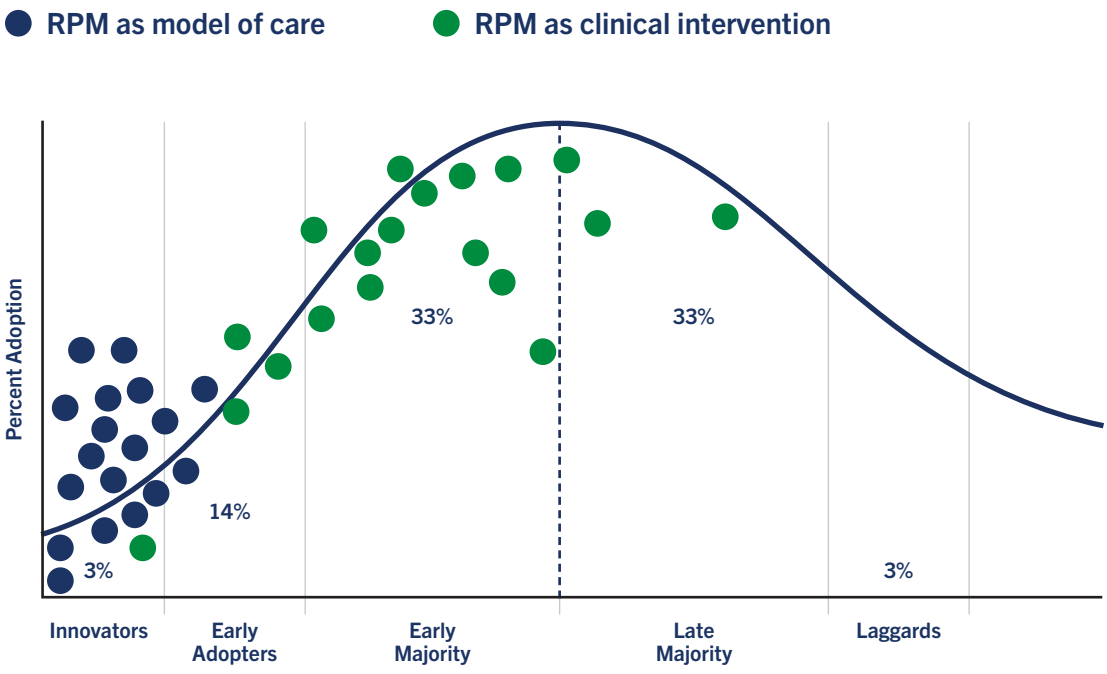
Process and Information Gathering

The meeting utilized several approaches to facilitate discussion and information sharing. Participants completed project summaries in advance, presented their RPM programs, and engaged in facilitated discussions focused on implementation experiences, outcomes, and operational challenges.

One opening activity was an Adoption Mapping exercise. Participants assessed RPM adoption along two dimensions: RPM as a clinical intervention and RPM as a sustainable model of care. (**Figure 2**) The exercise revealed a consistent perception that RPM is more mature as a clinical intervention than as an operational model.

Figure 2

RPM in Diabetes – Adoption Mapping



Participants placed a green dot where they believed remote patient monitoring is today in its adoption as a clinical intervention in type 1 diabetes. Participants place a blue dot where they believed remote patient monitoring is in its adoption as a sustainable, system-level model of care.

Participants generally agreed that RPM can improve diabetes outcomes and support proactive care; however, they expressed less confidence in healthcare systems' ability to operationalize and sustain RPM programs within existing reimbursement and staffing structures. This distinction became a recurring theme throughout the meeting. While participants recognized the clinical value of RPM, they repeatedly identified operational and financial barriers that limit broader implementation.

Participant Projects

Nine RPM programs were represented during the Learning Exchange. Together, these projects demonstrated the diversity of RPM approaches currently being implemented across pediatric and adult diabetes populations. These include programs from:

- **Cecelia Health:** Cecelia Health operates a remote monitoring model serving adults and adolescents with diabetes and other chronic diseases. The program combines scheduled review of patient-generated health data with proactive outreach and coaching.
- **Children's Hospital Los Angeles (CHLA):** CHLA focuses on newly diagnosed T1D patients and those beginning insulin pump therapy. Intensive support during the early stages of diabetes management helps patients develop self-management skills.
- **Children's Mercy Hospital:** Children's Mercy serves high-risk and newly diagnosed patients through a combination of automated and manual data collection processes, highlighting both the value and burden of current RPM infrastructure.
- **Cincinnati Children's Hospital:** The program focuses on patients recovering from diabetic ketoacidosis (DKA) or experiencing poor glycemic control. Continuous monitoring supports early intervention and improved transitions of care.
- **Stanford University:** Stanford University's model supports newly diagnosed pediatric patients through routine review of CGM data to strengthen continuity of care and enable early clinical intervention.
- **T1D Exchange:** The IMPROVAID initiative brings together multiple diabetes centers to identify RPM best practices, compare implementation models, and generate evidence for broader adoption.
- **Texas Children's Hospital:** Texas Children's uses automated data synchronization to monitor youth with T1D who are at elevated risk for DKA and poor outcomes.
- **Tidepool:** Tidepool demonstrates how cloud-based data infrastructure can support ongoing diabetes management through timely access to patient data.
- **University of California, Davis:** UC Davis uses integrated cloud-based systems to identify pediatric patients with elevated HbA1c and target outreach efforts toward those most likely to benefit.

Key Themes and Insights

Data Infrastructure and Technology

The Learning Exchange revealed substantial similarities in how organizations collect and manage diabetes data. Most programs rely heavily on CGM data, supplemented by information from insulin pumps, blood glucose meters, and other connected devices. Commonly used platforms included Dexcom Clarity, LibreView, Glooko, Tidepool, and institution-specific dashboards.

Participants described an increasing use of cloud-based systems and population health tools that enable clinicians to identify patients who require intervention without reviewing every patient individually. These tools support scalability and improve efficiency by directing attention toward patients most likely to benefit from outreach.

> *"We're now able to link [patients'] Dexcom into Tidepool and use the Tidepool Plus population health dashboard…to really monitor who's meeting concerning criteria—generally looking at data once a week and identifying people with really low time in range, drops in time in range, or gaps in data."*

However, interoperability remains a major challenge. Participants reported difficulties integrating data across multiple platforms, maintaining user access, managing connectivity issues, and reconciling information with electronic health records. Fragmented technology ecosystems continue to create administrative burden and reduce operational efficiency.

RPM Programs Vary in Design and Maturity

Organizations reported a wide range of RPM approaches, varying by patient population, staffing models, technology infrastructure, and monitoring intensity. Despite these differences, participants shared a common commitment to proactive, data-informed diabetes care.

Data Must Lead to Action

Participants repeatedly emphasized that data collection alone does not improve outcomes. Successful programs have established processes for reviewing information, identifying patients requiring intervention, and initiating timely clinical action. RPM creates value when information is translated into meaningful care decisions.

> *"Now we're aware of something that we would not have known about until one month, two months, three months later, when it would have been harder to fix."*

Workflow Design Matters

Organizations with mature RPM programs reported investing significant effort in workflow design. Participants viewed clearly defined review schedules, escalation pathways, communication protocols, and staff responsibilities as essential to success. Poorly designed workflows often result in inefficiencies and limit scalability.

> *"You want a diabetes coordinator or patient navigator to do the triage, because they can see which patient needs help and then escalate it to the diabetes educator, nurse, or whoever."*

Workforce Capacity Is Critical

Staffing emerged as one of the most important determinants of RPM effectiveness. Successful programs commonly rely on multidisciplinary teams that include certified diabetes care and education specialists (CDCES), nurses, physicians, advanced practice providers, patient navigators, and care coordinators. Participants emphasized that workforce requirements are frequently underestimated and that dedicated staff time is essential for sustainability.

> *"We have very few resources devoted to this. So it's really been me [the clinician] and a patient navigator…who can just look at the data, figure out who we need to call, and…contact them."*

Patient Engagement Drives Success

Patient engagement was consistently identified as a foundational component of RPM. Programs reported stronger outcomes when they combined technology with education, coaching, and ongoing communication. Ease of technology use, patient understanding, and perceived value all influence participation and adherence.

> *"From a patient perspective, I'm expecting the clinic to call me if things are going south. I'm expecting to have that interaction and engagement—that proactive response to my needs."*

Common Challenges

Participants identified several barriers that continue to affect RPM implementation.

- Technology integration remains a persistent challenge due to fragmented data platforms and limited interoperability.

> *"Right now we have so many different silos.... Even if you have a dashboard, if you have to go back to the EHR and then back to the dashboard, it makes it not efficient."*

- Workforce limitations constrain program growth and create challenges for timely data review and intervention.
- Reimbursement complexity creates uncertainty regarding long-term sustainability, while administrative requirements often increase operational burden.

> *"Until there's more standardization of reimbursement, at least for codes, it's really hard to figure out what your financial model is going to look like ahead of time."*

- Participants also discussed equity considerations extensively. These included limited broadband access, affordability concerns, language barriers, digital literacy challenges, and social determinants of health, which can affect participation and may contribute to disparities in access to RPM services.
- Participants emphasized the need for stronger evidence demonstrating the clinical and economic value of RPM. While many organizations reported positive experiences, additional data are needed to quantify return on investment and inform reimbursement policies.

Emerging Priorities

Several priorities emerged as the group considered a shared future vision for a successful RPM ecosystem.

- **Reimbursement:** Participants consistently identified financial sustainability as a critical factor influencing long-term program viability and scalability. A key priority was developing sustainable reimbursement models that adequately support the staffing, technology, and operational resources required to deliver RPM services. Advances in automation and artificial intelligence may help reduce administrative burden and improve scalability.

> *"Revenue generated from RPM enables hiring of more CDCESs and technology navigators .... [however] it's not just the reimbursement; it's being able to have the infrastructure there that enables the reimbursement."*

- **Smooth Workflow:** Workflow optimization was also highlighted as a key priority. Participants agreed that automated triage systems, alert prioritization, and workflow support tools could allow staff to focus attention on patients requiring intervention. They emphasized the importance of creating standardized, efficient processes for data review, patient outreach, escalation, and documentation while maintaining flexibility to meet local needs.

> *"It has to be easy to navigate... So, we need ways of integrating that into the workflow to reduce the clicks."*

- **Data Integration and Access:** Participants viewed improving interoperability among devices, digital health platforms, and electronic health records as essential to reducing administrative burden and increasing efficiency. Participants expressed optimism that greater integration among devices, data platforms, and electronic health records could reduce inefficiencies and enhance clinical usability.

> *"If you make it easier, if you make it more seamless, it's more efficient to do. It's already within the medical record…to make those decisions."*

- **Standards of Care:** Participants underscored the need for stronger evidence demonstrating the clinical, operational, and economic value of RPM. Additional research focused on outcomes, healthcare utilization, return on investment, and health equity could help inform policy decisions and strengthen support among payers and healthcare leaders.

> *"If we're going to get to standards of care, we've got to have evidence out there because otherwise they will not put it in standards."*

> *"The evidence we have regarding clinical value and what payers reimburse from a policy perspective are not quite in sync. There needs to be greater alignment."*

Similar to the Adoption Mapping exercise, participants used dots to rank priorities based on urgency of need and transformational potential. (**Figure 3**)

There was strong interest in maintaining the Learning Exchange as a collaborative forum for continued knowledge sharing. Participants recognized that cross-institutional collaboration, dissemination of best practices, and collective problem-solving will be critical to advancing RPM from a promising clinical intervention to a sustainable and scalable model of diabetes care.

Figure 3

Future State of RPM

If RPM worked successfully five years in the future, what would it look like?

● What is most urgent? ● What would be most transformational?

Reimbursement ● ● ● ● ● ● ●

Policy integrated payment	Protected time for RPM billing	Endocrinology clinics reimbursed fairly for their work	Fair reimbursement to ensure sustainability	Consistent payor–payee model of reimbursement	Financial sustainability and better pay for endocrinologists	Sufficient clinical staff to support each patient
Cell phones as a medical benefit	Economic model shows sustainability of RPM model	RPM revenue enables hiring more CDCES/ Tech Navigators	Dedicated RPM CPT codes	Clear CPT code definition and full reimbursement	All providers are credentialed to bill	Seamless equitable reimbursement across private and public payors

Smooth Workflow ● ● ● ● ● ●

Smooth workflow to identify patient need and provide appropriate care	Patients with the greatest need hear from us proactively	Easy data visualization to identify who benefits from outreach	EMR-based dashboard alerts to RPM team for real-time care	Improved ways to communicate with patients	Ability to free text with patients

Data Integration and Access ● ● ● ● ● ● ● ● ●

Patient level consistent access to sensors for ongoing use	Data infrastructure available to all clinics and people with diabetes	All device data in EMR	Data is cloud to cloud and actionable	Harmonized cloud connected data streams	Resolution of sensor failures	Every patient on cloud connected tech linked to clinic
Integration of RPM platform into EHR	Seamless connectivity at the patient level	Seamless transition between EHR and population health platform	All clinics have consistent access to diabetes data in EHR	Seamless integration of device data	Sustainable data flow	

Standards of Care Reflects Care ● ● ● ● ● ● ● ●

RPM is seen by patients as a helpful, expected part of care	Hospital level standard of care	Standard of care

Learning Exchange Outcomes

The RPM in Diabetes Learning Exchange highlighted both the progress and challenges of remote patient monitoring. Participants demonstrated that RPM is increasingly accepted as a clinical intervention that supports improved diabetes management. However, participants agreed that significant work remains to establish RPM as a sustainable, scalable model of care. Success will depend on aligning technology, workflows, staffing, reimbursement, and evidence generation within a coordinated system of care.

The discussions reinforced the importance of continued collaboration among healthcare organizations, researchers, technology partners, and policymakers. Through ongoing learning and shared problem-solving, RPM programs can continue to evolve and play an increasingly important role in improving outcomes for people living with diabetes.

Supplementary Table 1

RPM in Diabetes: Projects

Organization	Target Population	RPM Model	Key Findings	Potential Next Steps
Cecelia Health	Adults/adolescents with diabetes	Scheduled review + outreach	Structured engagement supports proactive management	Expand automation and outcomes measurement
Children's Hospital Los Angeles (CHLA)	Newly diagnosed T1D and pump starts	Scheduled review + outreach	Early monitoring supports transition	Optimize onboarding and follow-up
Children's Mercy Hospital	High-risk and new-onset diabetes	Scheduled review + outreach	Targeted intervention benefits high-risk patients	Improve interoperability
Cincinnati Children's Hospital	Post-DKA and elevated HbA1c	Continuous monitoring	Supports transition and early intervention	Evaluate outcomes
Stanford University	Newly diagnosed pediatric T1D	Scheduled review + outreach	Improves continuity of care	Expand longitudinal monitoring
T1D Exchange	Multi-center initiative	Periodic review	Accelerates learning and evidence generation	Standardize metrics
Texas Children's Hospital	Youth with T1D and DKA risk	Scheduled review + outreach	Automated syncing improves scalability	Develop predictive models
Tidepool	CGM users with T1D	Scheduled review	Frequent data visibility	Enhance decision support
University of California, Davis	Pediatric T1D with elevated HbA1c	Periodic review	Cloud integration supports outreach	Scale population management

Supplementary Table 1 summarizes key characteristics of each project, followed by brief narrative descriptions highlighting notable features, findings, and future opportunities. Despite differences in design, several common patterns emerged. Most organizations employed scheduled data review combined with proactive outreach and intervention. Few programs relied solely on passive data collection, whileand only a small number described continuous monitoring models involving real-time intervention. These findings suggest that RPM is increasingly being implemented as a proactive care-delivery strategy rather than a data-collection exercise.

About Helmsley

The Leona M. and Harry B. Helmsley Charitable Trust aspires to improve lives by supporting exceptional efforts in the U.S. and around the world in health and select place-based initiatives. Since beginning active grantmaking in 2008, Helmsley has granted more than $4.6 billion for a wide range of charitable purposes. The Helmsley Type 1 Diabetes (T1D) Program is the largest private foundation funder in the world with a focus on T1D, with more than $1 billion to date granted to transform the trajectory of the disease and to accelerate access to 21st century care, everywhere. For more information on Helmsley and its programs, visit helmsleytrust.org.

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