

# Pre-Visit Diabetes Device Data Capture

Edelina Cohen MS RD CDN CDCES, Michael Natter, MD; Lauren Golden, MD  
NYU Langone Health  
New York, NY, USA

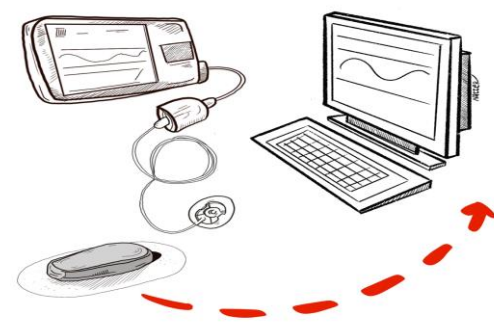
Center for Diabetes &  
Metabolic Health

## INTRODUCTION/BACKGROUND

Diabetes device data capture is essential for effective and efficient patient care.

Benefits of diabetes device(s) data include:

- Better patient outcomes
- Active role of patients in their treatment
- Improved glycemia
- Time-stamped analysis of how self-management behavior or glycemic control changes
- Objective measures of self management vs relying on self-reported measures
- Data from multiple devices (pump, CGM, BGM, smart pen) integrated and viewed together
- Remote review by healthcare provider
- Targeted diabetes care and education



Limits & challenges uploading diabetes device data:

- Patient tech literacy
- Data sharing not already set up
- Remembering username and password to facilitate access
- Lack of computer access
- Variety of USB and cable connectors required for data extraction from multiple brands and models of diabetes devices
- Time consuming
- Staffing
- Inability to connect some devices due to using outdated device brands
- Patient perspective of perceived value of downloading diabetes devices data

Our practice identified a deficit in pre-visit diabetes device data capture. Strategies to improve pre-visit downloads/uploads (“data”) were implemented with the aim of increasing diabetes device data capture prior to patient visits to maximize direct patient care.

## METHOD

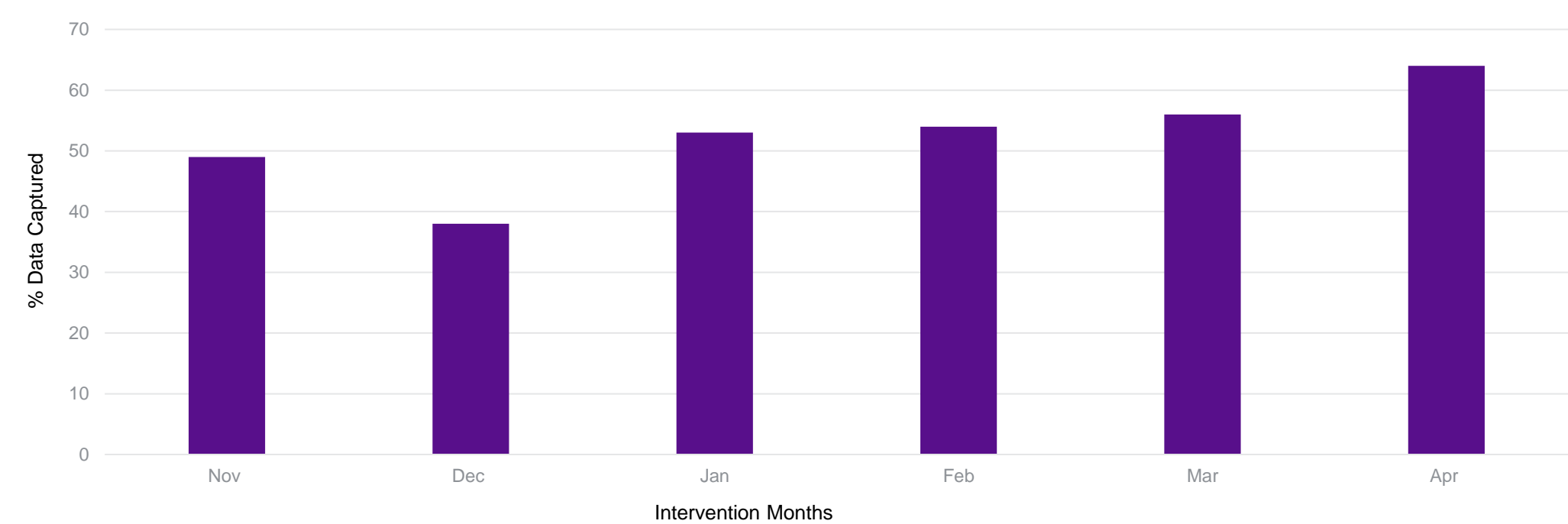
- Patient care coordinator (PCC) collected 2 week glucose data prior to patient visits
- Intervention period: November 2022 to mid-April 2023 (24 weeks)
- PCC sent 5 day notice to patients via MyChart with instructions on how to download their diabetes device (continuous glucose monitor, meter, insulin pump, or smart pen) reports and upload as an attachment on MyChart, if not already linked to share their data with our practice
- PCC placed follow up call 24-48 hours prior to the patient’s visit to remind them to download/upload their diabetes device data or link their device with the practice.
- PCC provided verbal instructions on how to share their data with the practice, if not already linked
- Logged & tallied
  - # available downloads/uploads to capture prior to visit
  - # available downloads/uploads captured prior to visit

## RESULTS

- At week one of the intervention, data capture was 43%.
- Data capture improved to an average of 52% over the intervention period of 24 weeks, with a peak of 65%.

## FIGURE 1

Average % Diabetes Device Data  
Captured Pre-Visit



## DISCUSSION & CONCLUSIONS

The pre-visit data capture enabled clinicians to tailor patient care and provide targeted diabetes care given they had the data needed to make clinical decisions.

We attributed the increase in data capture to:

- Multi-modal reminders
- Patients’ increased familiarity with pre-visit diabetes device data process
- Patients linking their devices to share with the practice.

Limitation of intervention:

- Amount of time spent by PCC to collect diabetes device data prior to visit
- Timing of data collection occurred over major holidays
- Type of diabetes device

Future steps:

- Assess interventions to diabetes care after implementation of data capture
- Monitoring and adjusting data capture strategies
- Staffing consideration

## REFERENCES

- O’Keeffe, D., & O’Sullivan, E. (2021). The Effect of Frequency of Technology Uploads on Glycemic Control in Adult Insulin Pump Users. *Journal of diabetes science and technology*, 15(2), 519–520. <https://doi.org/10.1177/1932296820952453>
- Crossen, S., Raymond, J., & Neinstein, A. (2020). Top 10 Tips for Successfully Implementing a Diabetes Telehealth Program. *Diabetes technology & therapeutics*, 22(12), 920–928. <https://doi.org/10.1089/dia.2020.0042>
- Faulds, E. R., Militello, L. K., Tubbs-Cooley, H., & Happ, M. B. (2020). Evaluating Feasibility of Personal Diabetes Device Data Collection for Research. *Nursing research*, 69(6), 476–482. <https://doi.org/10.1097/NNR.0000000000000464>
- Palmer, B. A., Soltys, K., Zimmerman, M. B., Norris, A. W., Tsalikian, E., Tansey, M. J., & Pinnaro, C. T. (2023). Diabetes Device Downloading: Benefits and Barriers Among Youth With Type 1 Diabetes. *Journal of diabetes science and technology*, 17(2), 381–389. <https://doi.org/10.1177/19322968211059537>
- Beck R. W. (2015). Downloading Diabetes Device Data: Empowering Patients to Download at Home to Achieve Better Outcomes. *Diabetes technology & therapeutics*, 17(8), 536–537. <https://doi.org/10.1089/dia.2015.0169>