Optimizing Diabetes Care in Patients with Intellectual, Developmental, and Physical Disabilities

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Introduction

- Individuals with intellectual, developmental, and physical disabilities (IDPD) experience poorer health outcomes and are at increased risk for diabetes mellitus (DM).
- Those with type 1 DM and neurodevelopmental disorders have HbA1c >8.5, greater complications, and lower insulin technology adoption.
- This project aims to increase insulin technology prescriptions by 15% in patients with diabetes and IDPD over one year at Mount Sinai endocrinology clinics.

Methods

- A fishbone diagram was created to identify challenges faced by this population, informed by caregiver and provider interviews.
- Epic electronic health records identified patients with DM and conditions such as intellectual or developmental disability, autism, Down syndrome, Turner syndrome, or visual impairment.

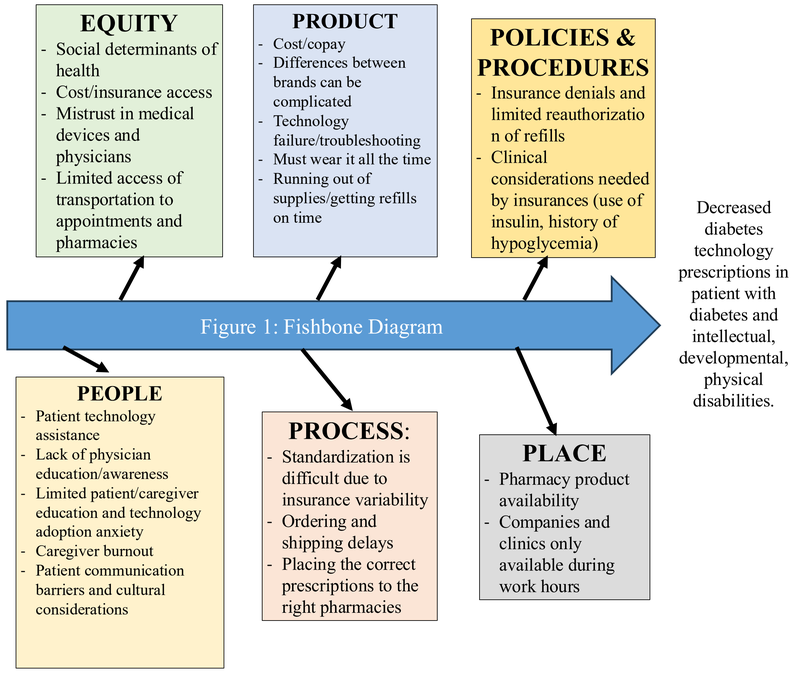


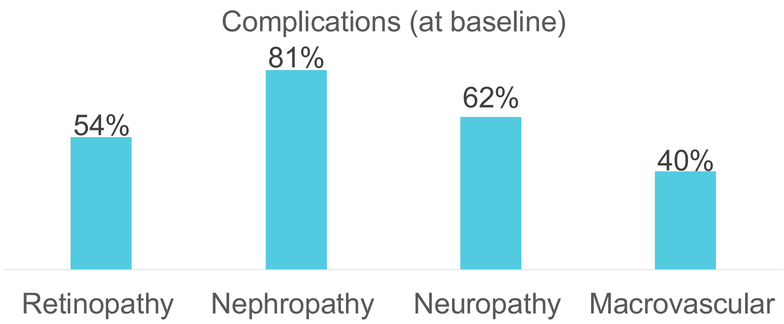
Figure 1: Fishbone Diagram

Results

Characteristic	n = 52 (%)
Age (mean)	59 [26-86]
BMI (mean)	28.9 [17.4-47.9]
HbA1c (mean)	8.5 [5.3-14]
Sex	
Male	28 (54%)
Female	24 (46%)
Race	
Black	20 (38%)
Hispanic	16 (31%)
White	9 (17%)
Other	7 (13%)
Diabetes Type	
Type 1	12 (23%)
Type 2	38 (73%)
Steroid-induced	2 (4%)
Category of Disability	
Visual Impairment	34 (65%)
Autism	5 (10%)
Turner Syndrome	3 (6%)
Memory Impairment	2 (4%)
ADHD	3 (6%)
Intellectual Disability (including Developmental Delay or Downs)	7 (13%)
Physical Disability	1 (2%)
Hearing Impairment	2 (4%)
Current Insulin Regimen	
Basal + Bolus	40 (77%)
Basal only or Bolus only	9 (17%)
Mixed insulin	2 (4%)
No insulin	1 (2%)
Insulin Technology Prescribed at baseline	
None	20 (38%)
CGM	31 (60%)
Insulin Pump	1 (2%)
Other insulin technology	0 (0%)

Table 1: Baseline Characteristics of Population

Results



- A total of 52 patients with diabetes were analyzed. On average, patients were overweight and had poorly controlled diabetes. The cohort was predominately black and Hispanic.
- Thirty patients (58%) had visual impairment, while the remainder had intellectual disability.
- The majority of patient had DM2 and are on basal/bolus insulin. Diabetes-related complications were common, especially nephropathy.
- 38% had no insulin technology prescribed, 60% used continuous glucose monitoring (CGM), and 2% used an insulin pump—substantially lower than overall clinic rates for DM1 patients (CGM 87–100%, pump 52.8%).

Conclusions

- Despite increased complications, patients with IDPD and diabetes have lower insulin technology use, reflecting systemic barriers such as communication challenges, caregiver burden, provider hesitancy, and limited education.
- Targeted interventions, such as caregiver-inclusive device training and streamlined supply ordering, may help close this gap and improve outcomes.
- The next phase will implement a physician toolkit with an algorithm to match technology to patient/caregiver needs and practical guidance for device adaptation.