PERSPECTIVES OF PRIMARY CARE PHYSICIANS ON INSULIN PUMP USE FOR PEOPLE WITH TYPE 1 AND TYPE 2 DIABETES IN THE UNITED STATES

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Introduction

- Continuous subcutaneous insulin infusion (CSII), or insulin pump therapy, is an important option for people with type 1 diabetes (T1D)[1]
- Insulin pumps are less frequently prescribed, however, for people with type 2 diabetes (T2D) who require intensive insulin therapy[1,2]
- Diabetes technologies are rapidly evolving, and determining when to best implement insulin pump therapy together with other technologies such as continuous glucose monitoring (CGM) may be challenging for primary care physicians (PCPs) who treat people with diabetes[2,3]
- Our objective was to understand the perceptions of PCPs regarding diabetes technologies and insulin pumps

Methods

- Data were sourced from dQ&A 2022 Primary Care Physicians and Diabetes Technology Report fielded in December 2022
- PCPs who prescribed insulin and who treated ≥30 people/month with diabetes were recruited to complete an online, email-based survey

Results

- Of 281 responding PCPs (Table 1), 266 (95%) treated people with T1D and all 281 (100%) treated people with T2D
- In a typical month, the median number of people with diabetes treated by participating PCPs was 6 people with T1D and 80 people with T2D
  - 79% frequently and 21% occasionally prescribed insulin

Table 1. Characteristics of 281 primary care physicians responding to the survey

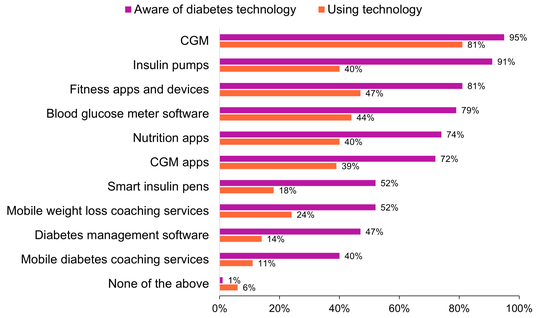
Characteristic	N=281
Practice type, n (%)	
Multi-physician practice	109 (39)
Solo or small private practice	86 (31)
Non-university-affiliated health system	28 (10)
Community clinic	28 (10)
University-affiliated or teaching hospital	16 (5)
Other	14 (5)
Practice setting	
Suburban	149 (53)
Urban	84 (30)
Rural	48 (17)
Years in practice, n (%)	
2–10 years	81 (29)
11–20 years	79 (28)
>20 years	121 (43)
Number of people on insulin seen per week, n (%)	
1–4 people	39 (14)
5–9 people	83 (30)
10–19 people	92 (33)
≥20 people	67 (24)
Treat people on insulin pumps, n (%)	112 (40)
Prescribe pumps and manage pump therapy	71 (63)
Manage pump therapy but other physician prescribes pumps	25 (22)
Other physician prescribes and manages pump therapy	16 (14)

Results (cont.)

PCPs and diabetes technology

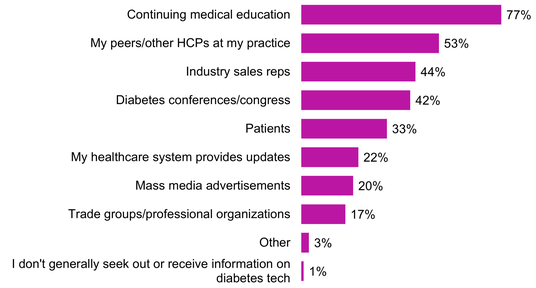
- Among PCPs, on average, 49% of their patients with T1D used CGM, 24% used an insulin pump, and 6% used a smart pen
- Among PCPs, on average, 16% of their patients with T2D used CGM, 6% used an insulin pump, and 5% used a smart pen
- Overall, 246 of 266 PCPs (93%) prescribed diabetes technology for people with T1D, and 260 of 281 (93%) prescribed it for people with T2D
  - 91% of PCPs agreed (35%) or strongly agreed (56%) that “diabetes technologies play a significant role” in managing T1D, and 73% agreed (48%) or strongly agreed (25%) that “diabetes technologies play a significant role” in managing T2D

Figure 1. PCP awareness and use of diabetes technology (n=281)



- **The gap between awareness and use is large among PCPs for most types of diabetes technology.**

Figure 2. Sources of information about new diabetes technology for PCPs (n=281)



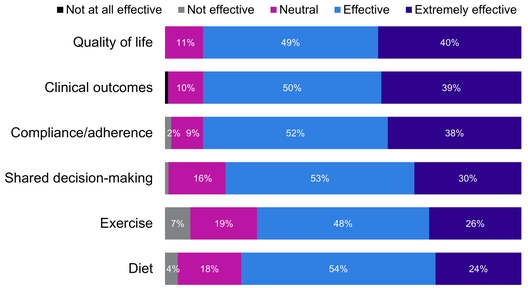
- **Continuing medical education and word of mouth are the most common sources of information about new diabetes technology.**

PCPs who treat people on insulin pump therapy

- Among the 112 PCPs (40%) who treated patients using insulin pump therapy, 71 (63%) prescribed insulin pumps, while 41 (37%) treated patients on insulin pumps but did not prescribe the pumps

Figure 3. PCP opinions regarding effectiveness of pumps (n=112)*

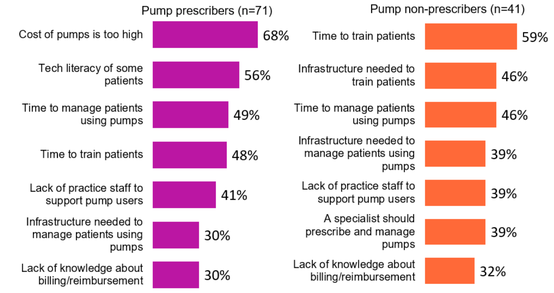
***Question asked:** How effective are insulin pumps at helping your patients achieve each of the following?



- **Most PCPs reported insulin pumps to be effective or extremely effective regarding quality of life, clinical outcomes, adherence, and shared decision-making.**

Figure 4. Barriers to pump prescribing identified by PCPs (n=112)*

***Questions asked:** What prevents you from prescribing an insulin pump to your diabetes patients? / What barriers exist (if any) that prevent you from prescribing insulin pump therapy to more patients?



- **Top barriers to insulin pump prescribing for both prescribers and non-prescribers of pumps were the cost and time requirements.**

Study limitations

- Survey participants may not be representative of all PCPs who treat patients with diabetes

Key Findings

- Among primary care physicians, the gap between awareness and use is large for most types of diabetes technology
- On average, 24% of their patients with T1D and only 6% with T2D were using insulin pump therapy
- PCPs perceive high effectiveness of insulin pumps when utilized:
  - → Pumps were rated as being effective or highly effective with regard to quality of life (89%), clinical outcomes (89%), and adherence (90%)
- The top barrier to pump prescribing for prescribers was cost, and the top barrier for non-prescribers was the time to train patients
- Addressing barriers to insulin pump utilization, including simplifying the process, reducing the time to train and manage patients on pumps, and ensuring adequate support for PCPs and practices, may help to improve overall pump adoption

95% Of PCPs are aware of CGM

81% Of PCPs are treating patients using CGM, most commonly for T1D

91% Of PCPs are aware of insulin pumps

40% Of PCPs are treating patients on insulin pumps, most commonly for T1D

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Abbreviations

CGM: continuous glucose monitoring
CSII: continuous subcutaneous insulin infusion
PCP: primary care physician
T1D / T2D: type 1 / type 2 diabetes

References

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3. Grunberger G, et al. Clin Diabetes. 2020;38(1):47-55.

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Disclosures

SVE has served on advisory boards and speakers' bureaus for AstraZeneca, MannKind, and Xeris and on an advisory board for BrightSight and is a board member for Senseonics and TeamType1.
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