2021 Montana Provider Diabetes Awareness and Practice Survey: Results and Next Steps

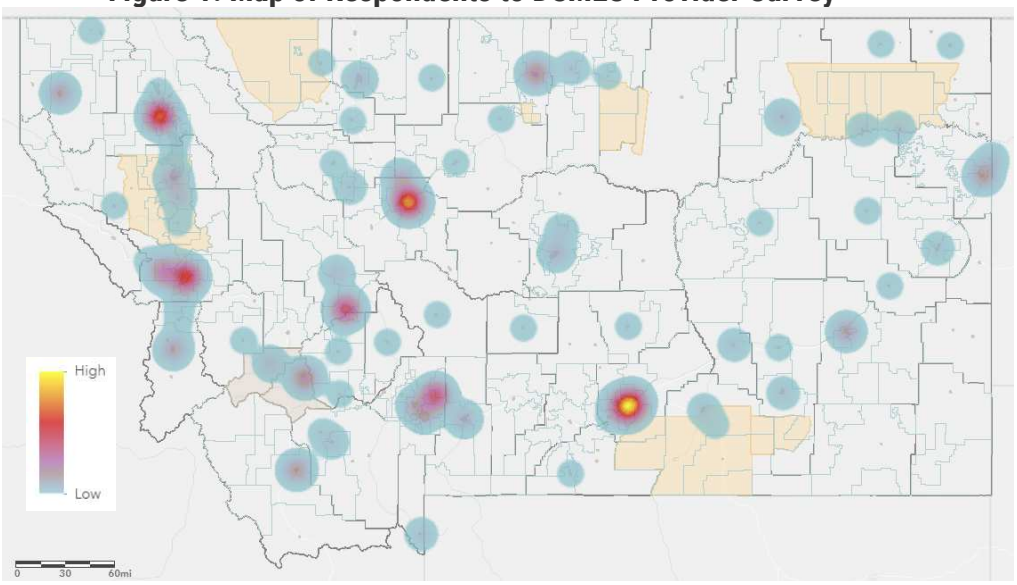
Diabetes is a serious and complex chronic condition experienced by a sizeable portion of Montana's population. According to the latest Montana Behavioral Risk Factor Surveillance System* data from 2019, 64,000 Montana adults (8%) have a current diagnosis of diabetes.

Diabetes Self-Management Education and Support (DSMES) is an evidence-based, cost-effective service proven to improve health outcomes in people with diabetes (PWD) by helping them develop the knowledge, skills, and ability to manage this complex condition. DSMES helps PWD initiate and maintain behaviors to manage their diabetes over the long term, even when they are not officially connected to DSMES providers, formerly known as Diabetes Educators and now known as Diabetes Care and Education Specialists (DCES). DCESs are experienced healthcare professionals who deliver personalized DSMES services as part of a patient's healthcare team. DCESs can provide support to patients in-person and via telehealth through more than 60 Association of Diabetes Care and Education Specialists (ADCES) accredited and American Diabetes Association (ADA) recognized access points throughout Montana, as well as at Indian Health Services, Tribal Health, and Urban Indian Health sites.

The Montana Diabetes Program (MDP) is committed to helping Montana's healthcare professionals learn about, connect to, and refer patients to this beneficial service. To meet this goal, the MDP sent a survey in April 2021 to all advanced practice registered nurses (APRNs), physicians, physician assistants (PAs), and psychologists registered as licensed in Montana. Survey topics included healthcare provider and practice demographics, treatment practices, DSMES referral practices, and barriers to referring to DSMES.

Surveys were sent in a one-time mailing with two postcard reminders to 3,090 recipients. A Qualtrics electronic survey link also was made available. 190 were returned to sender, yielding a 2,900 potential sample size. Of this potential sample, 326 (11.2%) were returned by the time of data analysis (end of May 2021). Responses were returned by providers from all over Montana (Figure 1). Data were analyzed using SPSS 23 to derive descriptive statistics. Note that not every question received 326 responses, and many questions allowed multiple responses. Therefore, the number of respondents per question is presented in each figure title as "n=". Results and implications to providers and patients are presented in this report. All data are aggregated across survey respondents. Additional provider survey data products, including license-specific and years-in-practice-specific analyses, will be posted to the DSMES Story Map as they become available.

Figure 1. Map of Respondents to DSMES Provider Survey



* Informational hyperlinks, including to cited references, are located throughout the report in purple text.

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Responding Provider Characteristics

Respondents were asked several questions about their own and their facility/practice characteristics, including practice location. Figures 2a through 2d show the breakdown of responding provider characteristics, including years in practice, license type, facility type, and primary specialty. Two in five responses were from providers with more than 20 years in practice; providers with less than 5 years in practice provided the fewest responses (Figure 2a). Physicians were the primary respondents by license type (more than half of respondents), followed by APRNs (Figure 2b).

More than two in five providers (43.6%) have their practices at hospitals, including critical access hospitals (CAH), and nearly one in four (23.7%) have independent practices (Figure 2c). More than two in five respondents (43.3%) practice a family medicine specialty, and a little more than one third (35.3%) practice "other" specialties, including ophthalmology, cardiology, orthopedics and orthopedic surgery, urology, geriatrics, neurology and neurosurgery, and wound care, among others (Figure 2d).

Respondents also were asked to provide the primary zip code in which they practice. The distribution map is shown in Figure 1 (page 1). The most represented zip codes include those in Great Falls (8.9% of respondents), Kalispell (8.3%), Billings (6.1%), Helena (5.5%), and Bozeman (5.2%).

Figure 2a. Years in Practice of Responding Providers (n=323)

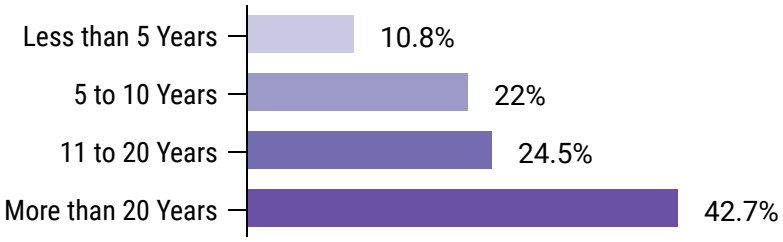


Figure 2b. License Types of Responding Providers (n=326)

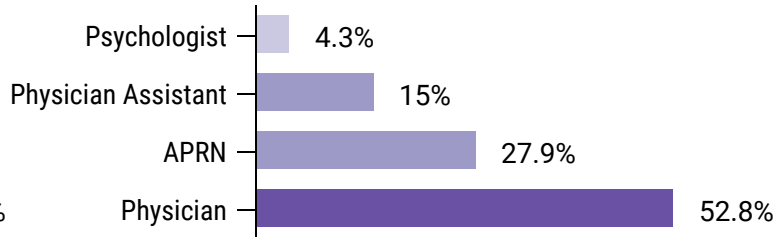


Figure 2c. Facility Types of Responding Providers (n=321)

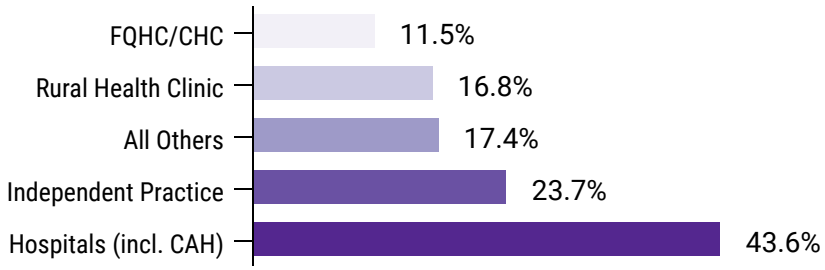
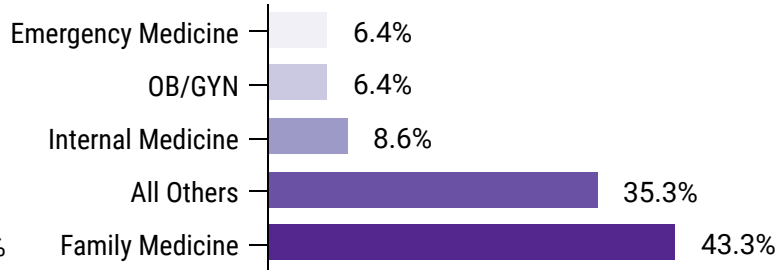


Figure 2d. Primary Specialties of Responding Providers (n=326)



FQHC: Federally Qualified Health Clinic
CHC: Community Health Center
CAH: Critical Access Hospital

Treatment and Management of Diabetes

Respondents were asked several questions about their diabetes treatment practices and patient management. First, they were asked what percentage of their total annual patient visits pertained to type 1 (T1) diabetes, type 2 (T2) diabetes, gestational diabetes (GDM), and other diabetes types. Respondents could choose from less than 10% of patients, about 25% of patients, about 50% of patients, and more than 75% of patients. Figure 3 shows the range of responses, with percentages under 1% not shown for clarity. Respondents mostly indicated less than 10% of their patient visits pertaining to T1, GDM, and "other" diabetes, but T2 patients comprise about 25% of patients for nearly half of respondents. 2020 national diabetes statistics and 2019 Montana diabetes statistics reveal the latest information available on this condition.

Figure 3. Percentage* of Respondents' Total Annual Patient Visits Pertaining to Diabetes Types (n=317, 318, 267, 232 top to bottom)

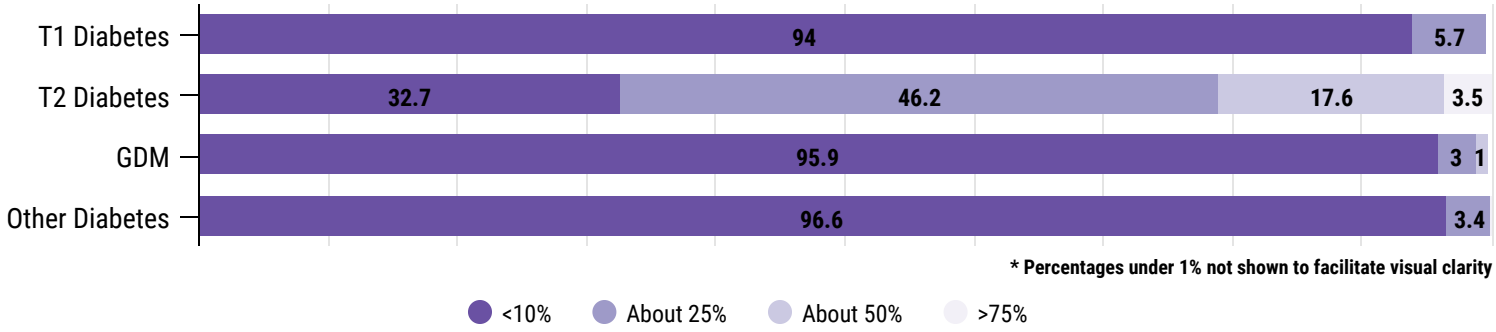
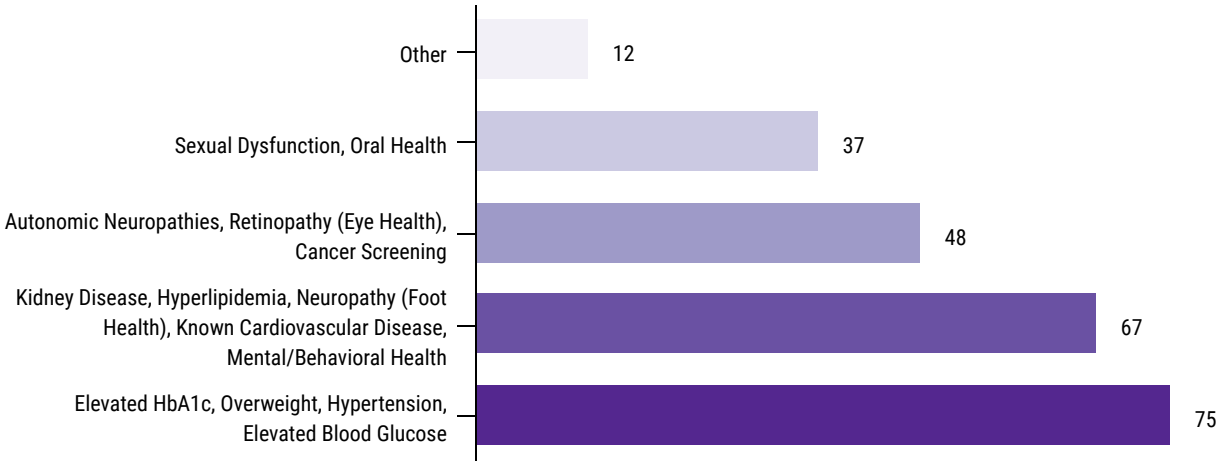


Figure 4 shows the other chronic and diabetes-associated conditions that respondents treat when they treat their patients' diabetes. The most frequently co-treated conditions include elevated A1c levels (75.8%), overweight (75.5%), hypertension (74.8%), and elevated blood glucose (74.2%), while sexual dysfunction (39.3%) and oral health (32.2%), along with assorted "other" conditions (12.3%) identified by respondents, are least frequently co-treated. All listed conditions are impacted by and impact patients' diabetes and are recommended to be co-treated along with diabetes with a patient's care team. Of the 308 respondents who answered answered whether they work with a team to help patients manage their diabetes, about half (49.4%) said yes and only 1 in 5 (22.1%) said no or that the question was not applicable.

Figure 4. Percentage* of Respondents Who Regularly Treat Other Conditions When Treating When Treating Diabetes (conditions grouped and % respondents averaged; n=326)



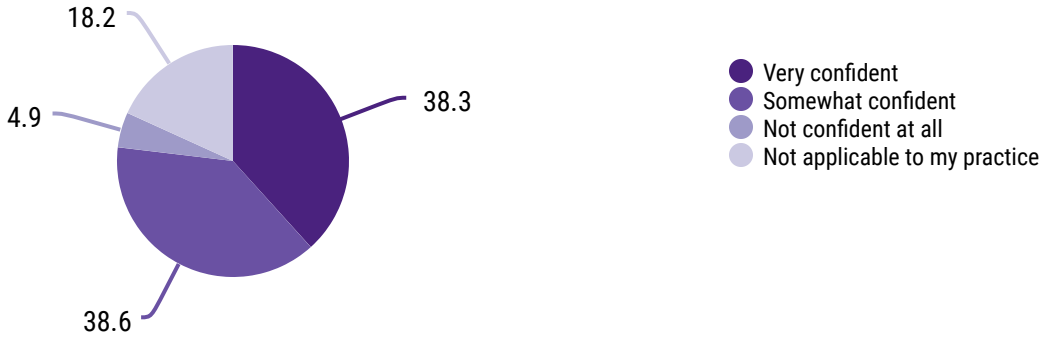
Treatment and Management of Diabetes (continued)

Overall, respondents report confidence in their ability to help their patients manage their diabetes, with nearly 4 in 5 providers either very confident (38.3%) or somewhat confident (38.6%) in their ability to help their patients with diabetes (Figure 5). Nearly 1 in 5 (18.2%) felt helping patients manage diabetes is not applicable to their practice.

CONSIDERATIONS

These results point to an opportunity to highlight the important roles all healthcare providers play, regardless of specialty and practice, in encouraging patients to seek out DSMES and related services, to check in with their patients about their diabetes-related health, and to support patients in making decisions to benefit and improve their health.

Figure 5. Respondent Confidence in Their Ability to Help Patients Manage Their Diabetes (n=324)

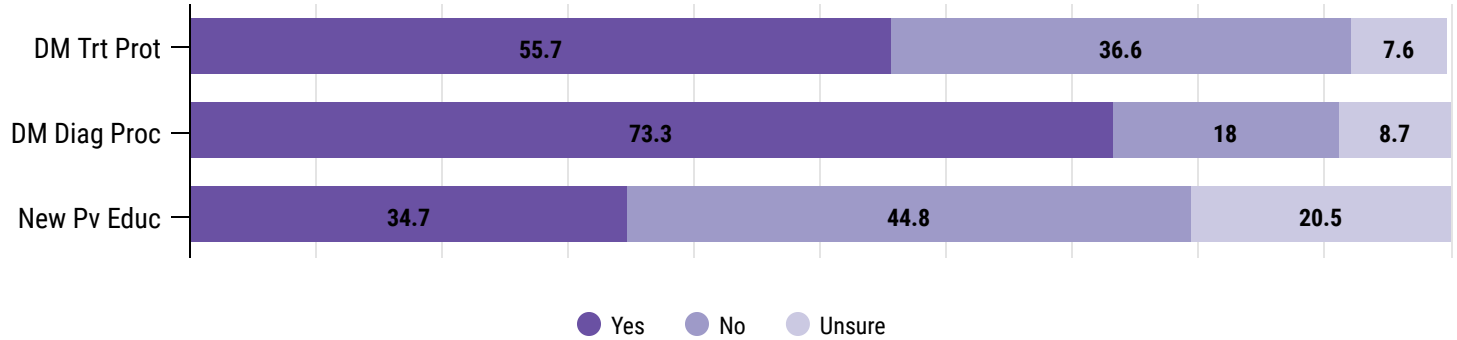


Respondents also were asked if their facilities or practices use a variety of diabetes-related clinical decision support and care practices to more thoroughly serve their patients with diabetes. As Figure 6 shows, a little more than half (55.7%) indicated they have diabetes treatment protocols (DM Trt Prot) and nearly three in four (73.3%) have diabetes diagnostic protocols (DM Diag Proc) in place. Only about 3 in 10 (34.7%) have new provider education (New Pv Educ) on these treatment protocols and diagnostic procedures in place, and 1 in 5 (20.5%) were unsure about new provider education.

CONSIDERATIONS

These results highlight a need for developing consistent diabetes diagnostic, treatment, and management practices across Montana's healthcare systems. It is an excellent opportunity for the MDP and other partners to engage with healthcare systems to develop clinical quality improvement projects for implementing treatment protocols, diagnostic procedures, and new provider education.

Figure 6. Percentage of Respondents Who Have Diabetes Treatment Protocols, Diagnostic Procedures, and New Provider Education at Their Facilities/Practices (n=314, 311, 308 top to bottom)



Provider Referral Practices to and Beliefs about Diabetes Self-Management and Education Support (DSMES) Services

Respondents were asked a variety of questions about their knowledge of Diabetes Self-Management and Education and Support (DSMES, formerly known as Diabetes Education), including about their referral practices to this service, their understanding of its place in the health practices of patients with diabetes, and their perception of its value and barriers to its use. As Figure 7 shows, nearly 3 in 4 respondents (73.6%) who refer to DSMES services make referrals internally and externally to their healthcare systems (multiple choices were possible in the question), and nearly 1 in 4 (24.2%) were unfamiliar with the service. Nearly half of respondents make DSMES referrals via their electronic health record (EHR) programs, with a variety of other referral mechanisms in use (Figure 8). More than 1 in 4 (27.6%) don't make DSMES referrals.

Figure 7. How Respondents Make Referrals to DSMES Services (% of respondents; n=326)

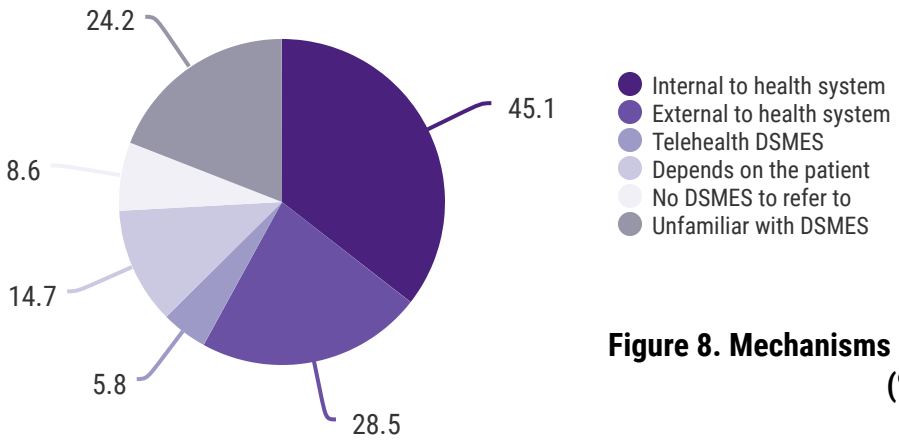
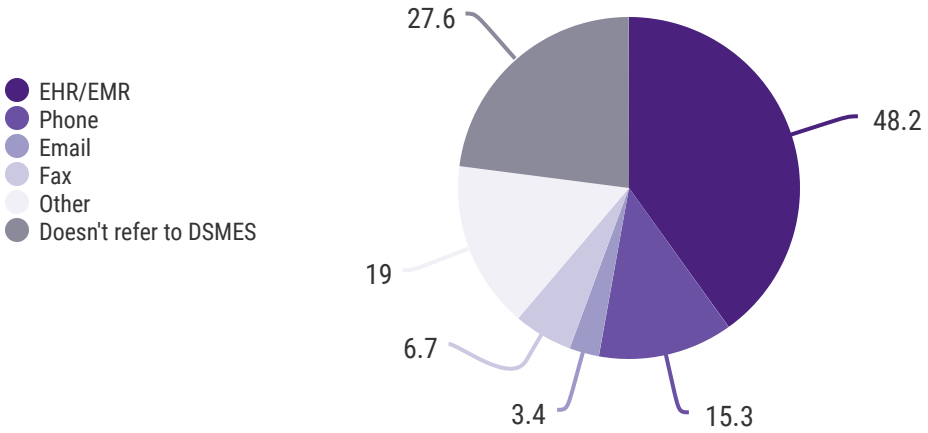


Figure 8. Mechanisms Respondents Use to Refer Patients to DSMES (% Respondents; n=326)



CONSIDERATIONS

These results suggest an opportunity to improve provider knowledge of DSMES services and the variety of delivery modalities patients can take advantage of throughout the state, and to improve the visibility of DSMES services to the providers who don't believe they have a DSMES service to refer to. Results also suggest there is an opportunity to improve the usability and use of EHRs to refer patients, but also to explore other referral mechanisms, including the CONNECT bi-directional e-referral system, for providers who do not have a DSMES internal to their facility/practice. For providers who do not make DSMES referrals, there may be an opportunity to reduce referral barriers or improve team-based care practice to encourage warm hand-offs to providers who are able to refer, as appropriate.

Provider Referral Practices to and Beliefs about Diabetes Self-Management and Education Support (DSMES) Services

Providers were asked at which points they assess their patients for their need to participate in DSMES (multiple responses were possible for this question). As Figure 9 shows, there is a nearly even split of providers assessing patients at every visit, at chronic care appointments, and during annual physicals. One in 4 also provided "other" points, primarily relating to relying on primary care or other related providers to make this assessment.

These results demonstrate an opportunity to share educational materials about diabetes care and support with healthcare providers across the state. According to a consensus report from a consortium of national diabetes care organizations and medical associations, there are four key times for providers to implement DSMES services for their patients:

- At diagnosis
- Annually or when a patient is not meeting their health goals
- When a patient is faced with a new challenge
- When there are changes in a patient's health care or life stages

Nearly 7 in 10 providers (69.1%) give diabetes educational materials to their patients, and 21.1% of these said they are interested in other educational material options. Another 16% indicated they do not currently provide diabetes educational materials but would like to do so, and 15.4% said they do not and are not interested in providing them.

Figure 9. Points at which Respondents Assess Patients for the Need to Participate in DSMES (% Respondents; n=298; total > 100%)

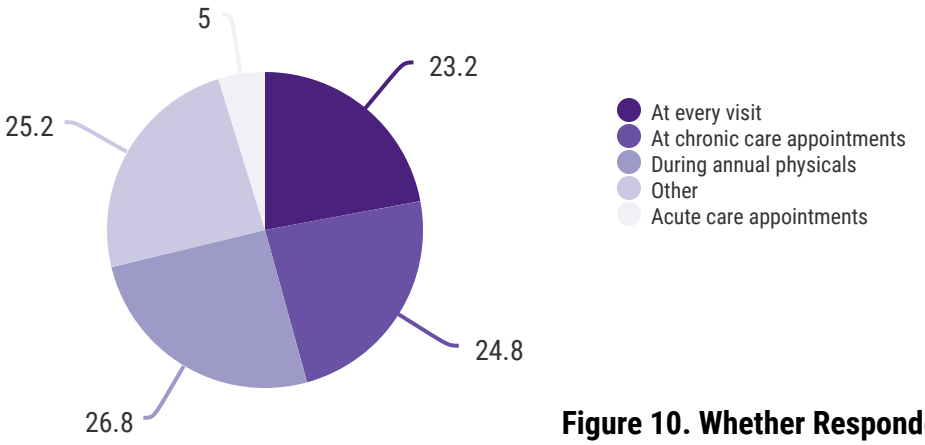
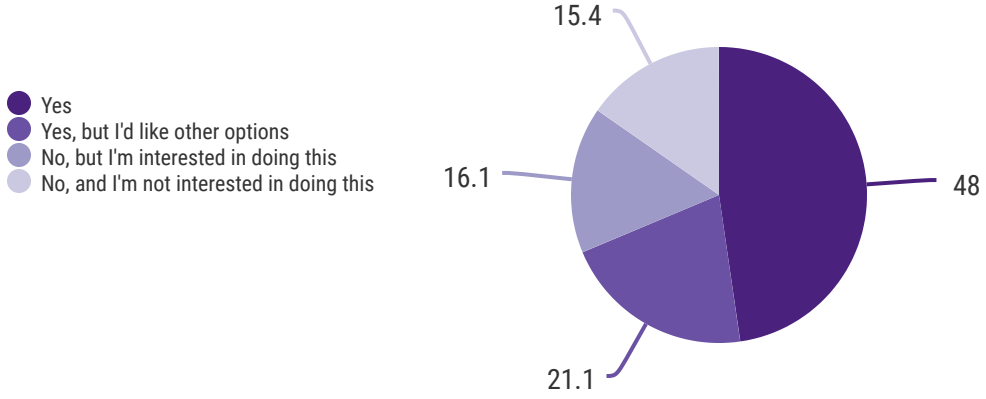


Figure 10. Whether Respondents Provide Diabetes Educational Materials to Their Patients (% Respondents; n=298)



Resources Used for Diabetes Management

The top five tools and services respondents use to help their patients with diabetes management include medical nutrition therapy, DSMES, diabetes self-management literature, other tools (support groups, telehealth, peer support, exercise classes, etc.), and diabetes self-management smart devices (continuous glucose monitors, smart scales, blood pressure cuffs) that connect to smart phones (Table 1). Other tools appear to be less commonly used but are widely available, including smart phone applications, pedometers and other free incentives, and the Living Your Best Life (with Diabetes) classes, a relatively new resource available through Montana's Community Health Centers.

Table 1. Top 5 Diabetes Management Resources Used and Referred to by Responding Providers	n	%
DSMES	156	47.9
Other (support groups, telehealth, peer support, exercise classes, etc.)	107	32.8

Top Five Provider Referral and Patient Participation Barriers

The top five perceived barriers for providers and facilities to refer to DSMES (Table 2) mostly pertain to factors seemingly outside of physician control, including patients not believing the service to be necessary, lack of transportation, high cost burden and lack of insurance coverage for the service, and having no formal referral process in place. Many of these barriers can be resolved through provider education about different DSMES modalities, accessing technical assistance through the MDP to improve referral processes, and education about available insurance coverage for DSMES services.

Table 2. Top 5 Provider and Facility Barriers to DSMES Referral	n	%
Patients don't understand or feel services are necessary/useful	115	35.3
Lack of transportation/distance to services	89	27.3
Health insurance doesn't cover services	69	21.2
High co-pay/out-of-pocket expenses	64	19.6
No formal referral system in place	55	16.9

The top five perceived barriers keeping patients from participating in DSMES (Table 3) pertain to patient motivations, knowledge, and life stresses, lack of transportation, and insurance coverage. These barriers can be addressed through patient care and education and strong provider advocacy for patients to take advantage of these services through other barrier-reducing modalities, such as telehealth, and education on the coverage available through Medicare, Medicaid and private insurers for DSMES-related services.

Table 3. Top 5 Perceived Patient Barriers to Participating in DSMES	n	%
Patients don't understand or feel services are necessary/useful	146	44.8
Patients don't want to attend a "class"	120	36.8
Lack of transportation services	106	32.5
Patients are too overwhelmed/have too many adverse life circumstances	104	31.9
Health insurance doesn't offer enough coverage	93	28.5

Considerations and Next Steps

Several respondents said they work with pediatric patients and discussed the necessity of working with a pediatric endocrinologist for their diabetes care. Most DSMES services will provide additional care and education for children with diabetes and their families, especially if the treating pediatric endocrinologist is not nearby.

Although many provider respondents were very engaged with the work of helping patients manage their diabetes, a fair portion of respondents felt that this process was outside of their responsibilities and indicated reliance on other healthcare professionals help these patients. Even when providers' specialties do not directly relate to daily patient health self-management, diabetes impacts patients' health in all respects, and trusted healthcare providers in all specialties can be of great service in improving their patients' self-efficacy.

A recent evaluation of Montanans' attitudes about diabetes revealed that many people believe they inevitably will get diabetes. All providers can play a role in educating their patients about their personal power to maintain and/or improve their health. All providers can insist to their patients that diabetes is not inevitable, that prevention and management of their health and health outcomes is entirely feasible, and that diabetes care and education specialists are well-trained and supportive healthcare professionals to have on one's team. Research has shown that providers who communicate with their patients about their diabetes management with compassion and optimism enhanced their patients' ability to cope with diabetes (Freeman-Hildreth et al., 2019).

More than 120 respondents indicated their interested in receiving more information about DSMES and potentially in participating in projects to improve DSMES referrals. The MDP is preparing to share educational and referral materials with these providers, as well as to begin a statewide campaign targeted at both providers and PWD to improve awareness of diabetes self-management, when to check in with a Diabetes Care and Education Specialist, DSMES referral processes, accessing other supportive tools and services, and insurance coverage for DSMES participation in Montana. We look forward to working with you. Please contact our Diabetes Care and Education Specialist/Consultant, Marci Butcher, for more information or to get involved.

For more information on DSMES, visit the Center for Disease Control and Prevention's (CDC) DSMES website, the MDP's DSMES website, and the MDP's DSMES Story Map. The CDC also provides a DSMES Toolkit. Other resources, including the latest national standards for DSMES, a variety of provider-specific content from the Association of Diabetes Care and Education Specialists (ADCES), and oral care and diabetes information, can be found at the MDP's DSMES website under "Additional Resources" at the bottom of the page.

References

- Diabetes Self-Management Education and Support in Adults With Type 2 Diabetes: A Consensus Report of the American Diabetes Association, the Association of Diabetes Care & Education Specialists, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association https://doi.org/10.1177/0145721720930959
- Freeman-Hildreth Y, Aron D, Cola PA, Wang Y. 2019. "Coping with diabetes: Provider attributes that influence type 2 diabetes adherence." *PLOS ONE* https://doi.org/10.1371/journal.pone.0214713