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## Establishing a Diabetes Self-Management Resource for the Self-Pay Client in a Rural Clinic

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## **Executive Summary**

### **Introduction of the Problem**

Diabetes Self-Management Education (DSME) is utilized across the United States in the form of in-person classes to improve the self-management of type 2 diabetes mellitus that otherwise cannot be taught in one primary care visit. DSME programs consist of five domains: diet, exercise, medication adherence, glucose monitoring, and coping mechanisms. These domains should be the outline of daily habits achieved by patients with type 2 diabetes mellitus. The domains of DSME target risk factors and long-term complications caused by type 2 diabetes mellitus; these include: obesity, microvascular damage, cardiovascular disease, high cholesterol, and risk for stroke (Mayo Clinic, 2021). Unfortunately, DSME programs are only paid for under Medicare or commercial insurance and are often only available near larger urban areas that can afford program operation (Yang, 2021). This creates a disparity for rural areas similarly seen with the rural clinic in south central Florida where this project was implemented.

### **Literature Review**

While DSME programs are the gold-standard for diabetes education and management, many barriers remain that impair the effectiveness of the education. In 2020, 26% of the United States population did not qualify for DSME coverage, bringing the total to 86 million people in the United States who could not access evidence-based diabetes education (Yang, 2021). This percentage was a combination of individuals without health insurance and those on Medicaid without DSME coverage. This percentage also does not account for the number of people in the United States who are undocumented residents and are without insurance coverage. According to United States migration data, there is approximately 11 million people in the United States who are not legally documented residents (Migration Policy Institute, 2022). Regardless of legal

residence status, undocumented immigrants need access to healthcare services while in the United States.

Long-term benefits of DSME include: decreased mortality rates, increased glycemic control, and increased quality of life. Evidence shows the domains of DSME directly impact these three areas the most, and each benefit is closely linked together. Increased glycemic control and medication adherence is shown to improve A1C scores (Chrvala et. al., 2016). As A1C scores improve, risk factors for complications decrease leading to decreased mortality rates (Chrvala et. al., 2016). As individuals continue to improve their medication adherence and glycemic control, decrease their risk factors, and live longer lives, they are shown to decrease their distress levels resulting in improvements in quality of life (Jannoo et al., 2017).

### **Project Methods**

The purpose of the project was to bring components of DSME to patients in the selected rural area without any out-of-pocket cost. The target population was uninsured patients that self-pay for their primary care visits and medication. The goal was to supply a DSME brochure and to record the number of brochures given to self-pay clients on an insurance recording checklist created for this project. A brochure was created for this project that outlined the domains of DSME and provided local cost-effective supply options found through resource searching and collaboration with local clinics. Supplies included: glucometers, glucometer lancets and strips, low-cost insulin programs, and free medication programs. The brochure was created using an online software and customized it to fit the needs of the project. The brochure was professionally translated into Spanish to ensure it was comprehensible to the multiple dialects of Spanish in the community. While creating the brochure, feasibility and access was also accounted for including potential lack of access to the internet, a cell phone, or debit card, and included locations and

prices of supplies. For those with internet or phone capabilities, a QR code was provided that linked directly to the American Diabetes Association (ADA) website for further education and resources. Although rural, the town does have easy access to a small Walmart, and this was the best access to supplies. I planned to utilize the Plan, Do, Study, Act (PDSA) model for implementation for one provider and their staff in the clinic. Once the process and brochure implementation were deemed successful, I planned to implement the brochure indefinitely to the entire staff in the clinic including the other provider.

### **Evaluation**

The DSME brochure was successfully implemented into a rural clinic in south central Florida over the Summer of 2022. The implementation followed the PDSA model, and it cycled two times before indefinite implementation was decided upon. The initial implementation of the Diabetes Self-Management Resource required adjustment in the workflow of the staff. Due to the clinic's rural nature, staff were rarely approached with projects or changes from company headquarters. The project was met with initial hesitation from staff members as they were not accustomed to altering their routines. I started with an educational staff meeting that discussed diabetes self-management and the purpose of the brochure. On initial surveys, staff reported they were willing to implement the brochure but were still unsure of the project's significance. I decided to begin implementation and would be present to guide them through the initial process.

The first round of implementation began after the educational staff meeting. Implementation began during June 2022. I spent the first day of implementation in the office to have oversight on proper implementation and to be a resource for questions. During the first phase, we quickly realized how difficult it was singling out clients without insurance. It was challenging coordinating the check-in process completed by the secretary while the medical

assistant was rooming patients. Additionally, the clientele that is generally self-pay, returned to their native countries for the summer months. Most of the self-pay clientele travel to the United States during winter months from Latin and Hispanic countries to help with harvesting sugar cane and oranges. This was an unintended consequence that was not originally expected. Since there were significantly fewer self-pay clients over the summer implementation period, staff in the office became confused about the diabetes brochure's purpose and began giving it to every client with type 2 diabetes mellitus regardless of insurance status. On repeat surveys, after the first round of implementation, staff reported feeling confused about the target population but stated they understood the purpose of the brochure. After reviewing the staff surveys, the staff and I agreed to adjust the target population to patients with type 2 diabetes mellitus as the brochure was centered around self-management and is intended to be beneficial regardless of insurance status. At this time, I also removed the insurance recording checklist and had staff tally the number of brochures given each day. While this was encountered through limitations of the project, it ended up being the most optimal approach as all patients, regardless of insurance status, can benefit from the information in the brochure.

Prior to the second implementation period, I provided further education on type 2 diabetes mellitus to all staff members in the office. This information was provided through a lunch presentation, where I discussed each section of the brochure and explained how DSME is vital to type 2 diabetes mellitus management. The goal of the meeting was to educate all staff, regardless of job description, by reinforcing their understanding of type 2 diabetes mellitus and the domains of DSME. While the providers were aware of type 2 diabetes mellitus and the importance of DSME, ancillary staff members did not fully understand the brochure or the DSME domains. When patients would prompt questions regarding areas of DSME, ancillary

staff were unsure how to answer the questions, and they did not appropriately delegate these questions to the provider. Often, the patients would also forget to re-ask these questions to the provider. It was important to keep all staff members informed to prevent the loss of educational opportunities at every checkpoint in the primary care visit and to ensure proper implementation of the brochure. I supplied a second survey before and after the educational session that measured the level of confidence in discussing type 2 diabetes mellitus with patients.

After the education, we began the second round of implementation. The clinic saw an exponential increase in the number of brochures that were given. We agreed to give the brochure to any patient with type 2 diabetes mellitus, regardless of insurance coverage, and we also expanded the brochure to the other half of the office to cover that provider's patients as well. We continued to distribute the brochure at the beginning of the visit; therefore, questions could still be prompted to the provider during the appointment. This process was much easier for staff to understand and implement. It also benefited more clients with type 2 diabetes mellitus than originally intended. On average, three type 2 diabetes mellitus brochures were given each day over a 3-month period. In total, 220 brochures were given to patients with type 2 diabetes mellitus.

### **Impact on Practice**

The immediate impact for this rural clinic was a resource that provided education about Diabetes Self-Management. The resource also prompted providers at the clinic with more questions and conversations from clients regarding the management of their type 2 diabetes mellitus. This project aimed to target uninsured patients with type 2 diabetes mellitus. Initially, the project was not successful in providing the brochure to only uninsured clients. While plenty of clients have insurance, it does not guarantee that their medical care is still affordable or that

they can afford to go to specialists' visits or education programs. After all, research does show disparities in available DSME program availability across the United States. While Medicare would pay for the program, the available programs are often more than an hour drive from this rural clinic. This supported the project alteration to include all patients with type 2 diabetes mellitus.

The long-term impact of the diabetes resource revealed the importance of ongoing education and research, especially in rural clinics where resources are scarce and difficult to obtain. With the reinforcement of education and the project process, staff became more aware of this expected problem and began to understand how it affected the care of the patient population and the community. Many staff members also learned information about type 2 diabetes mellitus that they did not know before the project, including the research and data regarding rural health disparities. Going forward, the increased knowledge of staff alongside the self-management resource will increase education among all clientele with type 2 diabetes mellitus.

### **Conclusion**

DSME is a combination of domains that act as a guide to self-manage type 2 diabetes mellitus (CDC, 2018). The domains include: glucose monitoring, medication adherence, diet, exercise, and coping mechanisms. A DSME brochure was successfully implemented into a rural clinic for patients with type 2 diabetes mellitus. With the increased knowledge and awareness of DSME, staff expressed feeling more confident distributing the brochure to clients. For future projects, it is important to evaluate the effectiveness of staff education prior to implementation and during project implementation. It can be expected that some education may need to be reinforced to ensure successful implementation. Evaluating this process may require providing

mandatory evaluations to ensure staff have achieved the minimum educational competency required to properly implement the resource.

For those that intend to use a similar process of implementation on self-pay clients, assessing the target population more in-depth prior to implementation is recommended. This quality improvement project faced unintended consequences related to lifestyle factors of the self-pay clients and the timing of the initial implementation period. A self-management resource could also be used in any healthcare setting and can be tailored to fit the client population, regardless of insurance coverage.

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