



Equity in the Provision of Diabetes Self-Management Education and Support

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Diabetes self-management education and support (DSMES) interventions must be accessible to all people with diabetes. To address equity in the delivery of DSMES, interventions should consider the unique needs of various populations. This article outlines the needs of a wide range of populations, including people with diabetes who are racially or ethnically diverse; have limited English proficiency or literacy; are deaf or hard of hearing; are blind or have low vision; are neurodiverse; live with learning disabilities or intellectual or developmental disabilities; have dementia or cognitive impairment; or are of sexual and/or gender minority. The authors discuss how best to tailor DSMES to meet the needs of these diverse groups.

Diabetes self-management education and support (DSMES) interventions are essential in supporting people with diabetes (PWD) to meet self-management goals, improve clinical outcomes such as A1C, reduce acute complications, and improve quality of life (1). However, in the United States, <5% of PWD on Medicare and only ~7% of those on private insurance use DSMES (1). Specific populations such as PWD with disabilities are often left out of DSMES because of lack of accessibility, and if they do receive DSMES, it is at a significantly lower rate than the general population of PWD (2).

The Association of Diabetes Care & Education Specialists' (ADCES') 2022 National Standards for DSMES (1) identified the need to emphasize person-centered services to promote health equity in the delivery of DSMES. It is essential to address individuals' unique needs across the life span (1). Delivery of DSMES should occur across various populations, including those often left out of DSMES because of a lack of accessibility. In particular, Standard 5: Person-Centered DSMES is essential when implementing DSMES in different populations. Part of this standard is an assessment to best understand how (modality, content, and frequency) Diabetes Care and Education Specialists (DCESS) can most effectively deliver DSMES to individuals. Health status, including disabilities and social determinants of health; learning level and learning, cognitive, and developmental disabilities; psychosocial adjustment; and barriers such as social, peer, caregiver, and family support, is also assessed. This evaluation is crucial

in the partnership between the DCESS and the individual to develop and meet self-management goals (1).

It is essential to enable all PWD to participate in DSMES and to minimize barriers to promote health equity. This article will review strategies for achieving equity in the delivery of DSMES to specific populations, including PWD who are racially or ethnically diverse; have limited English proficiency or literacy; are deaf or hard of hearing (DHH); are blind or have low vision; are neurodiverse; live with learning disabilities (LDs) or intellectual and developmental disabilities (IDDs); have dementia or cognitive impairment; or are of sexual and/or gender minority (SGM).

Individuals From Racially and Ethnically Diverse Groups

Racially and ethnically diverse groups have a higher incidence and likelihood of diabetes than others (3). Moreover, racially and ethnically diverse groups are affected at high rates by disparate adverse outcomes, including mortality associated with diabetes (4–6). Racially or ethnically diverse individuals living with diabetes are less likely to have optimal glycemic outcomes and have a higher risk of diabetes complication–related hospitalizations (7–10).

The DSMES interventions that aim at meeting the unique needs of these groups, including addressing barriers to access, are highly effective, engaging, culturally tailored, and family-

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centered (11,12). These interventions help PWD achieve and maintain optimal A1C levels, increase the frequency of self-management behaviors such as medication-taking, enhance diabetes knowledge, and increase empowerment. Such targeted efforts serve to meet the cultural needs of PWD.

DSMES strategies that are community-based are culturally congruent, speak to the community's needs, and are evidence-based in eliminating health disparities (13,14). Furthermore, efforts rooted in community-based participation allow partnerships with communities and the health care system to deliver DSMES where there has historically been low uptake (15). These partnerships allow for high-quality access to care and sufficient and longstanding resources embedded in the communities they serve. DCEs can incorporate tailored education tools, including meal plates specific to cultures and translated education materials, peer support groups, and peer mentoring activities to build relationships and engage with racial and ethnic minority communities for effective DSMES.

It is also crucial to ensure the delivery of family-based DSMES (16,17). Family-based interventions that incorporate close members of a support team provide a sense of community, especially for close-knit cultures that may enjoy participating in group activities. Family- or group-based interventions also leverage accountability, which can be highly effective in maintaining diabetes self-management efforts. Community engagement events held at locations such as libraries and places of worship that incorporate activities, seminars, education, and collectiveness are successful avenues to deliver DSMES (18,19). These types of interventions engage community members, are tailored to meet the specific needs of the community, and are easily accessible and sustainable. Furthermore, layperson educators or community health professionals are welcomed, trusted, and known to have longstanding relationships with culturally accepted and trusted resources that are relevant for the community's needs (20–22). DCEs can teach these individuals to deliver effective DSMES.

Individuals With Limited English Proficiency or Low Health Literacy

Approximately 80 million adults in the United States are estimated to have limited or low health literacy (23), defined as the degree to which individuals can obtain, process, and understand health information and services to make health decisions (24). Health literacy includes core literacy skills such as reading and writing, speaking, cultural knowledge, and understanding of concepts necessary to interpret health information (25). Low health literacy more frequently presents among older adults, nonnative English speakers, individuals

with limited education, and members of racial and ethnic minority groups (26,27). Moreover, U.S. residents speak more than 350 languages (28), and nearly two-thirds of those who do not speak English speak Spanish. It is essential to assess health literacy and use strategies to address low health literacy, when necessary, in DSMES.

Health literacy is strongly associated with an individual's ability to engage in complex disease management and self-management (29–32). Specific to diabetes, a large meta-analysis showed that higher levels of health literacy were significantly associated with more diabetes knowledge and lower levels of A1C, but not with more frequent self-management activities (33). Thus, PWD can benefit from tailored low-literacy DSMES strategies to prevent morbidity and mortality.

DSMES interventions targeting health literacy improve diabetes self-management behaviors and the ability of PWD to incorporate treatment recommendations into their life (34). Several DSMES interventions in the setting of low health literacy, especially among adults with type 2 diabetes in racial and ethnic minority groups, have shown the effectiveness of low-literacy adaptations (35) and health literacy and numeracy tools in improving diabetes knowledge and self-management (36–38).

ADCEs recommends that health literacy interventions may be more effective in a collaborative, person-centered, evidence-based treatment approach. These approaches emphasize interactive communication between individuals and DCEs to develop a care plan. Specific recommended strategies include using plain language rather than medical jargon, presenting the most critical education points first, keeping sentences short, using headers and bullets to break up text in printed materials, and incorporating images to clarify meaning (39) (Table 1). Retention and comprehension improve significantly when the teach-back method is used or when individuals are asked to restate in their own words information that has been communicated (40), especially individuals with low health literacy. Many resources for low-literacy settings exist to support DSMES and benefit the most vulnerable and disproportionately affected PWD.

DHH Individuals

There are 11 million DHH Americans (41), and these individuals are 3.2 times more likely to self-report a diabetes diagnosis than individuals who can hear (42). Lack of access to linguistically and culturally relevant health information is likely a factor contributing to this disparity (43–45). Deaf people have their own culture and languages, such as American Sign Language (ASL). Importantly, ASL's grammar structure and syntax differs from English (46). As a result, written

TABLE 1 Principles for DCEs to Apply in the Setting of Limited Health Literacy

Principle	Examples
Patient-centered communication	<ul style="list-style-type: none"> ● Assess what PWD already know by asking them, “What do you already know about . . . ?” ● Identify “What do I need to do?” rather than “What do I need to know?”
Clear diabetes communication	<ul style="list-style-type: none"> ● Slow down. ● Present the most important education points first. ● Use plain language and avoid jargon. ● Attempt to match the vocabulary of PWD. ● Keep the number of key points to less than three.
Confirmation of understanding	<ul style="list-style-type: none"> ● Ask, “What questions do you have?” ● Use the teach-back method. Ask PWD to say back or demonstrate what was just taught (e.g., “I have just said many things. To make sure I did a good job and explained things clearly, can you describe to me . . . ?”).
Reinforcement	<ul style="list-style-type: none"> ● Use multiple modalities (e.g., pictures, graphs, and drawings). ● Involve care partners or family members. ● For written information, keep points to a minimum, write legibly with large letters, and use the active voice (e.g., “Take your metformin in the morning”) and short sentences (fewer than eight words).
Diabetes education materials	<ul style="list-style-type: none"> ● Use a large font. ● Provide text at a fifth-grade reading level. ● Use pictures and pictographs. ● Use clear headings and layout. ● Include the target population when designing tools.

Adapted from ref. 35.

DSMES materials may not be understood by DHH individuals unless they are ASL/English bilingual.

Many DHH individuals rely on ASL interpreters for communication. However, qualified ASL interpreters are not provided for most medical appointments (47,48), including diabetes specialty visits (49). To improve communication with DHH people, the health care provider ideally would be fluent in ASL. If that is not possible, ASL interpreters are required by law (50). One ASL interpreter is required for appointments lasting <1 hour, and two ASL interpreters are required for appointments lasting >1 hour. When using interpreters, DCEs and diabetes care teams should direct all communication to the DHH individual and not to the interpreter(s).

In addition to an ASL interpreter, some deaf individuals may benefit from a certified deaf interpreter (CDI). Deaf people understand each other 90–100% of the time. When interacting with individuals who can hear, including an ASL interpreter, information can be fragmented and can decrease understanding 50–70% of the time (51). CDIs are DHH individuals who identify with how DHH people process information and interpret it in a way DHH people may better understand. CDIs can be especially beneficial when a DHH person uses a different sign language than ASL (e.g., home sign or signed language from another country), has fragmented life experience, is undereducated, has developmental delays, or is deaf-blind (52).

ASL interpreters and CDIs can be requested from an interpreting service, although such requests may have to be made

up to 48 hours in advance. Requesting interpreters with medical training is preferred. Using interpreters requires more time, so longer appointment times should be scheduled.

Some DHH individuals may benefit from an audio amplifier and/or communication access to real-time translation (CART). CART is the process of transcribing and translating spoken words into text (53). The text appears in real time. In some instances, DHH individuals may have a text-to-speech app on their smartphone. If videos are shown as part of DSMES, closed captioning is recommended.

Virtual delivery of DSMES can be more accessible for DHH populations by incorporating medically trained ASL interpreters and/or real-time captionists on a Health Insurance Portability and Accountability Act–compliant platform with multiway video (48). Whether the DSMES occurs in person or via video, good lighting is essential for DHH individuals to fully visualize sign language and other gestures and/or to read lips. In situations requiring masking, transparent face masks or a powered air-purifying respirator are two options that allow DHH individuals to see health care providers’ face and lips, which can enhance communication (54).

Blind/Low-Vision Individuals

Blindness or low vision can occur as a result of age-related eye disease (i.e., glaucoma, macular degeneration, and cataracts), diabetes-related retinopathy, and other factors and is often

permanent. DSMES can be augmented with written materials in large print and/or audio-recorded materials to allow people with blindness or low vision to better retain and recall information. Guidelines for producing large-print or audio-recorded instructions have been developed and tested (55). Importantly, diabetes education videos may not translate well for blind/low-vision people unless all relevant visual information is verbalized.

Tactile and auditory devices can be used for medication delivery and glucose monitoring. Medication dispensers with alarms, talking prescription bottle holders, or pill reminder boxes in braille can be used for oral medications. Insulin can be delivered using insulin pens that click when setting doses or magnifiers on insulin syringes. Talking blood glucose meters, scales, and blood pressure monitors are also available, although not all have an audible memory. The American Diabetes Association's (ADA's) online consumer guide allows people to filter commercially available blood glucose meters by audio features (56). Some talking blood glucose meters may require support from a DCES or another support person for initial set-up (57).

No insulin pumps or continuous glucose monitoring (CGM) systems are currently accessible for low vision (e.g., offering voice output, change in font size, or braille) (58,59). Thus, DCESs will need to work with PWD on selecting diabetes technologies with features that support vision needs, such as enhanced color contrast or larger screens. If it is difficult for PWD to enter data (e.g., glucose levels or carbohydrate grams), being taught how to manually bolus insulin by pushing the button a certain number of times may be necessary. DCESs can also help PWD access their CGM data by recommending the use of Siri, Alexa, or the iOS accessibility read-out feature for reporting. Teaching care partners to support medication administration and the use of diabetes technology may also be helpful.

Neurodiverse Individuals

Autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD) are the most common neurodevelopmental disorders and are often diagnosed in childhood (60–62). About 1.15–1.58% of PWD live with ASD, and ~10.5% live with ADHD (63).

People living with ASD may have sensory function disturbances and difficulty communicating (60). Unpredictability or changes in routine can cause immense stress and lead to undesired behaviors (64). Therefore, many PWD who have ASD prefer routines to facilitate meeting self-management goals (60,63). Individuals with ADHD may experience impulsivity and impaired executive function, including planning and working memory. These features may affect the execution

of diabetes self-management tasks and become a barrier to following diabetes self-management routines (62,65,66). Therefore, PWD who have neurodevelopmental disorders can benefit from tailored DSMES.

When providing DSMES across the life span to PWD who have ASD, it is essential to include a primary caregiver or support person, who is often the central resource for daily self-management, and to consider one-on-one appointments to reduce sensory disturbances (63). Primary caregivers can aid with anxiety related to unfamiliarity by providing open communication during the visit and helping neurodiverse PWD identify goals that fit within their routines (60,64). They can also help DCESs assess the preferred communication methods and social and behavioral skills of PWD who have ASD (64).

Individuals with ASD are less likely to use insulin pump therapy because of increased tactile sensitivity and hypersensitivity to certain sounds (64). However, many still use CGM to help safely communicate hypoglycemia (60). When educating people with ASD on diabetes technology usage, it is essential to support them in expecting and managing technology-related sensory disruptions such as audio alerts or vibrations for glyce-mic excursions.

Involving family members and social support resources aids in meeting diabetes self-management goals for PWD who have ADHD (63,66). Impaired executive function, in particular, is recognized as a barrier to self-management and should be considered when setting self-management goals. DCESs can help individuals overcome executive functioning challenges by devising a routine (62,63) and setting achievable self-management goals. Placing a greater focus on topics such as the organization of diabetes supplies, technologies, tasks, and time management is one important way to adapt self-management education for people with ADHD (66).

In summary, PWD who have neurodevelopmental disorders need to incorporate routines into diabetes self-management plans with support from caregivers. There should be a great emphasis on effective coping skills and collaboration with a multidisciplinary team for self-management, including psychologists, psychiatrists, therapists, and social workers, to optimize diabetes care.

Individuals With IDD or LDs

Adults with diabetes are two to three times more likely to have an LD than the general population (67). Specifically, women, younger adults, or those living in rural settings are at higher risk of having diabetes and an LD (68). Common

characteristics of LDs include short attention span, memory difficulty, difficulty following directions, inability to discriminate between letters or numbers, limited reading or writing ability, lack of hand-eye coordination, disorganization, and sensory challenges, all of which are barriers to daily diabetes self-management tasks. Those with IDD present intellectual functioning and adaptive behavior limitations, affecting daily social and practical skills and complicating diabetes self-management tasks.

Optimal DSMES is delivered individually to PWD who have LDs or IDDs and their caregivers. Individuals with LDs or IDDs often rely on caregiver support for daily functioning, including diabetes self-management tasks and shared decision-making (69). Problem-solving is a core skill involved in diabetes self-management, and caregivers or support people therefore need to be integrated into DSMES visits (67,69). DCEs can work with caregivers to understand how PWD who have LDs or IDDs can manage diabetes within safe limits (67,69). DCEs have a unique role in empowering people with LDs or IDDs to exercise autonomy in diabetes self-management, build confidence, and practice new self-management skills, while also building on their caregivers' capacity (67,69).

During DSMES, there should be an increased emphasis on emotional needs and psychosocial factors, which may differ from those of other adults living with diabetes. Many individuals with LDs or IDDs may live in group housing or with family, and self-management success often depends on support in their home setting (69,70). PWD who have LDs or IDDs are often influenced by environmental factors rather than internal motivations for diabetes self-management tasks. For example, those who live in shared living situations may have peers with unrestricted diets, resulting in feelings of isolation, and these factors should be considered during self-management goal-setting (67,69,70).

Social workers and the multidisciplinary team, including care partners at group residential facilities, should be included in diabetes self-management plans and communications for these individuals. Additionally, more frequent communication between DSMES visits is essential, and regularly scheduled telephone or virtual visits are needed to effectively assess self-management goals and follow-up (69).

Individuals With Dementia or Cognitive Impairment

PWD are twice as likely as their peers to develop dementia (71,72) and are even more likely to experience mild cognitive impairment (73). Older adults with diabetes who develop cognitive impairment are at a significantly increased risk of subsequent hospitalization for hypoglycemia (74,75). Hypoglycemia

is a common and dangerous complication for this population, as it can cause cardiac events, loss of consciousness, falls, seizures, and hospitalizations (76–78). Cognitive deficits interfere with diabetes self-management, which leads to further decreased cognition.

PWD with cognitive impairment are at high risk for experiencing several serious problems associated with managing a complicated disease such as diabetes. Memory loss leads to errors such as forgetting to inject insulin or take other medications, eat on time, eat before exercise, and attend clinic visits (79). Cognitive impairment causes problem-solving difficulties such as problems integrating new instructions into practice and the inability to recognize or treat hypoglycemia. Individuals with cognitive impairment have trouble stopping old behaviors and starting new behaviors, and they may make errors when old routines are changed. Difficulty with mental flexibility leaves these individuals feeling anxious about “failing” treatment plans (79). Cognitive decline increases the risk for diabetes self-management errors and requires care partners to become involved; yet, only 25% of diabetes care partners rated themselves as informed when they first began assisting someone with diabetes (80).

Strategies to improve DSMES in older adults with cognitive impairment were developed by Munshi (79) and include simplifying treatment plans, instituting a system of reminders, making small changes at a time, and involving a caregiver in goal-setting and plan execution. Recommendations for managing diabetes in older adults in the ADA's *Standards of Medical Care in Diabetes* (81) also include using CGM to predict and reduce the risk of hypoglycemia for older adults with type 1 diabetes. DCEs are integral in assisting older adults with diabetes and their care partners in successfully and continuously using CGM, by providing education on the use of devices and related apps and through data-sharing. CGM data-sharing interventions are promising when integrated into DSMES and focus on communication, problem-solving, and action-planning in older adults with type 1 diabetes and their care partners. More strategies for providing tailored DSMES for older adults are needed (82).

SGM Individuals

SGM individuals have a higher incidence of diabetes and adverse diabetes outcomes than their heterosexual counterparts, and the incidence rate increases when SGM individuals also belong to racial/ethnic minority groups (83). PWD who are SGM individuals also experience double the unemployment rate of other populations, further increasing the likelihood of lack of health insurance and acute diabetes-related complications (84,85). Despite gains in social equity for SGM

individuals and some policy reform to reduce vulnerability, ongoing transphobic and homophobic sentiment and the proliferation of repressive laws such as those excluding the provision of or insurance coverage for health care services for transgender people make it difficult for this population to gain civil rights and health care equality (86).

SGM PWD have unique lived experiences (87). Frequently, these individuals feel that they cannot be open about their health history with their health care team because they fear being judged, discriminated against, and ultimately deprived of proper health care (84,88,89). These individuals often feel that they cannot expose their sexual or gender identity because they fear discrimination or because their health care professionals do not care to ask (90).

Providing culturally centered diabetes care is vital in connecting and building respect and rapport with SGMs. An example of this is identification of correct pronouns in the electronic health record, appropriately expansive gender options, and romantic relationship status. If this information is not available, asking individuals how they would like to be addressed signals a more welcoming environment than by just making assumptions (91). Having intake forms that allow individuals to communicate their correct gender and relationship status demonstrates a partnership with SGMs. Building this respect and trust is vital to effective DSMES partnerships between DCEs and SGM PWD (92).

Additionally, DSMES interventions that include community support groups in which SGMs have a safe space to learn about their health and share health-seeking-related activities have been shown to have positive outcomes (93). Allowing PWD's romantic partners to join health-related conversations has had significant results in the realm of DSMES by demonstrating that their relationships are welcomed while also equipping partners with education needed to provide support and encourage accountability (94,95). Referring PWD to provider networks that have partnerships with SGMs is a powerful way to overcome barriers to care (96). Providing resources with inclusive language, illustrations, and photographs is also effective. Lastly, promoting an environment through education and policies that is committed to culturally centered and inclusive care is the best way to successfully build trust and have a positive impact on SDM individuals.

Discussion

A national standard for DSMES is to deliver person-centered and individualized care. To meet this standard and address health equity, it is crucial to tailor DSMES to meet the complex needs of populations that have been historically underrepresented. PWD that fall into this category include

but are not limited to those who are racially or ethnically diverse, have limited English proficiency or literacy, are DHH, are blind or have low vision, are neurodiverse, have IDD or LDs, have dementia or cognitive impairment, or are SGM.

Although each of these populations has differing needs, there are commonalities in effective DSMES intervention components across populations. Such components include using peer support, incorporating DSMES into the community, building trust between DCEs and PWD, preferring individual appointments over group visits, and including family members or care partners in DSMES visits. In addition, considering how individuals understand and interpret diabetes information, how they best communicate, including nonverbally, and what their beliefs, values, and family structures are is essential to delivering effective DSMES (29,97,98). It is crucial for DCEs and diabetes care teams to ask direct questions regarding support people, living situations, communication and learning preferences, culture, knowledge, beliefs, and values to best tailor DSMES (1).

Table 2 provides a listing of tailored resources and tools to assist diabetes care teams who work with PWD within the special populations discussed in this article. However, more research is needed to determine effective strategies for the provision of care in these groups. Clinical trials of targeted interventions should be conducted in multiple sites to provide the necessary diversity and sufficient sample sizes and to be applicable for groups with low overall numbers such as the DHH and neurodiverse populations.

There remain challenges to implementing our recommendations for improving health equity in DSMES delivery. First, we could not provide an all-inclusive guide to each existing, diverse population. Rather, this article is meant to highlight just some tailored components of DSMES as a starting point for addressing health equity gaps in diabetes care. Furthermore, although we have parsed these populations individually, it is crucial to consider that there may be individuals at the intersections of multiple populations who have multiple, unique needs. Future research should focus on implementing tailored DSMES interventions on a larger scale to diverse populations, including individuals who are members of multiple population groups.

Gaps in delivering tailored DSMES to populations remain, as sufficient toolkits and resources are lacking. Because of extrinsic factors such as lack of access, barriers to care, health care inequities, systemic health care barriers, scarcity of resources, and limited DCE personnel, it is more imperative than ever that we provide adequate DSMES and equip PWD in vulnerable communities with the tools, connections, and resources they need to successfully self-manage their diabetes.

TABLE 2 Resources Tailored to Specific Populations

Resource	Description	Audience	
		HCP	PWD
<i>Racial and ethnic minority groups</i>			
ADCES Supporting Racial Equity in Your Practice toolkit	A collection of resources designed to address racial inequities in diabetes care, including a kit with education tools, research, social media platforms, and web resources to equip DCEs to address racism.	X	
Alliance to Reduce Disparities in Diabetes	A national organization addressing barriers to improve outcomes of PWD. It partners with communities to educate PWD and HCPs to decrease the health care gap and eliminate health disparities.	X	X
ADA cultural food plates	Food plates specific to cultures including Asian, Indian, Southern, and Pacific Islander (https://shopdiabetes.org/collections/the-diabetes-placemat).	X	X
“Breaking the Cultural Code,” by Lorena Drago	A 13.5-credit continuing education program led by a DCEs focusing on counseling Hispanic populations about diabetes. It features information about the cultures and cuisines of Mexico, Puerto Rico, the Dominican Republic, Cuba, El Salvador, and Guatemala.	X	
<i>Limited English proficiency or literacy</i>			
Vanderbilt University Center for Diabetes Translation Research diabetes literacy and numeracy education toolkit	A comprehensive, 24-module diabetes guide designed for use with individuals with low health literacy (https://labnodes.vanderbilt.edu/resource/view/id/10654/community_id/1136).	X	
Agency for Healthcare Research and Quality resources	A systematic review examining the effects of literacy on health outcomes and offering examples of interventions and a Health Literacy Universal Precautions Toolkit (https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/index.html).	X	
Centers for Medicare & Medicaid Services resources	This agency’s website features a toolkit and guidelines/tutorials on how to create written documents suitable for low-literacy audiences (https://www.cms.gov/outreach-and-education/outreach/writtenmaterialstoolkit/index.html?redirect=/writtenmaterialstoolkit).	X	
National Network of Libraries of Medicine information and resources	Information about and a list of resources focusing on health literacy-related problems, their impacts on health and economic outcomes, and how to address them (https://nnlm.gov/initiatives/topics/health-literacy).	X	
<i>DHH</i>			
Deaf Action Center videos (PWD)	A YouTube video series in ASL. <ul style="list-style-type: none"> • “What Is Diabetes?” (https://www.youtube.com/watch?v=dpw9uwJW2mA). • “Diabetes and Nutrition” (https://www.youtube.com/watch?v=0IUaq_yew4w). • “Diabetes and Medication” (https://www.youtube.com/watch?v=Aijmz1AWcF4). • “Diabetes and Exercise” (https://www.youtube.com/watch?v=iZIOOQ-jG_U). • “Thriving With Diabetes” (https://www.youtube.com/watch?v=gYiOykwL1vc). 		X
Deaf Action Center video (HCPs)	“Information for Medical Professionals” (https://www.youtube.com/watch?v=-mofiBmvwzw).	X	

Continued on p. 291

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CONTINUED FROM P. 290

TABLE 2 Resources Tailored to Specific Populations (Continued)

Resource	Description	Audience	
		HCP	PWD
Deaf Diabetes & Kidneys Ed ASL Vloggers Facebook community	An online support group for PWD or individuals with kidney disease, in which the majority of interactions are in ASL (https://www.facebook.com/groups/768936796487163).		X
<i>Blind/low vision</i>			
“Be My Eyes” YouTube channel video	A recorded webinar on talking blood glucose meters (https://www.youtube.com/watch?v=0TSQV1grk54).	X	X
American Foundation for the Blind audio diabetes education lessons	Audio-recorded diabetes education lessons in English and Spanish (https://www.afb.org/blindness-and-low-vision/eye-conditions/diabetes-and-vision-loss).	X	X
<i>Neurodiversity</i>			
Social media support groups for parents	Facebook community groups: <ul style="list-style-type: none"> • For ADHD and type 1 diabetes (https://www.facebook.com/groups/shinyandsweet) • For autism and type 1 diabetes (https://www.facebook.com/groups/autismandtype1diabetes) 		X
Book: <i>Half My Life: The Testimony of a Father and His Special Needs Child</i> , by Joseph Lim	A book in which the father of a child with diabetes and autism shares their journey.		X
<i>IDDs or LDs</i>			
Cognitopia app	A tailored app to help PWD with IDD or LDs communicate with a diabetes team and track self-management goals and self-management activities (https://cognitopia.com/features).	X	X
Commit to Inclusion video “Taking Charge of Your Diabetes”	An educational video with actors who are PWD with IDD or LDs to explain living with diabetes to their peers (https://committoinclusion.org/diabetes-management-for-self-advocates).	X	X
Diabetes UK “What to Do When You Have Diabetes: An Easy-Read Guide”	A diabetes education booklet tailored to adults with IDD or LDs (https://www.diabetes.org.uk/resources-s3/2017-11/type%20%20diabetes%20easy%20read%20guide.pdf).	X	X
<i>Dementia or cognitive impairment</i>			
Gerontological Society of America toolkit	A cognitive assessment toolkit: https://www.geron.org/publications/kaer-toolkit?showall=1	X	
Article: “Using diabetes technology in older adults” (99)	An article by Nancy A. Allen and Michelle L. Litchman describing the facilitators of and barriers to using technology in older adults with diabetes.	X	
<i>SGMs</i>			
UCSF Center of Excellence for Transgender Care	This program provides HCPs with training through community-based research to promote health equity for transgender and gender nonbinary individuals.	X	
National LGBTQIA+ Health Education Center booklet: “Diabetes Prevention and Management for LGBTQ People”	A booklet for HCPs promoting culturally centered, high-quality care for LGBTQIA+ PWD (https://www.lgbtqiahealtheducation.org/wp-content/uploads/2019/07/TFIE-35_LGBT-Diabetes-Brief_final2_pages.pdf).	X	X

HCP, health care provider; LGBTQIA+, lesbian, gay, bisexual, transgender, queer/questioning, intersex, asexual, and many other terms.

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AUTHOR CONTRIBUTIONS

J.E.B. wrote, reviewed, and edited the manuscript. S.P.A. wrote the manuscript. N.A.A. and M.L.L. wrote and reviewed the manuscript. J.E.B. is the guarantor of this work and, as such, takes responsibility for the integrity and accuracy of the literature reviewed and discussed in this article.

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