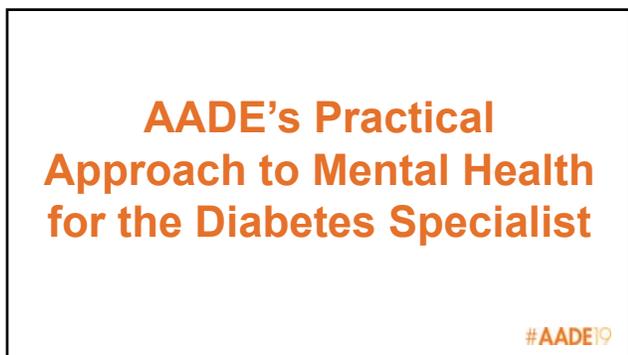
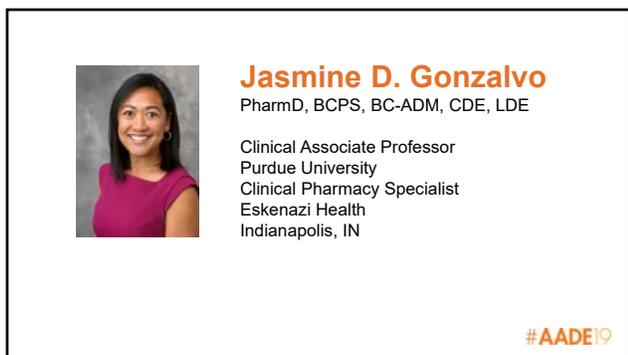


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Disclosure to Participants

- Notice of Requirements For Successful Completion
 - Please refer to learning goals and objectives
 - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
- Conflict of Interest (COI) and Financial Relationship Disclosures:
 - Presenter: J. Gonzalvo – NCBDE, Board of Directors
 - Presenter: J. Hamm – No COI/Financial Relationship to disclose
 - Presenter: S. Eaves – No COI/Financial Relationship to disclose
 - Presenter: C. Muñoz – ADA Mental Health Diabetes Education Program, Steering Committee
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Learning Objectives

Name common psychosocial considerations encountered in people with diabetes.

List relevant adverse effects for psychotropic medications and select cardiovascular medication classes.

Identify appropriate referral sources for psychosocial care for people with diabetes.

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AADE Mental Health and Diabetes Resources

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Psychosocial Considerations for People with Diabetes

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Current State of Affairs

Prevalence of comorbid mental health conditions is higher in people with diabetes than the general population

Most common conditions:

- Depression
- Anxiety
- Disordered eating and eating disorders
- Neurocognitive changes associated with hypo- and hyperglycemia

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Survey

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Survey Results

165 diabetes educators responded to the survey

- 37.7% (n=113) held the CDE credential
- 30.7% (n=92) identified as nurses/nurse practitioners
- 14.7% (n=44) identified as dietitians
- 7.7% (n=23) held the BC-ADM credential
- 7.2% (n=12) identified as mental health professionals

Top three psychosocial issues encountered by diabetes educators:

- Depression (n=158; 17.0%)
- Anxiety (n=146; 15.7%)
- Diabetes distress (n=144; 15.5%)

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Survey Results

Strategies used to provide psychosocial support include referrals to:

- Psychologist (n=89; 20.2%)
- Social worker (n=82; 18.6%)
- Case manager (n=62; 14.1%)
- Psychiatrist (n=60; 13.6%)
- Other: behavioral therapist, marriage and family therapist, hospital outpatient mental health services or integrative primary clinic

Respondents also:

- Attempt to help or counsel people on their own
- Offer community resources
- Suggest mindfulness, meditation apps, or Dialectical Behavioral Therapy
- Encourage individuals to work with mental health team
- Provide educational materials and tools
- Prescribe antidepressants
- Involve the family and support system

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Survey Results

How mental health referral sources are identified in the local area

- Have mental health specialists physically located within the facilities/clinics (n=67, 42.1%)
- Have a partnership with specific mental health practices (n=45, 28.3%)
- Not aware of mental health resources in the area (n=12, 7.6%)

Comfort level with knowing when to refer a PWD to a mental health professional

- Very comfortable (n=45, 28.1%)
- Somewhat comfortable (n=94, 58.8%)
- Somewhat uncomfortable (n=17, 10.6%)
- Very uncomfortable (n=4, 2.5%)

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Survey Results

Frequency of follow up on status of mental health referrals

- Some referrals (n=53, 32.9%)
- No referrals (n=31, 19.3%)
- Every referral (n=29, 18.0%)
- Very few referrals (n=26, 16.2%)
- Do not place mental health referrals (n=15, 9.3%)
- If the person came back for diabetes management (n=13, 8.1%)

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Survey Results

Sources of information to learn about mental health topics

- Written materials with practical suggestions (n=113, 27.4%)
- Live conferences or workshops (n=101, 24.5%)
- Webinars (n=99, 24.0%)
- Websites with links to helpful resources (n=87, 21.1%)
- Do not access mental health sources (n=7, 1.7%)

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Survey Results: Free Text Comments



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Survey Results: Free Text Comments

- Lack of education and training among diabetes educators to communicate effectively about mental health
- Struggle to initiate a conversation about seeking help
- Desire further training
- Lack of care coordination

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Survey Research Conclusion

Leading concerns identified by respondents:

- Limited resources
- Lack of mental health education and training among diabetes educators

In conclusion:

- We need to address the existing disparities in the provision of psychosocial care for PWD
- We need more research to identify effective strategies for diabetes educators to optimize psychosocial care for PWD

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Depression

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Depression

- 7.6%: Persons aged ≥12 years in the U.S. who experienced moderate to severe depressive symptoms in the last two weeks
- Elevated depressive symptoms affect one in four adults with diabetes
21.3%: Adults with T1D, 27%: Adults with T2D
- 8-15%: Adults with diabetes whose severity of depression involves impairment in social or occupational functioning
- 13-23%: Youth with T1D who experience depressive symptoms with elevated levels of vulnerability
- 27%: Adolescents with T1D who exhibited moderate to high risk for depression
8%: Adolescents with T1D endorsed thoughts of self-harm
- 8% to 22%: Youth with T2D at risk of depression

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Depression

In PWD, depressive episodes are **longer** in duration and **more persistent**

92 weeks: The average duration of a major depressive episode in adults with T2D
vs.
22 weeks: The average duration of a major depressive episode in the general population

79%: Relapse rate of depression once an episode of depression develops

38%: Increased risk of developing T2D later in life for people who experience depression prior to the onset of T2D

Elevated depressive symptoms and depression are associated with:

- Worsened glycemic control and greater glycemic excursion
- Greater severity of the full range of diabetes complications
- Worsened adherence to diabetes self-management behaviors
- Greater functional disability and greater risk of earlier mortality

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Depression

Depression can be treated effectively in people with diabetes

CBT delivered through individual counseling or telephone-based therapy

Combination of CBT + antidepressant medications

The only modality that has shown effectiveness in improving depression and A1c values:

- Combination of CBT + community-based exercise interventions
- tailored for diabetes
- delivered by community mental health and exercise professionals

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Diabetes educators play a key role in providing education on the co-occurrence of diabetes and depression

IDENTIFY: Diabetes educators should screen all PWD for depression
REFER: Individuals who exhibit symptoms of depression should be referred to an appropriate provider for assessment and treatment

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Anxiety

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Anxiety

Adults with diabetes have elevated rates of anxiety symptoms and conditions including:

- GAD
- Diabetes-specific anxieties such as fear of needles and fear of hypoglycemia

Youth with diabetes are at risk for elevated levels of anxiety

Studies have detected an association between PTSD and an increased risk for the development of T2D

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Anxiety

The flowchart consists of three blue circles connected by arrows pointing from left to right. The first circle is titled 'Associated with:' and lists 'Poorer diabetes self-management', 'Worsened QOL', and 'Higher A1c values'. The second circle is titled 'Anxiety that is diabetes-specific (FOH or needle phobia) can significantly and negatively impact self-care activities'. The third circle is titled 'Fear of needle sticks can affect:' and lists 'BG checking', 'Injections', and 'Placement of devices (CGM, insulin pumps)'. The hashtag #AADE19 is in the bottom right corner.

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Anxiety

CBT and Mindfulness Training <ul style="list-style-type: none">Effective for anxiety disorders that impair social, occupation, or medical self-care functioning	Systematic Desensitization <ul style="list-style-type: none">Can help PWD re-establish trust with diabetes devices and improve self-care
Blood Glucose Awareness Training <ul style="list-style-type: none">Empirically validated CBT txPromotes early identification of symptoms of hypo- and hyperglycemiaCan be used as cue for SMBG	REFER: Mental health providers can use these treatment modalities with PWD who exhibit anxiety symptoms

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Disordered Eating and Eating Disorders

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Disordered Eating and Eating Disorders

Decision-making associated with food choices
+
The need to eat at times that are not dictated by hunger cues

→

Complicated relationship with food can result in:

- Disordered eating behaviors
 - Maladaptive feeding behaviors related to diabetes self-management
- Psychiatric eating disorders
 - Anorexia nervosa, bulimia, binge-eating disorder

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Disordered Eating and Eating Disorders

51.8% vs. 48.1%

Rates of disordered eating behaviors among teens with T1D compared to rates among teens without diabetes

Rates of psychiatric eating disorders are more elevated among adolescents and adults with T1D and T2D

- Prevalence estimated at 6.4%
- Bulimia and binge eating disorders occur at higher rates than anorexia

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Disordered Eating and Eating Disorders

Diabetes educators can:

- Address gaps in education
- Examine aspects of the treatment regimen that contribute to disordered eating

↓

Treatment typically requires intensive psychological interventions

- Multidisciplinary CBT approaches
- Target thoughts, emotional distress, and behavioral choices related to eating, body image, and weight

↓

Adults with binge eating disorder may also benefit from:

- Medication evaluation to address physiologic mechanisms that
 - (1) suppress signaling for satiety
 - (2) promote grazing and binge eating behaviors

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Diabetes Distress

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Diabetes distress

Burdens associated with diabetes and its self-management + Stress or anxiety of disease progression and complications = Diabetes Distress

18-45%: Prevalence of diabetes distress
~33%: Adolescents who experience diabetes distress

Individuals who develop diabetes distress:

- Experience difficulty maintaining healthy self-care behaviors
- Higher A1C values

Diabetes distress may also affect parents of youth with diabetes, resulting in similar negative outcomes

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Diabetes Educators

- **IDENTIFY:** Routinely assess PWD for diabetes distress, especially in those who are not meeting individualized goals or who are experiencing complications
- **EDUCATION:** Focus on specific self-management topics to promote improved relevant outcomes.
- **REFER:** PWD with continued difficulty with self-management behaviors may benefit from further assessment

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Cognitive Dysfunction and Dementia

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Cognitive Dysfunction and Dementia

- Type 1 and type 2 diabetes are associated with cognitive dysfunction in elder adults, with cognitive declines of aging evidenced earlier in those with diabetes than in the general population.
- Increased risk of all types of dementia
- Increased risk of mild cognitive impairment (MCI), which is the stage of cognitive decline between normal cognitive aging and dementia.
- Racial and ethnic minorities with diabetes have a higher risk of both MCI and dementia

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Cognitive Dysfunction and Dementia

Differing presentation of cognitive dysfunction

- Self-reported concerns: Memory, concentration, attention difficulties
- Family report of observed changes:
 - Performance of everyday life activities
 - Diabetes self-management behaviors
 - Changes in mood or personality

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Cognitive Dysfunction and Dementia

If changes in cognitive function are observed or suspected, refer for further evaluation and treatment

Older adults should receive annual cognitive screening

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In people with diabetes with confirmed degenerative dementia, the primary tasks of the educator are to monitor changes in the patient's ability to perform diabetes self-management as dementia progresses.

The educator will help determine what self-care adjustments are needed when carrying out daily functional and self-management activities, as cognitive impairment progresses.

At the early stages of dementia, the educator can assist the patient and family in identifying a caregiver.

Training or retraining of caregivers is indicated as dementia progresses to ensure caregivers are prepared with the knowledge, skills, and problem solving required for assisting with the patient's diabetes management.

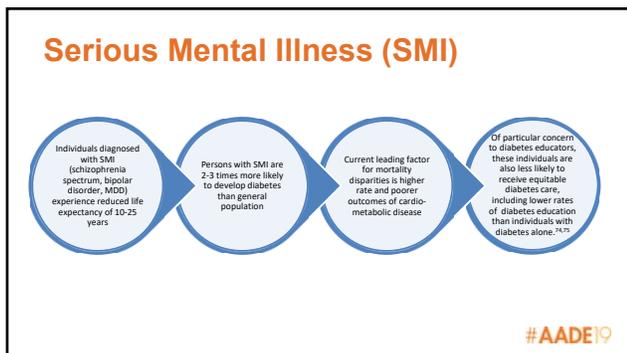
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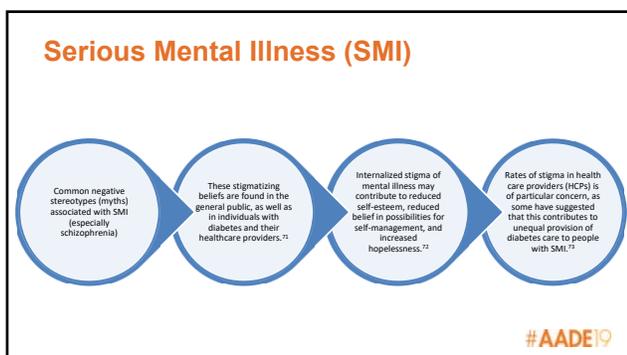
Serious Mental Illness

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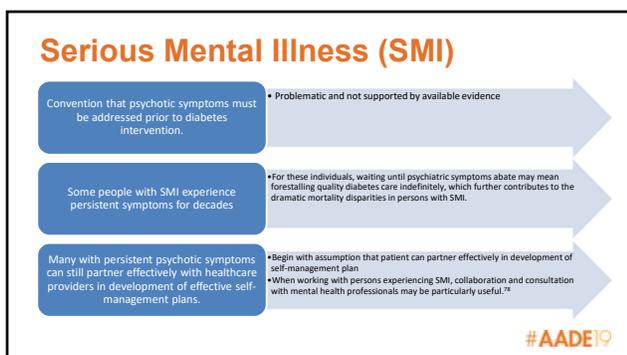
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Serious Mental Illness (SMI)

Outcomes for SMI are highly variable but much more favorable than commonly believed

Promotion of recovery, in contrast to traditional approaches which focus primarily at stabilization and reduced adverse events, is now the standard for treatment.

A range of treatment options are available for persons diagnosed with SMI.

Pharmacological as well as a range of psychosocial interventions are commonly offered, including psychotherapy, skills training, family interventions, supported employment, and peer support.

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Pharmacologic Effects of Medications

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Increased Morbidity & Mortality

Contributing Factors:

- Poor diet, sedentary lifestyle, increased use of substances such as tobacco
- Co-morbid disease states such as hypertension, dyslipidemia, and obesity
- Poor access to healthcare services, stigma, and poor identification of medical conditions within psychiatric services
- Adverse effects due to psychotropic medications

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Antipsychotics

- Most commonly prescribed for:
 - Psychotic spectrum disorders (i.e. schizophrenia, schizoaffective disorder)
 - Mood disorders (i.e. bipolar disorder, major depressive disorder)
- Used off-label for anxiety disorders, aggression, impulsivity, etc.
- Antipsychotics broken in to first and second generation agents
- Second generation antipsychotics (SGAs) linked to higher incidence of metabolic syndrome

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Cardiometabolic Impact of Antipsychotics

- The pharmacologic mechanism of metabolic syndrome due to antipsychotics is unknown
 - Hypotheses center around:
 - Higher correlation with certain SGAs compared to others (e.g. clozapine or olanzapine vs. aripiprazole)
 - Higher affinity for 5-HT_{2C} and histamine H₁ receptors
 - Actions on peripheral M₃ muscarinic receptors and central 5-HT_{2C} receptors may have an effect on diabetes independent of obesity
- American Psychiatric Association (APA) recommends that all individuals receiving SGAs should receive metabolic monitoring at baseline, 3 months, and annually thereafter

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Additional Psychotropic Agents

Mood Stabilizers	Antidepressants
<ul style="list-style-type: none"> • Agents: <ul style="list-style-type: none"> - Lithium - Valproic acid/ divalproex sodium • Potential adverse effects of weight gain and increased appetite 	<ul style="list-style-type: none"> • Classes/Agents: <ul style="list-style-type: none"> - Selective serotonin reuptake inhibitors (SSRIs) - Serotonin norepinephrine reuptake inhibitors (SNRIs) - Mirtazapine - Tricyclic antidepressants (TCAs) • Potential adverse effects of weight gain

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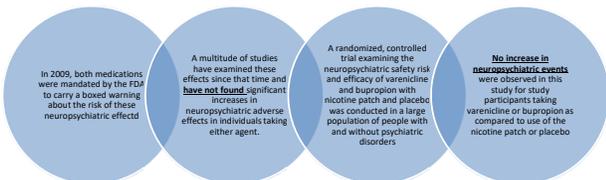
Neuropsychiatric Adverse Effects of Smoking Cessation Treatment

- Medications used to help manage cardiovascular health have the potential to affect mental health adversely
- Since 2007, case reports of neuropsychiatric effects, including suicidal ideation, mood and behavior disturbances, and depression have surfaced with the use of varenicline and bupropion
- Varenicline – a partial nicotine agonist used to help with smoking cessation by decreasing the urge to smoke.
 - Significantly longer nicotine abstinence rates when compared to placebo, nicotine replacement therapy, or bupropion
- Bupropion - dopamine/norepinephrine reuptake inhibitor used as an antidepressant and smoking cessation aid.

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Varenicline and bupropion



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Diabetes educators may consider the use of varenicline or bupropion in people with underlying psychological disorders

Individuals should continue to be counseled on the potential risk of neuropsychiatric effects associated with these medications, with the recommendation to notify a mental health provider should these symptoms occur

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Cognitive Impairment Due to Statin Therapy

Almost 40 million Americans take statins to reduce the risk of cardiovascular events.

Underserved populations are less likely to be on a statin, although the exact prevalence of statin use in individuals affected by mental illness is unknown.¹⁴

Statin use is associated with significant cardiovascular benefits, although adverse effects such as hyperglycemia and cognitive effects have affected some individuals taking this class of medications.

The evidence on the effect of statin use on cognitive impairment or psychological disorders is mixed, ranging from forgetfulness to complete blackout.¹⁵

The conflicting evidence on statins and cognitive impairment should not prevent diabetes educators from recommending statin use in people with diabetes.

The decision to start or discontinue statin use in people with diabetes who report cognitive side effects should be made on an individualized basis, weighing risk versus cardiovascular benefit.

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Assessment and Referral

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Assessment and Referral

ADA and AADE have highlighted the critical role of DSMES given potential psychosocial benefits, including the reduction of depression.

Identifying the primary reason for mental health referral is important because it can promote the selection of appropriate resources.

ADA and APA have partnered to offer CE credit for licensed mental health professionals interested in providing mental health care to people with diabetes.

If emotional support is the primary referral question, a referral to a clinical psychologist, marriage and family therapist, or social worker may be optimal. Some psychiatrists also provide counseling.

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Assessment and Referral

Furthermore, school-based counseling with a school psychologist or other school-based mental health provider may be a helpful and more easily accessible resource for some.

If cognitive or learning challenges are suspected, one should consider a referral to a clinical psychologist or neuropsychologist for a diagnostic assessment. A psychoeducational assessment with a school psychologist is another option for students who are experiencing academic challenges.

Given the unique impact of diabetes on individuals, mental health professionals with working knowledge about diabetes may be beneficial. For example, a professional experienced in the treatment of diabetes-related psychological issues may anticipate the possible impact of variable BG levels on emotional, behavioral, academic, and cognitive functioning (e.g., mood symptoms, attention/concentration, motivation, energy).

In 2018, the American Diabetes Association (ADA) launched the Mental Health Provider Directory, an online directory of mental health professionals with working knowledge about diabetes. This directory includes a list of mental health professionals who work with adults and/or children with diabetes. Telehealth options are also available.

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Assessment and Referral

Sometimes, dissatisfaction with mental health services can result in refusal to access or continue mental health treatment.

A good fit between the mental health provider and individual with diabetes is an important component of a productive, helpful experience.

If possible, the individual with diabetes may consider consulting with several mental health providers before committing to ongoing mental health services with a specific mental health provider.

When an individual with diabetes or their caregiver reports that mental health services have not been helpful, it is important to promote a discussion about factors that led to this experience with mental health services.

Validation of the individual's experience is important to gain better understanding.

If the individual is not interested in continuing to work with their current mental health provider, it may be important to consider if a contributing factor was the provider's knowledge about diabetes.

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Assessment and Referral

While psychological sequelae may both stem from and negatively impact diabetes self-management, the barriers are sometimes both diabetes-related (e.g., diabetes burnout, diabetes distress) and non-diabetes-related (e.g., financial stress, relationship issues).

Therefore, the provider's knowledge about diabetes may or may not be significant for the individual seeking treatment.

If the individual desires to continue mental health services with a different provider, the diabetes educator or designated diabetes care team professional may assist by providing additional resources.

If the individual does not desire to continue mental health services with the current or new provider, and is not at imminent risk for self-harm or harm to others, the diabetes educator and team are encouraged to continue the behavioral assessment including related psychological factors and openness to seek mental health services in the future.

If the individual is determined to be at risk for self-harm or harm to others, assessment and intervention is needed.

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Assessment and Referral

To better understand the individual's experience, it may help to start with an open-ended question

- Can you tell me more about your experience with the mental health provider?

Follow-up questions may include:

- What did you find helpful?
- What was not helpful?
- Did you feel that the mental health provider understood and was receptive to addressing your needs?
- Would you consider sharing your concerns and continuing to work with your current provider? If not, would you consider working with a provider that you feel better suits your needs?

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Emergent Situations, Suicidal Ideation

Mental health emergency: Any time a person is in immediate danger to self or others

Every diabetes educator should be able to:

- Recognize an individual at increased risk of suicide
- Identify a mental health emergency
- Know how to seek urgent help and available resources

Risk factors:

• Previous suicide attempt	• Recent loss
• Family history of suicide	• Physical illness / pain
• Child maltreatment	• Easy access to lethal methods
• History of psychiatric disorder	• Unwillingness to seek help
• History of alcohol/substance abuse	• Impulsivity
• Feelings of hopelessness	• Social isolation
• Barriers to accessing mental health tx	

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Emergent Situations, Suicidal Ideation

When risk for self-harm is identified, the following steps may be taken to promote safety for people at risk for self-harm:

- Refer the patient to your team's designated team member (e.g., social worker, psychiatrist) to help determine if an involuntary psychiatric assessment is warranted
- If your healthcare team does not have a designated staff person and/or if the staff person is not available:
 - Call 911 or
 - Arrange for the individual to be transported to the closest emergency room for a self-harm risk assessment
- Know your state's specific criteria and procedures for involuntary psychiatric holds

If possible: Develop a safety plan with the patient's caregiver, if this is an option. This may include:

- Caregiver(s) to secure medications to ensure that patient does not have access.
- Caregiver(s) to secure objects that may be used to inflict self-harm
- Caregiver(s) to monitor patient on an ongoing basis and to manage patient's diabetes.
- Administering insulin after the consumption of carbohydrates may be indicated to avoid intentional hypoglycemia as a means for self-harm.
- Caregiver(s) to call 911 or transport patient to the closest emergency room if concern for suicide or harm to others arises

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Emergent Situations, Suicidal Ideation

Diabetes educators can play an important role in subsequent support and follow-up care.

Follow-up care may include:

- More frequently scheduled appointments to assess diabetes management and related behavioral and psychosocial factors
- Identified adult who can provide support by monitoring the individual's diabetes care

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Effective Communication with Individuals with Diabetes About Mental Health

Communication about mental health services as one of several important components necessary for optimal diabetes management.

Diabetes educators are in a position to either combat or reinforce stigmatizing views of mental illness.

Reflective practice is essential to identify personal biases regarding persons with mental illness.

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Effective Communication with Individuals with Diabetes About Mental Health

- DSMES should always be individualized, but no automatic modification should be made based on the presence of a psychiatric diagnosis.
- Same quality of diabetes education should be offered to persons with mental illness as would be to people with diabetes alone.
- Be mindful of the risks of diagnostic overshadowing (attributing reports of physical symptoms to psychiatric problems), particularly in people diagnosed with psychotic disorders.
- Although modifications to communication style should be made based on the individual's particular capacities, practitioners should not assume low intelligence or incomprehension.

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Effective Communication with Individuals with Diabetes About Mental Health

- Use inclusive, non-stigmatizing language.
- Challenge commonly held stigmatizing beliefs expressed by people with diabetes or colleagues.
- Approach individuals with mental illness with sincere regard and optimism, including for the possibilities of diabetes self-management.

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Role of Diabetes Educators

- Diabetes educators work closely with physicians, nurses, dietitians, and mental health professionals to empower individuals to manage their diabetes optimally.
- Diabetes educators frequently motivate people and engage them in problem-solving to identify reasonable goals.
- Diabetes educators can help empower individuals, while decreasing the emotional toll associated with the daily demands of diabetes self-management.

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Future

- The field of diabetes education would benefit from additional mental health providers, including psychologists, social workers, psychiatrists, and case managers to help serve people with diabetes with a variety of psychosocial conditions.
- Collaborative efforts, such as the Mental Health Provider Diabetes Education Program between the American Diabetes Association and the American Psychological Association, should continue to expand in order to optimize psychosocial care for people with diabetes.
- Furthermore, the available mental health resources must continue to expand to help diabetes educators meet the needs of people with diabetes.

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