ADCES PRACTICE PAPER

Diabetes Care & Education Specialists Play a Critical Role in Successful Insulin Management

Sanofi US funded a thought leader summit held on December 15, 2016 to discuss insulin initiation, titration, and optimization and the Association of Diabetes Care & Education Specialists (ADCES) worked on this publication summarizing the results of the meeting. The following objectives were addressed:

- Analyze and interpret the practice of diabetes education related to insulin initiation and titration
- Define the practice of insulin optimization within the United States (US) based on results of survey conducted by ADCES
- Identify barriers to insulin titration and optimization in the US
- Identify gaps in tools and resources for patients and diabetes care & education specialists to achieve glycemic targets

Insulin Initiation and Titration Survey

Before the summit, the ADCES administered a survey to its members to assess current practices, challenges, and solutions in the management of insulin initiation, titration, and optimization (Appendix A). There were 528 members who completed surveys, with 508 (96.2%) respondents indicating they were actively involved in the education and management of patients who were prescribed insulin. The survey included questions about the demographic and professional characteristics of respondents; practices regarding insulin initiation and titration; patient follow-up and education following initiation and titration of insulin; data collection methods on insulin dosage and adjustment; patient adherence to insulin therapy; barriers to insulin initiation and titration; and strategies to optimize insulin initiation and titration. Appendix A includes a summary of survey results.

Key survey results:

- The majority of respondents provided education and support to patients who were initiating or intensifying insulin therapy, although almost 50% required supervision to initiate insulin therapy.
- Desire to remain on oral medications, fear of hypoglycemia, fear of needles, inconvenience, disruptions to social and work activities, and clinical inertia were among the leading barriers to insulin initiation and titration.
- A high proportion of patients did not achieve their glycemic target, with virtually all educators working with patients to optimize insulin therapy.
- Technology-captured data was an important source of information that guided members' efforts to establish an optimal dose of insulin based on blood glucose levels, diet, and physical activity.
- A minority of patients were reported to use apps to monitor or track their blood glucose and other aspects of diabetes management and control.

- Patient education and regular follow-up were the most frequently used strategies to promote adherence to insulin therapy.

Current Landscape of Diabetes Mellitus in the US

The direct and indirect burden and consequences of diabetes mellitus are profound, with an estimated 29.1 million Americans, equivalent to 9.3% of the general population affected by diabetes in 2012, including 8.1 million individuals who were undiagnosed. Each year, approximately 1.4 million new cases of diabetes are diagnosed in the US alone. Diabetes is the 7th leading cause of mortality in the US, [1] with the proportion of deaths attributable to diabetes estimated between 11.5% to 11.8%.[2] According to the American Diabetes Association (ADA), the most frequent complications/co-morbid conditions associated with diabetes include hypoglycemia; acute health conditions such as stroke or myocardial infarction; and chronic diseases such as dyslipidemia, hypertension and kidney disease (Table 1).[1]

Table 1: ADA reported complications and comorbid health conditions associated with diabetes.[1]

Condition	Time Period	Impact on People with Diabetes
Amputations	2010	73,000 non-traumatic, lower limb amputations in adults ≥ 20 years
Cardiovascular	2003-2006	Age-adjusted cardiovascular disease death rates in adults ≥18 years were 1.7 times higher for those with diabetes versus those with no diagnosis of diabetes
Dyslipidemia	2009-2012	65% of adults ≥18 years had LDL-c levels ≥100 mg/dl or were prescribed medications to lower cholesterol levels
Hypoglycemia	2011	~282,000 ED visits listed hypoglycemia as the first diagnosis and diabetes as another diagnosis in adults ≥18 years
Hypertension	2009-2012	71% of adults ≥18 years had BP ≥140/90 mm Hg or were prescribed medications to lower blood pressure
Kidney	2011	Diabetes was listed as the primary cause of kidney failure in 44% of all new cases; almost 50,000 people initiated treatment for kidney failure due to diabetes; 228,924 people with kidney failure caused by diabetes were on chronic dialysis or had a kidney transplant
Myocardial Infarction	2010	Age-adjusted MI hospitalization rates for adults ≥20 years were 1.8 times higher versus those with no diagnosis of diabetes
Stroke	2010	Age-adjusted stroke hospitalization rates for adults ≥20 years were 1.5 times higher versus those with no diagnosis of diabetes
Vision	2005-2008	Among adults ≥40 years with diabetes, 28.5% had diabetic retinopathy

BP, blood pressure; LDL-c, low-density lipoprotein cholesterol; BP, blood pressure; MI, myocardial infarction.

A substantial proportion of adults with diabetes fails to meet individualized targets for hemoglobin A1c (HbA1c). Analysis of data from the National Health and Nutrition Survey and the Behavioral Risk Factor Surveillance Survey revealed that 47.8% of survey participants had glycated hemoglobin values >7.0% in 2010.[3] Similarly, a cluster analysis in the metropolitan area of San

Juan, Puerto Rico involving 859 subjects aged 21-79 years, of which 15.8% self-reported having diabetes, revealed that the percentage of patients who achieved recommended HbA1c goals was only 28.7%.[4]

Insulin therapy should not be delayed for patients who fail to achieve glycemic control despite treatment with multiple oral antidiabetic medications at maximum dose.[5] Of note, rates of medication initiation and dose adjustments for patients with elevated HbA1c levels appear low. A retrospective analysis involving 11,696 patients with type 2 diabetes, in which 36.5% of the patients underwent therapy intensification, revealed that it took a median time of 4.3 years from basal insulin initiation to treatment intensification.[6] In another retrospective evaluation of glycemic control during the first year following initiation of basal insulin therapy in primary care practices only 7.2% of patients with type 2 diabetes achieved an HbA1c ≤6.5% and 20.9% achieved an HbA1c <7.0%, suggesting the need for reevaluation of the insulin regimen and consideration of treatment intensification. Factors associated with goal achievement included age, duration of diabetes, the class of medication and baseline HbA1c level.[7-8]

A systematic review of 218 randomized controlled trials assessed the efficacy of eight classes of diabetes medications for the achievement of HbA1c <7.0%. The proportion of patients at goal ranged from 25.9% (95% CI, 18.5%, 34.9%) of those treated with α-glucosidase inhibitors to 63.2% (95% CI, 54.1%, 71.5%) for patients taking long-acting glucagon-like peptide 1 (GLP-1 analogues).[8] There was a progressive decrease in the proportion of patients at target for each 0.5% increase in baseline HbA1c.[8] Other factors associated with HbA1c ≤6.5% are male sex, current treatment with insulin glargine or short-acting insulins, and a history of treatment with metformin, dipeptidyl peptidase (DPP-4) inhibitors, and diuretics.[7]

Barriers to Insulin Initiation, Titration, and Intensification

Optimal management of diabetes is based on achieving and maintaining a target blood glucose level, through lifestyle modifications combined with medical therapies as diabetes progresses.[9] Timely initiation of insulin therapy improves the health and reduces morbidity among individuals who fail to achieve glycemic control with noninsulin antidiabetic medications and lifestyle modifications.[9-10]

However, patients and clinicians are often reluctant to initiate or intensify insulin therapy.[9-13] *Patient barriers*

Numerous barriers to the initiation of insulin therapy are associated with psychological insulin resistance among patients. These include 1) the perception that insulin is a treatment of last resort;[9-10,14-16] 2) perception that the use of insulin is evidence of a personal failure to appropriately self-manage diabetes;[9-11,15,17] 3) concerns about long-term complications and side effects, especially hypoglycemia;[911,13-15] 4) cost;[10,15] 5) inconvenience and interference with social and work activities and relationships;[911,13,15-16] 6) fear of needles, self-injecting, and the pain of insulin injections;[7,9-11,1316] 7) weight gain;[9-11,,1315,17] 8) loss of independence;[11,15] 9) depression;[12,17] 10) the perception of insulin as a threat or punishment;[10-11,14,16] 11) the failure to see health benefits of insulin therapy;[9-11,13] 12) lack of social support;[16] and concerns about social stigma and discrimination. [11,15-16]

Clinician and system barriers

The leading barriers to insulin initiation and intensification among clinicians include 1) lack of experience and knowledge of available insulins; 2) inadequate guidance about when to intensify insulin therapy; 3) the perception that patients will resist or be unable to cope insulin initiation or intensification; 4) inadequate monitoring to identify patients who will benefit from insulin progression; 5) concerns about hypoglycemia and weight gain; and 6) general clinical inertia and delayed initiation until insulin is "absolutely necessary". [9,12,16] System barriers to insulin initiation and intensification include lack of resources for patient education, inadequate time to provide patient education and address dose adjustments, and lack of staff to provide diabetes education and training. [16]

Strategies to overcome patient, clinician, and system barriers

Education is considered the cornerstone of interventions to address both patient and clinician barriers to insulin initiation and intensification.[9,11,13] Clinicians need encouragement

to establish and foster relationships with diabetes care & education specialists who have the knowledge, skills, and ability to support their patients in the transition or intensification of insulin therapy.

When patients are informed about glycemic control, treatment persistence rates improve, and patients are more likely to work toward achieving their target HbA1c goal.[13-16] Educational resources, time, and skills are needed to explain the efficacy and safety of insulin to patients, family members, and caregivers, with a key role played by trained diabetes care & education specialistss[13-16]. Ideally, such education should focus on the reasons insulin has been recommended[13-16], the importance of glycemic control for the prevention of diabetes-related complications[13-16], and development of skills in injection techniques to reduce pain through the use of the shortest needles and optimal injection site rotation.[18]

Educators and clinicians should also focus on the availability of long- and short-acting analogues and premixed formulations when possible,[13] delivery devices,[14] weight gain and other side effects,[15] dose flexibility,[9-10,14] and cost.[14] Pen devices are widely accepted and are associated with greater persistence, improved outcomes, and lower treatment costs[14].

Education for both patients and family members/caregivers is an ongoing need, beginning with conversations before initiation of insulin, at the time of initiation, and when dose intensification is needed.[10,14,18] Effective educational interventions should incorporate shared decision making as well as teaching strategies to address the most common issues raised by patients at the time of insulin initiation or intensification.[10,14,18]

Interventions are also needed to address provider- and system-level barriers, including knowledge gaps in the wide variety of insulins available, criteria for insulin intensification, adequate time by the physician, nurse, or educator to address patient issues,[19] and enhanced quality of communication between patients and their healthcare providers and educators.[20]

Guidelines for Diabetes Management and Insulin Initiation

The effective management of diabetes is a multifaceted effort involving lifestyle interventions; nutrition therapy; weight loss; and individualized HbA1c targets based on age, comorbidities, duration of diabetes, risk of hypoglycemia, and adherence. The individualized selection of medical therapies is based on consideration of antihyperglycemic efficacy, mechanism of action, risk for hypoglycemia, weight gain and other adverse events, tolerability and ease of use, cost, and systemic safety.[5] Combination therapy is usually required, and therapy should frequently be reevaluated until stable based on HbA1c, self-monitoring blood glucose records, hypoglycemic and other adverse events, diabetic complications, psychosocial factors, and cost.[5,21,23]

Metformin is usually started as monotherapy unless contraindicated. A comparative effectiveness meta-analysis suggested that each new class of noninsulin agents added to initial therapy generally lowers HbA1c by ~0.9% to 1.1%.[5] If the HbA1c target is not achieved in ~3 months, a combination of metformin and one additional medication (sulfonylurea, thiazolidinedione, DPP-4 inhibitor, SGLT2 inhibitor, GLP-1 receptor agonist, or basal insulin) is recommended.[5] If the target HbA1c level is not achieved after ~3 months of dual therapy, it is recommended that patients progress to a three-drug combination with reassessment after ~3 months.[5,21,22] An overview of the medication classes with a brief description of their physiological action, advantages, and limitation has been adapted from the

American Diabetes Association and is shown in Appendix B.[5]

Guidelines for Insulin Initiation and Titration

Insulin is the mainstay of treatment for patients with type 1 diabetes and for those with type 2 diabetes who fail to achieve acceptable glucose control in response to triple therapy. It is also recommended for patients with severe hyperglycemia (when blood glucose is ≥300 mg/dL or HbA1c ≥10%), particularly those experiencing symptoms of hyperglycemia (eg, polyuria or polydipsia), weight loss or ketosis.[5,21,22]

Persistence with Insulin Therapy

Persistence with insulin therapy plays a pivotal role in glycemic control and improving patients' health. However, persistence is difficult to achieve by

many patients, significantly increasing their risk of diabetes-related complications, hospitalization, and higher healthcare costs.[20]

Patterns of poor persistence

Results from the Diabetes, Attitudes, Wishes and Needs (DAWN) study revealed that 20% of respondents "often or sometimes" skipped insulin injections and 10% restricted daily insulin usage.[24] A recent systematic review reported insulin adherence rates that ranged from 38.5% to 93.1%, with only 6 of 27 studies reporting an adherence prevalence ≥80%.[23] Global patterns of insulin omission among patients with type 1 and type 2 diabetes ranged from a low of 19.9% in France, 23% Spain, 24% Turkey, 33% China, 40% Germany, 41% UK, 42% US, and 44% in Japan.[25] Among 27,000 patients with type 2 diabetes who initiated insulin therapy, 4.5% never filled the first prescription and 25.5% did not refill their first prescription.[26] *Barriers to persistence*

Characteristics of patients with type 2 diabetes who are less likely to persist with insulin therapy include:

younger patient age; low income; frequent hypoglycemic episodes; logistical barriers to insulin management; nonadherence to other aspects of diabetes management; dissatisfaction with the flexibility of injection timing; the perception that insulin injections disrupt activities of daily living; pain of injections; and feelings of embarrassment.[23,25] Cost is consistently associated with lower persistence.[20,23] Depression, poor health literacy, patient perceptions of the risks and benefits of insulin therapy, and more frequent dosing schedules are also thought to have an unfavorable influence on persistence.[20]

Facilitators for persistence

A multidisciplinary team approach to diabetes management appears to improve persistence to insulin therapy. Less complex treatment regimens promote greater persistence as do fixed-dose combinations for patients requiring combination therapy, with once-daily dosing associated with higher persistence rates compared to twice-daily dosing.[20,27] Switching to a pen device and reducing patient payments also appear to improve persistence.[28] Other interventions to improve persistence with insulin therapy include prefilled pens, reminder messages, support provided by educators or other clinical staff, fixed dose combination therapy, and once-daily dosing.[28]

Quality of Life in Patients Initiating and Maintaining Insulin Therapy

Insulin therapy improves glycemic control and reduces the risk of long-term diabetes-related complications, which may help improve patients' quality of life.[29] However, delays in initiation of insulin therapy and the reluctance to intensify insulin therapy can prevent patients from achieving favorable health outcomes.[29] A national survey of adults with type 2 diabetes conducted in Australia in 2011 revealed that patients with negative insulin appraisals and diminished quality of life are more likely to be younger, less satisfied with recent blood glucose levels, have reduced diabetes-specific self-efficacy, and more likely to report depressive symptoms, anxiety, or diabetes distress.[17]

Education, Applications, and Tools to Support Insulin Initiation, Titration, and Management

Educational initiatives, particularly programs conducted by diabetes care & education specialists, are associated with more timely initiation and intensification of insulin therapy that can achieve more favorable clinical outcomes, lower costs, improve persistence, and enhance the quality of life.[13-15] Of note, all educational content and materials should be culturally sensitive to dietary and lifestyle patterns that might affect insulin acceptance and persistence.[5] One important aspect of patient education is appropriate compensation for certified diabetes care & education specialists to ensure that adequate time is available to provide comprehensive and ongoing patient support and training. Use of innovative technology such as mobile apps and online education could also offer important support for informed decision making by patients and improve patient efforts to monitor blood glucose levels and insulin dosing.

Patient interventions and education

Education to improve diabetes knowledge and self-management practices (eg, blood glucose monitoring, diet, exercise) could overcome many barriers to patient acceptance and persistence to insulin therapy.[5,12-14,28] Educators could correct negative impressions of insulin therapy and recommend insulin regimens that offer greater flexibility and fewer injections such as rapid- and

long-acting insulin analogues and premixed formulations.[12-14,28] Guidance about dose adjustments when ill is critically important.[5,13]

Pen delivery systems could be recommended because they permit easier, more discreet, and more accurate dosing and are more favorably received by patients.[14] Training on optimal insulin delivery strategies such as the the use of the shortest needles to minimize pain, avoidance of intramuscular injections, and correct injection site rotation is also recommended.[12-14] Additional educational strategies could focus on reducing patients' fear of injections by showing them the size of the pen and needle and teaching the proper administration techniques to ensure the full dose of insulin is administered.[14] These efforts should be combined with reinforcement and reminders about the efficacy and safety of insulin and the best methods of insulin titration to achieve glycemic control.[12-14,28]

Many educators use checklists or tear-off sheets that summarize the key facts about hypoglycemia and needle disposal, provide a visual of how insulin works to address fears and misconceptions, insulin storage, and awareness of lipohypertrophy.[12-14,18] A checklist is favored by many because it provides confirmation that all critical issues were addressed during an education session. Consultations with a dietitian are considered an essential aspect of education for patients who are initiating or intensifying insulin therapy. Recent international recommendations and reviews of insulin therapy and quality of life support these recommendations.[14,18,29-30]

Tools that support self-management have the potential to improve the management and outcomes of patients with diabetes.[28] Mobile health interventions are associated with significant reductions in HbA1c levels, which are attributed to feedback between patients and providers, enhanced persistence, intensity of the interventions, and the behavior-change techniques used by the interventions.[31-32] Smartphone apps and other technologic advances allow patients to conveniently and easily track clinical parameters such as HbA1c, blood glucose, physical activity, and body weight and transmit this information to clinicians, including diabetes care & education specialistss.[31-32] Time and cost barriers are reduced and patients can benefit from frequent follow-up and feedback.[31-32]

Mobile applications

Mobile health applications (apps) have grown in popularity with consumers and clinicians in recent years. The IMS Institute for Healthcare Informatics estimates that consumers have access to more than 165,000 apps focused on wellness, diet, exercise, and disease and treatment management. Apps can help consumers achieve treatment or health behavior goals, make informed decisions, and promote communications with clinicians.[32-33]

A recent review was undertaken to identify how many freely available mobile apps for diabetes management incorporated basic features to support successful diabetes self-management including monitoring of 1) blood glucose levels; 2) insulin or other medication dosage; 3) nutrition; 4) activity levels; and 5) body weight. Only 9 of 65 reviewed mobile apps were considered to be "versatile and useful" for successful diabetes self-management.[32]

Important limitations of these apps related to ease of data entry, analysis and interpretation of data identify patterns and interactions between blood glucose level, food intake, and physical activity, and data transfer and sharing from patients to clinicians. The researchers recommended technologic advances such as integration of the apps with patient electronic health records, the inclusion of motivational and educational features and content (eg, social networks, reminders, alerts), and tips for better diabetes self-management. Eight commonly used diabetes self-management apps and two dosing solution products are briefly profiled in Table 2.

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Table 2: Features of selected diabetes management mobile apps and dosing solution products

App	Patient Cost	Platform	Major Features
Bluestar	Free	Compatible with iPhone, iPad, or iPod touch with iOS 9.0 or later; Android compatible 3.2 and later	• Tracks glucose levels, medications, diet and exercise • Motivational messages based on glucose levels, medications, exercise, and diet • Educational links to experts
Glooko	$59.99/year	Compatible with iPhone, iPad, and iPod touch with iOS 8.0 or later; Android compatible 2.3.3 and later	• Tracks patterns in glucose levels, medications, fitness, carbs • Generates reminders, alerts, reports, and analysis of data • Accesses data from various meters, insulin pumps, and continuous glucose monitors
Insulia	Free	Compatible with iPhone and iPad with iOS 8.0 or later; Android-compatible 4.4 and later	Provider features • Configurable prescription for insulin titration incorporating evidence-based standards of care • Remote monitoring patients' progress and adjustment of treatment plan through web portal Patient features • Manual entry of blood glucose data and insulin dose • Real-time basal insulin dosing recommendations • Educational coaching messages based on blood glucose values
My Dose Coach	Free	Compatible with iPhone, iPad, and iPod touch with iOS 9.2 or later; Android compatible 4.2 and later	• Dose plans personalized by healthcare provider
My Glucose Buddy Free	Free	Compatible with iPhone, iPod touch, and iPad with iOS 3.0 or later; Android compatible 2.2 and later	• Manual entry of blood glucose data, carbohydrate consumption, insulin dosages • View all data on free glucosebuddy.com online account

App	Patient Cost	Platform	Major Features
mySugr (Basic)	Free	Compatible with iPhone, iPad, and iPod touch with iOS 9.3 or later; Android compatible 4.0.3 and later	• Tracks blood glucose levels from meter and generates graphs • Logs for meals, diet, medications, carbs • Education, feedback, and challenges to achieve goals • Analysis of patterns in data
OneDrop	Free	Compatible with iPhone, iPad, and iPod touch with iOS 9.0 or later	• Tracks blood glucose levels, medications, activity • Reminders for medications • Tracks insulin pump basal rates and temp basals • Access to food database; counts carbs
Track3	$5.99	Compatible with iPhone, iPad, and iPod touch with iOS 8.0 or later; Android compatible 1.6 or later	• Tracks blood glucose levels, foods, weight • Food database with carb and nutrition information; counts carbs • Records exercise and calories burned • Records insulin and medication information • Data sharing •

App	Patient Cost	Platform	Major Features
MyStar DoseCoach (CE mark in EU)	TBD	Blood glucose meter	• Use of fasting blood glucose levels to titrate once daily insulin glargine • Three dose plans available at discretion of healthcare provider; dose changes adjusted to the dose plan • Safety management rule to ensure safe dose titration
d-Nav (CE mark in EU; FDA approval pending)	TBD	Device	• Personalized, recommended dose before every insulin injection based on blood glucose patterns • Supports a variety of insulin regimens • In-person and phone support from trained healthcare professionals

Healthcare Professional Interventions and Support

Many patients may lack support from physicians due to inaccurate perceptions of the amount of education and time required to transition patients to insulin as well as the importance of regular follow-up after initiation or intensification of insulin therapy.[28] Also, physicians may be reluctant to use standard tools or algorithm when initiating patients on insulin.[28] It is important to ensure that physicians and other clinicians involved in direct patient care have a clear understanding of what diabetes care & education specialists can do to facilitate the transition to insulin.[28] This can include, but is not limited to, establishing and maintaining routine communication and follow-up with patients, providing encouragement and support, responding to patients' questions and concerns, identifying patients at risk for low persistence, and working with patients to overcome barriers to insulin initiation and intensification.[28]

Most primary care providers, endocrinologists, pharmacists, and diabetes care & education specialists are not informed about the cost of specific prescriptions based on an individual patient's insurance.[28] It is not uncommon for patients to stretch out a prescription by reducing their insulin dose. The electronic medical record may identify that a prescription is unfilled, but often this information is not provided to the diabetes care & education specialists or physician due to the lack of connectivity or compensation for a pharmacy to provide such feedback.

In the absence of accurate information about prescription fill and refill rates, clinicians can use the careful phrasing of questions to inquire about possible missed doses of insulin. For example, a provider or educator could ask "how many times a week do you miss" versus "do you miss your medicine." Motivational interviewing techniques are particularly effective to elicit accurate information about missed doses and barriers to purchasing medications (eg, cost) rather than leaving it up to the patient to raise these issues. Furthermore, acknowledging the expense of a prescription by asking "Is this medication within your budget" instead of "Can you afford this medication" can avoid causing embarrassment to the patient. Physicians can also suggest that patients call office staff if they are facing financial barriers to treatment adherence.

Finally, strategies and tools are needed to help clinicians identify patients who have the greatest need for interventions and education, such as those with the highest HbA1c level. Patients' past medical history, missed appointment rates, pharmacy fill rates, labs, etc. can be used to identify those who are at risk of low persistence and unable to achieve treatment goals. For example, patients with HbA1c levels ≥8.0% might trigger alerts for added attention and education. Patients who adhere to a healthy lifestyle, have acceptable HbA1c levels, and attend regular follow-up appointments are likely to need less support and education, although all patients who require insulin therapy benefit from ongoing support and education.

Conclusions

Insulin therapy can improve health outcomes in patients with diabetes who are not controlled by lifestyle modifications and other medical therapies. Numerous barriers could impede the timely initiation and intensification of insulin therapy. Educational interventions for patients with diabetes are essential to overcome resistance to insulin initiation and long-term persistence with insulin therapy. Technologic advances and mobile health apps provide patients and members of their healthcare team with tools that could address some of the barriers associated with insulin initiation, titration, and longterm management. Diabetes care & education specialists play critical roles as members of multidisciplinary teams by providing ongoing education and support to patients who require insulin therapy, including support for the use of technologic advances to optimize insulin management.

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Acknowledgements

Panelists

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2. Melissa Magwire, RN, CDE; Registered Nurse at Shawnee Mission Endocrinology & Diabetes, Shawnee Mission, KS
3. Jerry Meece, RPh, FACA, CDM, CDE; Director of Clinical Services at Plaza Pharmacy and Wellness Center, Gainesville, TX

Sanofi Representatives

1. Kenneth Bennett, BA; Senior Director US Diabetes & CV Innovative Solutions, Sanofi US
2. Cynthia Lebovics, BSc, Pdt, CDE; National Continuing Education Manager for the Diabetes Portfolio, Sanofi, Quebec, Canada
3. Debbie McCollough, BS, MBA; Senior Director Diabetes Marketing, Sanofi US
4. Donna Rice; MBA, RN, CDE, FADCES; Senior Medical Director for Integrated Care, Sanofi

ADCES Representatives

1. Leslie Kolb, RN, BSN, MBA; Chief Science and Practice Officer, American Association of Diabetes Care & Education Specialists
2. Joanne Rinker MS, RD, CDE, LDN, FADCES; Director of Practice and Content Development, Association of Diabetes Care & Education Specialists
3. Dawn Sherr MS, RD, CDE; Virtual Lifestyle Management Coach, Canary Health