Education of Healthcare Professionals

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November 11, 2025

Breakthrough T1D™
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Disclosures

None

Objectives

- Rationale for accredited HCP Education
- Current accredited education offered
- Future direction

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Clinical complexity in diabetes care is on the rise

1989
4 Pages
10
Citations

POSITION STATEMENT

Standards of Medical Care for Patients With Diabetes Mellitus

Diabetes is a chronic illness that requires continuing medical care and education to prevent acute complications and to reduce the risk of long-term complications. People with diabetes should receive their treatment and care from physicians with expertise and a special interest in diabetes. The following standards define basic medical care for people with diabetes. These standards are not intended to preclude more extensive evaluation and management of the patient.

INITIAL VISIT

Medical history. The comprehensive medical history can uncover symptoms that will help establish the diagnosis in the patient with previously unrecognized diabetes. If the diagnosis of diabetes has already been made, the history should confirm the diagnosis, review the previous treatment, help evaluate the present degree of glycemic control, determine the presence or absence of the chronic complications of diabetes, assist in formulating a management plan, and provide a basis for continuing care. Elements of the medical history of *particular* concern in patients with diabetes include:

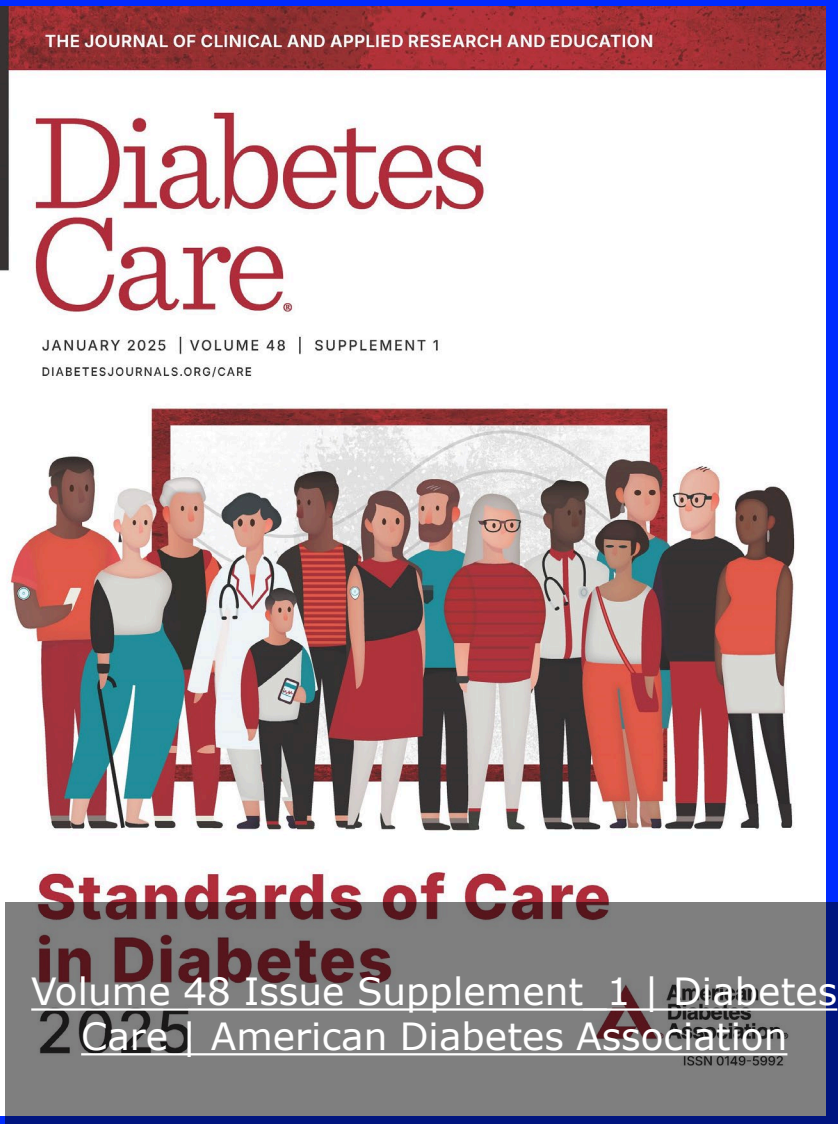
- Symptoms and laboratory test results related to the diagnosis of diabetes
- Dietary habits, nutritional status, and weight history; [illegible]
- [illegible]
- Frequency, severity, and cause of acute complications such as ketoacidosis and hypoglycemia
- Prior or current infections, particularly skin, foot, dental, and genitourinary
- Symptoms and treatment of chronic complications associated with diabetes: eye, heart, kidney, nerve, sexual function, peripheral vascular, and cerebral vascular
- Other medications that may affect blood glucose concentration
- Risk factors for atherosclerosis: smoking, hypertension, obesity, hyperlipidemia, and family history
- Psychosocial and economic factors that might influence the management of diabetes
- Family history of diabetes and other endocrine disorders
- Gestational history: hyperglycemia, delivery of an infant weighing >9 lb, toxemia, stillbirth, polyhydramnios, or other complications of pregnancy

Physical examination. A complete physical examination should be performed during the initial evaluation. Individuals with diabetes are at high risk of developing eye, kidney, nerve, cardiac, and vascular complications. Patients with type I (insulin-dependent) diabetes also have an increased frequency of thyroid disease, and all individuals with diabetes are at increased risk of infections. Children may have delayed growth and maturation. Therefore, certain aspects of the physical examination require special attention. These include:

- [illegible]

Standards of Medical Care for Patients With Diabetes Mellitus. *Diabetes Care* 1 May 1989;12(5):**365-368**. https://doi.org/10.2337/diacare.12.5.365

2025
352 Pages
3000+
Citations



THE JOURNAL OF CLINICAL AND APPLIED RESEARCH AND EDUCATION

Diabetes Care

JANUARY 2025 | VOLUME 48 | SUPPLEMENT 1
DIABETESJOURNALS.ORG/CARE

Standards of Care in Diabetes
2025

ISSN 0149-5992

Volume 48 Issue Supplement_1 | Diabetes Care | American Diabetes Association

Breakthrough T1D early detection pilot clinics

Demonstrate feasibility, acceptability, and efficacy of T1D screening and monitoring in the clinical setting

Develop clinical workflows

Improve healthcare professional and staff competencies

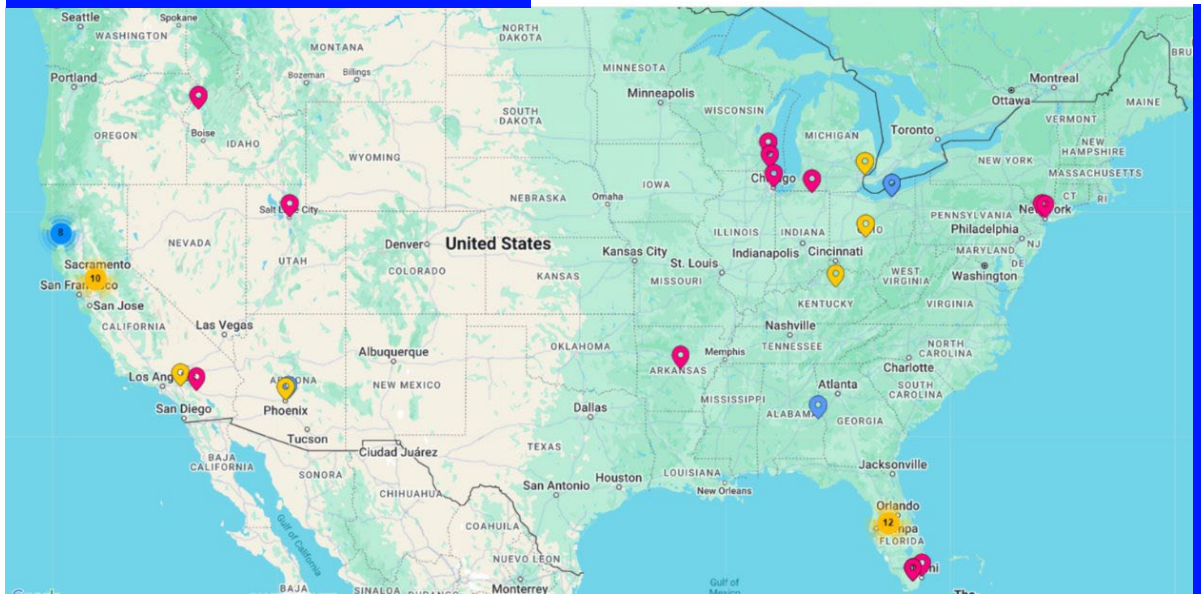
Contribute to the scientific literature to build evidence for inclusion in clinical guidelines

Pilot Program Metrics

	FY25 (end of Q3)	FY24	FY23	FY22
Individuals Screened	1,298	763	419	8

FY26 Individuals enrolled in screening/early detection: 3,283 / 5,000

GEOGRAPHY OF PILOT SITES



3,500+ individuals screened

17+ current pilot clinic partnerships

Breakthrough T1D Pilot Clinics extend screening and monitoring implementation to diverse settings

MOBEC, California

University Hospital, New Jersey

Wayne Pediatrics, Michigan

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On Demand Virtual Live Grand Rounds

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Healthcare Professional Education and Resources

Accredited Education | Type 1 Diabetes Resources | Hear From Experts | Upcoming Conferences

BreakthroughT1D.org/hcp-resources

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Accredited offerings paired with resources

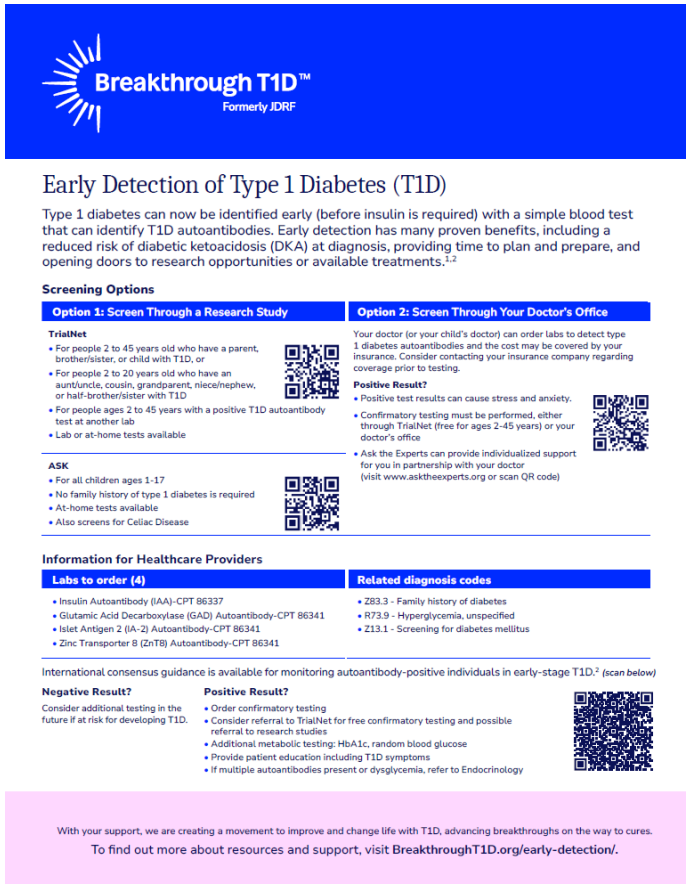
Pathways for Type 1 Diabetes Screening

On-demand 0.5 Credits

Presented by Jay Shubrook, Maria Spall & Kimberly Bautista

Learn about type 1 diabetes screening in clinical care using clinical and/or research pathways.

Learn More and Register



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Early Detection of Type 1 Diabetes (T1D)

Type 1 diabetes can now be identified early (before insulin is required) with a simple blood test that can identify T1D autoantibodies. Early detection has many proven benefits, including a reduced risk of diabetic ketoacidosis (DKA) at diagnosis, providing time to plan and prepare, and opening doors to research opportunities or available treatments.[1,2]

Screening Options

Option 1: Screen Through a Research Study

TrialNet
- For people 2 to 45 years old who have a parent, brother/sister, or child with T1D, or
- For people 2 to 20 years old who have an aunt/uncle, cousin, grandparent, niece/nephew, or half-brother/sister with T1D
- For people ages 2 to 45 years with a positive T1D autoantibody test at another lab
- Lab or at-home tests available

ASK
- For all children ages 1-17
- No family history of type 1 diabetes is required
- At-home tests available
- Also screens for Celiac Disease

Option 2: Screen Through Your Doctor's Office

Your doctor (or your child's doctor) can order labs to detect type 1 diabetes autoantibodies and the cost may be covered by your insurance. Consider contacting your insurance company regarding coverage prior to testing.

Positive Result?
- Positive test results can cause stress and anxiety.
- Confirmatory testing must be performed, either through TrialNet (free for ages 2-45 years) or your doctor's office
- Ask the Experts can provide individualized support for you in partnership with your doctor (visit www.asktheexperts.org or scan QR code)

Information for Healthcare Providers

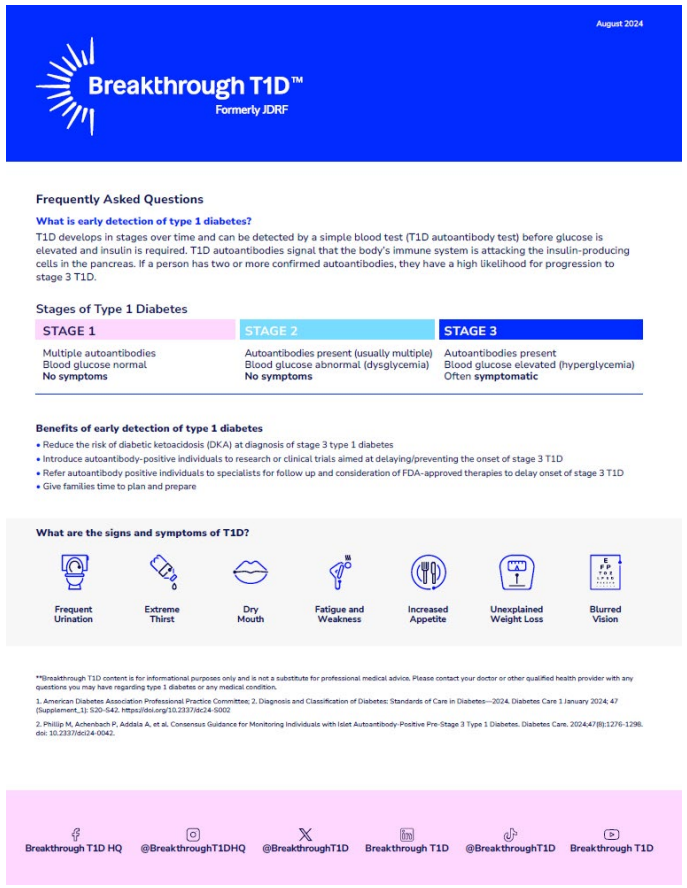
Labs to order (4)	Related diagnosis codes
• Insulin Autoantibody (IAA)-CPT 86337	• Z83.3 - Family history of diabetes
• Glutamic Acid Decarboxylase (GAD) Autoantibody-CPT 86341	• R73.9 - Hyperglycemia, unspecified
• Islet Antigen 2 (IA-2) Autoantibody-CPT 86341	• Z13.1 - Screening for diabetes mellitus
• Zinc Transporter 8 (ZnT8) Autoantibody-CPT 86341	

International consensus guidance is available for monitoring autoantibody-positive individuals in early-stage T1D.[2] *(scan below)*

Negative Result?
Consider additional testing in the future if at risk for developing T1D.

Positive Result?
- Order confirmatory testing
- Consider referral to TrialNet for free confirmatory testing and possible referral to research studies
- Additional metabolic testing: HbA1c, random blood glucose
- Provide patient education including T1D symptoms
- If multiple autoantibodies present or dysglycemia, refer to Endocrinology

With your support, we are creating a movement to improve and change life with T1D, advancing breakthroughs on the way to cures.
To find out more about resources and support, visit BreakthroughT1D.org/early-detection/.



August 2024

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Frequently Asked Questions

What is early detection of type 1 diabetes?

T1D develops in stages over time and can be detected by a simple blood test (T1D autoantibody test) before glucose is elevated and insulin is required. T1D autoantibodies signal that the body's immune system is attacking the insulin-producing cells in the pancreas. If a person has two or more confirmed autoantibodies, they have a high likelihood for progression to stage 3 T1D.

Stages of Type 1 Diabetes

STAGE 1	STAGE 2	STAGE 3
Multiple autoantibodies Blood glucose normal **No symptoms**	Autoantibodies present (usually multiple) Blood glucose abnormal (dysglycemia) **No symptoms**	Autoantibodies present Blood glucose elevated (hyperglycemia) Often **symptomatic**

Benefits of early detection of type 1 diabetes
- Reduce the risk of diabetic ketoacidosis (DKA) at diagnosis of stage 3 type 1 diabetes
- Introduce autoantibody-positive individuals to research or clinical trials aimed at delaying/preventing the onset of stage 3 T1D
- Refer autoantibody positive individuals to specialists for follow up and consideration of FDA-approved therapies to delay onset of stage 3 T1D
- Give families time to plan and prepare

What are the signs and symptoms of T1D?

Frequent Urination | Extreme Thirst | Dry Mouth | Fatigue and Weakness | Increased Appetite | Unexplained Weight Loss | Blurred Vision

**Breakthrough T1D content is for informational purposes only and is not a substitute for professional medical advice. Please contact your doctor or other qualified health provider with any questions you may have regarding type 1 diabetes or any medical condition.

1. American Diabetes Association Professional Practice Committee; 2. Diagnosis and Classification of Diabetes: Standards of Care in Diabetes—2024. Diabetes Care 1 January 2024; 47 (Supplement_1): S20–S42. https://doi.org/10.2337/dc24-S002

2. Phillip M, Achenbach P, Addala A, et al. Consensus Guidance for Monitoring Individuals with Islet Autoantibody-Positive Pre-Stage 3 Type 1 Diabetes. Diabetes Care. 2024;47(8):1276–1298. doi: 10.2337/dc24-0042.

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Accredited education paired with resources

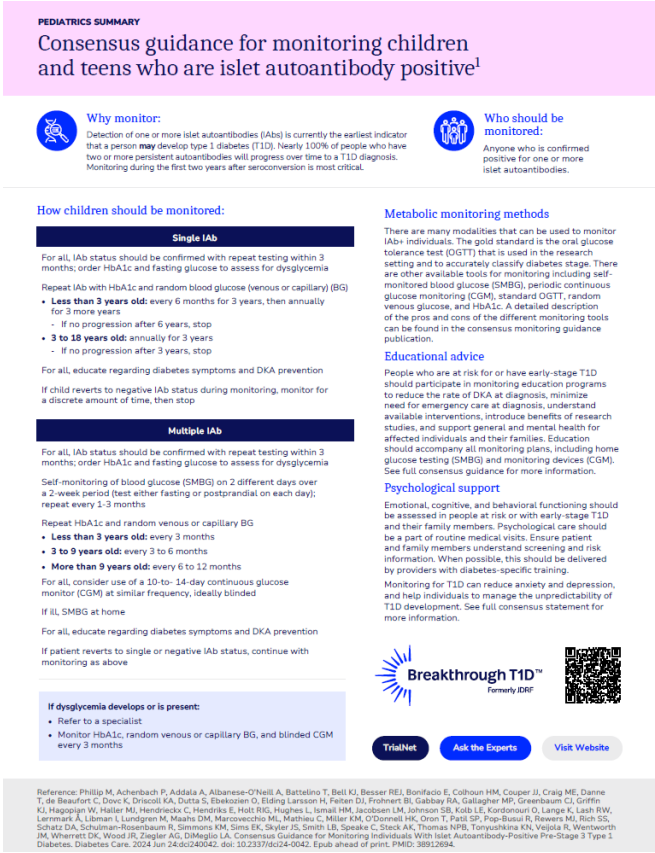
Monitoring Individuals in Early Stage Type 1 Diabetes

On-demand 1.0 Credits

Presented by Linda DiMeglio

This educational offering summarizes guidance for monitoring individuals in early stage type 1 diabetes for progression to stage 3 type 1 diabetes, including who to monitor, how often, and related labs and educational support.

Learn More and Register



PEDIATRICS SUMMARY

Consensus guidance for monitoring children and teens who are islet autoantibody positive[1]

Why monitor:
Detection of one or more islet autoantibodies (IAbs) is currently the earliest indicator that a person **may** develop type 1 diabetes (T1D). Nearly 100% of people who have two or more persistent autoantibodies will progress over time to a T1D diagnosis. Monitoring during the first two years after seroconversion is most critical.

Who should be monitored:
Anyone who is confirmed positive for one or more islet autoantibodies.

How children should be monitored:

Single IAb

For all, IAb status should be confirmed with repeat testing within 3 months; order HbA1c and fasting glucose to assess for dysglycemia

Repeat IAb with HbA1c and random blood glucose (venous or capillary) (BG)
- **Less than 3 years old:** every 6 months for 3 years, then annually for 3 more years
  - If no progression after 6 years, stop
- **3 to 18 years old:** annually for 3 years
  - If no progression after 3 years, stop

For all, educate regarding diabetes symptoms and DKA prevention

If child reverts to negative IAb status during monitoring, monitor for a discrete amount of time, then stop

Multiple IAb

For all, IAb status should be confirmed with repeat testing within 3 months; order HbA1c and fasting glucose to assess for dysglycemia

Self-monitoring of blood glucose (SMBG) on 2 different days over a 2-week period (test either fasting or postprandial on each day); repeat every 1-3 months

Repeat HbA1c and random venous or capillary BG
- **Less than 3 years old:** every 3 months
- **3 to 9 years old:** every 3 to 6 months
- **More than 9 years old:** every 6 to 12 months

For all, consider use of a 10-to- 14-day continuous glucose monitor (CGM) at similar frequency, ideally blinded

If ill, SMBG at home

For all, educate regarding diabetes symptoms and DKA prevention

If patient reverts to single or negative IAb status, continue with monitoring as above

If dysglycemia develops or is present:
- Refer to a specialist
- Monitor HbA1c, random venous or capillary BG, and blinded CGM every 3 months

Metabolic monitoring methods
There are many modalities that can be used to monitor IAb+ individuals. The gold standard is the oral glucose tolerance test (OGTT) that is used in the research setting and to accurately classify diabetes stage. There are other available tools for monitoring including self-monitored blood glucose (SMBG), periodic continuous glucose monitoring (CGM), standard OGTT, random venous glucose, and HbA1c. A detailed description of the pros and cons of the different monitoring tools can be found in the consensus monitoring guidance publication.

Educational advice
People who are at risk for or have early-stage T1D should participate in monitoring education programs to reduce the rate of DKA at diagnosis, minimize need for emergency care at diagnosis, understand available interventions, introduce benefits of research studies, and support general and mental health for affected individuals and their families. Education should accompany all monitoring plans, including home glucose testing (SMBG) and monitoring devices (CGM). See full consensus guidance for more information.

Psychological support
Emotional, cognitive, and behavioral functioning should be assessed in people at risk or with early-stage T1D and their family members. Psychological care should be a part of routine medical visits. Ensure patient and family members understand screening and risk information. When possible, this should be delivered by providers with diabetes-specific training.

Monitoring for T1D can reduce anxiety and depression, and help individuals to manage the unpredictability of T1D development. See full consensus statement for more information.

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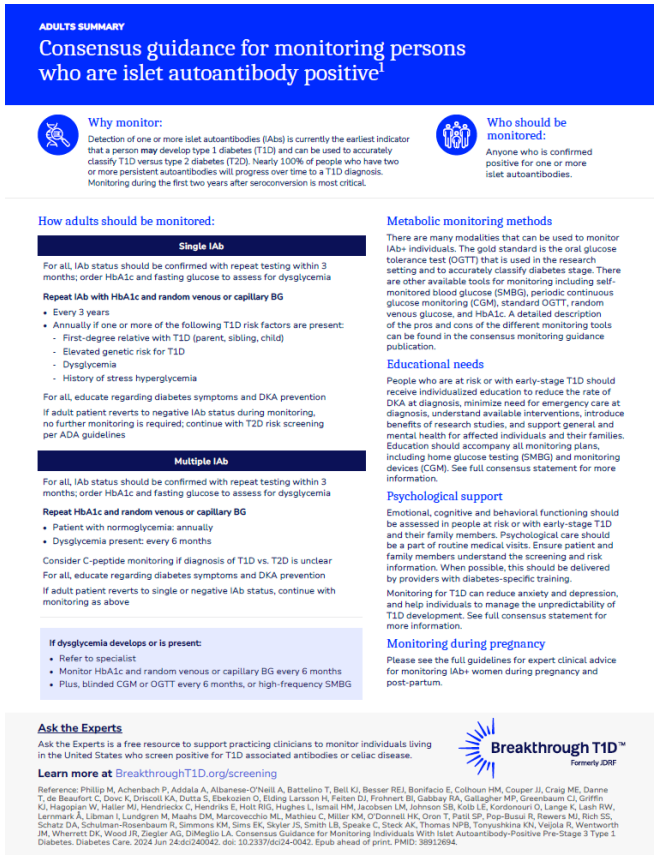
TrialNet | Ask the Experts | Visit Website

Reference: Phillip M, Achenbach P, Addala A, Albanese-O'Neill A, Battelino T, Bell KJ, Besser REJ, Bonifacio E, Colhoun HM, Couper JJ, Craig ME, Danne T, de Beaufort C, Dovc K, Driscoll KA, Dutta S, Ebekozien O, Elding Larsson H, Feiten DJ, Frohnert BI, Gabbay RA, Gallagher MP, Greenbaum CJ, Griffin KJ, Hagopian W, Haller MJ, Hendrieckx C, Hendriks E, Holt RIG, Hughes L, Ismail HM, Jacobsen LM, Johnson SB, Kolb LE, Kordonouri O, Lange K, Lash RW, Lernmark Å, Libman I, Lundgren M, Maahs DM, Marcovecchio ML, Mathieu C, Miller KM, O'Donnell HK, Oron T, Patil SP, Pop-Busui R, Rewers MJ, Rich SS, Schatz DA, Schulman-Rosenbaum R, Simmons KM, Sims EK, Skyler JS, Smith LB, Speake C, Steck AK, Thomas NPB, Tonyushkina KN, Vejlola R, Wentworth JM, Wherrett DK, Wood JR, Ziegler AG, DiMeglio LA. Consensus Guidance for Monitoring Individuals With Islet Autoantibody-Positive Pre-Stage 3 Type 1 Diabetes. Diabetes Care. 2024 Jun 24:dci240042. doi: 10.2337/dci24-0042. Epub ahead of print. PMID: 38912694.



ADULTS SUMMARY

Consensus guidance for monitoring persons who are islet autoantibody positive[1]

Why monitor:
Detection of one or more islet autoantibodies (IAbs) is currently the earliest indicator that a person **may** develop type 1 diabetes (T1D) and can be used to accurately classify T1D versus type 2 diabetes (T2D). Nearly 100% of people who have two or more persistent autoantibodies will progress over time to a T1D diagnosis. Monitoring during the first two years after seroconversion is most critical.

Who should be monitored:
Anyone who is confirmed positive for one or more islet autoantibodies.

How adults should be monitored:

Single IAb

For all, IAb status should be confirmed with repeat testing within 3 months; order HbA1c and fasting glucose to assess for dysglycemia

Repeat IAb with HbA1c and random venous or capillary BG
- Every 3 years
- Annually if one or more of the following T1D risk factors are present:
  - First-degree relative with T1D (parent, sibling, child)
  - Elevated genetic risk for T1D
  - Dysglycemia
  - History of stress hyperglycemia

For all, educate regarding diabetes symptoms and DKA prevention

If adult patient reverts to negative IAb status during monitoring, no further monitoring is required; continue with T2D risk screening per ADA guidelines

Multiple IAb

For all, IAb status should be confirmed with repeat testing within 3 months; order HbA1c and fasting glucose to assess for dysglycemia

Repeat HbA1c and random venous or capillary BG
- Patient with normoglycemia: annually
- Dysglycemia present: every 6 months

Consider C-peptide monitoring if diagnosis of T1D vs. T2D is unclear

For all, educate regarding diabetes symptoms and DKA prevention

If adult patient reverts to single or negative IAb status, continue with monitoring as above

If dysglycemia develops or is present:
- Refer to specialist
- Monitor HbA1c and random venous or capillary BG every 6 months
- Plus, blinded CGM or OGTT every 6 months, or high-frequency SMBG

Metabolic monitoring methods
There are many modalities that can be used to monitor IAb+ individuals. The gold standard is the oral glucose tolerance test (OGTT) that is used in the research setting and to accurately classify diabetes stage. There are other available tools for monitoring including self-monitored blood glucose (SMBG), periodic continuous glucose monitoring (CGM), standard OGTT, random venous glucose, and HbA1c. A detailed description of the pros and cons of the different monitoring tools can be found in the consensus monitoring guidance publication.

Educational needs
People who are at risk or with early-stage T1D should receive individualized education to reduce the rate of DKA at diagnosis, minimize need for emergency care at diagnosis, understand available interventions, introduce benefits of research studies, and support general and mental health for affected individuals and their families. Education should accompany all monitoring plans, including home glucose testing (SMBG) and monitoring devices (CGM). See full consensus statement for more information.

Psychological support
Emotional, cognitive and behavioral functioning should be assessed in people at risk or with early-stage T1D and their family members. Psychological care should be a part of routine medical visits. Ensure patient and family members understand the screening and risk information. When possible, this should be delivered by providers with diabetes-specific training.

Monitoring for T1D can reduce anxiety and depression, and help individuals to manage the unpredictability of T1D development. See full consensus statement for more information.

Monitoring during pregnancy
Please see the full guidelines for expert clinical advice for monitoring IAb+ women during pregnancy and post-partum.

Ask the Experts
Ask the Experts is a free resource to support practicing clinicians to monitor individuals living in the United States who screen positive for T1D associated antibodies or celiac disease.

Learn more at BreakthroughT1D.org/screening

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Reference: Phillip M, Achenbach P, Addala A, Albanese-O'Neill A, Battelino T, Bell KJ, Besser REJ, Bonifacio E, Colhoun HM, Couper JJ, Craig ME, Danne T, de Beaufort C, Dovc K, Driscoll KA, Dutta S, Ebekozien O, Elding Larsson H, Feiten DJ, Frohnert BI, Gabbay RA, Gallagher MP, Greenbaum CJ, Griffin KJ, Hagopian W, Haller MJ, Hendrieckx C, Hendriks E, Holt RIG, Hughes L, Ismail HM, Jacobsen LM, Johnson SB, Kolb LE, Kordonouri O, Lange K, Lash RW, Lernmark Å, Libman I, Lundgren M, Maahs DM, Marcovecchio ML, Mathieu C, Miller KM, O'Donnell HK, Oron T, Patil SP, Pop-Busui R, Rewers MJ, Rich SS, Schatz DA, Schulman-Rosenbaum R, Simmons KM, Sims EK, Skyler JS, Smith LB, Speake C, Steck AK, Thomas NPB, Tonyushkina KN, Vejlola R, Wentworth JM, Wherrett DK, Wood JR, Ziegler AG, DiMeglio LA. Consensus Guidance for Monitoring Individuals With Islet Autoantibody-Positive Pre-Stage 3 Type 1 Diabetes. Diabetes Care. 2024 Jun 24:dci240042. doi: 10.2337/dci24-0042. Epub ahead of print. PMID: 38912694.

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ADCES

Accredited offering paired with resources

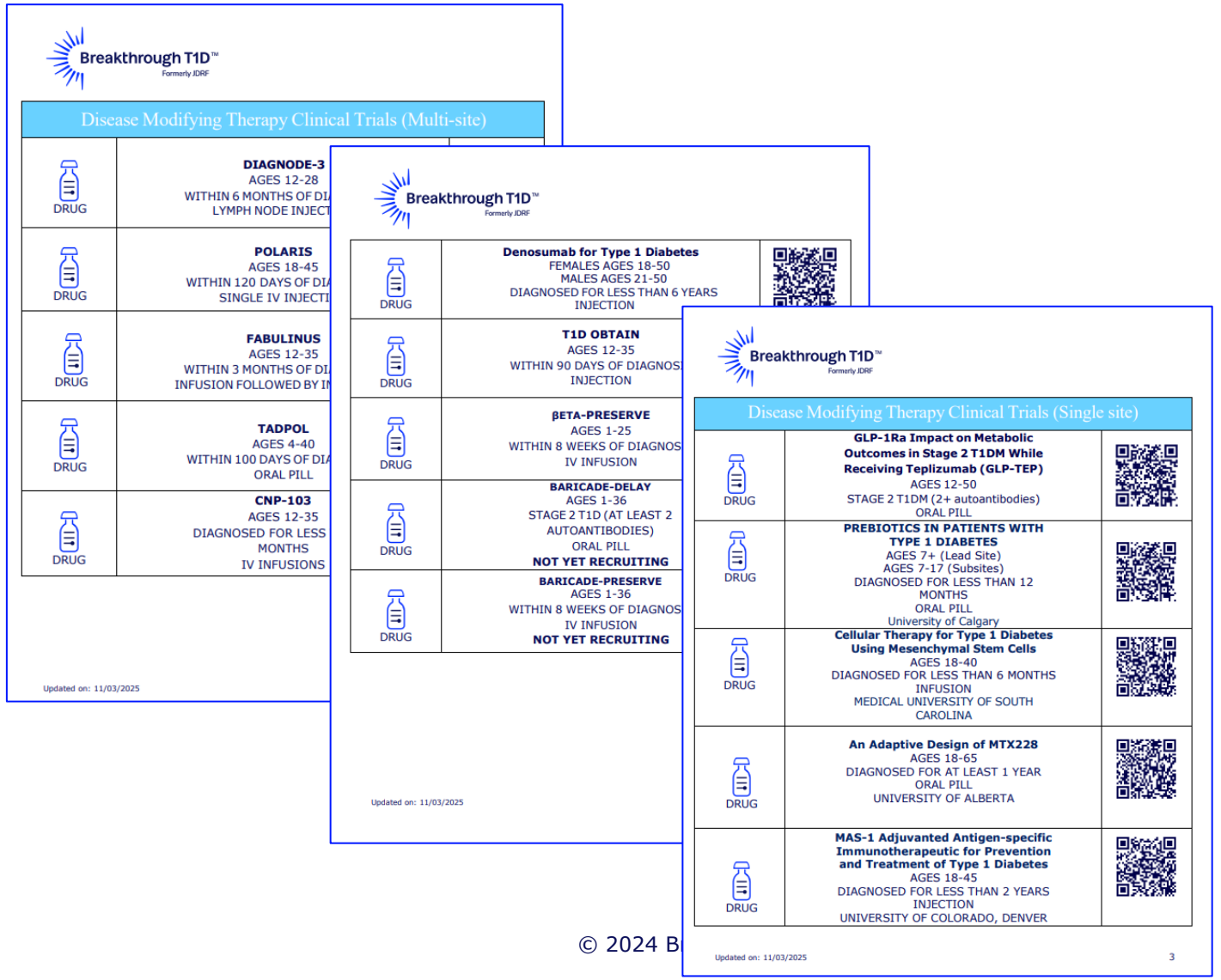
Clinical Trials to Delay Type 1 Diabetes

On-demand 0.5 Credits

Presented by Laura Jacobsen

Updated September 2025: A brief guide to discussing type 1 diabetes clinical trials with patients, including why it is important, how to get involved, and current trials to delay the progression of type 1 diabetes and preserve the ability to produce insulin.

Learn More and Register



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ADCES

Referrals to clinical trials are low

Tufts Center for the Study of Drug Development conducted a study of 589 US-based (non-oncology) physicians

89%

of physicians reported that they feel somewhat or very comfortable discussing clinical trial opportunities with their patients

0.14%

of patients were referred to a clinical trial

Barriers?

54% lack access to trial information

48% do not know where to refer patients

33% do not have the time to learn about active trials

Getz KA. Ther Innov Regul Sci. 2020;54(2):404-410

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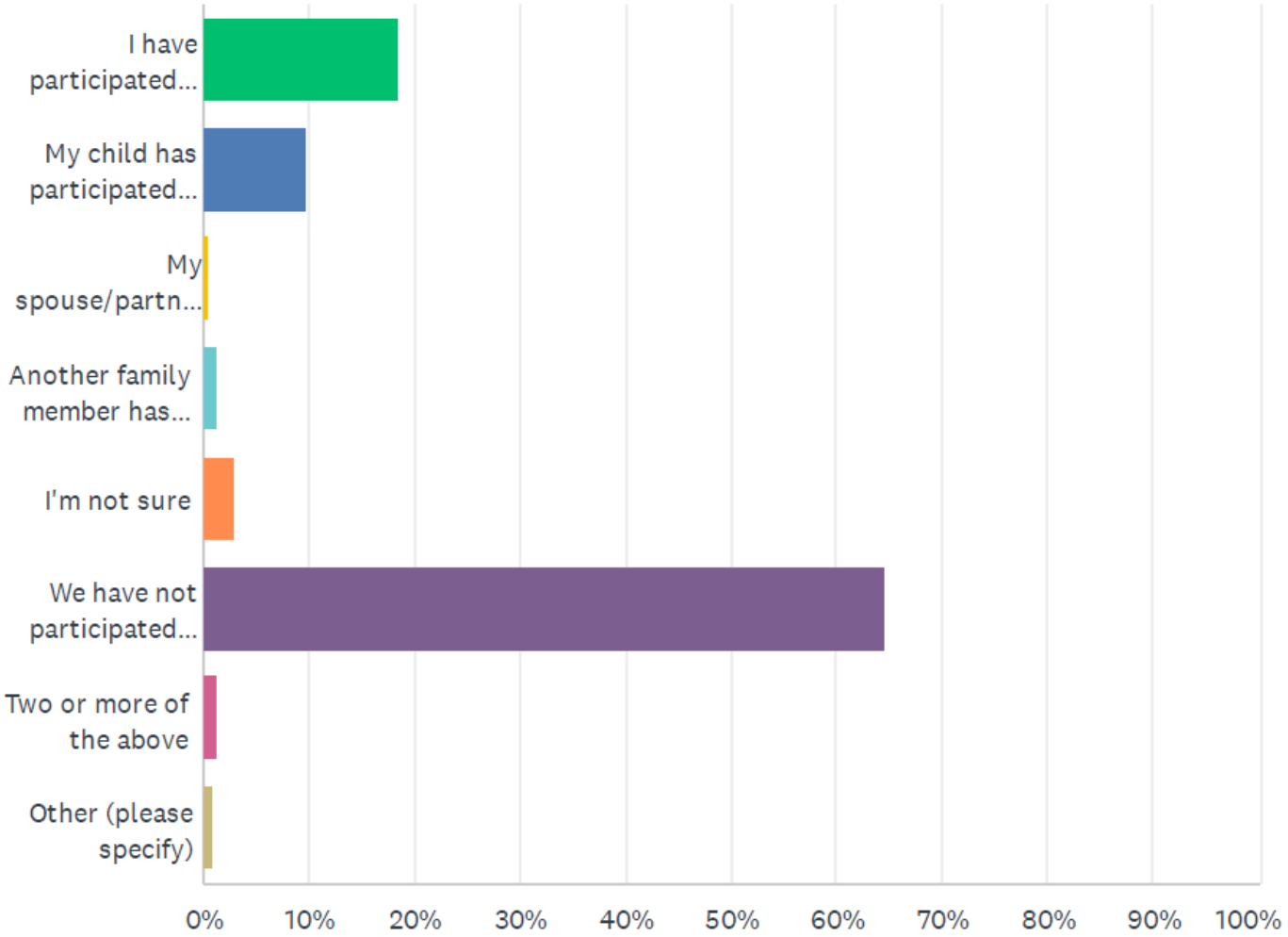
Breakthrough T1D Survey

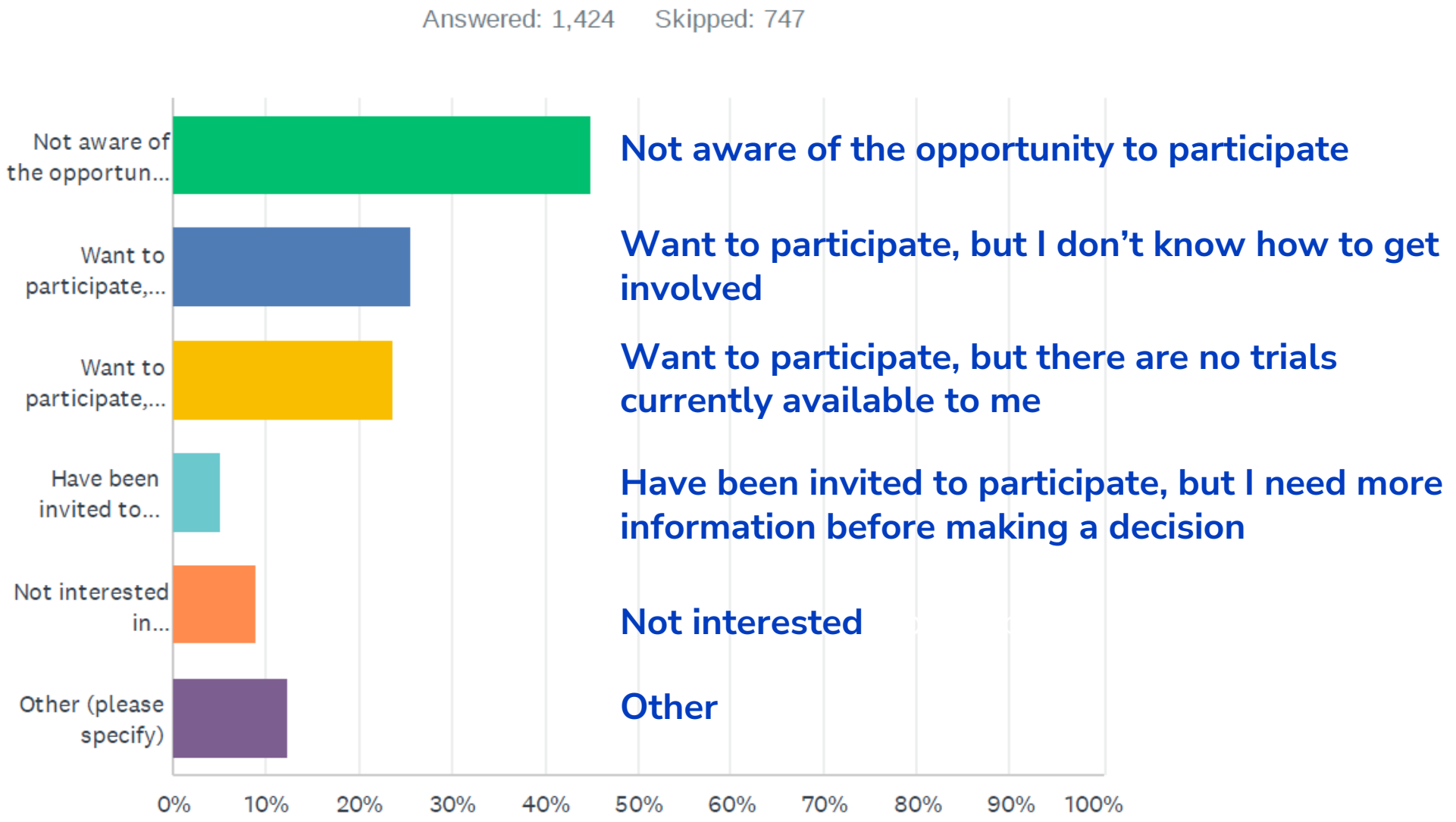
Have you or a family member participated in a clinical trial?

Answered: 2,171 Skipped: 0



~70% of respondents report they have not participated a clinical trial

Why haven’t you participated in research?



Not aware of the opportunity to participate

Want to participate, but I don’t know how to get involved

Want to participate, but there are no trials currently available to me

Have been invited to participate, but I need more information before making a decision

Not interested

Other

Additional current U.S. offerings (+ partners)

Psychological Considerations in Early-Stage Type 1 Diabetes

On-demand 1.0 Credits

Presented by Suzanne Bennett Johnson, Laura Smith, Holly K. O'Donnell, and assisting in development of the material Kimberly A Driscoll.

Explore the psychological and behavioral impact of early stage T1D and learn strategies for communicating risk and addressing concerns.

Learn More and Register

Representation in T1D Screening and Clinical Trials

On-demand 0.5 Credits

Presented by Ananta Addala

This educational offering explores disparities in access to type 1 diabetes screening and monitoring, and provides evidence-based solutions to deliver care to all.

Learn More and Register

Ask the Experts
FOR EARLY T1D ANSWERS AND GUIDANCE

THE LEONA M. AND HARRY B. HELMSLEY CHARITABLE TRUST

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Pilot clinic HCP education outcomes to date

17

Total pilot clinic contracts (many with multi sites)

12

pilots actively screening, 5 recently onboarded (not yet screening)

9

pilots have completed HCP education

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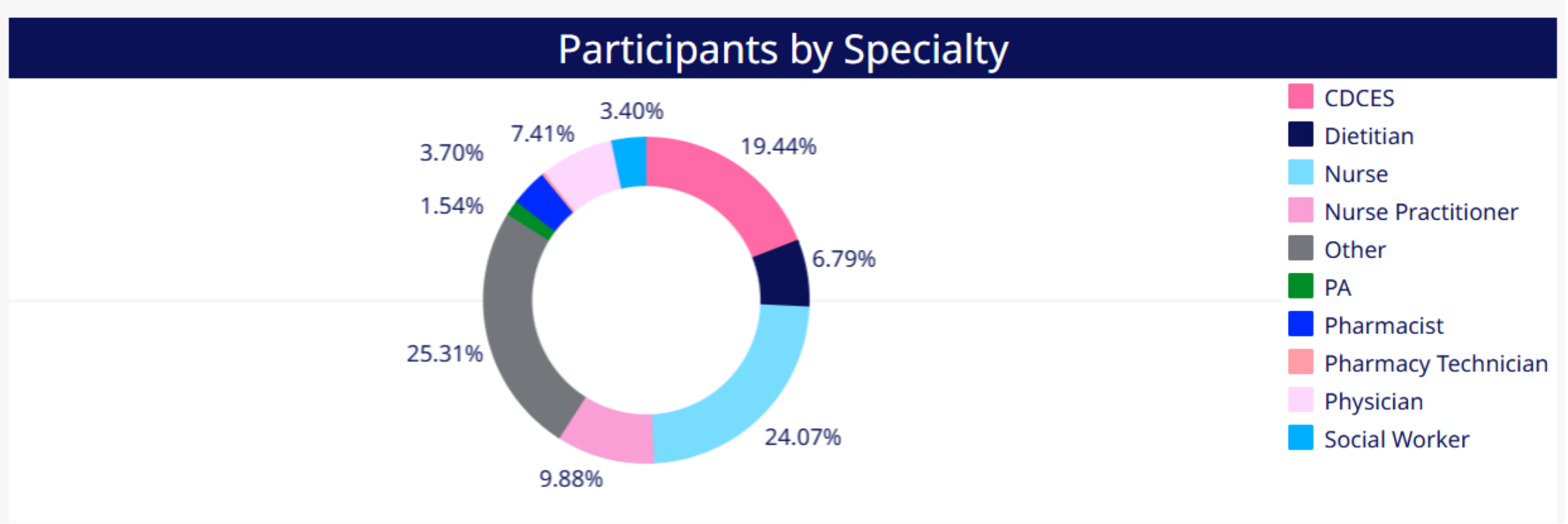
Uptake across the health professions



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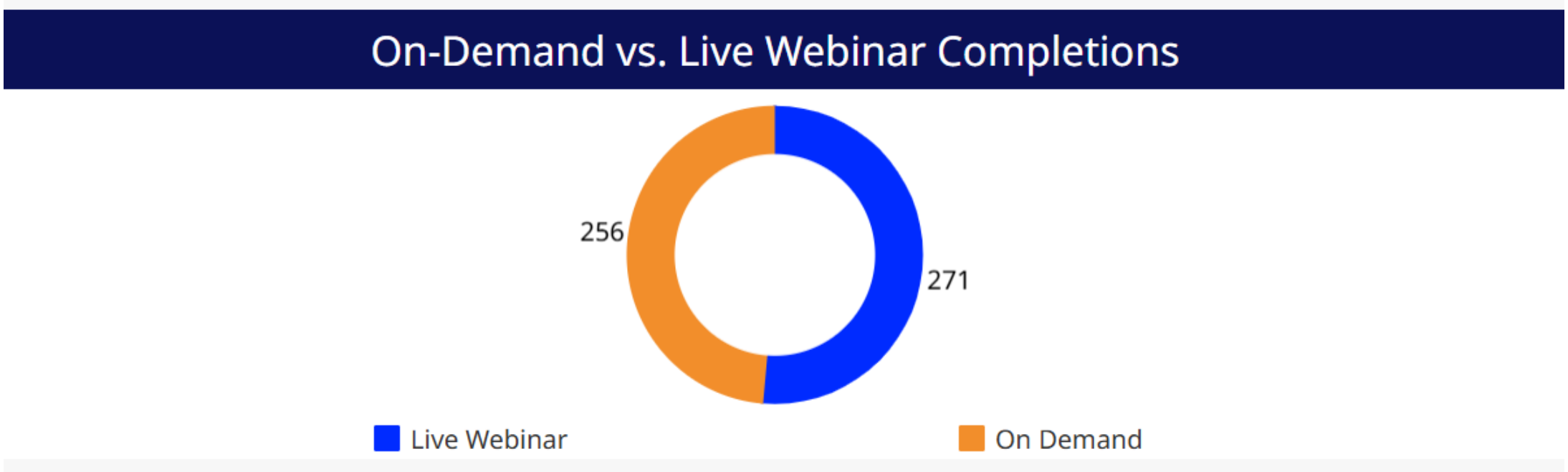
Which platform is best?



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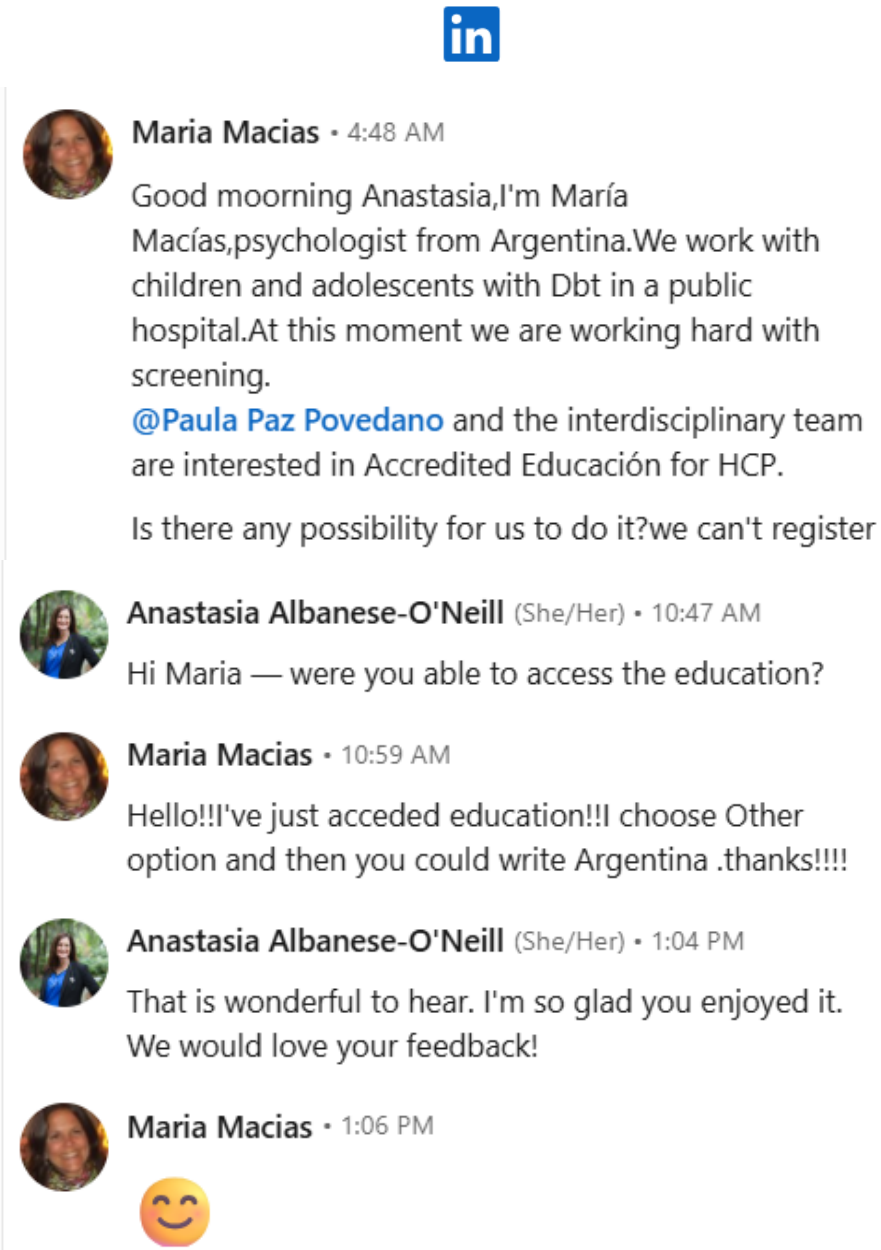
Interest expands beyond pilot clinic sites

Overall

- Total registrants: 784
- Certificates awarded: 522

National and International Reach

- Individuals from 42 US states and individuals from 29 different countries have registered for education



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European Offerings

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Offered in partnership with Medscape

- English
- French
- Italian
- German
- Portuguese
- Spanish

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Medscape

Accredited Education in Europe

Detecting and Managing Type 1 Diabetes in Clinical Practice

Type:	Text based
Topic(s):	Early detection
Launched:	July 15, 2025
Days Live:	93
Learners:	2,614
Test Takers:	839

A New Dawn in T1D Care: Detection, Delay, Delivery, Striving for Cure

Type:	Video based
Topic(s):	AID, early detection, immunotherapy, cell therapy
Launched:	June 6, 2025
Days Live:	132
Learners:	4,327
Test Takers:	69

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Medscape

Immersive Educational Offerings

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Immersive educational offerings: “Journeys of people living with type 1 diabetes”

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Medscape

What’s Next?

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Forthcoming FY26 Accredited Offerings

Course Name	Faculty	Anticipated Launch
Motivational Interviewing in T1D Screening	Jan Kavookjian, PhD	November 2025
Diagnosis and Classification of Diabetes	Brynn Marks, MD	December 2025
Approved Disease Modifying Therapies	Kimber Simmons, MD	December 2025
Islet Cell Transplant	Peter Senior	December 2025
Current islet cell transplant clinical trials	Mike Rickels	December 2025
T1D Basics	Thomas Danne, Anastasia Albanese-O'Neill	January 2026

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Thank you to the team at Breakthrough T1D (Julianne Lally, Thomas Danne, Michelle Simes-Kennedy, Danielle Faulkner, Jules Kronberger, Stacy Descoteau, Brynn Marks) and our partners at ADCES, Medscape, and many others.