



Webinar Summary

Type 1 Diabetes in Practice

*Screening, Monitoring,
and Early Intervention*



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Synthesized Best Practices, Lessons Learned, and Scalable Solutions

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AMGA Foundation convened this webinar to examine how health systems are operationalizing type 1 diabetes (T1D) early detection programs. Three expert panelists shared real-world experience covering the T1D staging framework, electronic health record (EHR)-integrated screening workflows at WellSpan Health, and the identification and management of T1D in the adult population. This summary offers the high-impact takeaways, lessons learned, and scalable best practices for healthcare organization providers and quality leaders.

Clinical Background: The T1D Staging Framework

T1D progresses through distinct, identifiable stages before the onset of symptomatic hyperglycemia. Understanding this continuum is the foundation for any early detection program:

Stage 1	Two or more islet autoantibodies present. Normoglycemia. No symptoms. T1D by current diagnostic consensus.
Stage 2	Two or more autoantibodies present with dysglycemia (abnormal glucose regulation). Still asymptomatic. The critical window for currently approved, disease-modifying therapy.
Stage 3	Clinical onset with symptomatic hyperglycemia. Most patients first present here, often in diabetic ketoacidosis (DKA). The disease-modification window has passed for currently approved therapies; therapies are in clinical trials and U.S. Food and Drug Administration (FDA) review for this stage.

Patients with two or more positive autoantibodies have a 5- to 10-year risk of Stage 3 T1D of approximately 50% and a lifetime risk approaching 95% to 100%. Approximately 90% of new T1D diagnoses occur in individuals with no family history, meaning family-based screening alone will miss most cases.

Research Screening Opportunities for Patients and Families

Research-based screening programs are a valuable resource for patients, families, and health systems pursuing early T1D detection. These programs use highly validated assays, and any costs are borne by program sponsors rather than patients or health systems. It is important to note that while specific research findings are not recorded in the health record prior to publication, a patient's participation in a research program is documented in the medical record.

- **ASK (Autoimmunity Screening for Kids) Study:**

A population-based research program run through the Barbara Davis Center for Diabetes at the University of Colorado Anschutz Medical Campus. The ASK Study is designed to identify individuals at risk for developing T1D before the clinical onset of symptoms and is open to individuals nationwide, including those without a family history of T1D. WellSpan Health embedded ASK referral directly into its EHR SmartSet. ASK can also connect eligible families to TrialNet.

- **TrialNet:** A research network offering free autoantibody screening for individuals who have a first-degree relative with T1D and no personal history of the disease. TrialNet provides longitudinal monitoring and access to clinical trials for those who screen positive.

- **Breakthrough T1D (formerly JDRF):** Offers an early detection program with regularly updated guidance on screening approaches. Health systems can leverage Breakthrough T1D resources for patient education and provider training.

Best Practice Guide

The panelists identified five priority domains that are critical to building a sustainable, scalable T1D early detection and intervention program. The following synthesizes their real-world experience and actionable recommendations.

1. Build EHR-Integrated Workflows That Reduce Provider Burden

WellSpan Health developed a custom EHR SmartSet that enables streamlined, protocol-driven screening at the point of care. The SmartSet auto-populates ICD-10 codes used for billing, offers dual pathways (clinical lab or

“Stage 2 is where the intervention is—where progression can be prolonged. We all have to work together to find those people. The more eyes we have on it, the more likely we are to succeed.”

— Dr. Daniel J. Moore, Vanderbilt University Medical Center

ASK network referral), generates patient-facing after-visit summary materials, and supports standing orders so trained clinical staff can execute screening without a scheduled provider visit.

- Engage EHR informatics teams early. WellSpan experienced delays due to a systemwide build freeze following a hospital acquisition, underscoring the importance of initiating EHR integration discussions well before program launch.
- Conduct iterative mockup reviews with outpatient primary care providers, not only specialist or inpatient teams. Ambulatory workflows differ significantly.
- Use EHR-based patient portal messaging to drive screening requests directly to patients, reducing alert burden on providers.

2. Define a Stage-Specific Care Pathway for Every Result

Screening is only the first step. Every result must trigger a defined next action:

- **Negative result:** Automated EHR notification with result-and-repeat testing plan. E-consult option available for caregiver questions. Rescreen children before puberty, given elevated autoantibody conversion rates during the peripubertal window.
- **Stage 1 (one or more autoantibodies, normoglycemia):** Confirmatory testing, caregiver education on hyperglycemia signs, specialist referral to assess stage and eligibility for clinical trials.

- **Stage 2 (two or more autoantibodies with dysglycemia):** Enroll in a navigation program. Evaluate for teplizumab (Tzield), the only FDA-approved therapy for Stage 2 T1D. WellSpan offers both a home-based outpatient infusion model and a hybrid inpatient-to-outpatient model for the 14-day treatment course.

3. Identify T1D in the Adult Population

T1D is frequently misclassified as type 2 Diabetes (T2D) in adults, delaying appropriate treatment and potentially leading to complications such as diabetic ketoacidosis (DKA) at the time of diagnosis. Consider autoantibody testing for adults who present with any of the following: normal or low body mass index (BMI), poor response to oral glucose-lowering therapy, personal or family history of autoimmune disease, or A1C in the prediabetes range (5.7% to 6.4%) without classic T2D risk factors.

Once T1D is confirmed in an adult, monitor for comorbid autoimmune conditions, which occur at elevated frequency:

- **Thyroid disease:** 17% to 30% of adults with T1D. Check Thyroid Function Tests (TFTs) annually or when symptoms suggest hypo- or hyperthyroidism.
- **Celiac disease:** ~8% of individuals with T1D. Evaluate for chronic diarrhea or refractory vitamin D deficiency.
- **Addison's disease:** Rare but clinically significant. Consider morning cortisol if unexplained glycemic improvement or hypoglycemia occurs.
- **Autoimmune gastritis:** 5% to 10% of individuals with T1D. Refer to gastroenterology for refractory gastroesophageal reflux disease (GERD) or peptic ulcer disease.

4. Engage Patients, Families, and Providers Across the Continuum

Effective patient and family engagement, combined with a deliberate strategy for reducing provider burden, are foundational to program sustainability. The panelists identified several evidence-informed approaches that have improved screening uptake and clinician adoption at their institutions.

“There needs to be greater awareness, particularly in primary care, about thinking about checking patients with autoantibody studies for type 1 diabetes. Not all these patients need to come to an endocrinologist to be screened. They can be screened by primary care. And then, depending on the results, we can help comanage.”

— Dr. Scott Hines, Crystal Run Healthcare, Optum Tri-State

- Prioritize point-of-care testing. Completion rates are significantly higher when testing is initiated during the visit rather than via mailed kits.
- Normalize screening within pediatric preventive care. WellSpan is moving toward universal T1D autoantibody screening offered alongside lead, hemoglobin, and lipid panels.
- Route outreach directly to patients via the EHR portal. Alert providers prior to the patient visit so they are prepared when patients ask questions, rather than relying on providers to initiate the conversation.
- Educate providers on the staging framework. T1D staging is not yet embedded in most medical education curricula. Brief educational sessions and just-in-time decision support tools in the EHR are effective approaches.
- For the adult population, use shared decision-making. Explain why distinguishing T1D from T2D matters clinically, particularly around insulin therapy and DKA prevention.

Key Barriers and Mitigation Strategies

Insurance coverage	Autoantibody screening is frequently not covered. Offer research program enrollment (TrialNet, ASK) as a no-cost alternative; provide cost estimates for clinical lab orders.
EHR implementation delays	Build freezes due to acquisitions or competing IT priorities can stall deployment. Engage informatics teams early and build contingency protocols.
Provider knowledge gaps	Staging is a recent framework unfamiliar to many primary care physicians. Embed clinical decision support in the SmartSet and conduct targeted education.
Alert fatigue	Avoid adding new provider-facing alerts. Route initial outreach directly to patients through the EHR portal instead.
Low population-level yield	90% of T1D diagnoses occur without family history. Start with high-yield family-based screening, then scale toward broader approaches.

High-Impact Takeaways for Quality Leaders

- T1D is a staged, diagnosable disease before symptom onset. Stage 2 is the current window for disease-modifying therapy. Early detection investment directly reduces DKA presentations and acute care utilization.
- EHR-integrated SmartSets that reduce provider burden, embed dual screening pathways, and support standing orders are the most scalable operational approach.
- The ASK Study and TrialNet provide research-based screening pathways where costs are borne by program sponsors. Embedding these referral pathways into clinical workflows broadens access without absorbing laboratory costs.
- Start with family-based screening. Use those workflows and lessons to build toward broader population-based approaches over time.
- Adult T1D is underdiagnosed. Build primary care awareness and screening criteria into provider education programs.
- Go directly to patients via the EHR portal. Prepare providers to respond, rather than asking providers to initiate every screening conversation.

“I know what it’s like to care for children who present to our emergency room in diabetic ketoacidosis. I know the strain that places on families. If I can have that conversation outside of the emergency department, I’m going to take that 100 out of 100 times. Remember the why as you engage in this journey.”

— Dr. Christopher Russo, WellSpan Health

This summary was prepared with AI assistance and reviewed and edited by AMGA Foundation staff and the three panelists. It is intended for informational and educational purposes for healthcare providers and quality leaders. Clinical decisions should be made in accordance with current guidelines and individualized patient assessment.

Mission:

AMGA Foundation enables medical groups and other organized systems of care to consistently improve health and healthcare.

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AMGA Foundation serves as a catalyst, connector, and collaborator for translating the evidence of what works best in improving health and healthcare in everyday practice.



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