CLOSER LOOK

MEMORANDUM

The Lancet publishes preliminary results from the ELSA study investigating the feasibility of population-wide T1D screening in the UK – January 22, 2026

Study found 160 children had 2+ autoantibodies; ELSA 2 to expand to ages 2-17

The *Lancet Diabetes & Endocrinology* just published two-year results from the ELSA study (n=24,875) in the UK, which showed that autoantibody testing in children aged 3-13 can reliably identify early-stage disease before symptoms appear. As a reminder, the Breakthrough T1D and Diabetes UK-funded study launched in November 2022 involved five steps: (i) finger-prick blood test to screen for autoantibodies; (ii) venous blood test for autoantibodies in those who tested positive; (iii) T1D staging from the venous blood test; (iv) education session for parents of children found to be at risk of T1D; and (v) interviews with parents to provide feedback on the screening program.

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Study identifies 160 children with stage 1 T1D and seven with undiagnosed stage 3 diabetes

The study found that 75 children had one autoantibody, while 160 had two or more without symptoms, indicating stage 1 T1D[1], and seven already had undiagnosed stage 3 diabetes requiring immediate insulin initiation. Dr. Elizabeth Robertson, Director of Research and Clinical at Diabetes UK, emphasized that these findings strengthen the case for a national screening program capable of shifting T1D diagnosis from emergency management to planned, proactive care.

In addition, 85% of parents invited to education sessions participated, and only four families accepted psychological referral, suggesting that although diabetes diagnoses are certainly enormous challenges, this "softer landing" type of diagnosis benefits everyone "more" than the more dramatic DKA diagnoses. Notably, families reported that early knowledge reduced fear and improved preparedness. Namely, the study demonstrated that screening can be delivered flexibly, with about 62% of participants consenting to at-home testing, 22% in schools, 5% at a general practice, 10% in other community clinics, and just 1% in hospitals.

T1D screening can be most effective when starting with relatives of people with T1D

Unsurprisingly, the study found that relatives of people with T1D were more likely to engage with the screening program and test positive.Specifically, just under 4% (n=101, or 3.7%) of first-degree relatives and over 2% (n=131 or 2.2%) of children with family history of T1D screened positive. On the other hand, significantly smaller percentage (0.25%; n=29) of the participants without any family history of T1D screened positive.

ELSA 2 will expand screening to ages 2-17, with NHS early-stage T1D clinics

ELSA 2 will expand screening to ages 2-17, with researchers planning to recruit additional 30,000 children. The study will also establish new early-stage T1D clinics through the NHS to offer more comprehensive monitoring and psychosocial support (where needed) to families.

Global context: Screening efforts across the US, Italy, Israel, Germany, Denmark, and Sweden

In September 2023, Italy passed a law for nationwide screening for T1D and celiac disease in children aged 1-17, supported by more than 10 million euros in government funding over three years. Preliminary data from the DiCE SCREEN pilot study showed high feasibility, with 93% of the target population screened. Out of 5,556 samples, 0.2% (n=10) had multiple antibodies, and 0.3% (n=15) had a single antibody. While this sounds low, every "multiple antibody" finding, of course, is a big finding for the person and family and each one reflects DKA prevention. Meanwhile, the EDENT1FI initiative aims to screen 200,000 children across Europe and has already reached over 81,000 in Germany, Denmark, Sweden, and the UK. In Israel, the ADIR project aims to recruit 35,000 children to be screened using ADAP, or Antibody Detection by Agglutination-PCR technology. As of May 2025, 12,640 analyzed samples found that 0.43% were positive for multiple antibodies and 1.1% were positive for a single antibody. These efforts reflect growing international consensus around early detection and proactive management of autoimmune diseases in children.

Early screening can reduce DKA rates at diagnosis and provide opportunities to delay T1D onset

Early detection has the potential to significantly reduce the number of children presenting at T1D diagnosis in diabetic ketoacidosis (DKA), a serious complication that still affects more than one quarter of UK children at diagnosis. Diabetes UK notes that Tzield was licensed in the UK in August 2025, though it is not yet routinely available through the NHS. Before licensing, a small number of families, including several identified through ELSA, were able to access teplizumab through a manufacturer-run managed access program from Sanofi.

The Lancet authors also emphasize that equity must be central to any future screening program. In the study, most participants were white (81%), while Asian (6.5%) and Black (2.6%) children remained under-represented. Participation increased when testing was offered in schools, general practice, and community settings rather than solely at home, for participants from ethnic minority groups. Ensuring that screening is accessible and acceptable across all communities will be essential for a successful national implementation.

Close Concerns' Questions

1. How will the UK assess the cost-effectiveness of national screening?
2. What communication strategies proved most effective in building public trust and participation in Italy's screening program, and how might these inform UK messaging?
3. What evidence from ELSA 2 will be most critical for informing NHS England's decision on whether to adopt routine screening in children?

--by Kayla Mathieu, Kat Moon, Monica Oxenreiter, and Kelly Close

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[1] As a reminder, stage 1 T1D refers to people with two or more islet autoantibodies and normal glucose level; stage 2 T1D for those with at least two autoantibodies and dysglycemia; and stage 3 for those with clinical diagnosis of T1D.