The researchers will measure iAb primarily from serum obtained by venipuncture but also from capillary blood using gold-standard radioimmunoassay and ECL assay.

With the possibility of the standard of care changing to include routine measurement of iAb in children, iAb measurement methodology needs to be optimized for widespread screening. Continuing to increase the sensitivity and specificity of assays through the IASP remains important. Ideally, commercial laboratories would adopt the most sensitive and specific iAb assays available. In addition, it must be a priority to validate newer, highly sensitive and specific iAb assays such as ECL that do not use radioactivity and have the ability to measure all four iAb from a small volume of serum in a single well. ECL assays are better at identifying high-affinity iAb, which are more likely to predict progression to T1D, possibly even as a single iAb (8). ECL assays also identify IAA much earlier than any other iAb measured by the current gold-standard radioimmunoassay (9). This is important as IAA is often the first iAb to develop in young children who are at highest risk for DKA.

Sample collection optimization also will be important for successful widespread iAb measurement. Capillary blood screening offers a feasible alternative to venous