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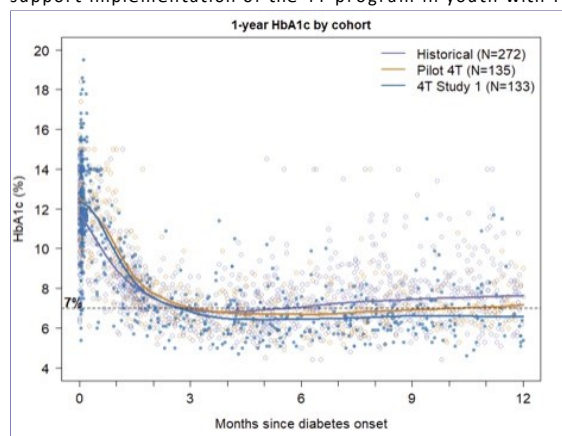
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4T Study: Early CGM Initiation and Tighter Glucose Targets Improves A1c in Youth with T1D

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Abstract:

Methods to optimize care after T1D diagnosis are needed. We hypothesized lowering A1c targets to <7% would further lower A1c in the 4T Study in which CGM with asynchronous remote patient monitoring (RPM) is initiated after T1D diagnosis. All youth with newly diagnosed T1D (June 2020-March 2022) were offered CGM and RPM after diagnosis (Study 1, n=133). We compared A1c at 1-year in Study 1 with the 4T Pilot (2018-20) and Historical cohorts (2014-16). We visualized population-based A1c trajectories using locally estimated scatter plot smoothing (Fig) and % meeting A1c targets. Mean A1c at diagnosis was similar in Pilot ($12.2 \pm 2.1\%$) and Study 1 ($12.2 \pm 2.4\%$) and higher than the Historical cohort ($10.7 \pm 2.5\%$). In Study 1, the median age of diagnosis was 10.8 years, 55% male, 40% non-Hispanic White, and 38% with public insurance. CGM initiation occurred within 30 days of diagnosis in 98.5%. At 3, 6, 9, and 12 months post-diagnosis, the Study 1 cohort had LOESS-based mean A1c differences of 0.16%, 0.24%, 0.31%, and 0.58% lower than the Pilot and 0.04%, 0.60%, 0.83%, and 1.06% lower than the Historical cohort. A1c target <7% was met by 61% of youth in Study 1, 51% in the Pilot and 28% in the Historical cohort. Time <70mg/dl was $\leq 2.3\%$. The 4T program which emphasizes early CGM initiation, RPM, tighter glucose targets, and consistent team messaging was associated with lower A1c. These data support implementation of the 4T program in youth with T1D.



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