**Higher HbA1c following younger age of transfer from paediatric to adult type 1 diabetes services: Data from the Australasian Diabetes Data Network (ADDN) registry**

**Aim**

We examined early vs. late (< vs. > 18 years) age of transfer from paediatric to adult type 1 diabetes services, and factors associated with HbA1c in adult services.

**Methods**

Data on transitioned youth in Australia (2013-2022) were accessed from the Australasian Diabetes Data Network registry; stratified and compared by age group at last paediatric visit. Multivariable generalised estimated equations (GEE) were used to model factors associated with HbA1c in adult services, using backward consecutive elimination. Explanatory variables were age group at transfer, age at visit, sex, type 1 diabetes duration, mean paediatric HbA1c in the 36 months prior to transfer, insulin pump use, socioeconomic status, and consultation gap between last paediatric and first adult visit.

**Results**

Overall, 784 (49.7% male) transitioned youth were identified. At the last paediatric visit, early transferers had higher HbA1c (8.9±1.9 [74.0±21.1] vs. 8.6±1.8% [70.0±19.7mmol/mol], p=0.01). Median (25th, 75th percentile) consultation gap between last paediatric and first adult visit was longer amongst early transferers (13.5 (5.5, 28.0) vs. 8.1 (3.7, 23.8) months, p<0.001), and at the first adult visit they had more socioeconomic disadvantage (score 976.8±101.7 vs. 992.8±81.1, p=0.03) and again, higher HbA1c (9.3±1.9 (78.2±20.6) vs. 8.8±1.9% (72.9±20.4mmol/mol), p=0.01). This was despite proportionally more insulin pump use (n=137 (45.7) vs. n=120 (37.0%), p=0.03).

 In multivariable GEE, higher HbA1c in adult services was associated with early transfer (p=0.02), higher mean paediatric HbA1c (p<0.001), and lower socioeconomic status (p=0.04).

**Conclusions**

Early transfer from paediatric to adult type 1 diabetes services was associated with higher HbA1c in real-world settings. Findings should be interpreted in the context of other international models to understand optimal transfer timing.