**Improving glycaemic outcomes with subsidised access to diabetes technology in a young adult population with type 1 diabetes**

**Aims:** The availability of diabetes technologies has increased, although access can remain limited for young people with type 1 diabetes (T1D). The past years have also challenged healthcare with the COVID-19 pandemic. This study aimed to evaluate the impact of change in availability of diabetes technologies including the impact of COVID-19, on glycaemic outcomes in young adults with T1D.

**Methods**: A retrospective cohort study was conducted in those aged 15-25 years with T1D attending a young adult diabetes service from 2019-2024. Primary outcome was change in HbA1c across five years to evaluate the impact of changing availability of diabetes technologies including the impact of COVID-19. Secondary outcomes were incidence of severe hypoglycaemia and diabetic ketoacidosis, and effects of sociodemographic status utilising Socio-Economic Indices for Areas (SEIFA).

**Results**: 418 young adults were reviewed. Median HbA1c improved across the five years from 8.4% to 8.0% (p<0.001). Continuous glucose monitoring (CGM) use increased from 29.4% to 76.2% (p<0.001), whilst insulin pump use remained unchanged at 52-57% (p=0.277), although increases were observed in the lowest sociodemographic cohort. Hybrid closed loop (HCL) use increased from 5.1% to 35.4% (p<0.001). HbA1c was lowest with HCL, CGM, and in the most advantaged sociodemographic group (Table). Rates of severe hypoglycaemia and diabetic ketoacidosis were low at 1.08 and 4.90/100 patient-years respectively, with no increases during COVID-19. Visit frequency remained unchanged during COVID-19.

**Conclusion**: Improvements in glycaemia in young adults were achieved with greater accessibility to subsidised diabetes technologies.

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|  | **Insulin delivery mode** | **CGM** | **SEIFA** |
|  | Injection therapy | Manual mode pump | Hybrid closed loop | No CGM | CGM use | 1 (least advantaged) | 5 (most advantaged) |
| **HbA1c (%)** | 8.4 | 8.7 | 7.5 | 8.8 | 7.9 | 8.8 | 8.1 |
| **P-value** | <0.001 | <0.001 | <0.001 |