

## **APCam11 study**

Between May 2016 and March 2018 we conducted an at-home study in six different centres in UK and USA. We studied 86 participants who were randomly assigned to one of two groups: either the artificial pancreas or the control group. There was a mixture of ages: 44 participants were 22 years and older; 19 were 13 to 21 years; 23 were 6 to 12 years. Of these, 46 used the closed loop insulin delivery system, consisting of a pump, sensor and smartphone containing an algorithm (artificial pancreas group), and 40 used the pump and sensor alone (control group). They used the devices for 12 weeks.

The results of this study have now been analysed and the results are below.

The target range for blood glucose levels was between 3.9 and 10.0mmol/l. The artificial pancreas group spent a significantly higher percentage of time in that range (65%) than the control group (54%). Their actual blood glucose measurements (HbA1c) also reduced by a greater amount: the artificial pancreas group averaged 8.0mmol/l at the start of the study and 7.4 at the end; the control group averaged 7.8mmol/l at the start and 7.7 at the end.

The results can be viewed in greater detail in the article published in the September 2018 issue of The Lancet. They show an encouraging improvement in control in the group who used the artificial pancreas.