Tools to Improve Pump Skills (TIPS) – Chesterfield Paediatric Diabetes Team

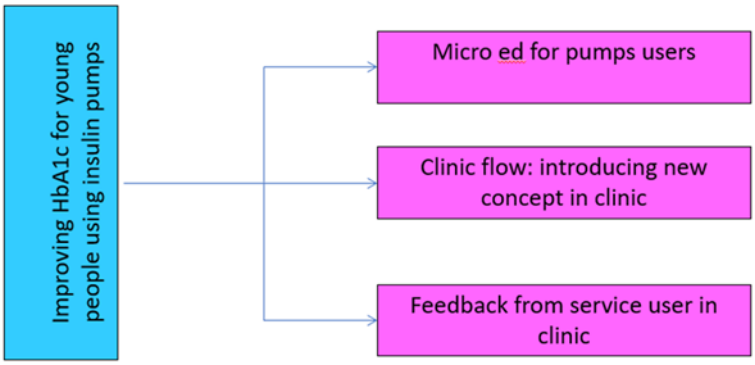
Our team's purpose is as follows -

'To compassionately educate, support and empower patients to optimally manage their diabetes, considering their emotional wellbeing, enabling the young person to fulfil the life they want to lead'.

How we developed our project

This idea came about as we have around 50% of our patients on pumps, however our NPDA data showed that there was not really any difference at all in HbA1c comparing the pump and the pen patients. This is despite robust education at start up on pump therapy and all the additional technology that is involved in being on a pump. We felt the need to address this and provide more ongoing education

The initial idea was to provide some group sessions, but we've traditionally had problems with attendance in previous groups that we've run.



Our Driver diagram (above). Our goal is to improve HbA1c for young people using insulin pumps, by using micro-education.

Further to this, the pandemic came along, so we decided to come up with some micro-education sessions to incorporate in clinic, where we had a captive audience.

We called our intervention 'Tools to Improve Pumps Skills' (TIPS).

We used process mapping to look at clinic flow and see how we could incorporate micro-education within clinic with minimal impact on clinic time.

We also ran a fishbone analysis (diagram 1) to identify what was needed, and to consider things from all angles. This made us think about what to cover in our micro-education topics, such as what equipment was needed, our processes, including what would go on within the clinic, the roles of different staff members and, very importantly, our measurement.

We employed some survey software to establish the baseline levels of skills and needs in our patients.

We thought about how we would get some instant feedback in clinic and used 'Pringle boxes' as a simple way of collecting feedback; we asked people to put a counter in the box at the end of the clinic, as to whether their experience was positive or negative and whether or not they felt they had learned anything. In addition, we tracked the numbers of patients downloading monthly.

We developed a consolidation sheet as we went along to assess learning from the previous micro-education topic. That was something that wasn't actually in our original fishbone analysis, but it came about as the process went on. We are also measuring HbA1c at intervals, aiming for 6 months, 12 months, 15 and 18 months.

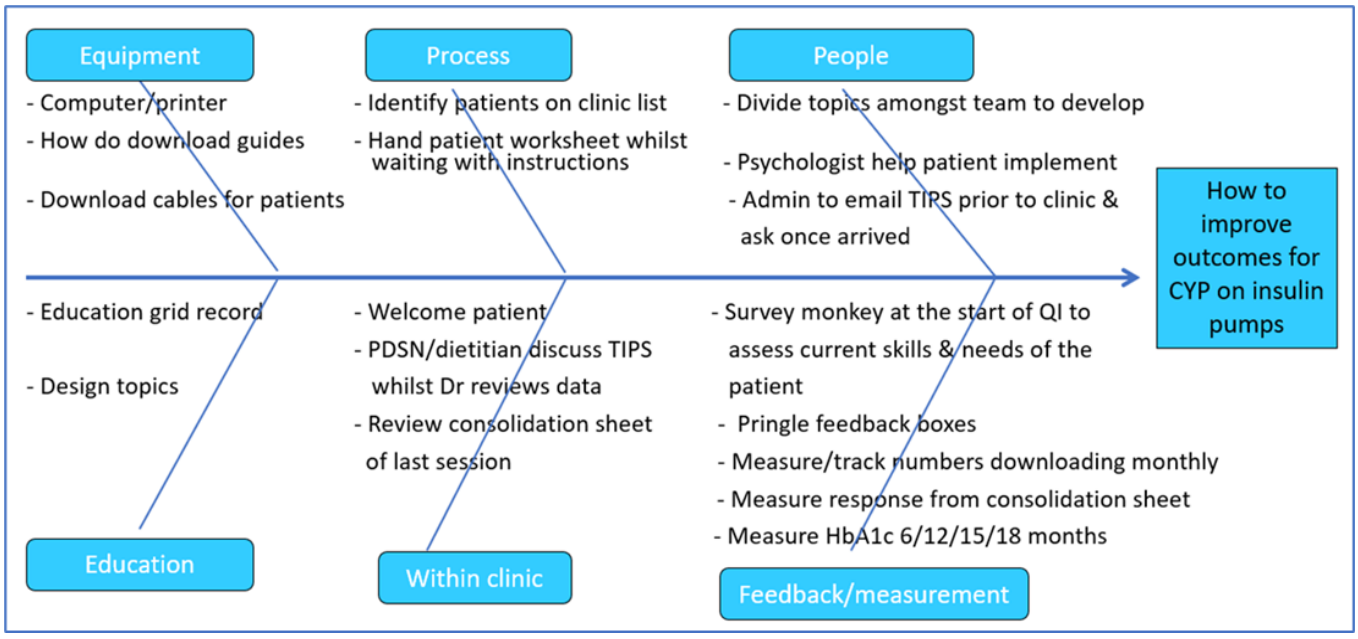
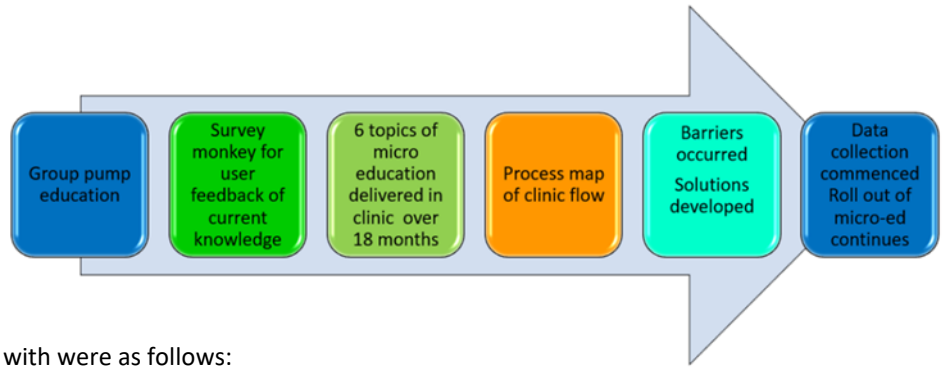


Diagram 1. Fishbone analysis

Our journey so far

Inevitably, we hit some barriers, and one of the main ones was that patients initially were not all reading the TIPS sheet in the waiting room or completing the questions to bring into the clinic room.



Some of the solutions we came up with were as follows:

- Firstly, reminding reception staff to prompt people to look at the TIPS sheets.
- Secondly, we put a slip on top of the TIPS education leaflet to ask patients to fill in while they were waiting.
- Thirdly, we asked the admin staff if they would email the TIPS sheet to patients before clinic where possible.

Our interventions and PDSA cycles

We developed 6 micro-education topics for our clinics. These each lasted a 3-month period and cover

1) Downloading – which we have completed

2) Reviewing basal rates – in process

3) Temporary basal rates

4) Carbohydrate counting

5) Blood glucose patterns and carb ratio adjustments

6) Extended boluses and glycaemic index

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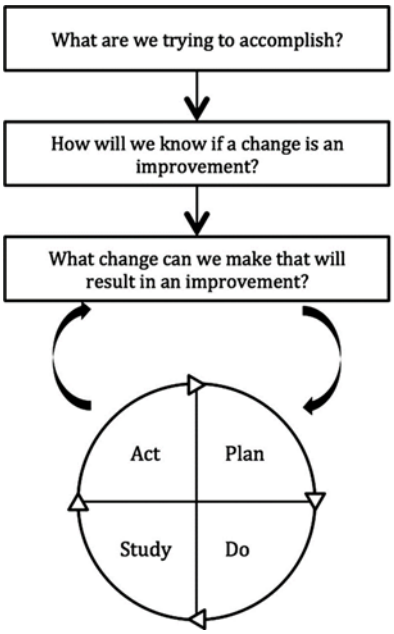
Another change we made following another PDSA cycle was an adjustment to our Pringle Box feedback system. This had previously included asking **all** patients whether they felt they had learned anything in clinic. However, we switched to only asking pump patients, in order to gain more specific feedback on the usefulness of the

A further idea from the PDSA process is that we realised that some pump patients cannot download at home, so we came up with the idea of providing a drop-in session for patients to come into the hospital to download. Although we have not managed to start this yet, we are keen to do so.

Bright spots

- We feel we have a shared objective to improve patient experience and outcomes. Hopefully patients know we have their best interests at heart!
- We have an increased amount of team time because we've had to make time for extra meetings and that's been a positive aspect of this project
- The clinic flow process seems slicker. It is felt that team members are bringing education into all appointments and this has not only been for the pump patients. One unexpected bonus is that there has been an overspill into pen patient appointments, in which there has been an increase in discussions about downloading their meters and sensors.



Feedback from patients and families

Our feedback has been overwhelmingly positive, with some stating that it was helpful to review knowledge even if they were already familiar with the subject matter.

Our instant anonymous feedback from clinic showed the following –

- Pump patients – 95% response rate. 87% said they learned something in clinic, 13% did not (9 March – 11 May, N=38)

- All patients (pen and pump) – 91% had a positive experience in clinic, 9% had a negative experience (12 Jan – 11 May 2021, N=160).

Outcomes so far

HBa1c data at 3 months – was 62 mmol/mol, now 59.5 mmol/mol.

Numbers of who can now download at home – was 51%, now 77%

Monthly downloading at home – was 28%, now 60%

Continuing our journey…

We are continuing to roll-out our 18-month programme and measuring our data. We will be implementing a downloading station drop-in for those who cannot download at home.

We would like to disseminate our micro-education pathway to our young adult clinic and network.

Overall, we aim to continue to improve the service we provide and to empower patients to optimally manage their diabetes. We are very grateful for the opportunity to engage in this process!

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