Increase the number of insulin doses that are on time

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Team: Di Moore Senior sister 7B, Israr Baig Senior Clinical pharmacist, Kim Hamblin Diabetes nurse, Ward team on 7B, Sponsor Liz Bruce, with thanks to the QI team

Our Aim: Increase the number of insulin doses that are given on time. **Secondary Aim** - To improve documentation. All doses must be signed and timed.

Reason why: It is important for doses to be given just before or during meal times. This ensures that the insulin injected starts working as the body's blood sugar starts to rise. Giving insulin too late after a meal can cause the body's blood sugars to spike. Spikes in blood sugars can cause diabetic complications over time.

Baseline data shows that we have a number of doses delayed and documentation can be poor.

Looking at notes retrospectively, patients on short acting insulin 48% doses were delayed. Of these 28% do not have times documented and 20% are documented late. If we improve documentation then we know when the doses are being given and this should improve the results. It may also show actual delays in treatment.
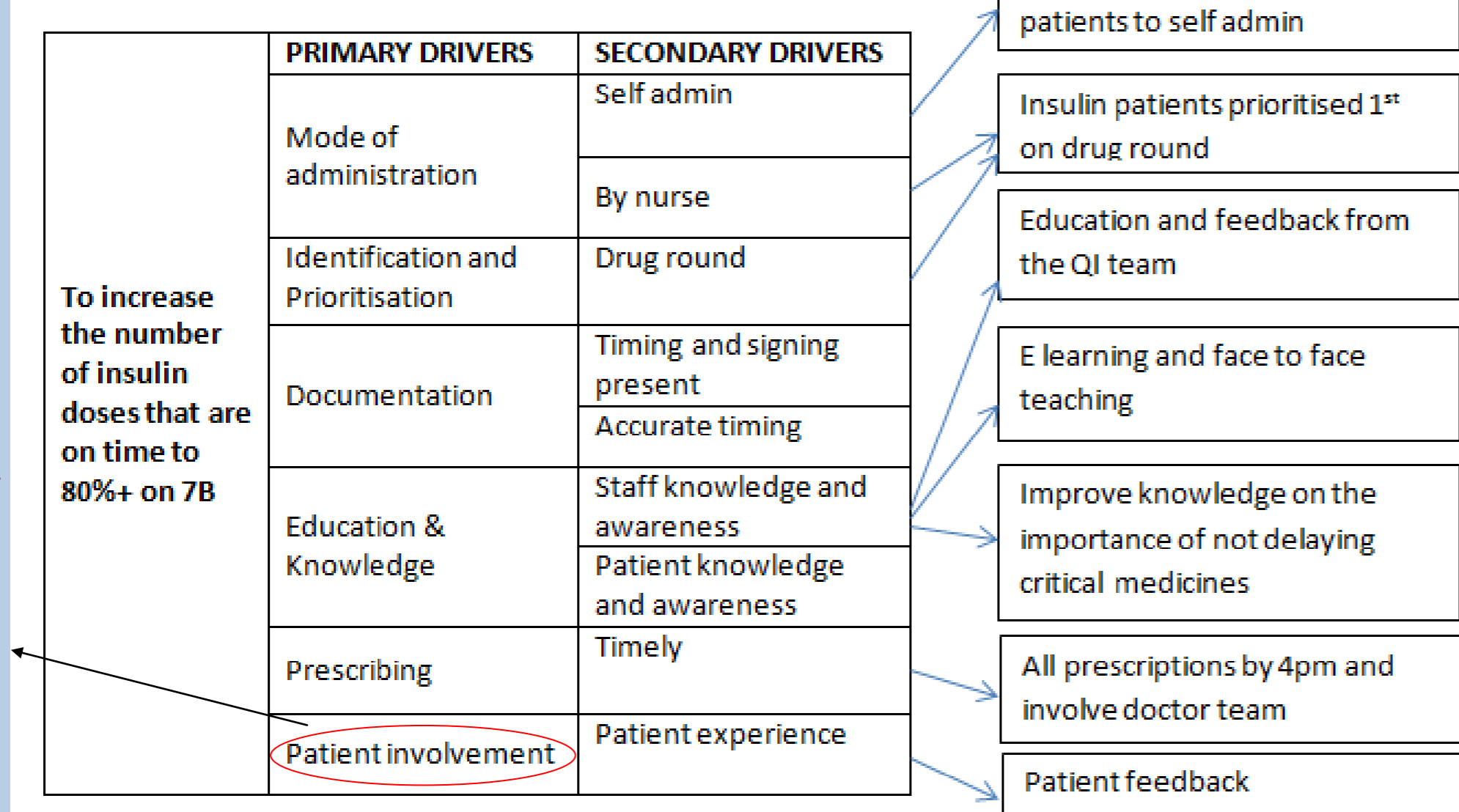
What do our patients say?

All 7 patients said there were problems with their dose timings and would like to take control of their own medicines

Would like to self-administer as it will prevent the long gap between blood sugars test and insulin dose

Would love to self-administer because it will mean my insulin will be on time
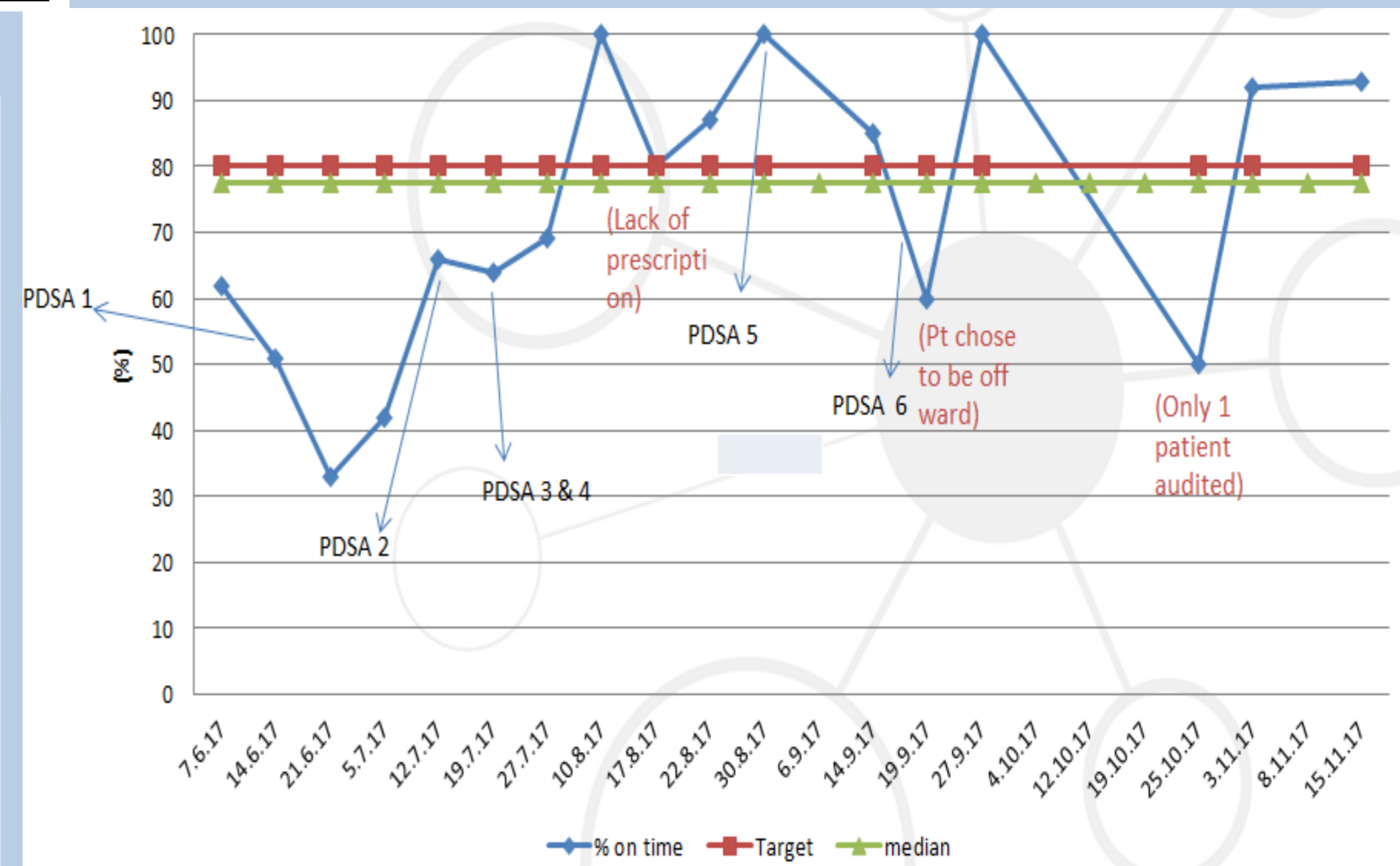
Driver Diagram

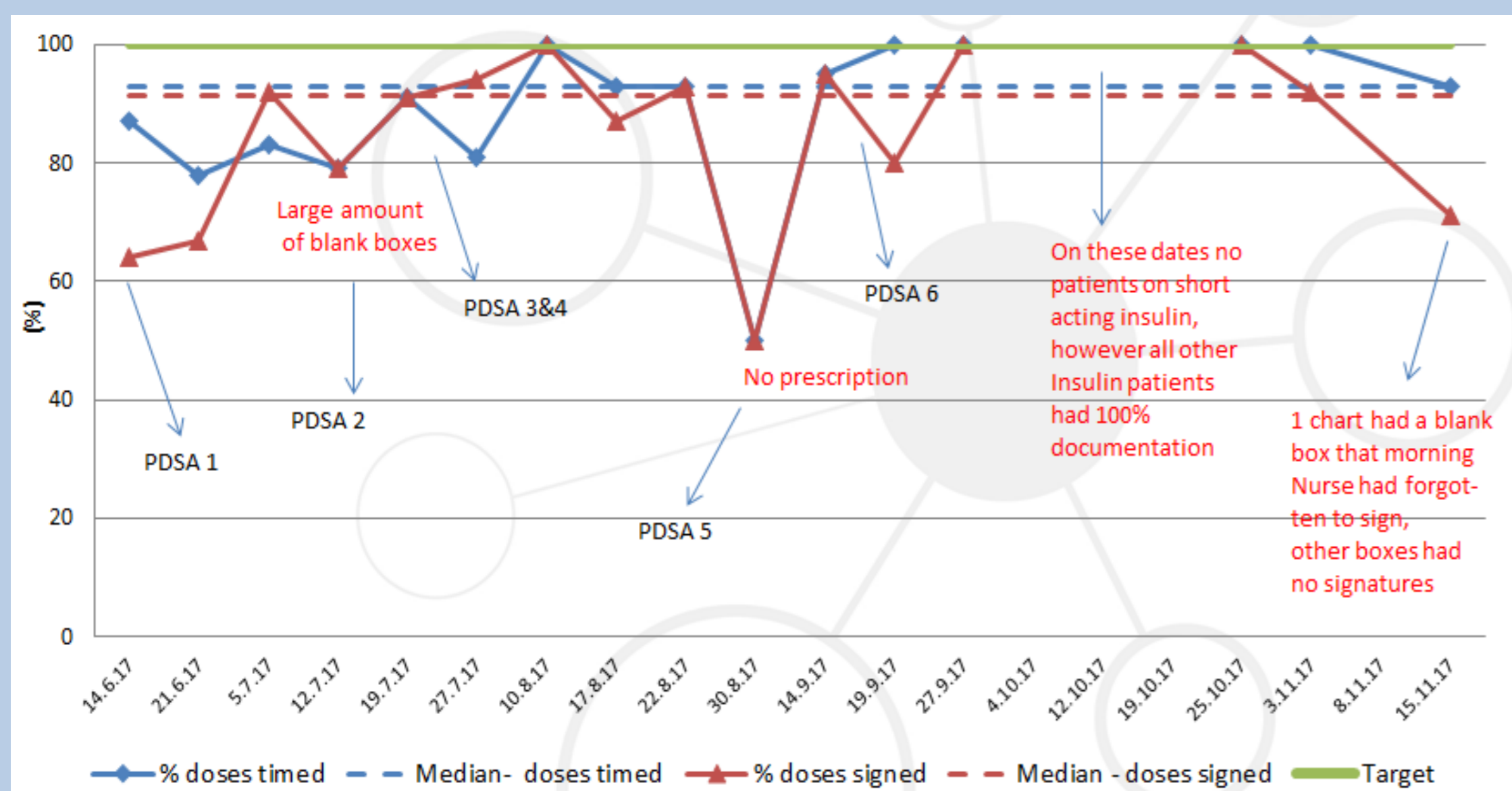This will be investigated at a later date

	PRIMARY DRIVERS	SECONDARY DRIVERS	
To increase the number of insulin doses that are on time to 80%+ on 7B	Mode of administration	Self admin	Trial of self admin box to allow patients to self admin
		By nurse	Insulin patients prioritised 1st on drug round
	Identification and Prioritisation	Drug round	Education and feedback from the QI team
	Documentation	Timing and signing present	E learning and face to face teaching
		Accurate timing	
	Education & Knowledge	Staff knowledge and awareness	Improve knowledge on the importance of not delaying critical medicines
		Patient knowledge and awareness	
	Prescribing	Timely	All prescriptions by 4pm and involve doctor team
	Patient involvement	Patient experience	Patient feedback

Measures

- **Outcome**
- Proportion of doses are given on time

- **Process**
- % that are being timed
- % that are signed

- **Balance Measures**
- number of patients on insulin
- Time:
  - Other patients have a delay in their medication
  - Time Self admin assessments takes nurses away from other duties
- Financial – additional cost of self admin boxes so limited patients able to do it

Graph 2 to show the % of doses given on time

Graph 1 to show the % of doses that are signed and timed

[Graph 1: line chart showing % doses timed, Median- doses timed, % doses signed, Median - doses signed, Target. Annotations: "Large amount of blank boxes", "PDSA 3&4", "PDSA 6", "No prescription", "On these dates no patients on short acting insulin, however all other Insulin patients had 100% documentation", "1 chart had a blank box that morning Nurse had forgotten to sign, other boxes had no signatures", "PDSA 1", "PDSA 2", "PDSA 5". X-axis dates from 14.6.17 to 15.11.17]

[Graph 2: line chart showing % on time, Target, median. Annotations: "PDSA 1", "PDSA 2", "PDSA 3 & 4", "PDSA 5", "PDSA 6", "(Lack of prescription)", "(Pt chose to be off ward)", "(Only 1 patient audited)". X-axis dates from 7.6.17 to 15.11.17]

Results: Increasing number of doses given on time - 8 weeks out of 17 over 80% of doses were given on time with 3 of those at 100%. It took over 4 weeks for the results to start improving. **Improving documentation** occurred quite quickly, and although we didn't hit 100% at all times there was an overall improvement

Conclusion: Auditing and addressing issues on a regular basis has proved successful. As graph 1 shows we are close to reaching our target every week in the 2nd half of the project. Graph 2 also shows an improvement for timings of insulin doses. Also from looking at the timings of the long acting insulins there is a marked difference in that they seem to be giving these earlier and within a smaller time frame (results not shown as I ran this audit alongside). Prioritising patients on the drug round has been a major part in improving these timings results. However in the last week when I haven't been reminding them about documentation and focusing on self administration (SAM) the documentation has slipped (graph 1). We will need to look at the sustainability of this project.

SAM has proved difficult as not many patients have had the chance to take part. There have been a number of PDSA cycles in progress to increase the number from 2 patients, however we are yet to find the solution of ensuring that patients get assessed. We also have to overcome the fears that professionals have with SAM as 2 patients were refused by the medics after the nurses recommended them. Its important to increase patient activation during their hospital stay so they are confident when they return home. It has provided some valuable experience and lessons learned for the next ward.

PDSA Cycles

Cycle 1 – Nurse Education

Cycle 2- Ward meeting to introduce prioritising patients on the drug round

Cycle 3 – highlighting blank boxes

Cycle 4 Specific nurses being spoken to about particular blank boxes

Cycle 5- poster in staff toilet!!

Cycle 6 – self administration, cycles within this to increase number of patients being assessed include writing reminders in the ward diary