QI Project Case Study: Reducing the numbers of PRN administrations

For this issue's QI Project Case Study, we spoke to Conor Glenholmes-Walsh about a project he's involved in that aims reduce to the numbers of PRN administrations for the management of agitation and / or distress by 20% over 12 months, whilst simultaneously increasing engagement and access to non-pharmacological alternatives.

We were very excited to talk with Conor about the successes and challenges of the project and what has lead to the improvements recorded.

Hey Conor, thanks for taking the time to talk to us about your project! QI is a relatively new approach within the trust. How did you come to be involved in QI and this project?

I first became involved in Quality Improvement prior to the establishment launch of the trusts inhouse team of advisers. In March 2019 I successfully attained a place on the Florence Nightingale Foundation Leadership programme, a course designed to enhance the leadership potential of early career nurses. Part of the course requirement was to develop a small change project and implement it within our respective clinical areas, coincidentally after finishing the programme and starting work on the programme, I became aware of the new trust QI initiative. This subsequently allowed me to complete the Silver QI programme which allowed me to develop the project beyond the realm of a small change and into something that became quite successful and beneficial for both colleagues and service users alike.

What was the issue you were trying to address? How did this inform your aim?

Pro Re Nata [PRN] is a Latin phrase meaning 'in the circumstances' and relates to the administration of medication on a 'when required' basis (Barlow, 2014). With application to mental health services the term relates to the administration of additional medication beyond that which a service user would regularly receive on each day and is used to target specific symptoms or behaviours as and when they arise (Wright, Stewart & Bowers, 2012). It is one of the most common and popular common interventions within acute mental health care (Baker, 2008); with between 20-50% of inpatients receiving at least one dose during an acute admission to hospital (Douglas-Hall & Whicher, 2015).

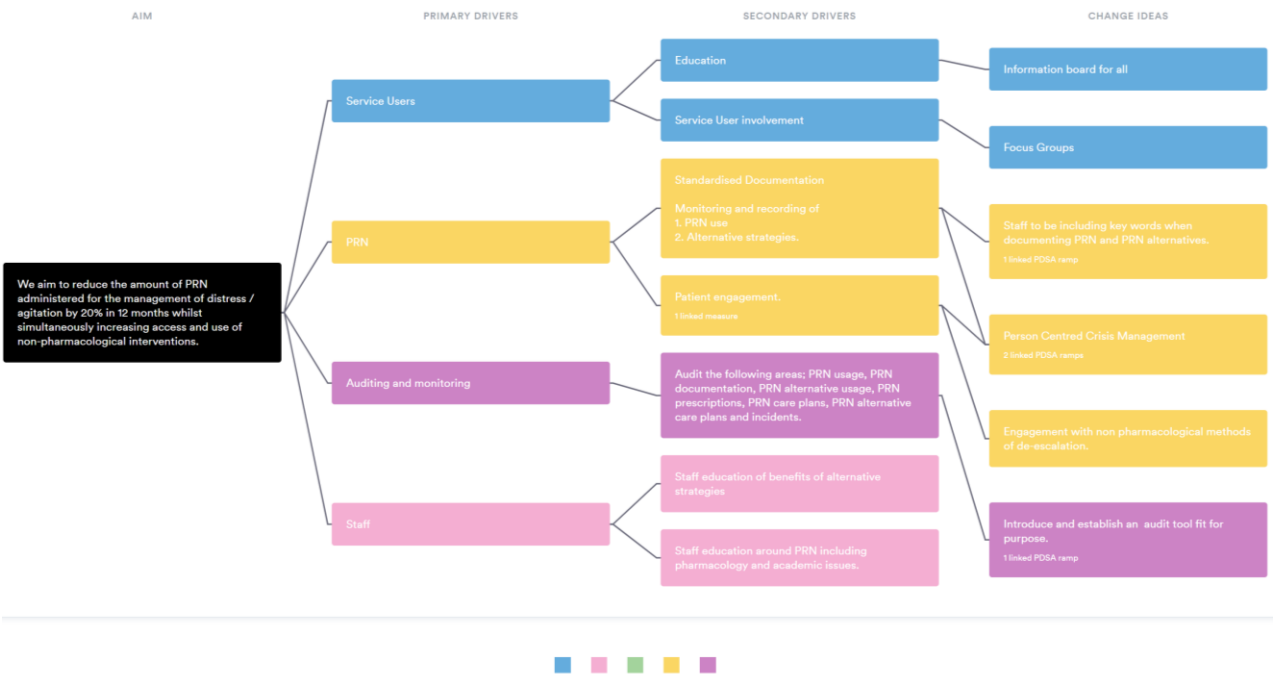
Although, PRN is highly regarded as a useful intervention by both service users and staff alike, it is not without issues that impede practice and high-quality care (Baker, 2008). PRN is potentially a trigger point to more coercive interventions, particularly when requests for extra medication are denied by staff or service users choose not to accept them. This often leads to forced medication, restraint, or seclusion (Bowers, Ross & Owiti 2012). The use of PRN has also been criticised as it can be used inappropriately either as an alternative to patient engagement and de-escalation or administered with adequate rationale (Wright, Stewart & Bowers, 2012). Administration of additional medication risks inadvertently administering above recommended dosages and can lead

to polypharmacy which can increase the risk of experiencing side effects or adverse events (Wright, Stewart & Bowers, 2012).

Several systematic reviews have been carried out in recent years and none have found evidence to support the use of PRN, though this is partly attributable to the difficulty of conducting research in acute mental health settings (capacity to take part in studies) therefore much of the prescribing and administration is based on the theory and experience of healthcare staff (Douglas-Hall & Whicher, 2015).

My improvement started as an anecdotal thought – I felt that as a team we used when required drugs (benzodiazepines, Antipsychotics and First Gen Antihistamines) more than we necessarily needed to in some instances and thought there was scope to improve. During my time at Greater Manchester Mental Health, I had become aware of their PRN reduction campaign which focused on the implementation of a thematic map (Pickup, 2018) of non-pharmacological interventions that could be used as alternatives to the use of PRN, the work was very much an expansion of Bowers (2014) safewards model. GMMH targeted four wards for the initial implementation, providing training to the staff and placing posters across the clinical areas, this resulted in a 34% reduction in prn administrations over 6 months (Pickup, 2018).

The aim of the project was to reduce the numbers of PRN administrations for the management of agitation and / or distress by 20% over 12 months whilst simultaneously increasing engagement and access to non-pharmacological alternatives.



How did you go about using the Model for Improvement to plan and move the project forward? / What were the initial PDSA's you planned? And did they change at all due to COVID?

The planning for the project was undertaken using the Model for improvement, we started by outlining that which we sought to accomplish; a reduction in prn by 20% and an increase in our prn alternative usage. We then produced a data collection tool that allowed us to collate the numbers and divide between months. One of the most limiting factors was an early decision to collect data

monthly – thus inhibiting our ability to be reactive to data and it consequently took longer to identify success. There had been intention to revert the data to weekly, however, subsequent increases in acuity limited our ability to take time from the clinical area to rectify this.

The project ran from July 19 until June 20, during that time there were three distinct PDSA cycles targeted at the two primary outcomes; number of PRN administrations and number of PRN alternatives used. In our first cycle we collected pre intervention data to identify the scale of the problem – it highlighted that our use of prn was objectively high, by comparison our usage of alternatives were low – however, this only accounts for documented use of alternatives, and we know anecdotally that inpatient nurses spend much of their day responding to the distress and needs of their client group, therefore an element of this low result may be attributable to a lack of awareness to the importance of documenting their interventions.

With the initial data collected, consideration was given to Ilic & Rowe (2013) review on the effectiveness of posters as the sole method of knowledge transfer, they found that they aren't highly efficient in isolation and are better supplemented with additional education. With that considered we opted to test their conclusions by installing the posters on prn reduction, advising the staff that were seeking to reduce prn usage and did little further. This resulted in a modest reduction and slight increase in alternatives used and recorded.

The second PDSA then targeted staff with both academic information (to promote behaviour change) and more proactive prn leadership – which included prompting the move to prn as a 'last resort' and reviewing cases when it had been used. This resulted in modest improvement initially.

With the third PDSA no further changes were made and effectiveness was monitored over several months, this was the point we were able to analyse the impact the piece of work was having. It highlighted some interesting learning, for instance in one month our results for prn usage dramatically increased because of one service user with an affective disorder experiencing a manic episode – which resulted in them receiving 31% of all doses administered at month. Suggesting that this kind of work can be heavily influenced by a minority of service users especially when they require repeated doses to manage agitation and distress over a prolonged period.

Moreover, with the team onboard for the improvement we managed to achieve consistently high usage of prn alternatives, suggesting that the combination of prn related leadership, education and the posters can result in better application and documentation of these interventions.

How has COVID affected the project? What difficulties have you had to work around? Did it present any opportunities?

COVID did have an impact on the project towards the end, analysis of the data suggests that patients whom are isolating with COVID are more likely to require repeated doses of prn. Possibly attributable to their isolation through reduced interaction and increased levels of distress. There is therefore a need for future work to target this subsection with effective support during their isolation period.

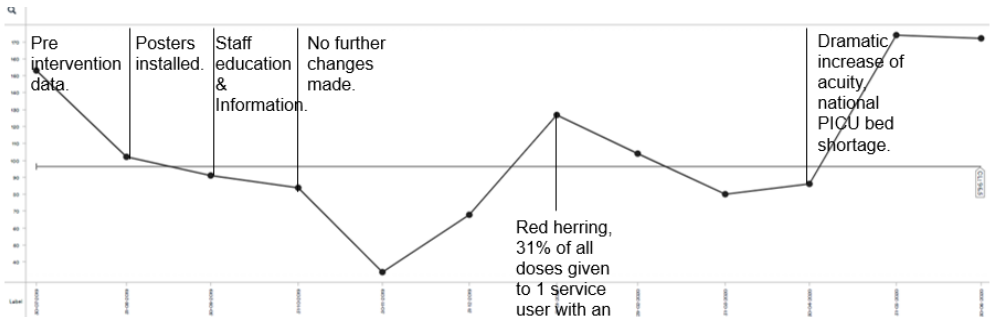
Additionally, as we ended the project there was a significant increase in acuity both within our service and nationwide, resulting in a reduction of PICU beds for escalation of patients presenting with acute levels of agitation and distress. This impacted the results as we were required to use more PRN than we had previously, however, we remained consistently high in our usage and documentation of alternatives. Suggesting, that towards the end of the work COVID actually

swapped our outcome around with priority focusing on engaging service users in alternatives and using prn as required during that period.

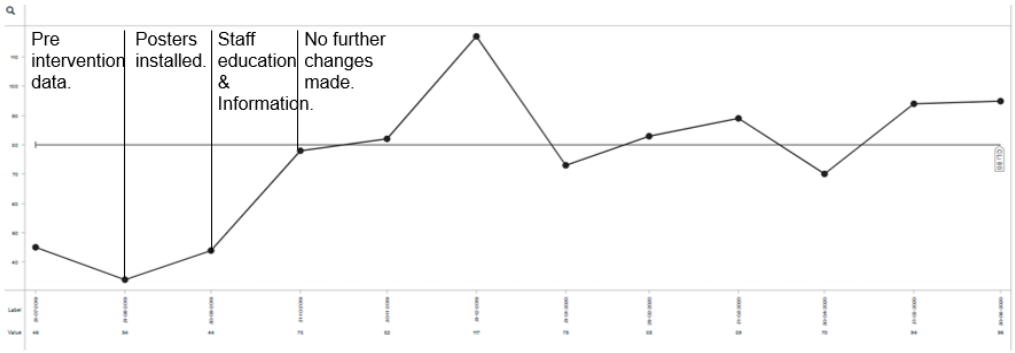
How did you feel when you first realised you were actually seeing evidence of an improvement which you had been directly responsible for?

As the project got underway and we started to identify benefit it was quite exciting, I was very much taken a back at the idea I had been able to successfully implement change with a degree of credible success. It has previously been my experience that changes are often made, engaged with for a few weeks before being forgotten and a reversion back to care as usual. It was incredible to see the team proactively try and support this work and continue its philosophy for several months.

PRN Administrations



Alternatives Implemented



What was the outcome of the project compared to your aim, did you achieve what you set out to?

On reflection on the project, the aim had always been to try and reduce our prn usage, at the height we managed to reduce significantly above our 20% target which is exceptional. However, as we neared the end of the process my view shifted somewhat in response to the significant increase of acuity COVID posed on our services. In that instance it was evidencable that prn was being used for the indication that it was prescribed for nevertheless, usage went up. Though the real success in my view was managing to maintain our work relating to using prn alternatives.

What's next for the project?

Having demonstrated some success, my work has been rewarded to a degree – I presented it back to the Florence Nightingale Foundation in December 2019 and received the award for best presentation the prize of which was support in publishing the work within a Journal, though that has very much taken a backseat considering the current strain on services.

Within our organisation I have plans to present the work to the Acute CGC and recently presented to the Positive and Proactive Care Expert Panel whom along with the QI team have agreed to support roll out to other teams within the organisation. In addition, one of the aspects that I am most

passionate about is sharing the qualitive and quantitative evidence base around PRN to help clinicians improve their decision making on the topic, with that in mind I will be collaborating with Pharmacy et al. to develop an e-learning module over the coming months.

There is a hope that at some point I can take the time to reanalyse some of the data to try and understand which of the non-pharmacological interventions were used most often by patients.

Throughout the project I have remained in contact with Jaclyn Pickup the nurse whom developed the model, she has shared the success with her organisation and they are currently publishing it to their workforce.

QI is about continuous improvement, now you have tackled this, do you have any other areas for improvement in your service that you could use QI for?

Alongside this work and my full time Deputy Ward Manager post I am currently leading several other projects aimed at improving our services. This includes a piece of work aimed at implementing the PICU referral process into RIO to improve productivity and reduce duplication as well as a a new multipurpose room funded through charitable funds at the Oleaster to allow staff to take comfortable breaks during the pandemic and in the future post pandemic it will be open to service users further along in their recovery to engage in activity away from the bustle of the wards. There may be scope to utilise QI methodology with these pieces of work but I have not had chance to think about it just yet.

As a clinician would you recommend learning about QI and using the QI approach in your clinical work?

I would absolutely encourage clinicians to take the opportunity to learn about QI and use the approach to make successful changes. As I mention previously, one of the biggest problems which change is trying to make them last beyond a few weeks. The methodology and backing our inhouse team are able to offer provides clinicians the skills, support and motivation to identify change ideas and deliver them.

This project could never have been the success that it became without the support and help of the following individuals and teams; Louise Crisp, Jacqueline Kelly, Catherine Richards & QI team, Greta Westwood & Florence Nightingale Foundation, Jaclyn Pickup & GMMH and the exceptionally wonderful and gifted team on Japonica for making this piece of work a success (often not even realising you had done so).