Final report

December 2018

Innovating for Improvement

Clinicians' Dashboard

NAViGO Health and Social Care

The Health Foundation

About the project

Project title:

Clinicians' Dashboard – using existing data to improve safety and reduce suicide

Lead organisation:

NAViGO Health and Social Care CIC

Partner organisation(s):

N/A

Project lead(s):

Lisa Denton, Head of Performance and Business Support

Adam Lee, Data Warehouse Developer

Contents

About the project 2

Part 1: Abstract... 3

Part 3: Cost impact 9

Part 4: Learning from your project 10

Part 5: Sustainability and spread 12

Appendix 1: Resources and appendices.. 14

Part 1: Abstract

The Clinicians' Dashboard assists Community Mental Health Clinicians in North East Lincolnshire with caseloads (c.2,000 people). It improves safety by preventing vulnerable service users 'falling through the gaps'; and can save lives. It is embedded in NAViGO as business as usual. The dashboard is a piece of software available to all care coordinators and lead professionals at NAViGO which provides them with vital information at the click of a button. Through a selection of indicators about the service users on their caseload, it allows staff to identify when service users may be at a higher risk, allowing them to schedule the appropriate intervention, making the service user safer.

The problem

The connection between mental illness and premature mortality is highlighted in the Five Year Forward View.

In North East Lincolnshire:-

- 217.6 people per 100,000 (intentionally self-harm)
- 11 people per 100,000 die by suicide annually
- 19.5% have a long term condition
- Premature mortality rate ranks 124/150 unitary authorities

We aimed to improve safety, increase physical health checks and reduce suicide by people known to services using existing data/local/national research.

Innovation

We engaged with the National Confidential Inquiry into Suicide and Homicide and contacted 55 Mental Health trusts; none were using similar dashboards but most had data warehouses.

Impact

- Physical health checks doubled = decreased pressure on GPs and £72,560 savings

- Non-attended appointments followed up in half the original time
- Time to care increased by 23% per month
- Days between attended contacts reduced
- Saved on average 1 person each year falling through the gaps in care
- Shortlisted for 6 national awards

Challenges/Enablers

- Shared staff vision and passion for the project is critical
- Do not try to link other initiatives into the project which may affect its perception
- Ensure that you choose/refine outcome measures early by frequently analysing data
- Think carefully about your communication strategy and make this an optimal and early part of your project

Part 2: Progress and outcomes

The intervention

The Clinicians' Dashboard is a tool to assist Community Mental Health Clinicians with caseloads. The dashboard takes existing data collected as part of the NHS Standard Contract and presents it back to front line mental health workers[1]. The data is presented through a series of charts, gauges and tables. (Appendix 1: Resources and appendices).

It acts as an aide memoir to assist with managing and prioritising care for individuals. It uses disparate data such as marital status, age and gender together to highlight potential vulnerabilities in people accessing mental health services which may otherwise be overlooked.

Data used is informed by national research on suicide/premature mortality risk factors[2] and trends identified in local serious incidents.

Analysis of our serious incidents and the findings of the National Confidential Inquiry into Suicides and Homicides showed that some softer risk factors[3] were not always being considered as part of risk assessments. These were often important in gaining a complete picture of the person and the intensity of care they may need.

We contacted 55 Mental Health trusts; none were using similar dashboards but most had data warehouses. It presented an exciting opportunity to spread the innovation. It would be easy for them to replicate using their existing data warehouse infrastructure.

Data and Quality impact approach

The data is collected as part of the referral to mental health services and input in real time into the Electronic Patient Record (EPR). Administrators work with front line staff to review data quality and completeness with discussion/action planning monthly at performance meetings.

Data is then warehoused with a direct feed from the EPR and transformed into meaningful information to feed back to front line staff in the form of dashboards for each individual worker and team. (Appendix 1: Resources and appendices).

[1] http://www.powtoon.com/embed/fwGXxqBKdcw/

[2] The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness. Annual Report: England, Northern Ireland, Scotland and Wales. October 2017. University of Manchester.
[3] E.g. people who live alone, recently separated, widowed, divorced

The information was collated at organisation level using the data warehouse and monitored against baseline measures.

Data was monitored monthly, anonymised and shared with an Innovation and Improvement Science Centre (Haelo) who worked alongside us to make adjustments to the proposed measures. We recognised that the number of measures needed reducing. We ended up with three quantitative measures which covered physical health check compliance, time between appointments and time between rebooking of non-attended appointments. We also introduced a measure to look at how efficiency may have impacted on time to care. Qualitative elements comprised of videos, and feedback from stakeholders. (Appendix 1: Resources and appendices).

We considered the use of a randomised control trial and ruled this out due to the nature and ethics of the project. Alternatively we used statistical process charts (SPC) to identify the impact of our intervention over time. We spent time talking to front line staff and service users. We were delighted to establish a direct correlation between the change in the data and our dashboards.

Project Impact

The software is available to approximately 100 staff members and provides information for approximately 2100 service users.

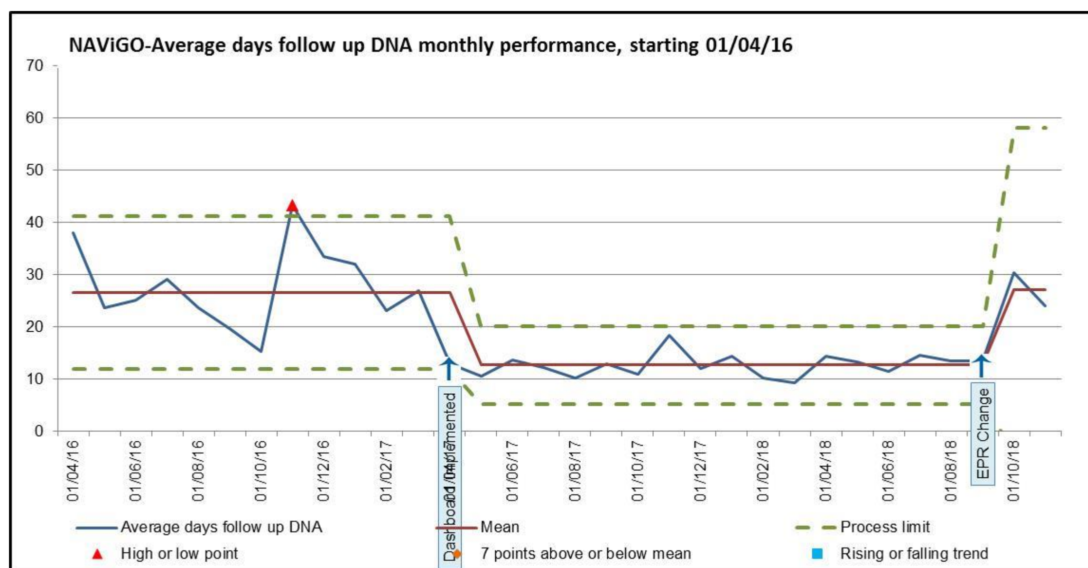


Figure 1 Average number of days taken to re-book non-attended (DNA) appointments

Figure 1 above shows improvement in the average time taken to follow up non-attended appointments in our community mental health service. Re-booking time improved from 27 days to 11 days following implementation. This was sustained for 7 months until we changed our EPR. The dashboards were unavailable for 1

month to allow for realignment to the new system. Time taken to re-book appointments increased at this point proving dashboards were a direct factor in influencing how quickly non-attendances were rebooked.

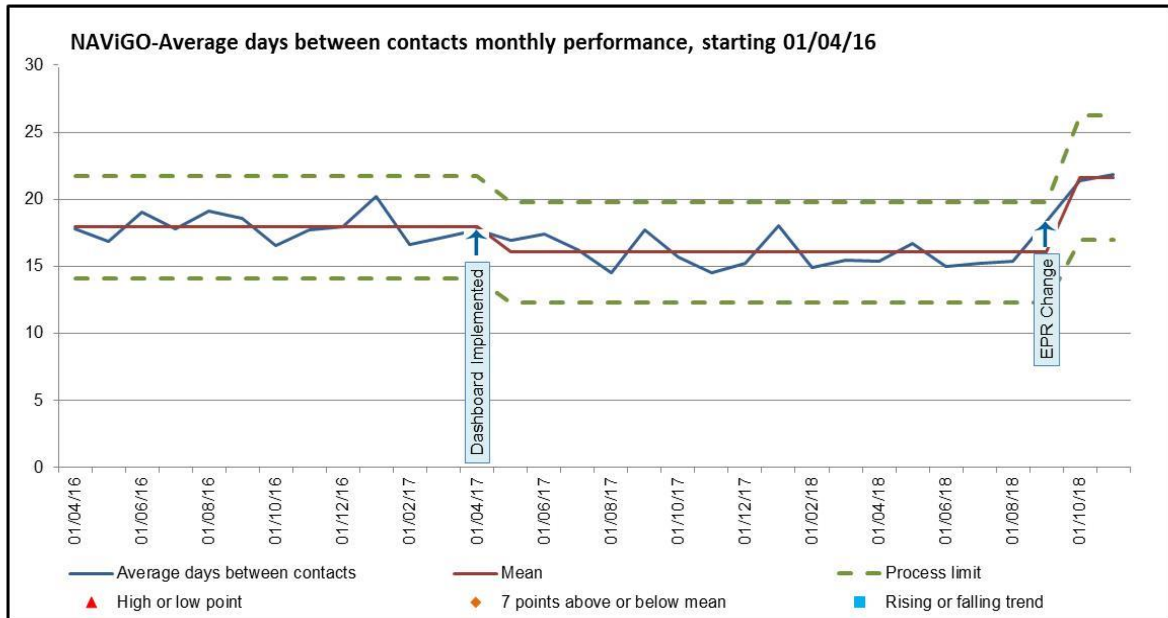


Figure 2 - Average days between contacts

Figure 2 demonstrates a similar pattern in the average number of days between contacts for people accessing our Community mental health service. At implementation the average time between appointments fell from 18 to 16 days and remained consistent for 7 months prior to the EPR change. This shows a direct correlation between the dashboard email prompts and regular contact with service users.

A Senior Care Coordinator confirms:

“The introduction of the dashboard has made a big difference to my practice, and work routine. Through using it I am able to monitor important factors of my practice such as risk assessments, care plans, and contacts with service users. This also has a direct effect upon the care received by the service users on my caseload as I am able to use it to ensure that service users care remains up to date, and that assessments are renewed and updated within the appropriate time limits.”

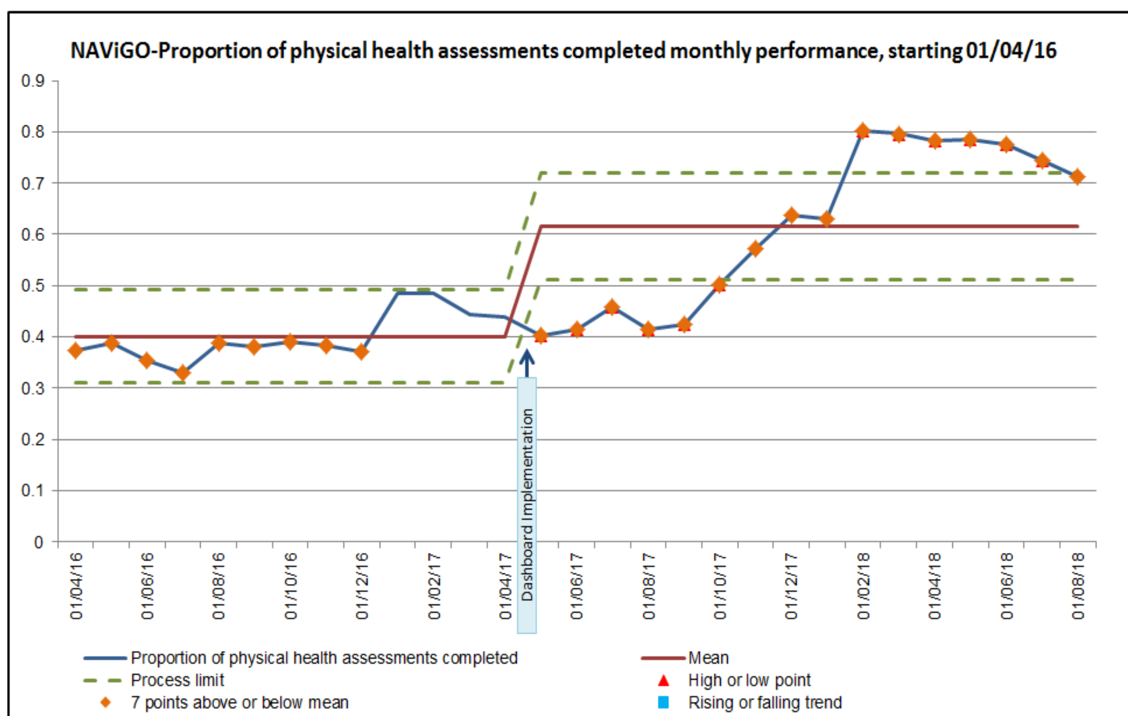


Figure 3 - Proportion of people with a SMI having a physical health check

Figure 3 above shows a marked change in the percentage of people on the SMI register receiving a physical health check, rising from 40% at baseline to 80% in February 2018 and remaining above the process limit (over 70%) for 4 months until the EPR change.

Our Specialist Wellbeing Practitioner concludes the dashboards are lifesaving:

"I recall one incident where a service user had not been seen for several months. When this was highlighted on the dashboard we made an appointment to see them. Unfortunately we found blood in their urine and was able to refer them directly to the GP who saw them the same day. They were diagnosed with bladder cancer and received treatment in the next few weeks. I'm happy to say that the service user is now happy and well following treatment. So the dashboard can literally save lives."

In addition we are also able to demonstrate the amount of time Community mental health workers spend with service users has increased by over 20% a month on average. (Appendix 1: Resources and appendices).

We are extremely proud of what we have achieved so far and ultimately the fact that since the introduction of the dashboards we have saved on average 1 person each year falling through the gaps in care[4] . We now have zero serious incidents with causal factors where people have fallen through gaps in care.

As a result we have been honoured to be recognised as finalists in 6 regional and national awards, achieving Highly Commended in two and winning our category at the Medipex Innovation Awards[5].

Part 3: Cost impact

We hold three NHS contracts for the delivery of mental health and associated services free at the point of care. Being a Social Enterprise we also have a trading arm, trading directly with the public to generate much needed supplementary funds which we put back into the provision of mental health and associated services. As part of our trading arm we own Grimsby Garden Centre which also provides training and employment opportunities for people who access our services.

We set up a data warehouse which is hosted locally by our IT service. A Data Analyst was upskilled to learn development and coding and has completed much of the work on our data warehouse including the Clinicians' dashboard. Initial financial outlay was in the region of £2,000. The rest of the grant money was spent on project support, backfill of staff and promotion (including application of awards).

This project was very much about improving the quality and timeliness of care and so at the time of writing no Health Economist has evaluated the findings.

We do recognise however that the following efficiencies may be made as a result of the project.

20% increase in time to care on average per month. We could argue this could release enough time to employ at least one extra member of staff.

£72,560 savings in time taken for Primary Care to undertake physical health checks which were instead conducted by mental health workers.[6]

Savings could be made in the time taken to undertake serious incident investigations since there are no longer any with causal factors preventable by the dashboards for people accessing our community mental health teams. However, the number of serious incidents has not reduced overall due to a 30% increase in people accessing our crisis service. This has largely been due to the increase in

[4] 9 serious incidents since 2011 had causal factors preventable by the dashboards

[5]
- Health Service Journal (Finalist)
- British Medical Journal (Finalist)
- E-Health Insider (Finalist)
- Medipex Innovation (Winner)
- Positive Practice in Mental Health (Highly commended)
- Healthcare Technology (Highly commended)

[6] 79% of SMI Service Users (2132) received a health check saving £72,560
(GP visit £38 = £81,016 - MH Clinician mid Band 7 x 355 hours = £8455)

psychoactive substances and a subsequent reduction in funding for the local drug and alcohol service.

Part 4: Learning from your project

We achieved everything we hoped to achieve at the start of this project and more.

My vision for the project came from working in mental health services as a Data Analyst and subsequently a manager for the past 12 years. I was passionate about making a difference to the care we provide. I experienced some of the challenges staff face on a daily basis, with resources and demand for our services massively exceeding supply. I also had personal experience of the impact regular and consistent care can have and the frustrations our service users can feel if they are too unwell to engage with us or if their appointments do not occur when they are supposed to.

I often received feedback from front line staff questioning the point in collecting demographic information for the purposes of the contract and the national dataset. It was gratifying to try and use it in a different way to help them to focus and organise time, enhance their risk assessment process, and improve care for the people who use our services.

Ultimately I wanted to reduce suicide and improve life expectancy for people with mental health problems. This is an ambitious aim but one that nationally we can achieve if we all adopt similar interventions.

Enablers

The two Developers were instrumental in the project's success, sharing my vision for making a difference and taking the time to connect with front line staff, service users and carers to shape dashboards to their needs.

One of the Developers did so well that she was able to secure a promotion in a neighbouring organisation and progress her career. The remaining Developer was a Data Analyst at the start of the project and it gave him exposure to upskill into development work.

We quickly found a group of front line staff and a carer who were advocates for the dashboards. We linked closely with these people to influence others and promote dashboards in a positive light. The Assistant Director of Business and Service Delivery who leads mental health services for older people joined with us to promote the dashboards at events and awards. We enjoyed a close working relationship with her throughout the project and her advocacy of it has been paramount in front line staff viewing it in a positive light. Our Service user and

carer representative also championed the dashboards and assisted us in shaping them and helping to promote them both internally and externally.

We were grateful to the Health Foundation and Haelo for their input in refining project measures, promotion and educating us about communications and spread.

Learning

We have learned that having a large volume of measures is not necessarily helpful in measuring the success of the project. It was really useful to work with Haelo to refine these to a level where the benefits were directly attributable to our intervention.

We had an unexpected challenge in that at the same time we introduced our dashboard the Executive team wanted to analyse productivity. The dashboard was used to report on productivity used in clinical supervision with front line staff. As a result some staff were not receptive to the dashboard when it was first introduced. They saw it more as a monitoring tool rather than a tool to aid improvements in care. We discussed the impact with the senior team and we have since retired the original productivity data and will replace it with more helpful run charts at service and organisation level separate to the Clinicians' Dashboard.

We also had the unexpected challenge of having to change our EPR system in the middle of the project and re-align the dashboards to the new EPR whilst also simultaneously implementing a new system. This is nothing we could have planned for. We were proud we had the resilience to come through it and realise the outcomes we have.

We were delighted to learn that our dashboards had saved at least one life by prompting for a physical health check which led to a positive bladder cancer screen whilst the cancer was able to be effectively treated. This was an emotional moment and one which led to us proactively asking for more stories from staff to illustrate the impact of the dashboards.

This project has taught me not to be afraid of taking an idea and making it happen. Our intervention is a relatively simple idea and is easy to replicate at scale with little financial investment. The recognition it has received nationally means that other organisations are confident it can make a difference.

The project has taken a lot of time and effort for the team and I would definitely look to discuss this more widely with my organisation should we undertake another similar project. The organisation needs to be clear on the potential and magnitude of the project and how it is prioritised with other projects the organisation is planning.

I would say to other people looking to implement something similar:

- Engage your stakeholders early – they are key to the project's success
- Collect and analyse data frequently in order to refine measures early
- Allow enough time/resources to gain interest about your project including a communications and social media strategy
- Persevere – if you are passionate about your project any barrier can be overcome

Part 5: Sustainability and spread

Sustainability

The project will be sustained beyond the funding period because the project is now cost neutral and only required set up costs. Whilst the indicators in the project are fluid, the time to incorporate/adjust these is minimal.

I am now passionate about spreading the innovation nationally and will actively be looking for funding support to achieve this as part of the Health Foundation Scaling up Improvement Grant, the Sustainability and Transformation Partnership (STP) and research opportunities.

Awards and Publicity

We are honoured to have been shortlisted for 6 regional and national awards.

- Health Service Journal (Finalist)
- British Medical Journal (Finalist)
- E-Health Insider (Finalist)
- Medipex Innovation (Winner)
- Positive Practice in Mental Health (Highly commended)
- Healthcare Technology (Highly commended)

We have had interest from the University of Essex to review the software we are using, NHS England, and several organisations wanted to emulate our project. (Appendix 1: Resources and appendices).

Spread

We are in the process of making contact with the organisations above and those who are interested in replicating our project. We are also promoting our project to our STP.

We will also spread our dashboard via the Allied Health Science Network, Medipex and the Health Foundation in line with our Communications Strategy (Appendix 1: Resources and appendices).

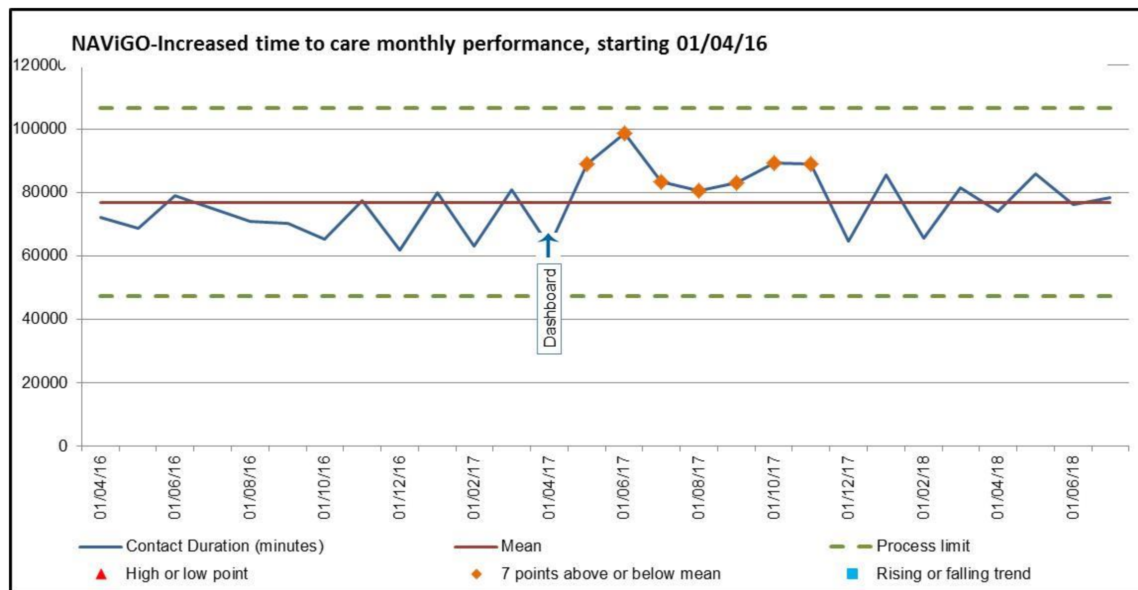
We will look to use any funding to expand and backfill our team to allow for active promotion of the dashboard and production of materials to support other organisations to implement something similar. We feel the dashboard is ready to be replicated by all mental health providers. Its principles can also be adapted to cover other health and social care partners e.g. Cancer dashboards could alert staff in primary care to health and lifestyle attributes to inform proactive screening. It could also be used across health and social care settings e.g. Integrated Care Partnerships to explore health and social care needs and enable virtual teams to proactively manage multiple conditions and complex cases.

Next steps

- Work with Medipex/Health Foundation to spread nationwide
- Refine communications plan
- Stakeholder led refinement of content/design
- Produce “how to” guide/lessons learned
- Speak at conferences/events
- Keep abreast of national research
- Explore making dashboards more interactive/accessible to service users to shape risk profiles

Appendix 1: Resources and appendices

Time Community mental health workers spend with service users



Communications Strategy

NAViGO Health
And Social Care CIC

Interest

EHI Awards 2017 Finalist

https://www.ehilive.co.uk/en/ehiAwards2017/awardsshortlist.html.html

BMJ Award 2018 Finalist Mental Health Category

BMJ 2018;361:k1657 Available at: https://www.bmj.com/content/361/bmj.k1657

Health Service Journal Finalist 2018 Improving Care with Technology Category

Healthcare Technology Awards 2018 Highly Commended

Positive Practice in Mental Health Awards 2018 Highly Commended

Medipex Awards 2018 Winner

Twitter Activity

https://twitter.com/ldenton1979/status/1002200399774969857

https://twitter.com/StuCloughNHS/status/986575507478274048

https://twitter.com/NAViGOCARE/status/984716311950438401

Interested organisations

Nottinghamshire Healthcare Trust

NHS Lothian

Leicestershire Partnership NHS Trust

Feedback

Carer

I welcome, support and endorse the proposed innovation for reducing suicides and premature mortality. As a carer for someone who has attempted suicide, I believe this development will aid in patient safety. Checking the dashboards with all the relevant and additional information: including alcohol and/or drug abuse, long term mental and physical health conditions and having children in the family home, can raise improvements and the awareness surrounding premature deaths.

Senior Care Coordinator

The introduction of the dashboard for clinicians has made a big difference to my practice, and work routine. Through using it I am able to monitor important factors of my practice such as risk assessments, care plans, and contacts with service users. This also has a direct effect upon the care received by the service users on my caseload as I am able to use it to ensure that service users care remains up to date, and that assessments are renewed and updated within the appropriate time limits. The dashboard has also helped as a reminder of what needs to be done with the individuals on my caseload, it informs me about anyone who might present in Crisis and need further follow up, as well as enabling me to ensure that the care that is given to my service users is up to date. The introduction of the dashboard system, I believe will enhance my practice and allows me to monitor and maintain my record keeping, assessments and care planning.

Specialist Wellbeing Practitioner

I recall one incident where a service user had not been seen for several months. When this was highlighted on the dashboard we made an appointment to see

them. Unfortunately we found blood in their urine and was able to refer them directly to the GP who saw them the same day. They were diagnosed with bladder cancer and received treatment in the next few weeks. I'm happy to say that the service user is now happy and well following treatment. So the safety dashboard can literally save lives.

Senior Operational Manager

For me the Dashboards give me a wonderful tool to effectively carry out my Clinical Supervisions as I can see exactly how many cases a Clinician has (some of them have up to 90!) and the state of play with each Service User. Having this at my fingertips helps me to effectively support my staff team and make suggestions for improvements.

Before I had access to the Dashboards I relied on Performance Team updating me on a monthly basis around service efficiency which could on occasion be too late to do anything pro-active. I also only had verbal assurance from the Clinicians that they were coping. After getting over the initial problem of the staff thinking this was more of a performance monitoring exercise, we all as a team came to realise the Dashboards are in fact invaluable to us as they offer that exact reassurance that all is well. We have in fact made a case to employ more nursing assistants as the Dashboards proved extra hands were required to maintain patient safety.

Crisis Worker

Crisis means we see people that have become so unwell that they are in danger of hurting themselves or others. We have noticed that over time we were seeing more and more people who were in need of urgent support but who already had a care coordinator in the Community. Community have huge caseloads and are so stretched that some Service Users were becoming unwell and falling through the gaps. Crisis team were able to deal with this in the short term until people were well enough to return to a Community setting but often found history repeating itself over and over again.

Since the dashboards we have noticed a dramatic reduction in these people asking for our help because Community Teams are much more efficient at managing their own caseloads They are spotting those who might need extra support BEFORE they end up in Crisis. The Dashboards also help us to identify those who might be prone to self-harm; maybe they live alone or use drugs inappropriately. It gives us another excellent tool to keep our patients safe.

Consultant Psychiatrist

As a Consultant, I am regularly reviewing Service Users in clinic and need to keep up to date with each individual case – for example, when did the Community Clinician do the last risk assessment; is the care plan up to date? Also, tracking appointments used to be a little difficult – did the person actually attend when they

were supposed to? Do they have additional needs? For example, is the particular Service User elderly and may need additional help just to get to the appointment or indeed a home visit? Frankly, a whole host of factors that could take up a lot of my time in searching for correct data.

Now, I get weekly emails which give me all of this information at my fingertips instantly, including whether someone has had a physical health check; I feel it has helped with efficiency enormously and enables me to work more effectively with my physical health colleagues.