Evaluating the impact of a software analysis tool for supporting NHS community mental health services

One of the services offered by the Health Economics Unit is evaluating the effectiveness of interventions to provide decision makers with evidence-based findings on whether new care pathways and systems are effective, efficient, and deliver value for money. Lead Health Economist Lisa Cummins led an evaluation on the use of Management and Supervision Tool (MaST) – a digital system brought in to support the community mental health services team at Mersey Care NHS Foundation Trust.

Background

Mersey Care NHS Foundation Trust began using MaST within its community mental health teams to help frontline staff make better decisions about the resources they use to provide safe quality care.

With rising caseloads and increasing numbers of service users with complex mental health needs the staff have had to prioritise managing risk and keeping people safe with limited time to deliver recovery-based care.

The MaST software platform uses predictive analytics which draws on clinically relevant information from multiple sources to support healthcare professionals better manage case load and care. It can predict a person's likelihood of requiring crisis care, enabling clinicians to effectively manage caseloads and ensure more people get early support to help avert admission to hospital.

The Health Economics Unit was commissioned by the Innovation Agency, Academic Health Science Network for the North West Coast, to evaluate the digital technology. The aim was to assess the impact it had on service user flow, management of mental health crisis in the community, quality and safety performance indicators and caseload management as well as resource use and cost savings.

While anecdotal evidence from the mental health teams indicated MaST was having an impact in terms of service level there was nothing on the potential financial implications and this was needed to help credibility. A deep review of data was needed.

The evaluation sought to assess whether the tool was supporting better care for mental health service users, for example by identifying those people with complex care needs who may be at risk sooner in order to allocate appropriate resources and improve clinical safety. If it was found to be making a difference then this would support the case to roll out the innovation to other Trusts.

What we did

Working closely with the director, analytics lead and clinical lead at Holmusk Europe which developed MaST as well as the programme lead at Innovation Agency, Lisa scoped out the project and carried out the evaluation, with support from other team members at the Health Economics Unit.

As a first step, Lisa and the team made sure they understand what the intervention was looking to solve and how it fit within the bigger picture. A standard approach to evaluation was taken whereby a pathway mapping exercise and logic model helped inform the outcomes of interest and identify key metrics and data needed for analysis. Lisa produced an evaluation framework and analysis plan to help guide the evaluation, before carrying out a descriptive analysis and regression analysis to examine the effect of MaST.

Findings

Unfortunately, there were a couple of factors which impacted analysis and, ultimately, the findings of the evaluation. A new data capture system was introduced which improved the data quality but meant there was limited data over time to assess the impact – it wasn't like for like. The onset of COVID-19 shortly after the introduction of MaST posed an added complication as national and

local lockdowns impacted mental health and clinical service use. In addition, the introduction of MaST coincided with a period of wider service redesign aimed at shifting care from hospital to community settings.

Despite this, the analysis showed that mental health crisis rates began to decline during the introduction of MaST and continued falling with a reduction in the length of stay in hospital. This shift in activity is estimated to have resulted in a cost saving of £1.7m in the six months following its introduction.

Impact

Thanks to an excellent working relationship with the analytics lead at Holmusk Europe any sense checking or data updates were able to be dealt with quickly and efficiently while the client appreciated regular catch-ups which set out exactly what stage the project was at and what would happen next. This collaborative approach resulted in a well-received report setting out the findings of the evaluation.

As a result of the report Holmusk has been able to:

- produce an infographic to demonstrate the benefits of MaST for executive teams
- submit an abstract of the paper to the Royal College of Nursing conference with the aim of securing a presenting slot.
- use outputs from the report in business cases to help provide evidence-based findings to support requests to implement the system.

Managing Director of Holmusk Caroline Gadd says: "MaST could really be a game changer for community mental health teams and help to reduce the pressure on crisis services and inpatient services. And thanks to the evaluation we have the evidence to back this up."

"It could also help with consistency of mental health services throughout the country. Every Trust analyses and collects data in different ways but MaST brings consistency which is used to make decisions on patients and results in a standardised level of care no matter where in the country you are – preventing health inequality."

Testimonials

Caroline Gadd Managing Director Holmusk (MaST):

"The process of working with the Health Economics Unit was excellent. Considering we were working on this during the height of the pandemic and everything was taking place remotely the team really took the time to deeply understand the service. The pragmatic way Lisa and Wayne approached the evaluation was reassuring. They went above and beyond what was originally set out and were quick to adapt and be flexible when needed. We have been handed a great report that does exactly what we need. It has credibility and answers many of the questions Trusts have about MaST and its impact. Essentially, they want to know 'if we include this as part of our transformation project will It make a difference?'. It paints a realistic picture that reflects what happened during Covid, highlights MaST as part of a wider range of interventions and is a practical tool in our kit to raise the profile of MaST. I've no doubt it will help roll this out further to help inform mental health services providing the right support is delivered to the right people at the right time."

Laura Boland, Senior Programme Manager Innovation Agency Academic Health Science Network for the North West Coast:

"The Health Economics Unit is always great to work with. This was a collaborative project and the team was always available and receptive to our needs. Having tangible results, such as this evaluation, helps us put the case forward to adopt innovation more widely. It's important to validate our processes and the HEU are excellent at helping with this."

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