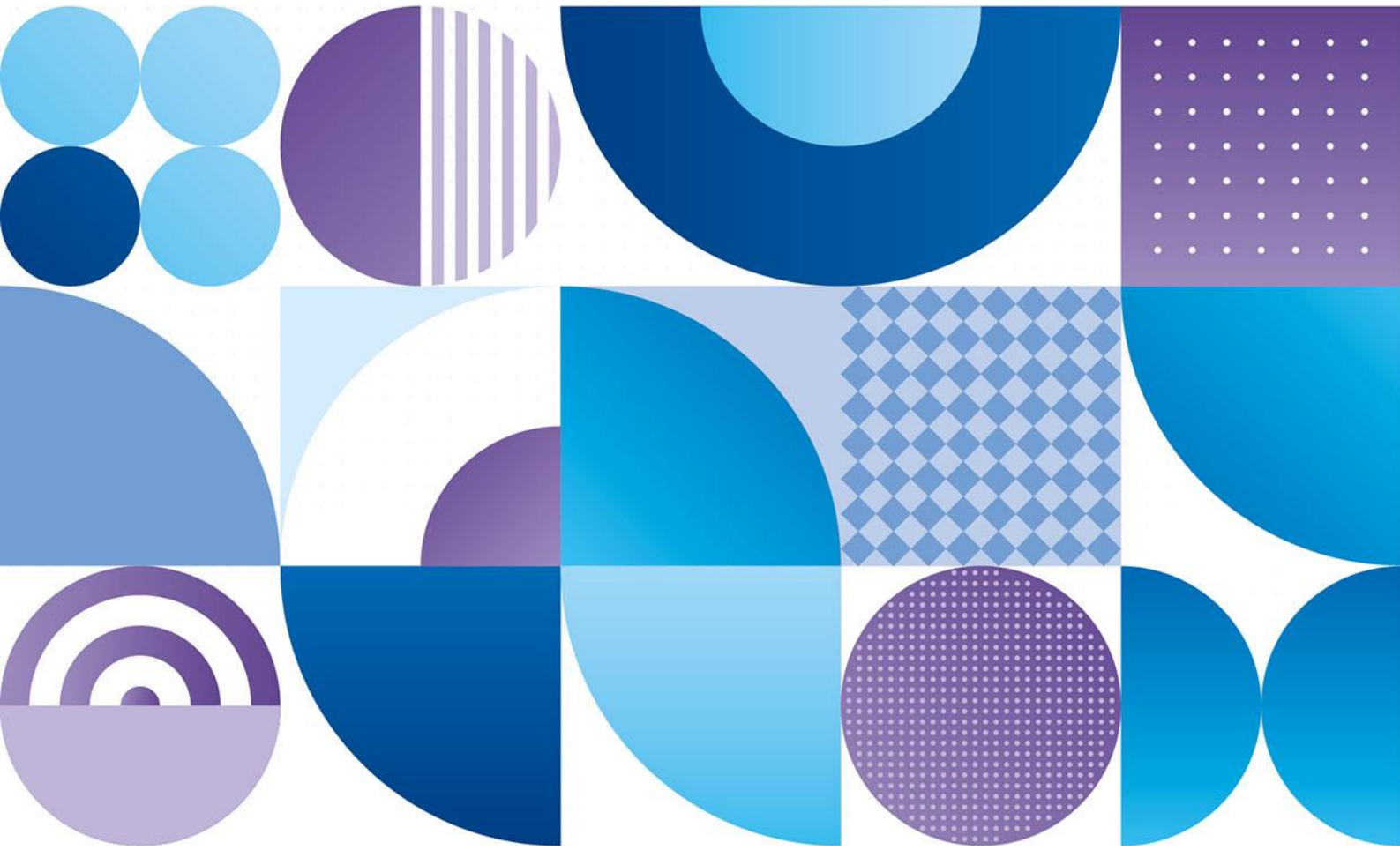
Health Economics Unit

NHS
Midlands and Lancashire
Commissioning Support Unit

MaST

Evaluation of the impact of the use of Management and Supervision Tool in Mersey Care NHS Foundation Trust

November 2021



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Acknowledgements

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This evaluation was led by Lisa Cummins (Senior Health Economist, HEU), with support from Ralphael Oghagbon (Consultant, HEU) and Dr Wayne Smith (Head of Health Economics, HEU). The report was prepared and written by Lisa Cummins, with support from Dr Wayne Smith and Dr Santosh Kumar (Data Scientist, HEU). We would like to thank Professor Dr Jianhua Wu (Leeds University) who provided advice and external validation on our advanced modelling approach.

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1 Introduction

The Health Economics Unit (HEU) was commissioned to produce a report on the impact of Management and Supervision Tool (MaST) on community mental health services at Mersey Care NHS Foundation Trust.

MaST is a decision support tool which uses predictive analytics to help healthcare professionals assess and manage their caseloads, providing:

- Risk of crisis and complexity measures for clinical prioritisation
- Support with changes in resource allocation
- Monitoring of patient flow
- Safety and quality indicators
- Caseload weighting.

1.1 Background

Mersey Care NHS Foundation Trust serves more than 11 million people, offering specialist inpatient and community services that support mental health, learning disabilities, addictions, brain injuries and physical health, and is one of only three trusts in the UK that offer high secure mental health facilities.

One significant area of focus has been community mental health teams (CMHTs), where rising caseloads and increasing numbers of service users with complex mental health problems meant that practitioners had to prioritise managing risk and keeping people safe with limited time to deliver recovery-based care.

MaST is a decision support tool which uses predictive analytics to help mental health staff make better decisions about the resources they use to provide safer and higher-quality care.

It is a software platform used by frontline staff (including doctors, mental health nurses and team managers) which analyses data and information from multiple sources to inform

decision-making based on service user needs and the likely resource required to provide safe and effective care. It was piloted as part of the wider transformation programme and later implemented across all CMHTs in Mersey Care, becoming embedded in normal ways of working.

MaST's simple dashboards surface clinically relevant information that is already captured but often buried deep within the electronic health record. MaST is a robust and secure system, which aims to integrate with existing sign-on solutions and trust systems.

1.2 Aims

The aim of HEU's work was to examine the impact of MaST on:

- service user flow
- improved management of mental health crisis in the community
- resource use and cost saving
- quality and safety performance indicators
- caseload management.

1.3 Summary of key findings

A key challenge of the evaluation has been to separate the impact of MaST from the impact of the pandemic and wider system changes, namely, the establishment of the Crisis Resolution Home Treatment (CRHT) pathway. Despite this challenge, there is some evidence to suggest that MaST can enable proactive care of service users and, potentially, reduce mental health crises and generate efficiency savings.

1.3.1 CMHT service use

Service use varies by age, gender and ethnicity

- Among people aged under 35, there were more female users than male users.
- Among people aged 50 or older, there were more male users than female users.

- The majority of service users were White, which is reflective of the local population (1).

Total numbers reduced slightly

In January 2019 there were 9,881 people using CMHT services; in January 2021 there were 9,290. The reduction is due to fewer admissions which may have been caused by local and national lockdowns during the pandemic.

The reduction was mainly among fewer older people (those aged 50 or over) using the service.

The median length of time spent under the care of a CMHT service was eight months; however, this varied by CMHT service.

Despite the reduction in caseload over time, the trends in discharge rates and readmission rates per 1,000 service users remained stable during and immediately after the introduction of MaST. Both discharge and readmission rates remained broadly consistent with flow being maintained throughout the pandemic, apart from higher discharge rates after lockdown periods ended.

1.3.2 Improved management of mental health crisis

Mental health crisis rates declined

The rates of mental health crisis began to decline during the introduction period and continued to decline thereafter (with some spikes aligned with COVID-19 lockdown periods), indicating that MaST may be associated with fewer mental health-related crisis admissions. The difference was more pronounced among those who were in the MaST group compared with those who were not.

It is important to note that we have not controlled for other factors (such as individual characteristics), and the shift in activity is likely to have been influenced by the new CRHT pathway.

1.3.3 Resource use and cost savings

Length of inpatient stays following a mental health crisis reduced

Among people under the care of the CMHT service during the six months before and after MaST was introduced, there was a reduction in the duration of mental health crises and length of stay in an inpatient setting following a mental health crisis. In addition, the split of (median) days spent in hospital versus in the CRHT reversed, with seven days in ten being managed in the community (compared with three before MaST was introduced).

Cost savings were made

The shift in activity from inpatient to CRHT is estimated to have resulted in an efficiency saving of £1.7 million in the six-month period after MaST. This is based on the assumption that a person has on average one contact per day with a consultant-led crisis resolution and home treatment team (while experiencing a mental health crisis in the community).

While this is an indication that MaST may be associated with fewer mental health-related crises and significant cost savings, it is important to note that other factors (such as individual characteristics) have not been controlled for and the shift in activity is also likely to have been influenced by the establishment of a new crisis resolution and home treatment pathway.

1.3.4 Quality and safety performance indicators

MaST may have enabled CMHT services to better manage care

Due to the onset of the pandemic, it is difficult to infer whether changes in key quality and safety performance indicators were due to changes in resource use or the introduction of MaST. For example, the proportion of service users on Care Programme Approach (CPA) who received a care plan review within 12 months increased after the introduction of MaST and continued during the pandemic, whereas the proportion of people on CPA who received a CPA review within 12 months fell over time.

There is, however, some evidence that MaST may have enabled CMHT services to better manage the care of service users during the pandemic, as there was an improvement in the proportion of service users being contacted within an appropriate time frame after new functionality was added to MaST in May and October 2020.

In addition, the proportion of people followed up within 48 hours/7 days of discharge also increased; this may also be attributable to MaST, as it improves both access to data and the speed at which staff can identify the right people and stay on top of their workload.

1.3.5 Challenges of estimating the causal impact of MaST

Determining the direct impact of MaST is challenging

Although advanced modelling was undertaken to estimate the impact of MaST on CMHT service use and mental health crisis, contrasting results were produced. Here we highlight several limitations which made it challenging to determine the direct impact of MaST on the outcomes of interest.

First, high-quality pre-intervention data was only available for a short timeframe. Second, post-intervention-period data from March 2020 to May 2021 was excluded from all models, as it was not possible to robustly separate the impact of MaST on resource use from the impact caused by local and national lockdowns. Third, there were a small number of service users and/or mental health crisis rates in some services.

2 Approach

2.1 Information gathering and pathway analysis

Information relating to MaST, including a logic model developed by the client and other evidence of its impact, was reviewed to understand firstly, how MaST functions within the CMHT service and secondly, its expected impact on community mental health services. A pathway analysis was also undertaken to identify the potential impact of MaST on mental health crisis resource utilisation.

The logic model and pathway can be viewed in Appendices A1 and A2, respectively.

2.2 Metric selection

Using the logic model and pathway analysis, and through conversations with key stakeholders, a core set of metrics were identified to analyse the impact of MaST (Table 1).

Table 1: Key metrics

	Metric	Definition
1	**CMHT discharge and readmission rates**	
	CMHT discharge	Number of discharges per month divided by the number of service users
	CMHT readmission	Number of readmissions within 90 days of discharge per month divided by the number of service users
2	**Improved management of mental health crisis in the community**	
	Mental health crisis episodes*	Number of mental health crisis episodes initiated per month
	Community crisis admission	Percentage of mental health crisis episodes that were managed in the community
	Community crisis admissions only	Percentage of mental health crisis episodes that were managed in the community only (i.e. service user did not end up in hospital)
	Community crisis duration	Number of days under the care of the CRHT team

	Inpatient crisis admissions	Percentage of mental health crisis episodes that resulted in hospital admission
	Inpatient crisis length of stay	Number of days in hospital
3	**Resource use**	
	CMHT contacts	Number of CMHT contacts
	Community crisis admissions	Percentage of mental health crisis episodes managed in the community
	Community crisis admissions only	Percentage of mental health crisis episodes that were managed in the community only (i.e. service user did not end up in hospital)
	Inpatient crisis admissions	Percentage of mental health crisis episodes that resulted in inpatient admission
	Inpatient crisis length of stay	Number of days in hospital
4	**Quality and safety performance indicators**	
	Care plan review	Percentage of service users receiving a care plan review within 12 months
	Care Programme Approach (CPA) review	Percentage of service users receiving a CPA review within 12 months
	Physical health check	Percentage of service users receiving a physical health assessment within 12 months
	Risk assessment	Percentage of service users receiving a risk assessment within 12 months
	Direct care contacts	Percentage of service users contacted by the CMHT service within 4, 8, 12 or 20 weeks.
	Direct care contacts – vulnerable service users	Percentage of vulnerable service users contacted by the CMHT service within 4 weeks. Vulnerable service users identified by MaST system using agreed set of criteria.
	48-hour follow-up	Percentage of service users admitted to hospital due to mental health crisis who were followed up within 48 hours of discharge
	7-day follow-up	Percentage of service users admitted to hospital due to mental health crisis who were followed up within 7 days of discharge

*A mental health crisis episode includes all contacts (community and/or hospital admissions) by the service user within seven days of discharge.

2.3 Quantitative analysis

Key metrics were derived from anonymised patient-level and monthly aggregated mental health services data provided by the client. Data covered the period from July 2017 to June 2021; however, the data prior to July 2018 was of poor quality and was therefore removed. Data quality improved after the introduction of a new Electronic Patient Record (EPR) system in 2018. All data analysis was undertaken using RStudio.

2.3.1 Exploratory analysis

An exploratory analysis was undertaken to:

- assess data quality and completeness
- determine the number of months before and after the introduction of MaST
- determine how to account for the staggered introduction of MaST into different services over several months
- determine how to account for the impact of COVID-19
- address any other methodological issues.

2.3.2 Descriptive analysis

A descriptive and trend analysis of all metrics was carried out to examine the impact of MaST up to May 2021.

2.3.3 Advanced modelling

Generalised linear mixed effects model

Advanced modelling techniques were applied to a subset of metrics to examine the impact of MaST on resource use before and after its introduction. Initially, we planned to undertake a segmented time series analysis; however, after exploring the data and consulting with our external reviewer, a mixed effects modelling approach was undertaken to control for service level variation and index time to the month MaST was introduced (2). The approach was

assessed by an external reviewer (Professor Dr Jianhua Wu, Leeds University) and the model was quality assured internally by the Data Science Team.

We used generalised linear mixed effects (GLME) models to examine the impact of MaST on five key metrics: number of CMHT service users, CMHT contact rates per 10,000 service users, mental health crisis rates, community-only mental health crisis rates, and inpatient mental health admission rates.

An iterative approach to model selection was taken, starting with a basic generalised linear model, and then modifying it to include a grouping variable (CMHT service) and different numbers of sine and cosine pairs (also known as Fourier Terms[1]) (3). The anova function in R was used to select the best model (4). All models included:

- a time variable indexed to the month MaST was introduced to account for different roll-out times
- a binary variable, where a value of 1 indicated the months when MaST was in use
- a grouping variable to account for random effects of CMHT service-level variation.

Both of the CMHT service models (number of service users and contact rates) also included pairs of sine and cosine functions to account for fluctuations in time. These were not included in the other three models as they did not improve overall performance. Data from March 2020 to May 2021 was excluded from all models as it was not possible to separate the impact of MaST from the impact of lockdowns caused by the COVID-19 pandemic in a robust way.

[1] Fourier terms are pairs of sine and cosine functions which represent a period of time. They were used instead of months to avoid overfitting the model by including too many explanatory variables in the regression models.

3 Results

Section 3.1 provides an overview of the characteristics of CMHT service users. The remaining sections of this chapter present the findings of the analysis of the key metrics (outlined in Table 1) and the mixed methods modelling. For each metric, we describe the expected impact of MaST alongside the results of our analysis.

3.1 CMHT service users

In January 2019 there were 9,881 people using CMHT services, compared with 9,290 in January 2021. The reduction is due to fewer admissions which may have been caused by local and national lockdowns during the pandemic. The length of time spent under the care of a CMHT service varied (Figure 1). The median length of time spent under the care of a CMHT service was eight months.[2] Of all admissions where the person was discharged on or before 31 May 2021, over half (56%) had a duration of less than one year, and a further 26% had a duration of between one and two years.

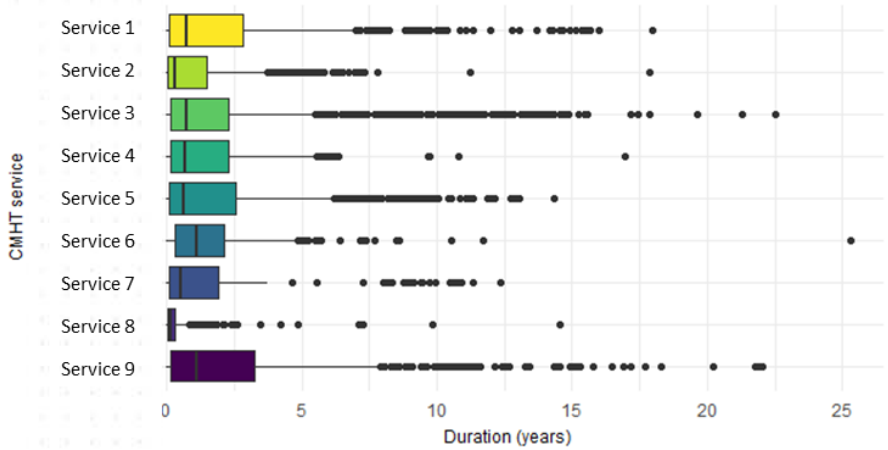


Figure 1: Box plot[3] showing the duration of time spent under the care of the CMHT service

[2] The mean duration is 20 months. The difference between the mean and median reflects the high number of outlying values which may have been impacted by discrepancies in the data (e.g. a delay in someone being recorded as discharged from a particular service).
[3] The rectangle represents the median and interquartile range (IQR); extending lines represent the min (25th percentile minus 1* IQR) and max (75th percentile plus 1* IQR); dots represent outliers.

Figure 3 shows that the drop was mainly due to declining numbers of older service users (aged 50 or older), whereas the number of service users in the youngest age group (20–34 years) was constant until it increased around the time of the lifting of restrictions after the first national lockdown.

Service use varies by age, gender and ethnicity. Among people aged under 35, there were more female users than male, whereas the reverse was true among people aged 50 or older. The majority of service users are White, which is reflective of the local population (1). Figure 4 shows that the ratio of men to women among White service users changed over time, with more women than men currently using the service. For all other ethnic groups (apart from 'Unknown'), men accounted for a higher proportion of service users.

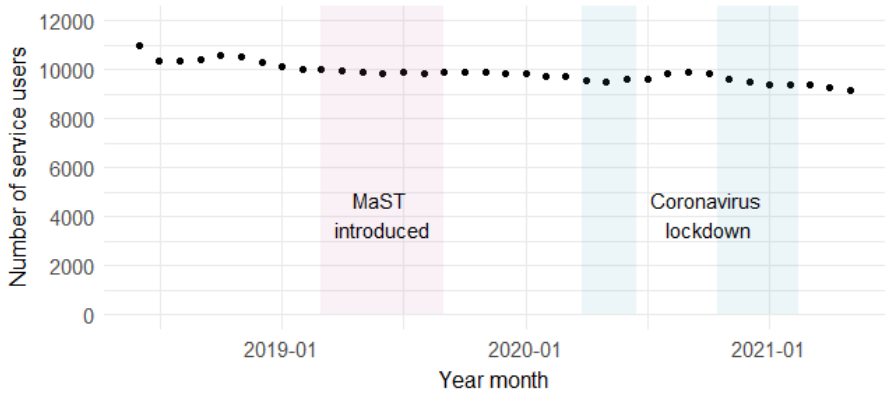


Figure 2: Number of CMHT service users

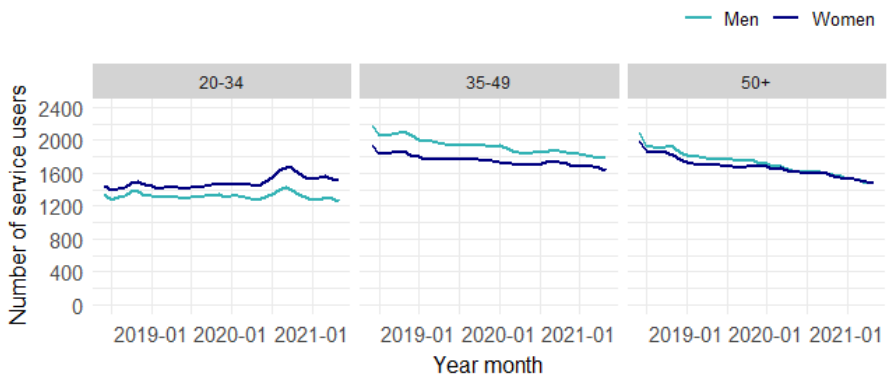


Figure 3: Number of CMHT service users by age and gender

Figure 4: Number of CMHT service users by ethnic category

3.2 CMHT discharge and readmission rates

3.2.1 Expected benefit

It was expected that MaST would improve service user flow, identify service users for appropriate discharge, and reduce caseload sizes overall. Research indicates that appropriate discharge can impact readmissions (5), and therefore it was expected that MaST would lead to a reduction in readmissions.

3.2.2 Results

Figure 5 shows that the trends in discharge rates and readmission rates per 1,000 service users remained stable during and immediately after the introduction of MaST. Unfortunately, it is difficult to establish a trend pre-MaST due to a spike in rates caused by data cleansing (after moving to a new data capture system).

Both discharge and readmission rates remained broadly consistent with flow being maintained throughout the pandemic, apart from higher discharge rates after lockdown periods ended.

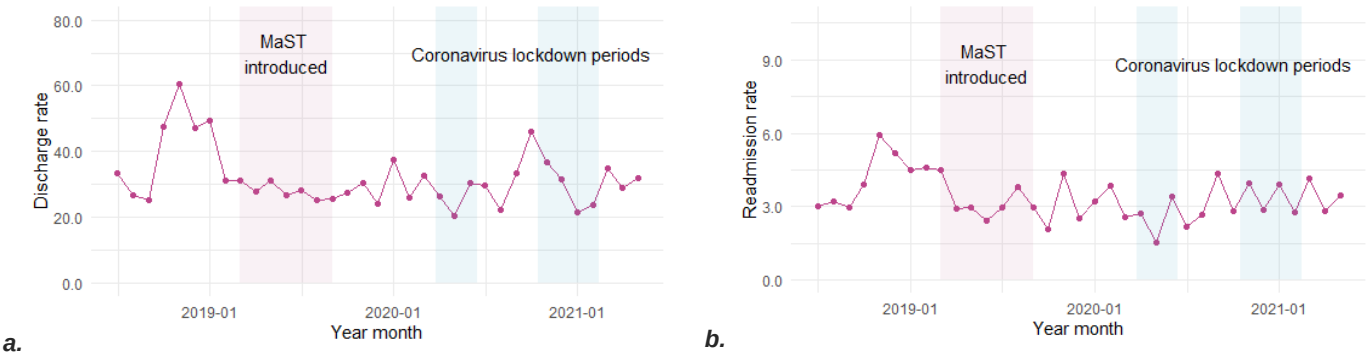


Figure 5: a. Number of discharges per 1,000 service users; b. Number of readmissions per 1,000 service users

3.3 Improved management of mental health crisis in the community

3.3.1 Expected benefit

The proactive management of people can reduce mental health crisis (6). MaST can enable proactive management of service users, and it was hoped that its use would lead to:

- more people being managed by the CMHT without escalation
- an increase in the number of crises managed by the CRHT team
- a reduction in mental health crises.

To examine changes in mental health crisis rates in community and inpatient settings, we compared mental health crisis activity of people who were under the care of a MaST CMHT service while experiencing a crisis versus those who were not.

3.3.2 Results

Figure 6 shows that mental health crisis rates began to decline during the introduction period and continued to decline thereafter (with some spikes aligned with COVID-19 lockdown periods), indicating that MaST use may be associated with fewer mental health-related crisis admissions. Further, the difference was more pronounced among those who were in the MaST group compared with those who were not. It is important to note that we have not controlled for other factors (such as individual characteristics), and the shift in activity was also influenced by the new CRHT pathway.

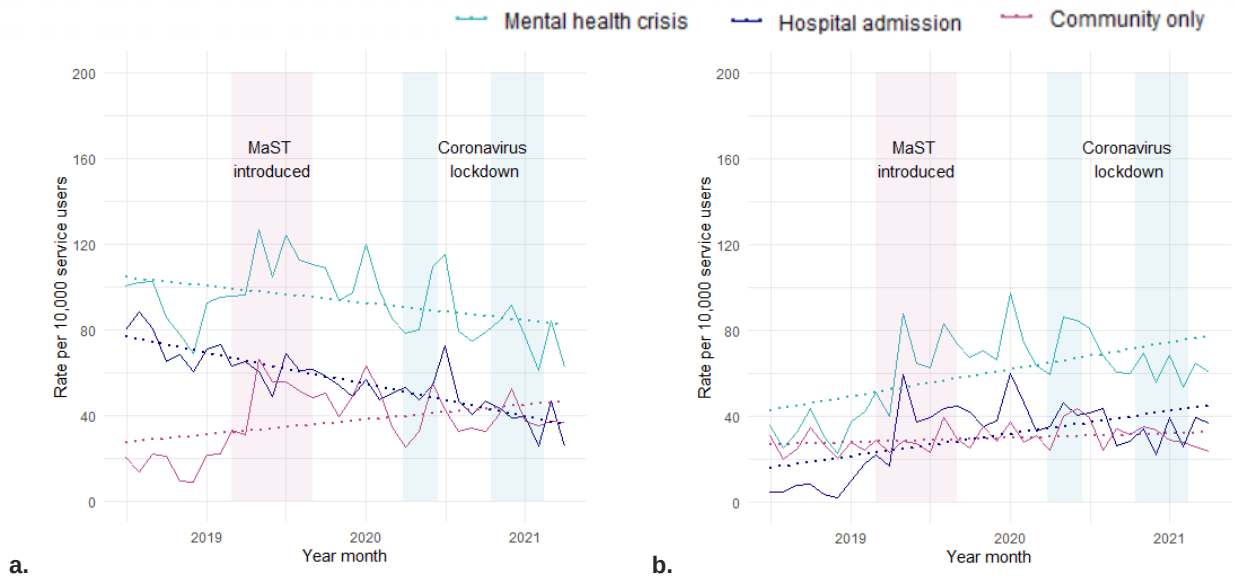


Figure 6: Mental health crisis rates, community crisis only rates and inpatient admission rates per 10,000 service users a. under care of the CMHT service using MaST at the time of crisis[4] and b. not under the care of CMHT service using MaST at the time of crisis[5].

3.4 Resource use and cost saving

Change in mental health crisis activity

Table 2 shows the number and duration of mental health crisis episodes among people under the care of a CMHT service during the six months before and after MaST was introduced.

There was a reduction in the duration of mental health crises and length of stay in an inpatient setting following a mental health crisis. In addition, the share of median days in hospital versus in the community reversed, with seven days in ten being managed in the community (compared with three before MaST was introduced).

[4] Includes anyone recorded in the data who had a crisis while under the care of, or within 90 days of discharge from, a MaST CMHT service.
[5] Includes anyone recorded in the data who had a crisis while they were not under the care of a MaST CMHT service for more than 90 days.

Table 2: Mental health crises: total, mean and median number of days before and after the introduction of MaST

	Mental health crisis duration		Hospital admission		Managed by CRHT team	
	Before	**After**	**Before**	**After**	**Before**	**After**
Number of crises*	566	493	371	261	390	449
Number of days						
Total	20,550	18,024	15,376	11,588	5,174	6,436
Mean	36.3	36.6	27.2	23.5	9.1	13.1
Median	24.0	27.0	11.0	4.0	3.0	8.0
***Data includes mental health crisis episodes in the six months before and after MaST was introduced with a duration of less than six months.**						

3.4.1 Cost difference

The shift in activity from inpatient to community is estimated to have resulted in efficiency saving of £1.7 million in the six-month period after MaST was introduced. This is based on the assumption that a person has on average one contact per day with a consultant-led CHRT team while experiencing a mental health crisis in the community.

Information on PLICS Mental Health Provider Spell day was used as a proxy for inpatient bed days (£524), and PLICS Mental Health Care Contacts was used a proxy for the number of days under the care of the CHRT team. The average cost of a mental health care contact is £210 (7). Figure 7 and Table 3 present the estimated difference after varying the average number of contacts, and detailed breakdown can be found in A3.

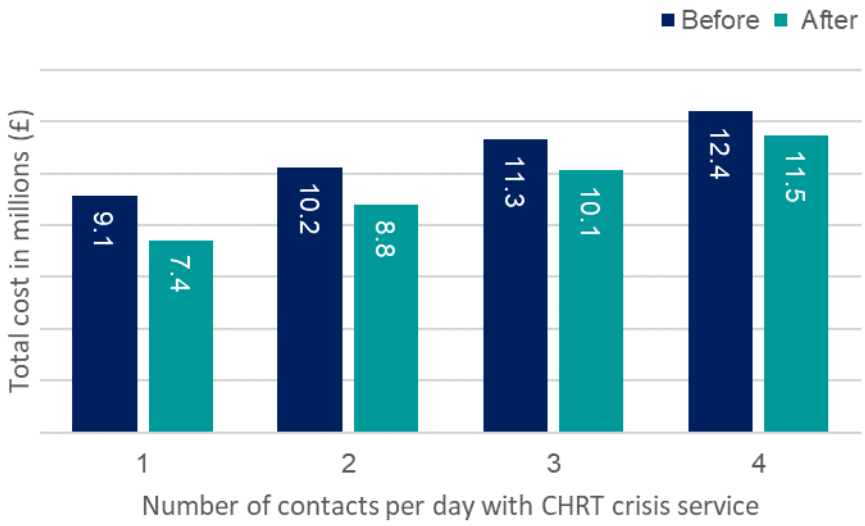


Figure 7: Scenario analysis of estimated cost of crisis activity in the six months before and after MaST was introduced

Table 3: Total cost (£) - hospital admissions plus CHRT crisis days

	No. of contacts per day	Before	After	Difference
		Total cost (£)	Total cost (£)	Total cost (£)
Scenario 1	1	9,143,564	7,423,672	- 1,719,892
Scenario 2	2	10,230,104	8,775,232	- 1,454,872
Scenario 3	3	11,316,644	10,126,792	- 1,189,852
Scenario 4	4	12,403,184	11,478,352	- 924,832

3.4.2 Generalised linear regression modelling

The findings of the mixed effects modelling show contrasting results (see Table 4) due to several limitations of the analysis; this has made it challenging to determine the direct impact of MaST on the outcomes of interest. First, high-quality pre-intervention data was only available for a short time frame. Second, post-intervention-period data from March 2020 to May 2021 was excluded from all models as it was not possible to robustly separate the impact of MaST on resource use from the impact caused by local and national lockdowns. Third, there were a small number of service users and/or mental health crisis rates in some services.

GLME model results

Summary results can be found in the table below, and further details are included in the remainder of this section.

Table 4: Results of generalised linear mixed effect regression modelling: trend before and after the introduction of MaST

Outcomes	Monthly trend before MaST introduced		Monthly trend after MaST introduced	
	RR (95% CI)	***p*-value**	**RR per month (95% CI)**	***p*-value**
CMHT service				
Number of service users	1.00 (1.00, 1.00)	<0.001	1.00 (1.00, 1.00)	*0.400*
Contacts per 10,000 service users	1.02 (1.02, 1.02)	<0.001	0.99 (0.98, 0.99)	<0.001
Mental health crisis				
Mental health crisis rate per 10,000 service users	1.01 (1.00, 1.03)	*0.094*	0.99 (0.97, 1.02)	*0.600*
Community-only mental health crisis rate per 10,000 service users	1.13 (1.10, 1.17)	*<0.001*	0.91 (0.87, 0.96)	*<0.001*
Mental health crisis admission rates	0.97 (0.95, 0.99)	*<0.001*	1.01 (0.98, 1.05)	*0.400*

CMHT service

After controlling for the effect of individual services and indexing time to the month MaST was introduced, there was no difference in the change in trend between the number of service users before and after MaST was introduced. In terms of contacts per 10,000 service users, it is estimated that the rate increased by 2% per month before MaST, whereas it decreased by 1% per month after MaST was introduced. Both trends were statistically significant.

Mental health crisis

The model estimated a modest change in mental health crisis rates before and after MaST was introduced, however this result was not statistically significant. Looking at the actual change over time, there was an overall reduction in mental health crisis activity (see section 3.2).

Modelling indicates that community-only crisis rates were increasing (14% per month) before the introduction of MaST but decreased (9% per month) in the six months after. Conversely, inpatient mental health crisis rates were falling before the introduction of MaST (estimated decrease of 3% per month; p-value <0.00). After MaST, the rate was estimated to increase by 1% per month; however, this result was not statistically significant.

It important to note that changes in community-only and inpatient crisis rates coincided with the establishment of the CRHT team in 2019 (see Figure 6).

3.5 Quality and safety performance indicators

The metrics summarised in this section comprise key performance indicators used to measure the quality and safety performance of CMHT services.

3.5.1 Care Programme Approach (CPA) review

Expected benefit

It was expected that MaST would increase the percentage of service users receiving a CPA review within 12 months, as the system identifies service users who are due a review.

Results

The proportion of people on CPA who received a CPA review within 12 months fell over time. This may have been due to a reduction in face-to-face contacts and redeployment of staff. Or, alternatively, staff could have prioritised care plan reviews over CPA reviews for

some service users. The percentage of service users receiving a CPA review in May 2021 (43%) was double that of what it was in January 2020 (18%).

On a positive note, there has been an uptick in CPA reviews since the last lockdown.

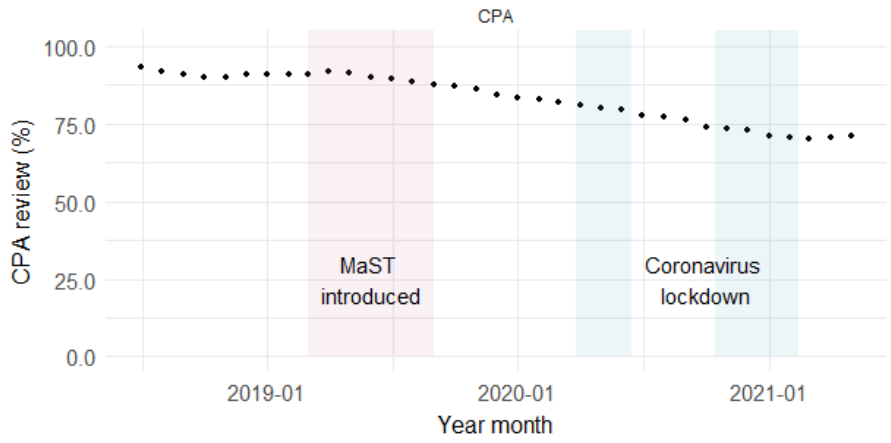


Figure 8: Percentage of service users on CPA who received a CPA review within 12 months

3.5.2 Risk assessment

Expected benefit

It was expected that the percentage of service users having risk assessments would increase, as MaST can alert staff to users who have not had a risk assessment within 12 months.

Results

Overall, the trend remained constant during and after the introduction of MaST, and throughout the pandemic; however, there was a drop over time among people on CPA. In the absence of data from other services where MaST has not been in use, we are unable to determine whether the slowdown was due to the outbreak of coronavirus.

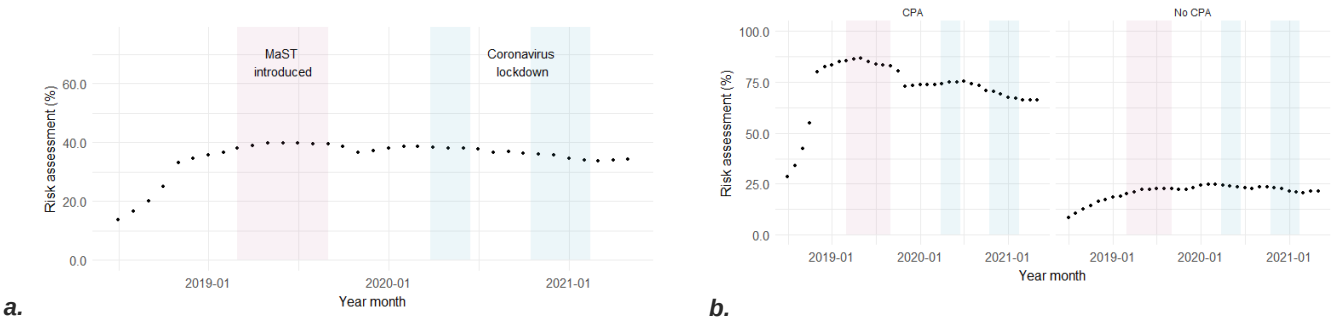


Figure 9: a. Percentage of service users who received a risk assessment within 12 months; b. Percentage of service users who received a risk assessment within 12 months by CPA status

3.5.3 Direct care contacts

Expected benefit

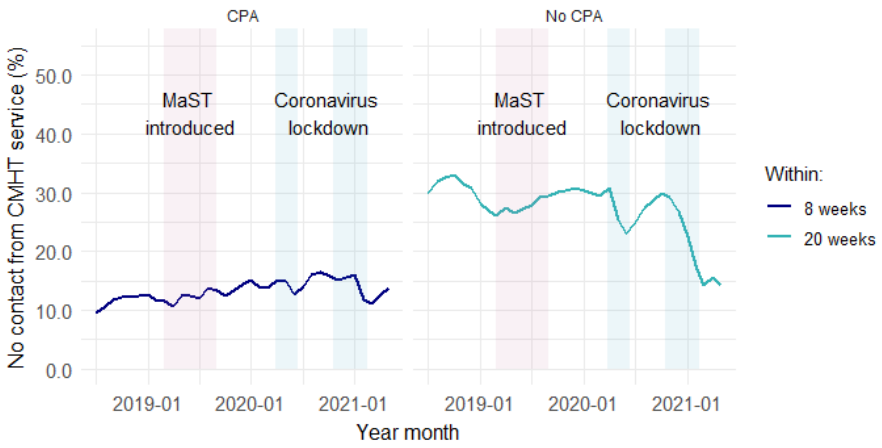
Direct care contacts were initiated after the outbreak of the pandemic as a means to ensure that appropriate contact was maintained with service users, especially those experiencing additional vulnerabilities.

It was expected that the percentage of service users contacted within an appropriate time frame would increase after new functionality was added to MaST in May and October 2020. 'Appropriate contact' is defined as contact within four weeks for vulnerable service users, eight weeks for service users on CPA, and 20 weeks for service users who were not on CPA.

Results

Figure 10 shows that there was an improvement in the proportion of service users being contacted within an appropriate time frame after new functionality was added to MaST.

a.



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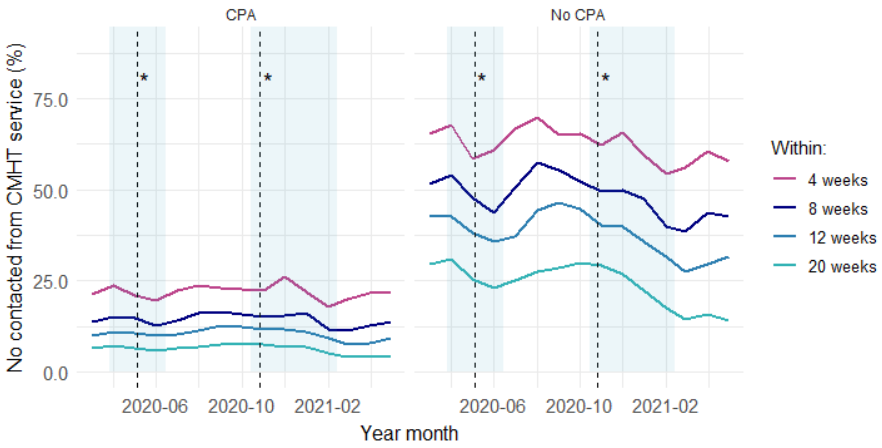

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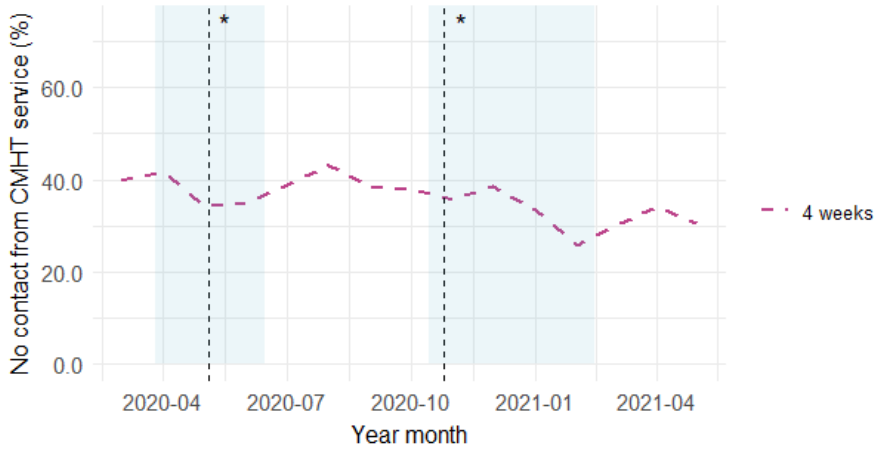

** Vertical line indicates the date functionality was added to MaST to identify service users who had not been contacted within 4 weeks (4 May 2020) and 8 or 20 weeks (26 October 2020)*

Figure 10: a. Percentage of service users who were not contacted within an appropriate time frame (CPA 8 weeks; no CPA 20 weeks); b. Percentage of service users who were not contacted within 4, 8, 12 or 20

weeks since the COVID-19 pandemic only; c. Percentage of vulnerable service users who were not contacted within 4 weeks

3.5.4 Physical health check of people experiencing psychosis

Expected benefit

Physical health checks should be provided every 12 months to people experiencing psychosis, and it was expected that MaST would help to identify service users who were due a health check.

Results

Figure 11 shows that the percentage increased after MaST was introduced (22% in March 2020 compared with 17% in March 2019). However, progress slowed during the pandemic, which may be due to these assessments typically being carried out in person. In the absence of data from other services where MaST has not been in use, we are unable to determine whether the slowdown was due to the outbreak of coronavirus.

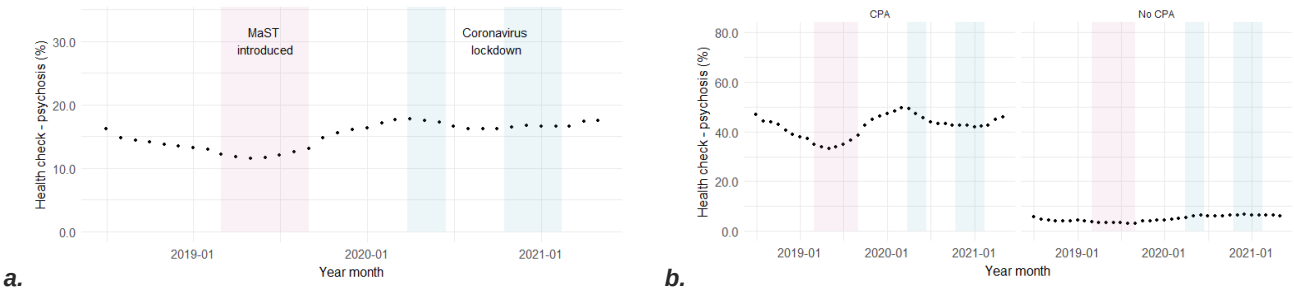

Figure 11: a. Percentage of people experiencing psychosis who received a physical health check within 12 months; b. Percentage of people experiencing psychosis who received a physical health check within 12 months by CPA status

3.5.5 48-hour and seven-day follow up

Expected benefit

Service users transitioning out of hospital have a high risk of relapse; they benefit from prompt follow-up after discharge from an inpatient setting. It was expected that the

percentage of service users followed up within 48 hours and seven days of discharge would improve due to MaST.

Results

Figure 12 shows that the 48-hour trend had been increasing before the introduction of MaST and continued to increase thereafter. In May 2021 almost all service users admitted were followed up within 48 hours of discharge (94% in May 2021 compared with 64% in July 2018). This was coupled with consistently high percentages of people followed up within seven days, which may be attributable to MaST as it improves both access to data and the speed at which staff can identify the right people and stay on top of their workload.

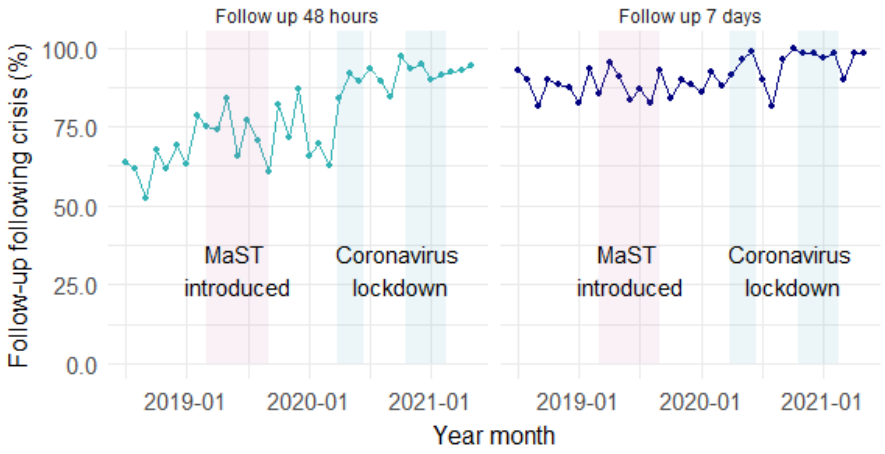

Figure 12: Percentage of service users followed up within 48 hours or seven days after discharge from an inpatient setting

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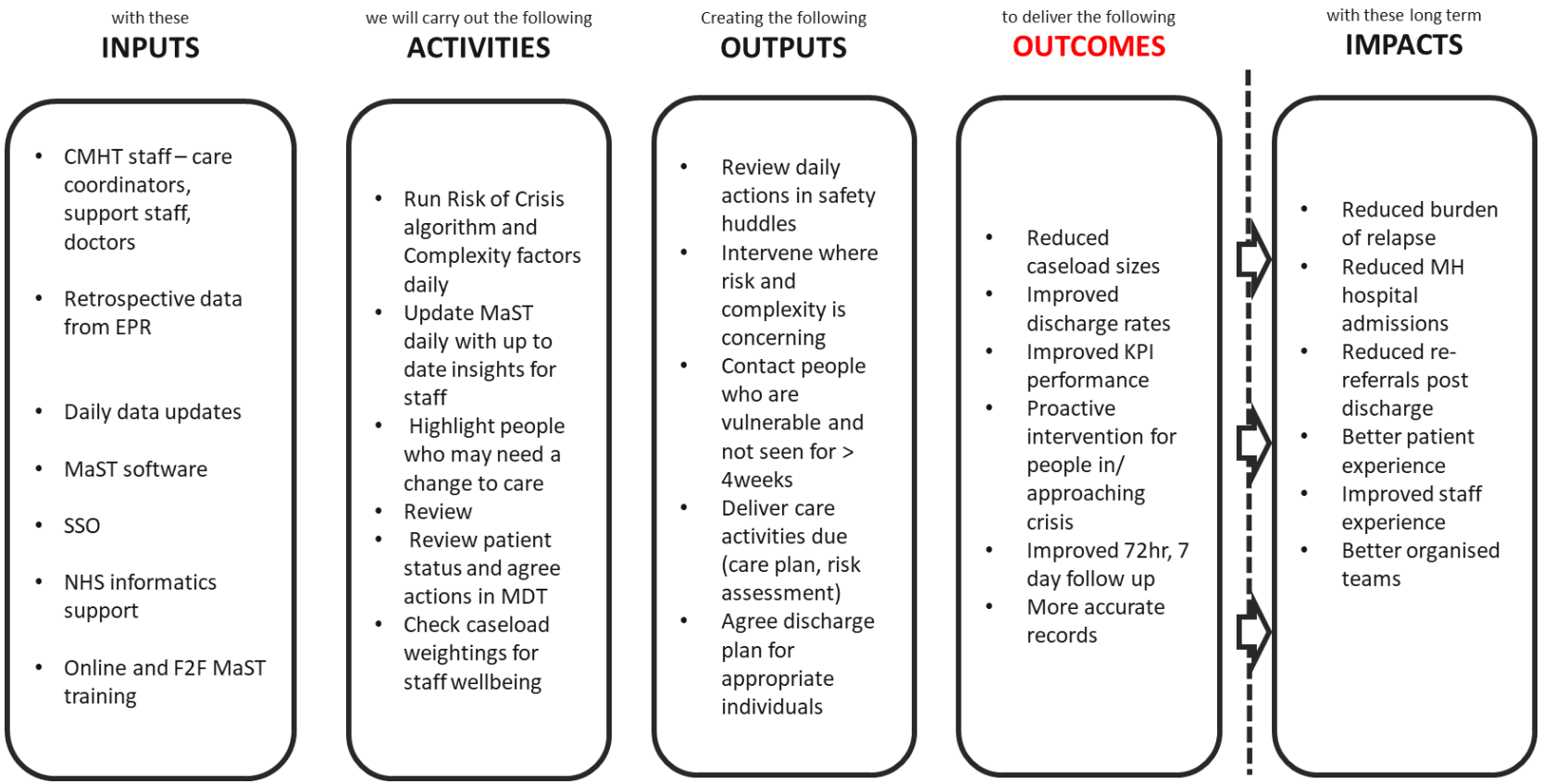
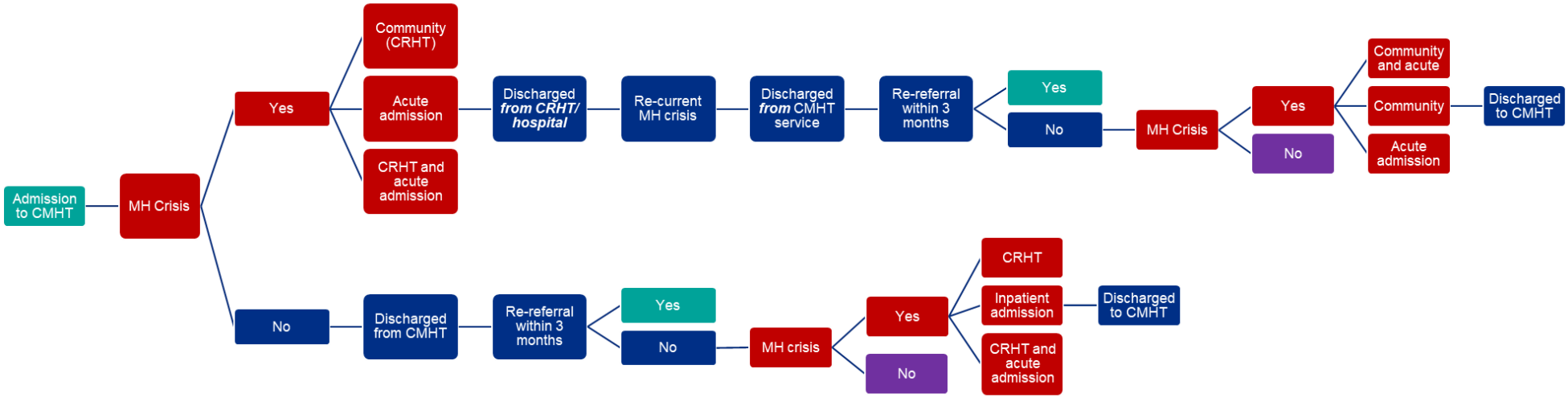
Appendices

A1. Logic model



A2. CMHT service crisis care pathway



A3. Scenario analysis: estimated cost of mental health crisis activity

Table 5: Scenario analysis of estimated cost of crisis activity in the six months before and after MaST was introduced

	Unit costs	Before	After	Difference in cost (£)
Hospital admission costs (£)				
No. of days		15,376	11,588	
Cost per day (£)	524			
Subtotal (£)		**8,057,024**	**6,072,112**	**- 1,984,912**
CRHT crisis cost (£)				
No. of days		5,174	6,436	
Cost per day (£)	210			
Subtotal (£)				
1 contact per day	210	1,086,540	1,351,560	265,020
2 contacts per day	420	2,173,080	2,703,120	530,040
3 contacts per day	630	3,259,620	4,054,680	795,060
4 contacts per day	840	4,346,160	5,406,240	1,060,080
5 contacts per day	1,050	5,432,700	6,757,800	1,325,100
6 contacts per day	1,260	6,519,240	8,109,360	1,590,120
7 contacts per day	1,470	7,605,780	9,460,920	1,855,140

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