**Development of process of care framework**

The aims of this component of work were to develop a set of tools to capture the breadth of care that participants received during their receipt of the intervention. This involved the care and support they received from the practitioners delivering the Engager intervention as well as the care and support from other organisations and services across the criminal justice, health, social and third sector spectrum that we aimed to change, indirectly, through intervention activity. In addition to collecting information about the support they received, we also wanted to collect information regarding the actual response of participants to the intervention.

**Process of care for Engager intervention**

The start point for capturing the amount and impact of the support provided by the Engager intervention was the logic model of how we understood the intervention to work from the theoretical perspective. From the logic model, we created a checklist of the key practices (intervention offers) that we expected the intervention practitioners to undertake in their delivery of the intervention. As the intervention was designed to be flexible to meet the needs of individual participants, the checklist incorporated elements that were core to the intervention and those that were optional. The core elements were to be delivered to all participants, whereas the optional elements captured the flexibility of the intervention and were only delivered according to the needs of individual participants.

The checklist was originally designed in a tick box (Yes/No) format. However, many of the components of the intervention were intended to be delivered on several occasions throughout the intervention (such as liaison with services), and other elements were intended to be delivered continually throughout the intervention (e.g. the mentalisation based approach). It was recognised that simply having a tick box would not enable the research team to distinguish between components of the intervention that were delivered once from those that were routinely delivered every time the practitioner met with the participant. Furthermore, the checklist would not capture whether or not the delivery of the various components of the intervention had the impact they were intended to produce (e.g. did offering practical support to participants early on in the intervention help to gain the trust of the participant?).

In order to address these two issues, we transformed the checklist into a series of If/Then statements that mapped onto the four overarching programme theories (trust and engagement, meeting at the gate, a shared understanding, and the shared action plan). Items were re-phrased to capture the extent to which practitioners delivered key components of the intervention (e.g. “I supported the participant to stay calm when meeting with other services”), with items being rated on a 4-point Likert scale (Always, Frequently, Occasionally, and Never). After each item, information was collected on the extent to which the activity achieved the desired outcome from the practitioner perspective. The intended outcome was written as a statement (e.g. ‘The participant was able to maintain engagement with other services’) and practitioners were asked to indicate how much they agreed with the statement on a 5-point Likert scale (strongly disagree, disagree, neutral, agree, and strongly agree). A second version of the If/Then statement was developed for participants who had received the intervention to complete. This included the same items and was in the same format, with questions re-worded so that it could be completed from the perspective of the participants.

In addition to the If/Then statements, the practitioners also completed timesheets to capture the level of input each participant received. The timesheets were designed to collect a broad range of intervention-related activities, including the amount and frequency of direct contact time the practitioner had with the participants, work the practitioner undertook that did not involve direct contact with the participant (such as liaison work), as well as time spent on travel.

The final element of data we collected to enhance our understanding of the process of care of the Engager intervention was the session notes recorded by the Engager practitioners. This supplemented the timesheet data, as session notes were recorded each time the practitioner met with the participant. It also captured the main content of the sessions in order to capture whether the practitioner was supporting the participant in managing their emotions, or whether the session was primarily focused on resolving practical issues for the participant, or whether the session involved both therapeutic and practical work.

**Process of care for support provided by services other than Engager practitioners**

In addition to collecting detail about the care received from the Engager practitioners, we also wanted to measure the extent of care participants received from other services and organisations. This was important for several reasons. First, it was necessary to understand what ‘Usual Care’ was for this group of men. Second, liaison work and supporting participants to engage with services to help them when transitioning back to life in the community and in achieving their goals.

However, we recognised that understanding the process of care involving other services is a complex issue. Given that liaison work and supporting participants to work with services was a key component of the intervention, it was possible (and anticipated in the logic model) that those receiving the Engager intervention would have a greater number of contact with services focused on proactive rehabilitation that those in the control arm of the RCT. However, if the Engager practitioner did good liaison work with services and supported the participant when meeting with services, then this might have resulted in fewer but more effective contacts with these services. We therefore asked participants to rate the helpfulness of the contacts they had with each service, and also indicate who had initiated the contact (Engager practitioner, criminal justice, health, or whether participant had initiated the contact).

***Services beyond Engager***

A further consideration was how the research team would collect data regarding the services that participants had been in contact with. This was required both for the health economics analysis and to assess any secondary effects of Engager. While contact with certain services (e.g. NHS contacts) were likely to be logged on NHS systems and available via data linkage, contacts with third sector organisations may have been recorded differently and not readily available via data linkage work. Given the number and breadth of different services that participants could potentially be in contact with, it was felt that obtaining the data from all the different services would have been labour-intensive in terms of data sharing agreements and an onerous task for the organisations to provide the information. Furthermore, it was unlikely that services would have recorded all the information we wished to collect (e.g. helpfulness). We therefore opted to ask participants to self-report service use, despite recognition of problems with regard to participants accurately recalling which services they had been in contact with.

In an attempt improve recall of service use, we structured the data collection interview schedule into domains (e.g. accommodation, physical health, mental health, criminal justice) mapped against the CAN. Within each domain, participants were asked a set of questions about their current situation, their level of need in this domain, and whether they had received any support to help address these needs. This then led to a section within the domain in which participants were asked about any contact they had had with services offering help or support in this domain. Within each domain, researchers specifically asked about the main services that provided support in that particular area, as well as asking about any other services that the participant may have been in contact with that provided support within that particular domain. By structuring the interview schedule in this way - coherent and not repetitive - it was hoped to help participants recall the services that they had been in contact with accurately (CSRI), as well as the perceived benefit of the service, and make a judgement on whether things had improved in that domain (CAN).

Lastly, we asked participants to complete the Brief Inspire which is a tool designed to assess a service user’s experience of the support they receive. We supplemented the 5 questions used in the Brief Inspire with a further 9 items that were identified in workstream 1 as important in order for participants to have a good experience with a service (e.g. they can trust the service and feel that the service listens to them). As participants were likely to engage with a number of different services, it would be too onerous a task to ask participants to rate each service they had contact with the Brief Inspire. Therefore, we asked participants to provide ratings of their experiences of working with services in general.