

Initial Programme Theories 1, 4 and 12

1	C1 – If sessions delivered are very adaptable and laid-back	Mres1 – This allows for participants' preferences to be accommodated as required due to the lack of pre-defined set of priorities		O1 – This can lead to higher levels of engagement and allows staff to respond to needs in a holistic manner
4	C1 – If the environment in which the activities are delivered is comfortable and welcoming	Mres1 – This could create a positive and supportive atmosphere, creating a sense of safety and security	Mreact1 - Could make it easier for participants to engage and to feel comfortable sharing their thoughts and feelings	O1 – Moreover, it could also reduce distractions and promote a sense of calm and relaxation, which can promote mental health and wellbeing.
12	C1 – If activities are delivered in a welcoming and supportive environment, particularly with a target population of those who are/feel vulnerable or anxious discussing their feelings of loneliness	Mres1 – Being in an environment where people feel supported can provide a sense of safety and security	Mreact1 - This will create a sense of belonging and connectedness among individuals who may be experiencing similar feelings of loneliness. Moreover, it creates a sense of validation and understanding for individuals who may feel that their experiences are not being acknowledged or understood	O1 – Feelings of isolation and alienation are reduced. A conducive atmosphere is facilitated for individuals to express themselves and share their experiences, fostering a sense of trust and openness among group members

Became refined programme theory 1 – Accommodating and safe space for carers

Context	Mechanism Resource	Mechanism Reaction	Outcome
If the environment in which the activities are delivered is comfortable and welcoming, where this is typically created by the staff and attitude of other service users rather than the nature of the venue itself - in fact staff can make an otherwise intimidating venue feel welcoming. Staff have experience of being carers themselves.	Staff are caring, encouraging and are perceived as wanting the best for service users, warm, friendly, good listeners and get along well with service users. Are skilled at creating and maintaining interpersonal interactions and relationships (e.g. checking up on them when they don't see them for a while) and encouraging engagement. Create a safe space for sharing experiences and encourage and provide opportunities for service users to talk.	Service users feel safe to talk and share their experiences with and ask advice of each other/staff and trust is built between them. Also build connections with other service users and may feel more like they are part of a community. Feel less like they are going through their experience alone. Service users feel understood by staff and have their experiences validated. Staff are seen as part of the same community.	Service users may feel benefits to their physical health by attending, change their health behaviours, enact more healthy behaviours perhaps even those they've previously avoided, or increase their chance of attendance or maintenance of attendance.
AND/OR	AND/OR	AND/OR	Accommodation of their needs/lives also may increase commitment to attend and uptake generally.
If the space is just for and accommodating of carers and/or carers who are particularly vulnerable, stressed, depressed, anxious, fearful, isolated and this group are understood to be struggling, under huge demands, but otherwise forgotten within the community.	Service is flexible and non-judgemental of both participants lives and their abilities. E.g. programme allows participants to invite (eligible) friends, offers multiple opportunities to be involved in preferred sessions, is flexible with its booking/ attendance rules and doesn't enforce goal setting.	Participants feel grateful to have requests accommodated, are able to develop their skills at their own level and are more likely to attend preferred class. Participants look forward to sessions and feel more comfortable with friends present.	AND/OR
	AND/OR	AND/OR	Service users enjoy attending, look forward to attending, doesn't feel like 'a chore' and may feel improvements in mental health which may also subsequently lead to being more sociable. Reduces feelings of isolation, leading to a likely increase in attendance.
	Staff and other service users share similar lived experiences (as carers in this instance) and therefore have a shared understanding and can offer support/advice or share information about other support offers outside of C4C.	Service users may be more receptive to health advice or exercise class recommendations from peers and/or feel less intimidated to do activities in front of other carers rather than 'normal' gym goers.	AND/OR
			Service users learn from others not only about how to manage caring situations, but about other opportunities in the community or C4C for carers and become more integrated with carer community and therefore less isolated.
			BUT
			Service users may be so comfortable at C4C that this inhibits them actively seeking other support groups.

FUNDED BY

Summary of theory

Context: Staff create a space that is comfortable, welcoming and accommodating for carers specifically. Staff have experience of being carers themselves. **Mechanism (Resource):** As staff have caring experience they are supportive, non-judgemental and encourage carers to share their experiences. C4C is able to flex to carer's lives. C4C is only attended by carer's who therefore understand and can offer additional support. **Mechanism (Reaction):** Carers feel safe and build trust and connections with staff and other carers. Carers feel validated, less intimidated in a carer-only environment, part of a community and appreciate having their requests accommodated. **Outcome:** Carers experience physical and mental health benefits, enjoy attending and have an increased commitment to attend. Carers feel less isolated and share information about support opportunities. However, some carers may feel so comfortable as to inhibit them from seeking support beyond C4C.

Initial programme theory 2 and part of 6

2	C1 – If the same activities are delivered on a regular basis (context)	Mres1 – This allows familiarity (mechanism – resource)	Mreact1 - This facilitates a sense of comfort and confidence in attending the sessions	O1 – Participants to know what to expect and can help to build a sense of routine and structure. Moreover, it could lead to an uptake in engagement as participants are more likely to attend the sessions and possibly invite other people who they think would benefit from the activities.
6	C1 – If activities were delivered on a set day, time and location regularly	Mres1 – This helps to create a sense of routine and structure for participants	Mreact1 - This makes it easier for participants to plan their schedules and commit to participating in the project	O1 – Moreover, consistency in the day and time of the activities may also increase attendance as participants may be more likely to attend if they know when the activities are taking place

Became refined programme theory 2 – Consistency

Context	Mechanism resource	Mechanism reaction	Outcome
If the same activities are delivered on a regular basis (e.g. every week or in blocks), on the same day, at the same time and if one off activities are held at various intervals as well but delivered by the same providers. OR If activities are in a single location at limited times of day/days of the week.	Participants know when activities are taking place, creating a sense of routine and structure over time and reducing chances of queues and waiting. Facilitated by staff also offering information and reminders about upcoming classes over Whatsapp. One off activities' offered, with the provision of information about them beforehand, give participants opportunities to learn about new things in a safe space. They offer additional information that participants can follow-up on too if they choose too, creating a low-pressure learning environment. OR Could have limited spaces in scheduled sessions, (but staff offer any open spots to those in the venue on the day or at other times to ensure opportunities or fair assignment of desired activities). Alternatively, may not offer the activities that the participant wants at a convenient time.	Participants become more comfortable in the delivery environment over time as it doesn't change. Some participants prefer having a routine and are better able to plan in advance when to attend and attend the activities they want to attend, e.g. the schedule can be fit around caring responsibilities, or allow for warm up time. Less likely to forget session is taking place/they've registered for a session and more able to put money aside to pay for activities. OR Due to limited availability, service users could miss the sessions they want to attend one week.	If the same activities are delivered on a regular basis (e.g. every week or in blocks), on the same day, at the same time and if one off activities are held at various intervals as well but delivered by the same providers. OR If activities are in a single location at limited times of day/days of the week.

Summary of theory

Context: C4C delivers activities on a regular or consistent basis, but only in a single location and on a limited number of days/times. **Mechanism (Resource):** Creates a sense of routine and structure for carers. However, this could result in limited spaces or scheduled sessions. **Mechanism (Reaction):** Carers become comfortable in the environment over time, plan their schedule and finances and remember to attend. However, some carers might miss their desired sessions due to limited availability.

Outcome: Better engagement and the chance for carers to look forward to attending. However, some carers may be put off by what they see as a limited or restrictive activity schedule.

Initial programme theory 3

3	C1 – If the project is delivered on a short-term basis			O1 – There is a likelihood of the project not producing lasting changes in the promotion of better mental health and wellbeing in the community. Moreover, due to the short-term nature of the project, it may not be feasible or desirable for everyone and subsequently there might be reduced uptake and engagement in the activities (outcome).
---	--	--	--	---

Became refined programme theory 3 – Short-term delivery

Context	Mechanism resource	Mechanism Reaction	Outcome
If the project or blocks of exercise classes are delivered/funded on a short-term basis, or if there’s only one big engagement event. OR If the project has funded and can run over the longer term.	Limited engagement opportunities offered. OR Longer running project allows for a sense of comfort and familiarity to build over time not just with the project classes but also with other service users and staff. Provides opportunity for users to try different activities over time. AND/OR Regular events that service users know they can access.	Participants are disappointed with short blocks of exercise sessions and want them to continue. Only reaches a small number of people. OR Service users build networks and connections with staff and service users within project sessions. Could reach more people. AND/OR Regular events enable teams to implement progress and health monitoring over-time.	Likelihood of project making lasting changes to promote better mental health and wellbeing in the community is reduced with short-term projects. Difficult to measure outcomes of projects on short-term basis too. Lack of understanding of longer-term impacts of projects and therefore inability to build local evidence base around what works best for local populations. BUT Learning from one off events can be used to inform future and larger events if funding is available and therefore can increase reach/partnership working. (Funding was offered and further events were run.) Expect a greater impact on health outcomes. May gain a better understanding of breadth/depth of impact. OR Service users more likely to try new exercise sessions over time with longer-running projects. More likely to recommend services to friends if ongoing in the longer term.

Summary of theory

Context: The service is delivered or funded only on a short-term basis, or there’s only one event. **Mechanism (Resource):** Limited engagement opportunities are offered in the short-term. Alternatively, longer-term delivery can offer the chance for service users to learn about regular events they can attend, try new activities, and build up their comfort and familiarity with a service. **Mechanism (Reaction):** Service users become disappointed with short-term delivery and the service only reaches limited numbers of eligible people. Longer-term delivery could reach more people, enable staff to monitor users progress and enable service users to build networks. **Outcome:** Compared to longer-term delivery period, short-term delivery may limit meaningful and lasting changes in mental health and a comprehensive understanding of the service’s impact. Service users may be more likely to try new things and recommend services to others if it is sustained.

Initial programme theory 5 and part of 6

5	C1 – If the environment in which the activities are delivered is familiar	Mres1 – Familiar spaces may be less intimidating or overwhelming. Moreover, using familiar spaces may be more convenient and accessible for some participants	Mreact1 - A sense of comfort and familiarity is created. Participants feel at ease and are more willing to engage in the project. A sense of community is facilitated, and participants feel that they are in a safe and familiar place where they can be themselves	O1 – Use of familiar spaces can help to reduce stigma and subsequently increase participation and adherence to the project
6	C1 – If activities were delivered on a set day, time and location regularly	Mres1 – This helps to create a sense of routine and structure for participants	Mreact1 - This makes it easier for participants to plan their schedules and commit to participating in the project	O1 – Moreover, consistency in the day and time of the activities may also increase attendance as participants may be more likely to attend if they know when the activities are taking place

Became refined theory 4 – Venue

Context	Mechanism Resource	Mechanism Reaction	Outcome
If the venue/environment is at least known about by a community but could also be familiar (although this can also grow over-time during attendance) or positively viewed. Could include running one-off events in places target community is already using or planning to be. Or if its accessible, or preferably convenient to get to e.g. local (but latter not essential for all users and may depend on how they feel after their first visit). Could include using venues in areas that are typically underserved too. BUT The venue may be less important than the staff involved and/or whether they can support attendees to get to alternative venues.	The venue is more to the liking of service users e.g. its smaller and well suited to the activities that are on offer and its location aligns with other errands they run/plans they have in the area. Venue is easy for service users to get to or find. Or staff take ownership of navigating service users to a new venue.	Service users feel able to use the venue, especially those with mobility issues. Also, easier to fit into busy schedule and routine as the location is near other regular tasks/commitments, otherwise less convenient venues could cause additional stress to service users trying to attend. Using the same, familiar venue makes attendance simpler and reduces fear of the unknown and confusion, as well as reducing the time and energy required to locate and navigate to a new venue. However, if staff will help support carers to get to an unfamiliar venue that is acceptable to service users too. Service users can more easily engage with one-off events held where they are already congregating for other reasons.	Service users with mobility issues are more likely to attend sessions. Service users in general are more likely to attend or return regularly. Or greater uptake of one-off/more intermittent events (such as health checks). In turn, providers reconsider where to hold activities to best accommodate target groups - local, convenient locations and communities feel less isolated and like they matter/are cared for.

Summary of theory

Context: Familiar, accessible, convenient local venues, although staff may be more important than venue. **Mechanism (Resource):** Venue location aligns with other errands service users may be running, is easy to find or get to or staff will help service users to navigate to the venue. Venue is well suited to service activities. **Mechanism (Reaction):** Carers feel able to use the venue, especially those with mobility issues. Venue location makes it easy for service users to fit attendance into their schedule and easy to find, reducing potential stress or confusion over navigation.

Outcome: Increased attendance at regular or one-off events. Providers reconsider where best to hold events/deliver services to best reach target audiences, helping service users to feel less isolated and that they matter.

Initial programme theory 7

7	C1 – If the same staff members deliver activities to community members	Mres1 – This provides consistency which is beneficial for achieving consistent outcomes. Moreover, it can allow for more flexibility in terms of adapting the activities to meet the needs and preferences of the members.		O1 – Having the same staff members can help to build rapport and trust with community members, which can facilitate a sense of community and support. Reciprocity is also facilitated whereby staff members feel contentment in making a difference to the lives of the participants
---	--	--	--	--

Became refined programme theory 5 – Exercise related skills

Context	Mechanism resource	Mechanism reaction	Outcome
If the same or familiar staff members deliver activities, preferably over the longer term. And if they are skilled specifically around exercise session delivery and related equipment.	Staff able to flex activities to meet the physical needs of service users and ensure activities will be safe. Also, able to deliver engaging sessions and teach service users how to use exercise machines. Staff able to showcase variety of activities available to promote sense of ‘something for everyone’. Same staff offer a level of consistency for service users.	Service users feel safe and comfortable working with skilled staff and feel it’s worth their limited time to attend to access this expertise. Trust staff with health issues and feel reassured that they are there, monitoring them and not left alone. Service users enjoy engaging sessions. Service users feel reassured that they know what will happen in a session delivered by the same staff member consistently and reduces chances of confusion or nervousness.	Service users are more likely to attend/attend regularly, including those with health issues. Reduced chance of distress which might occur with ever-changing staff. Staff and service users may build rapport over time.

Summary of theory

Context: Familiar staff members who are skilled in exercise session delivery and related equipment.

Mechanism (Resource): Staff can flex to carer’s needs, ensure their safety, and deliver engaging sessions.

Mechanism (Reaction): Carers feel safe and reassured they won’t be left alone, that its worth their time to access staff expertise and enjoy attending. Staff consistency reduces potential confusion or nervousness of subsequent sessions.

Outcome: Increased regular attendance, reduced chance of distress due to staff consistency and staff and carers may build rapport over time.

Initial programme theory 8 and 9

8	C1 – If community members are given control over the activities they participate in	Mres1 – It allows them to tailor the group experience to their individual needs and preferences	Mreact1 - Community members may feel more ownership in the activities	O1 – This can lead to increased engagement. Moreover, a sense of agency and empowerment will be fostered which could lead to increased motivation and commitment to the project
9	C1 – If activities are delivered based on the interests of community members	Mres1 – Can provide group members the opportunity to practice and improve their social skills, as well as develop new skills	Mreact1 - Engaging in activities that are enjoyable can help to increase a sense of accomplishment and satisfaction	O1 – This can help to increase participation and engagement in the project. There is likely to be a more positive and supportive group dynamic, as well as increased motivation and involvement in the group

Became refined theory 6 – Choice

Context	Mechanism resource	Mechanism Reaction	Outcome
If service users actively participate and are given a choice over the activities, they can participate in (from a pre-determined offer) so as to align with their interests/preferences and/or are able to feedback on existing activities and suggest new ones based on their interest. OR If service users don't actively participate and are not given any choice over activities, they participate in. Or can merely decline activities that won't accommodate their needs.	Staff support users to choose preferred activities by messaging them regularly with information about available activities, reminding them to register and attend. Provides service users with the opportunity to focus on performing their activities as well as try new things, practice and develop new skills as well as check their health status before beginning new exercise regimes. Similarly, can provide extra people to participate in group-based sports that service users may not otherwise get the opportunity to try. Collection of feedback from service users means C4C could further tailor activity provision to their preferences. OR Only some activities but not all are able to be adapted to accommodate service user's needs.	Service users learn which activities they enjoy and which feel beneficial and may learn new skills. Can create a sense of self-efficacy. Service users feel satisfied with C4C offer due to choice. Enjoyment can increase confidence in attending future session. Service users feel included/like their opinions are important when asked for their feedback on activities. They feel empowered to take ownership of activities. Perceive that they will be more likely to be offered something they like in future. May focus on activities to the extent that they don't engage heavily with other service users, but still feel sufficiently connected from building up familiarity with other attendees over time.	Increased chances of regular attendance, especially if the exercises are resulting in desired benefits or enjoyment. Service users may continue to carry out exercises despite difficulties. May spend more time on activities if they engage less with other users. May increase attendance at, or inclination to try classes/groups offered outside of C4C too. Results in health benefits e.g. sleep quality, relaxation, physical rehabilitation etc.

Summary of theory

Context: Carers actively participate, are given choice over activities and can provide feedback and recommendations for future offers by C4C. Alternatively, carers have limited choice due to activities being unable to accommodate their needs. **Mechanism (Resource):** Opportunity to try new activities, practice and develop new skills. Feedback enables tailoring of future activity provision to carers preferences. Alternatively, not all activities can be adapted to carers needs.

Mechanism (Reaction): Carers learn what they enjoy doing, gain a sense of self-efficacy and confidence to attend. Carers feel that their opinions matter and feel empowered but may engage with other users less due to a focus on chosen activities.

Outcome: Increased attendance at C4C, even for difficult exercises. Increased interest/attendance at other services outside of C4C. Carers accrue health benefits.

Initial programme theory 11

11	C1 – If activities are delivered away from existing, familiar structures	Mres1 – This allows individuals to separate themselves from their usual social context and provides a safe and confidential space to talk openly and honestly about their experiences		O1 – This is beneficial for those who might feel ashamed or stigmatised about their feelings of loneliness. Moreover, being in a different environment can provide new opportunities for social interaction and connection, which can be beneficial for those who may have limited social networks
----	--	---	--	--

Became refined programme theory 7 – Atypical environment

Context	Mechanism resource	Mechanism Reaction	Outcome
If activities are delivered away from existing or familiar structures (e.g. social, cultural, power-based etc) and/or environments such as health care settings or outside of a service users day-to-day responsibilities and stressors. This could be with or without cared for people accompanying service users.	Provides a safe confidential space to discuss mental health and coping or even uses the space and activities as a form of coping strategy/distraction, or for services users to focus on themselves. Provides a safe space for those community members who may be underserved due to lacking trust in the healthcare system and thus who avoid engaging with healthcare professionals. Provides service users with encouragement to seek out other support organisations as well as information about them. Provides a place for service users and the people they care for to do something different and be together without the focus being on caring. BUT C4C may not be seen as sufficiently separate from healthcare settings for all people to feel safe to attend and safety of those being cared for was also a potential barrier to engagement especially in larger events with many people (e.g. during covid).	Service users able to overcome cultural barriers to asking for help or take advantage of an opportunity post-pandemic to refamiliarise themselves with social contact. Feel comfortable talking about their experiences. Form social connections with people with similar experiences. Feels a short-term relief of pressure during attendance. Families/carers and cared for people enjoy doing something different together.	Beneficial for those who may feel stigmatised about their feelings and help-seeking. Become more aware of other support provision. Isolated or fearful service users may be more likely to access these health services, especially following covid and the subsequent delays in routine checks/care that accrued over that time. Benefits mental health in the longer term.

Summary of theory

Context: Activities are delivered away from existing or familiar structures or responsibilities.

Mechanism (Resource): Offers a coping mechanism for carers to focus on themselves or to do something different with the people they care for, without the focus being on caring. Offers a safe space for those distrustful of health services, although some service users may need further reassurance. Provides encouragement to seek additional support outside of C4C. **Mechanism (Reaction):** Reduces cultural barriers to help-seeking behaviour. Enables short-term relief from responsibilities and the ability to form connections with those with similar experiences.

Outcome: Reduces feelings of stigma around help-seeking behaviour and increases awareness of support offers. Increased engagement and improvements in mental health.

Note: Mreact may be skipped for many of the possible iterations of this causal chain (see arrow). Additional testing is required for those elements that propose new ways to increase awareness.

New theory 8 – Awareness/reach

Context	Mechanism resource	Mechanism Reaction	Outcome
If target groups become aware of service - especially those unaware of any support services for carers/or who have been unsupported but caring for a long time	Awareness is raised through formal or informal modes such as word of mouth (e.g. WhatsApp networks, staff bringing people in to events on the day, off the street), formal advertising approaches (e.g. flyers, posters), referrals or signposting from other service providers (e.g. social services).	As yet unknown target groups come to identify themselves as such e.g. carer's.	Community engages with event or service. Can result in desire for better awareness raising of events/services in future to prevent others falling through the cracks.
AND/OR	AND/OR	Carers learn there are other carers in the community and/or where and what support is available to them.	Increased levels of engagement in one-off events. Or increased regular attendance at regular service provision.
If trying to raise awareness for support services for carers, a larger reach and scope as well as a variety of routes should be considered.	Awareness of service could also be increased through testimonials from existing service users, advertising via schools and information provided by the GP at point of diagnosis. Continual advertisements, rather than one-shots, could also help.	OR	Service users feel happy to be doing something positive for the health.
		Community uninterested in event or don't have capacity.	Increased awareness of carer's community.
			OR
			Community fails to engage with events.



Summary of theory

Context: If target groups are aware of the service or if providers are aiming to increase awareness.
Mechanism (Resource): Multiple formal and informal modes of delivery can be used to raise awareness. Continual rather than one-shot advertisements are preferable. **Mechanism (Reaction):** Unknown target groups come to identify themselves as carers and learn about support offers and other carers in the community. Alternatively, carers are uninterested or don't have capacity to attend.
Outcome: Community engages with events/services and becomes aware of carer community. Alternatively, community fails to engage.