



Integrated
Exercise Practitioner
For Mental Health

Evaluation of 'The *Exercise Effect*': A pilot project integrating an exercise practitioner into outpatient mental health services in Ireland



Sláintecare
Right Care. Right Place. Right Time.



Waterford Institute of Technology

This report was prepared by a Research Team from Waterford Institute of Technology: Dr Suzanne Denieffe, Dr Evan Matthews, Dr Mary Cowman, Mr Brian Mulhare, Dr Elaine Banville, Dr Chris O' Riordan, Dr Michael Harrison, Dr Tom Egan and Dr Gillian Ormonde.

The *Exercise Effect* Project was a partnership between Sports Active Wexford, HSE Mental Health Services Wexford and Waterford Institute of Technology. The *Exercise Effect* Project Steering Committee was chaired by Paula Lowney, HSE. For full details of the Steering group members, please see Appendix 1.

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EXECUTIVE SUMMARY

Background

In April 2019, a submission for funding was made to the Sláintecare Integration Fund (2019) to establish the '*Exercise Effect*' project, including an independent evaluation of the project. The *Exercise Effect* builds on a longstanding collaborative partnership between key stakeholders, Health Service Executive (HSE) South East Wexford Mental Health Services, Sports Active Wexford (SAW) (a Local Sports Partnership) and Waterford Institute of Technology (WIT). Exercise is well recognised as a therapeutic tool that can benefit a range of mental health symptoms and cognitive function among trans-diagnostic mental health populations. Exercise interventions are also a valuable resource for improving the disproportionately poor physical health states of people with mental disorders. This report presents a detailed account of the *Exercise Effect* project and the findings from the research evaluation undertaken.

The planned deliverables of the project were:

- Development and implementation of a model for the integration of an Integrated Exercise Practitioner for mental health to actively support physical activity (PA) interventions as part of multidisciplinary treatment within Irish mental healthcare, including referral pathways, interventions and discharge protocols.
- Development of a partnership and governance structure that is replicable in other contexts. This also includes establishing the job specification and standard operating procedures for the Integrated Exercise Practitioner for the mental health services.
- Evaluation of specific PA treatment and available community resources to meet identified needs of each of the included populations as per established treatment plans.
- Examination of the feasibility of expanding this model regionally and nationally for delivery of physical activity interventions in mental health services nationally.

Project Implementation

The '*Exercise Effect*' project placed an Integrated Exercise Practitioner (IEP) employed by SAW into Wexford outpatient mental health services (Rehabilitation and Recovery; Adult Community; Psychiatry of Later Life and Child/Adolescent services (CAMHS)) to deliver PA interventions, one-to-one and group-based, with a focus on community orientated exercise.

The project was overseen by a Project steering group with representation from SAW, HSE Mental Health Services, HSE Health and Wellbeing and WIT. The delivery model included the development of standard operating procedures, the development of a job specification for recruitment of the IEP and a training programme for the IEP and the establishment of a clinical mentorship system for the IEP.

COVID-19 impacted on the project in a number of ways, including the planned delivery model and the research evaluation. Weekly exercise practitioner clinics in the mental health centres and the planned links to community exercise facilities and groups could not occur as initially planned for this project. Instead, the IEP took on a maximum caseload of 16 participants for 8-week blocks, thereby reaching more service users than having one block for the full duration of the programme. The IEP delivered tailored 8-week activity programmes to 56 service users over four blocks. Following referral of a participant from their respective mental health service, the IEP sought service user consent and conducted a comprehensive assessment to identify risk of adverse events (including further medical clearance to exercise), current PA and related health behaviour, motivation for PA and goals. The IEP then travelled to each individual participant to meet them in a community outdoor facility, close to participants' homes, and delivered weekly individual PA sessions for a period of 8 weeks per participant during intervention blocks 1 and 2. However, blocks 3 and 4 were delivered using an online approach due to the COVID-19 public health restrictions. Across all blocks, the IEP completed phone check-ins with participants each week to monitor progress and with support participants to meet weekly exercise plans.

Research Evaluation Design

The research evaluation was structured to examine the *Exercise Effect* Project under the RE-AIM framework. In so doing, the project was examined with respect to—domains of Reach, Effectiveness/Efficacy, Adoption, Implementation and Maintenance.

Quantitative and qualitative data was gathered as part of the research evaluation. The quantitative data gathered details on IEP activity including: number of contacts with service users; number of multidisciplinary team meetings attended; number of contacts with family and carers of participants; number of participants referred; number of participants maintained on the waiting list; number of participants assessed pre-intervention; number of activity interventions provided as planned; and participant attendance to intervention.

Participant outcomes were also examined using a number of specifically selected and validated tools that were identified during project conception. Service users that participated in the intervention were assessed before and on completion of the 8-week intervention block using these tools. Through data sharing processes, approved by the research ethics committees (WIT and HSE), this data was used for the routine monitoring of participants' health and progress by the IEP for care planning, and also by the WIT research team.

The assessment tools used were as follows:

1. Adult physical activity levels were assessed using the Simple Physical Activity Questionnaire - SIMPAQ) (Rosenbaum *et al.*, 2020)
 - Adult general health and wellbeing was assessed using the Short Form 12 (SF-12) (Jenkinson *et al.*, 1997)
 - Adult mental health was assessed using the Depression Anxiety Stress Scale 21 (DASS 21) (Lovibond and Lovibond, 1995)
 - Assessment of participant goals and motivation: Specific questions were developed that assessed participants goals and motivation levels with respect to their engagement in the project
 - Child and adolescent physical activity levels were assessed using the Physical Activity Questionnaire-Children and Physical Activity Questionnaire-Adolescents (Kowalski *et al.* 2004)
 - Key child and adolescent mental health outcomes were assessed using the Me and My Feelings Questionnaire (Deighton *et al.*, 2013).

In addition to quantitative outcomes from individual participants (n= 37) measured at the pre and post stage of intervention, a qualitative inquiry examined the views of key stakeholders regarding the project. One-to-one semi-structured interviews were conducted with participants (n=4) and guardians of participants in the case of CAMHS Service users (n= 3). All mental health teams involved in the project were invited to participate in semi-structured focus groups. Five focus groups were held with members of the mental health teams (n= 18). Additionally, the IEP participated in a semi-structured qualitative interview, and the steering group members and clinical mentor were invited to take part in either an interview (n=3) or to complete a brief survey (n = 4) (depending on preference) for the purpose of evaluation. Data was managed using data analysis software (NVivo and SPSS V 24).

Summary of Findings

The findings identified that PA levels increased during the 8-week intervention for adult participants as measured by the SIMPAQ, with an increase in overall PA, an increase in moderate to vigorous physical activity (MVPA) and a reduction in sedentary behaviour. For CAMHS service users, PA measured by the PAQ-C/ PAQ-A, showed an increase from base line to completion of intervention. The IEP progress notes data also supported this increase in PA. Qualitative interviews with service users and parents of CAMHS service users offered some evidence of PA maintenance.

The DASS 21 identified that following the intervention, adult participants had decreased mean symptoms of depression (mean 7.00 to 5.45), anxiety (mean 5.31 to 3.62), and stress (mean 6.81 to 5.62) scores. For CAMHS intervention participants, the Me and My Feelings Scale identified that overall mean scores decreased (13.8 to 9.9) indicating a likely improvement in emotional and mental wellbeing among intervention participants. The findings also showed a decrease in emotional (mean 10.3 to 7.6) and behavioural difficulties (3.5 to 2.3) scores among CAMH intervention participants.

Quality of life for adult participants as measured by the SF-12 showed that participants physical health and mental health component scores increased favourably from base line to completion of the exercise intervention, where the overall utility score also showed an increase in Quality Adjusted Life Years of 1.15 (23*0.05).

The qualitative data from adult participants and parents of CAMHS participants supported findings that point to beneficial outcomes resulting from completion of the intervention. Continuation of these impacts were not assessed in this evaluation, but the qualitative interviews suggested that the benefits were maintained for some participants. It seemed, however, that functional improvements in POLL participants did not sustain post-intervention.

The project set out to reach service users in a range of services including CAMHS, Adult Community Mental Health, POLL and Rehabilitation and Recovery services. The original grant application set out to deliver an exercise intervention to 77 participants across these services. The planned delivery of the interventions had to change substantially due to COVID-19. Despite the on-going challenges due to national lockdowns and restrictions in place, the project delivered an exercise intervention to 56 participants (46 completed the 8 weeks of their respective intervention block). These participants ranged in age from 23- 83 for adults, and 8-17 for CAMHS participants. Intervention participants presented with a wide range of mental health diagnoses and co-morbidities.

The standard operating procedures (SOPs) developed seemed to address all the project requirements. Participants were reasonably spread across the different services although POLL participants could

not participate in three of the blocks as they were 'cocooning' in adherence to COVID-19 restrictions. The referral process generated referrals from a range of mental health multidisciplinary team (MDT) members, but some stakeholders believed the referral process utilised created undue burden of work for service providers. The IEP could not attend the service premises or MDT meetings in-person due to COVID-19 restrictions, but instead linked via telephone and through online platforms. This lack of presence was seen as a factor which hindered full integration with the MDTs. Despite this factor, IEP integration was helped by raising awareness with the MDT of the IEP role prior to project commencement and the use of a 'champion' within each MDT to promote the role. The support of the clinical mentor was regarded as important for the success and integration of the IEP and the importance of MH training was emphasised by some MDT members'. Some MDT members raised concerns regarding data protection as the IEP was externally employed and had access to service user information. Some also discussed a need for more robust risk management protocols for the IEP in working with service users.

Overall, the stakeholders perceived the project as being effective as the IEP complemented the care already being provided, offering individualised exercise expertise to promote the service users' physical and mental health. The 8-week block system used seemed to achieve beneficial outcomes for service users. However, it seemed that there needed to be more flexibility regarding the duration of the intervention, depending on individual needs. Waiting lists were created due to the limitation of just one IEP resource, and MDT members therefore appeared to prioritise when referring, but articulated a critical need for access to more IEPs.

Reasons given by service users for participation in the exercise intervention included a recognition of the need to increase PA levels particularly during COVID-19 times. Parents of CAMHS service users felt a key reason for participation was to get their child re-engaged with exercise and activities. Participation appeared to benefit service users by providing structure and an exercise routine. The exercise intervention also enhanced service user motivation, knowledge, confidence, and capacity to exercise. Benefits were also accrued in relation to improved social engagement among service users.

A financial costing based on the direct costs for the project, including project set up and management, indicated a cost of €1,552 per participant. The views of the stakeholders supported continuation of such an IEP role and increasing and extending the IEP resource to other MDTs.

Conclusion

Drawing on the findings from this evaluation, a workable model for the integration of an IEP into existing specialist multidisciplinary mental health teams was developed. This model adopted a

partnership approach between a local authority Sports Partnership (SAW) and a HSE mental health service, incorporating multiple teams. Clear and effective operating procedures were developed by a newly established project steering group, and are available for use in other settings with the proviso that they need to be considered within local contexts.

In the absence of any structures to support such a new service, the model developed included oversight from the project steering group in addition to a clinical mentor. This approach was found to be effective and acceptable. An IEP with the necessary expertise was recruited to provide individualised therapeutic PA programmes to service users. The IEP delivered programmes in a tailored and flexible manner that ensured the project continued, despite the onset of the COVID-19 pandemic.

The evaluation found that, for the most part, the programmes developed and implemented by the IEP were successful in meeting the needs of service users that were referred and engaged through the intervention. Mixed method inquiry found that interventions delivered to service user participants were beneficial for service users and holistic service delivery, with findings that reflect the best available international literature. The evidence obtained through the research evaluation shows that the project has scope to continue and further warrants a scale-up to other mental health services. This scale-up is also necessary to allow more focused workings of IEPs in specific services. The recommendations can help ensure the successful future expansion of additional IEPs into mental health services in the Irish context.

Recommendations

The recommendations address the development and implementation of a model to integrate an IEP into mental health services.

- The collaborative approach between SAW and HSE mental health services worked well with respect to supporting the service implementation and can be recommended as a delivery model for an IEP as it provides the expertise and opportunities for community integration as an adjunct to integrated models of recovery and therapeutics for service users.
- There is a need to ensure standard operating procedures are in place that are relevant to local contexts and that these are reviewed by a project steering group and amended as necessary. Such measures are important for protecting the fidelity of integrated components of the model in the context of this partnership delivery.

- Further pilot initiatives should utilise a project steering group model, where representation from local sports partnerships, HSE health and wellbeing, and member of each mental health team is present to develop and oversee the project implementation. This model of implementation should be reviewed for IEP services being delivered at scale. A hierarchal system of IEPs working within services may be preferable long-term.
- There is need to ensure there is a robust recruitment process for the IEP with appropriate person specifications in place to ensure that the IEP has the necessary skill set, knowledge and personal qualities for the role.
- Preparation of MDT teams where an IEP is being introduced should be planned and delivered. There should be a means to ensure new MDT members are aware of the availability of an IEP to the team and informed about their role and capabilities. All MDT members should be encouraged to promote PA generally.
- Identification of a 'champion' for the IEP within each MDT is recommended during pilot stages of a new project of this nature.
- The IEP should use the same standard referral processes in place as used by other MDT members.
- There is a need to implement measures that strengthen the level of MDT integration on the part of the IEP. This should include the IEP maintaining a physical presence in MDT facilities and meetings, similar to other MDT members. The IEPs therapeutic input should also be recognised and discussed at MDT meetings; this may require ongoing engagement with the MDT to educate on the role of the IEP in mental health. The IEP should also have access to a HSE email. These points should be facilitated and endorsed by HSE management.
- There is need to ensure a formal communication/feedback mechanism from the IEP back to the referrer/ MDT, perhaps through contributions made to the service user case file by the IEP.
- There is a need to provide induction training and comprehensive ongoing training for the IEP, including mental health specific training.
- There is a need to ensure that an IEP has access to a clinical mentor to provide support and guidance when required. This role can be fulfilled by a nurse manager in the short-term. A

long-term view should focus on establishing internal hierarchal frameworks to govern and mentor IEPs.

- There is a need to ensure the IEP carries out appropriate, physical health screening and clearance protocol prior to undertaking the exercise intervention.
- Due to COVID-19, this project was unable to deliver group interventions. It is recommended that these be considered for use in future IEP projects and evaluated across contexts.
- There is a need to ensure that the IEP can provide personalised interventions that are tailored to individual service user needs. The IEP should be prepared to offer a blend of online/mobile technology within their interventional approach among younger or otherwise interested mental health service users.
- Due to COVID-19, this project was unable to examine how the IEP project could utilise community exercise facilities in a hybrid approach to integrated care. It is recommended that community facilities be utilised in future IEP projects and evaluated across contexts.
- It is recommended that long-term effects of the intervention be examined in future IEP projects.

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CAMHS	Child and Adolescent Mental Health Services
CPN	Community Psychiatric Nurse
EPA	European Psychiatric Association
IEP	Integrated Exercise Practitioner
HSE	Health Service Executive
LA	Local Authority
MDT	Multidisciplinary Team
PA	Physical Activity
POLL	Psychiatry of Later Life
RCT	Randomised Controlled Trial
SAW	Sports Active Wexford (Local sports partnership)
SOP	Standard Operating Procedures
WIT	Waterford Institute of Technology

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CHAPTER 1. BACKGROUND AND OVERVIEW OF THE PROJECT

1. Introduction

Sláintecare is a government of Ireland funded initiative which aims to improve patient and service user experience, improve clinician experience, lower costs and achieve better outcomes. The aim of the Sláintecare integration funding was to support the delivery of services which focus on prevention, community care and integration of care across all health and social care settings.

A submission was made in April 2019 to the Sláintecare Integration Fund (2019) to establish the Exercise Effect project, which saw the integration of a specialist exercise practitioner into Irish mental health services, and to conduct an independent research evaluation of this project. This project builds on a longstanding collaborative partnership between key stakeholders, Health Service Executive (HSE) South East Wexford Mental Health Services, Sports Active Wexford (SAW; Local Sports Partnership Wexford County Council) and Waterford Institute of Technology (WIT). This report presents a detailed narrative of the project establishment, implementation and the findings from the research evaluation undertaken.

From the project outset, the anticipated deliverables of the project were:

- Development and implementation of a model for the integration of an Integrated Exercise Practitioner for mental health to actively support physical activity interventions as part of multidisciplinary treatment within Irish mental healthcare, including referral pathways, interventions and discharge protocols.
- Evaluation of physical activity treatment specific to each population and available community resources to meet identified needs in the treatment plan.
- Development of a partnership and governance structure replicable across all counties, job specification and standard operating procedures for the Integrated Exercise Practitioner for mental health within mental health services.
- Examination of the feasibility of expanding this model regionally and nationally for delivery of physical activity interventions in Irish mental health services.

The extent to which these deliverables were achieved will be presented in this report. This report also provides key recommendations for services that may inform the roll out of such an IEP position in the future.

1.1 The role of physical activity

The role of PA as a therapeutic resource for populations accessing mental health services is two-fold. First, it is well documented that populations with severe mental illness experience a disproportionate burden of cardio-metabolic illness, which is a leading contributor in early mortality across diagnostic groups of mental health populations (De Hert *et al.*, 2011; Vancampfort, Stubbs, *et al.*, 2015; Firth *et al.*, 2019). While physical health comorbidity is a multidimensional issue in relation to its causal and preventative pathways, PA is a recognised behavioural therapeutic approach to managing comorbidity in mental health treatment contexts. Physical activity interventions hold a key position within a recent Lancet Commission providing a blue print for protecting physical health among people with mental illness (Firth *et al.*, 2019). Among younger people with mental disorders, the role of PA in protecting physical health remains pertinent. For instance, among young people with first episode of psychosis, PA intervention provided by an IEP combined with specialist dietary intervention is efficacious in attenuating weight-gain associated with antipsychotic medication (Curtis *et al.*, 2016, 2018). Such weight gain is implicated in the long-term chronic health disparities experienced by people with mental health disorders compared to healthy populations (De Hert *et al.*, 2006; Vancampfort *et al.*, 2015; Correll *et al.*, 2017). Physical health comorbidity is a leading contributor in the early mortality of people with mental illness globally (Chang *et al.*, 2011; Walker, McGee and Druss, 2015). In many respects, physical health protection through lifestyle intervention is a priority for mental health services across the life course (Suetani *et al.*, 2016; Firth *et al.* 2019). Regardless, physical health comorbidity among people with mental disorders requires urgent action on the part of mental health services (Firth *et al.*, 2019; O'Donoghue, 2021).

The second way in which PA is therapeutically valuable for mental health populations relates to its effect on mental health outcomes across diagnostic groups. For instance, there is strong evidence that PA interventions have an anxiolytic effect for people with anxiety disorders (Kandola *et al.*, 2018). There is also considerable evidence through randomised trials of a strong to moderate antidepressant effect from PA intervention for people with depressive disorders. Such literature spans both aerobic and resistance exercise intervention (Schuch *et al.*, 2016; Gordon *et al.*, 2018). Among people with psychotic illness, exercise intervention can improve both positive and negative symptomology (Firth *et al.*, 2015; Stubbs *et al.*, 2018), and contribute to improvements in cognitive outcomes (Firth *et al.*, 2017). While there is less certainty around the role of PA in the management of bipolar disorders, this is largely due to insufficient literature to provide certainty on the issue. Regardless, it appears PA interventions can improve symptoms of depression and improve physical health states (Stubbs *et al.*,

2018). Exercise interventions among young people with depressive disorders are also seen to have a large effect with respect to reducing symptoms of depression as found through meta-analysis of RCTs (Bailey *et al.*, 2017). Broadly speaking, PA interventions can reduce symptoms of depression across diagnostic groups of people with mental disorders. Such interventions may also have modest benefits to individuals anthropometry (Rosenbaum *et al.*, 2014; Stubbs *et al.*, 2018). Additionally, PA may also accrue a number of psychosocial benefits for people with mental disorders, including developing social networks, creating opportunities for therapeutic conversations, and providing a sense of skill mastery and accomplishment (Soundy *et al.*, 2014). Physical activity interventions can also improve key functioning outcomes such as cardio-respiratory fitness among people with mental disorders (Vancampfort *et al.*, 2015).

1.2 A rationale for integrated exercise practitioners in mental health

Recognising the capacity of PA interventions in addressing physical health disparity (O'Donoghue, 2021), and the potential mental health benefits from PA interventions, it appears a turning point has been reached. There is now a widely recognised need for more integrated and structured PA as a routine therapeutic within existing mental health services (Rosenbaum *et al.*, 2015; Carneiro *et al.*, 2017). This need is now endorsed through guidance from the respected mental health authority, the European Psychiatric Association (Stubbs *et al.*, 2018).

Despite clear benefits, people with mental disorders are typically less active and more sedentary compared to people who do not have a mental disorder (Vancampfort *et al.*, 2017). Mental health populations experience specific and nuanced challenges with respect to their ability to maintain regular PA and structured exercise (Soundy *et al.*, 2014; Firth *et al.*, 2016; Matthews *et al.*, 2018). Such is the challenge to utilise PA as a therapeutic in mental health settings, it is not surprising that professional support has been identified as a successful mechanism to improve and sustain PA levels among populations with mental disorders (Firth *et al.*, 2015; Stubbs *et al.*, 2018). Indeed, inpatient mental health service users appear to have greater levels of PA and lower levels of sedentary behaviour compared to outpatients, a phenomena that is largely attributed to more intensive levels of care and support from service providers, which in some instances includes IEPs (Vancampfort *et al.*, 2017). In Ireland, mental health service users and service providers have eluded to the benefits of more integrated approaches to PA provision in the outpatient context (Matthews, Cowman and Denieffe, 2020).

Exercise interventions in mental health settings yield the best outcomes when delivered by qualified exercise practitioners (Firth *et al.*, 2015; Stubbs *et al.*, 2018). Qualified expert practitioners are capable

of implementing complex interventions including tailored PA and combined motivational interventions among inactive populations with mental health difficulty (Lederman *et al.*, 2016; Stanton *et al.*, 2018). Known in Australia as Accredited Exercise Practitioners, these IEPs, have unique skills and a high level of knowledge in relation to exercise prescription, implementation and education in mental health contexts (Stanton *et al.*, 2018; Fibbins *et al.*, 2019). In Australia, the role is expanding rapidly, with increasing numbers of accredited professionals working in specialist mental health teams (Fibbins, Lederman and Rosenbaum, 2021). In the United States and in the UK, physiotherapists often deliver PA and exercise interventions within specialist multidisciplinary teams (Stubbs *et al.*, 2014).

People accessing specialist mental health services in Ireland have been documented as having a low level of PA and a high number of barriers to being active, which suggests that PA should be a priority area for mental health service reform in Ireland (Matthews *et al.*, 2018; Matthews, Cowman and Denieffe, 2018). Currently, mental health facilities in Ireland that are approved centres subject to inspection from the Mental Health Commission must provide ‘access for residents to appropriate recreational activities, insofar as is practicable’ under Regulation 9 of the Judgement Support Framework (Mental Health Commission, 2018). Further to this, the National Mental Health services (HSE) provide guidance and support for all multidisciplinary mental health services in implementing PA in mental health settings, using methods that are underpinned by ‘Making Every Contact Count’ (Broderick and Moran, 2018). Despite these efforts to make PA and exercise available to mental health service user, there are no specialist practitioners within an Irish mental health context (Matthews, Cowman and Denieffe, 2018), and currently no explicit provision for such practitioners exists within national mental health directives (The HSE, 2019; Department of Health, 2020). At the current trajectory, mental health services in Ireland are not well placed to serve the needs of service users with respect to therapeutic PA. The *Exercise Effect* project presents the first pilot of its kind in the Republic of Ireland which seeks to bring HSE services in line with best practice international standards.

1.3 Establishing the *Exercise Effect* Project

The project operating procedures and structures were developed by the project steering group which was formed by the funding applicants and then expanded to include additional clinicians and academics, ensuring a comprehensive team with considerable expertise in this area. The list of steering committee members can be seen in Appendix 1. The steering group worked together to develop and oversee the governance of the project. This included developing the model for the IEP integration into the health services, organising the recruitment and training of the IEP, developing standard operating procedures, the mentorship model and on-going monitoring of the project.

As part of the Sláintecare submission and as this 'new' IEP role represented a deviation from standard posts within existing HSE mental health services, SAW acted as sponsor/host of the IEP mental health. The IEP was recruited and line managed by SAW.

As already eluded to, the most effective approach to PA promotion in mental settings is through a model of integrated practitioner working within a multidisciplinary mental health team delivering routine mental health care (Firth *et al.*, 2015; Lederman *et al.*, 2016; Stubbs *et al.*, 2018; Fibbins *et al.*, 2019). In this regard, the steering group developed procedures that would facilitate this integration. Through specially developed agreements between SAW and HSE mental health services, special access was afforded to the IEP with respect to multidisciplinary working and individual HSE care plans. This agreement was approved through the HSE Mental Health Services Director.

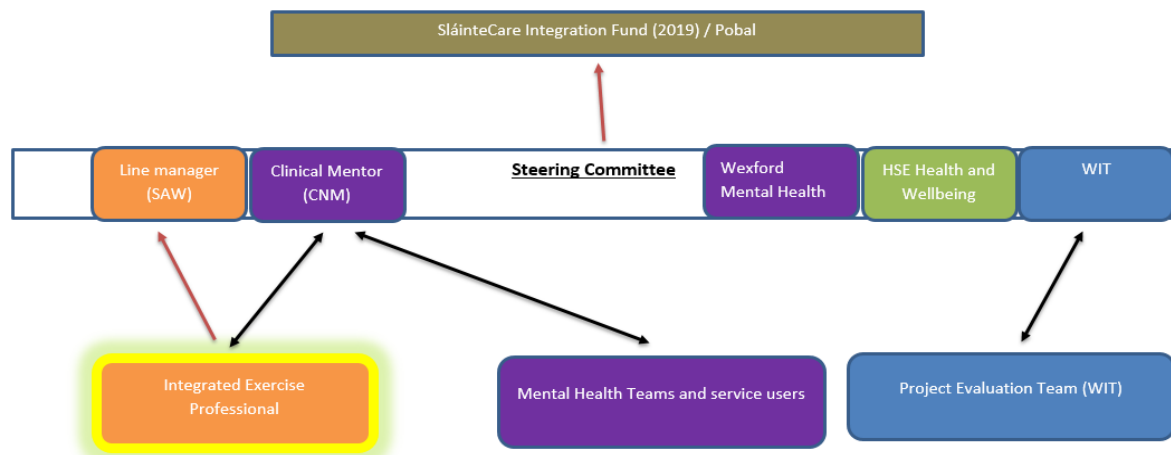
At the outset, the steering committee engaged with the Exercise Professionals in Mental Health Network, a UK based group which brings together physiotherapists and exercise practitioners for shared learning through membership. In doing so, a Job Specification was developed by adapting an existing specification used in the National Health Service, UK.

The standard operating procedures (SOPs) developed included the governance structures, roles and responsibilities, project plan, IEP induction and training, and key performance indicators.

As part of the preparation of the services to integrate the exercise practitioner, representatives from the steering committee also carried out an extensive needs analysis process and information sessions with each of the participating multi-disciplinary teams. This process ensured that all relevant MDTs had an input into the operating procedures of the project and were aware of the project commencement.

It was agreed that the IEP would receive clinical mentorship from a clinical nurse manager. Nurses are well positioned across the mental health field with respect to oversight and management of physical health issues, but also possess in-depth knowledge of service users and their respective diagnoses (Happell, Platania-Phung & Scott, 2011; Happell *et al.*, 2016). The role of the clinical mentor in this project supported the IEP in executing their respective duties. This work included, but was not limited to: liaison and integration support with the relevant mental health teams; training and education on individual care planning; supporting with HSE specific training (e.g. manual handling, fire safety etc.), complaints and grievances; informal education on relevant populations; medical supervision for engaging 'high risk' groups with exercise – as identified by screening; and progress reporting to the steering group.

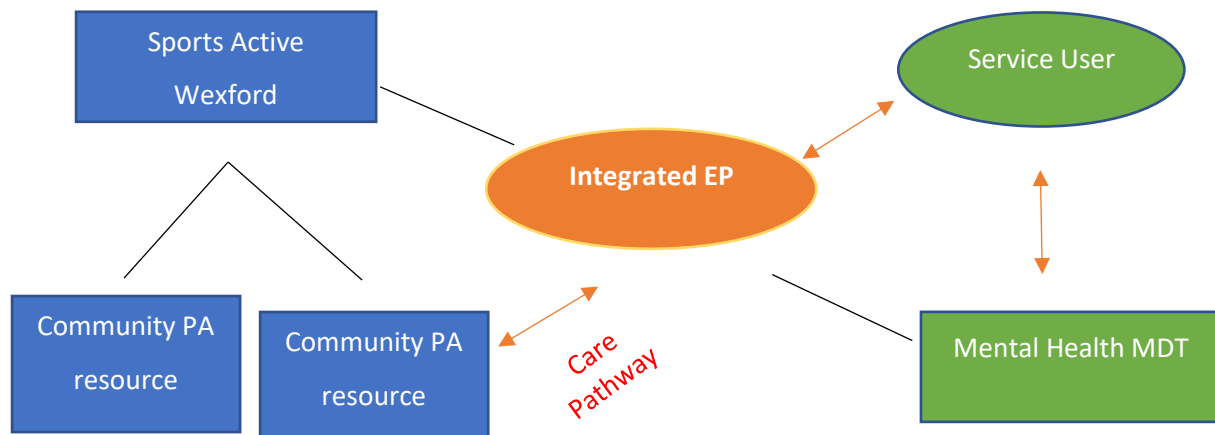
Figure 1.1: The reporting structure within the *Exercise Effect* project



In developing the project model, the *Exercise Effect* project was aligned with the best available evidence in PA implementation in mental health settings. The model developed and adopted was also carefully aligned with the strategy document of SAW (SAW, 2017). In this way, the model established was focused on developing connections with community based PA resources for such marginalised populations where possible.

Additionally, the project steering group worked to develop a model of care that is aligned with the current mental health strategy ‘*Sharing the Vision*’ (Department of Health, 2020) and the National Recovery Framework (Health Service Executive, 2018). In this regard, the work of the IEP was underpinned by social inclusion, which is both supportive of integrated clinical work, but also community focused. Furthermore, the IEP work was recovery focused, recognising transient needs of service users and person-centred working. In this way, the project acknowledged that service users have different needs with respect to PA, exercise or sedentary behaviour. The IEP was tasked to facilitate and support service users around their individual needs during interventions.

Figure 1.2: The model of care for the *Exercise Effect* IEP service



1.4 Implementation of the IEP role during COVID-19

Despite the inconvenience arising from the delays incurred to starting the programme due to the COVID-19 pandemic, the deferral enabled the project management team to ensure that the SOPs and all operational paperwork were in place in advance of the programme including: information and consent procedures; referral, assessment and evaluation forms; risk assessment protocol; promotional material; and research ethics applications.

The time period between recruitment of the IEP and the commencement of the exercise intervention allowed time for the induction of the IEP into the SAW Team/Wexford County Council and attendance at First Aid and safeguarding training, plus the organisation of a launch of the programme. In addition, members of the project steering group attended multi-disciplinary team meetings to explain the new role being introduced into the team, the background to the role and how the role would be operationalised.

The *Exercise Effect* programme beneficiaries were individuals from County Wexford who were current service users of outpatient mental health services. There is no inpatient mental health service located in this area, and as such, inpatients were not included in the *Exercise Effect Project*. As the resourcing of the project allowed for one full time equivalent IEP to be employed, a decision was taken to limit the resource across beneficiaries that were served by the multidisciplinary teams in South of Wexford geographically. These were:

- Children up to 18 years old suffering with mental health difficulties under the care of the South County Wexford Child and Adolescent Mental Health (CAMHS) Team
- Adults with mental health difficulties under the care of two Community Adult Mental Health Teams based in the South of the county – CMHT 1 and CMHT 2
- Two Specialised mental health teams –
 - Individuals who present with mental health difficulty onset after the age of 65 living in the community and those in residential care in Mental Health Commission Approved Centre, who require specialised residential mental health support under the care of the Wexford Psychiatry of Later Life Team
 - Individuals who have severe and enduring mental health difficulties who require specialised rehabilitation, residential care and assertive outreach care provided by the Wexford Rehabilitation and Recovery Team. Rehabilitation and recovery services provide specialist treatment for outpatients with severe and enduring mental illness who also have complex needs (Lavelle *et al.*, 2007).

Table 1.1 below shows the preliminary projections in terms of total numbers to be accommodated during the course of the intervention, using the original approach. It was initially envisaged the IEP would work with the service users, supporting them to link to community activities and exercise resources such as exercise groups or gyms.

Table 1.1: Original grant application details of target group:

Sector of Wexford Mental Health Services	Time Allocation 1 WTE 37 Hrs	Potential Activity	Potential Caseload Numbers
Adult Mental Health Services 4 Adult Community Mental Health Centres Wexford, New Ross, Gorey, Enniscorthy	2 days per week 14hrs	Weekly clinic ½ day Exercise Practitioner clinics x4 Community Group Intervention x1 May alternate location to provide opportunity for access	Total of 20 (5 service users per clinic x4) 10-15 service users per group
Rehabilitation and Recovery Services Tus Nua High Support Hostel KTAC – Training and Activation Centre	1 day per week 7 hrs	Weekly clinic ½ day Exercise Practitioner clinics x1 Community Group Intervention x1	Total of 4 (4 service users per clinic) 10-15 service users per group
Older Adult Services Selskar Unit Old Age Community Team	1 day per week 7 hrs for 6 months of the pilot (alternating with CAMHS)	Weekly clinic ½ day Exercise Practitioner clinics x1 Community/Inpatient Group Intervention x1	Total of 4 (4 service users per clinic) 10-15 service users per group
North and South Wexford Child and Adolescent Mental Health Service	1 day per week 7 hrs for 6 months of the pilot (alternating with Older Adult Services)	Weekly clinic ½ day Exercise Practitioner clinics x Community Group Intervention x1	Total of 4 (4 service users per clinic) 10-15 service users per group

As part of the original grant application for the *Exercise Effect* project, and in the original project design agreed with steering group, it was intended that the IEP would provide a PA service to meet the needs of service users through one-to one intervention, small group work and exercise classes. It was envisaged this would be achieved through weekly exercise practitioner clinics in the mental health facilities and linking out to community exercise facilities and groups. However, restrictions imposed because of COVID-19 meant that group activities or activities that involved meeting service users indoors were no longer permitted and so an alternative to the exercise clinics was required. The steering group, in collaboration with the IEP, agreed an alternative delivery model, and several significant adaptations to the model of intervention were put in place.

In this adapted delivery model, the IEP travelled to each individual service user participant to meet them in community outdoor facilities close to participants' homes and delivered weekly individual exercise sessions for a period of 8 weeks per participant. This replaced the planned delivery of weekly sessions at exercise clinics in the mental health facilities for the duration of the project. It was also decided to divide the intervention into blocks of 8 weeks, rather than to continue seeing the same participants weekly for the duration of the entire project. It was felt that 8 weeks allowed sufficient time for service users to experience an exercise benefit whilst also allowing the maximum number of service users access the IEP service. Due to the increased time demand of the adapted model (with no clinics and no group work permitted), it was felt by the steering group that the IEP could manage a maximum caseload of 16 participants per week safely. Therefore, by taking on a caseload of 16 participants for each of the 8-week blocks, the IEP could facilitate the maximum number of service users, whilst adhering to COVID-19 restrictions, rather than having one caseload for the duration of the project.

The exercise intervention consisted of participants being invited to attend eight exercise sessions with the IEP, along with a prescribed home exercise programme over the course of an 8-week intervention block. In addition to delivering exercise sessions with the participants, the IEP also completed phone check-ins each week to monitor service user progress and provide motivational support. The nature of the COVID-19 restrictions varied according to the severity of the pandemic outbreak at a given time. As a consequence, adaptations to intervention Blocks 3 and 4 were required because face-to-face exercise sessions were not permitted. These exercise sessions were delivered using tele-health which consisted of participants being invited to virtually attend eight exercise sessions with the IEP over the 8-week block via telephone or video conferencing, along with their individually tailored home exercise programme, often accompanied by a video or audio exercise session to follow. The IEP also completed

phone check-ins with participants each week, during all blocks, to monitor progress during weekly exercise plans.

One of the primary goals of the project, community integration through PA, was impacted due to COVID-19 restrictions. Programmes to which service users were to be directed on completion of the 8-week intervention were no longer available and community settings, such as gyms, were unavailable for use during the exercise intervention blocks delivered by the IEP. However, the IEP programme facilitated community engagement using as many outdoor facilities as possible and through partnership with the existing SAW virtual programmes available to the local community.

Beginning on June 8th 2020, the IEP welcomed referrals from the 5 services within the South Wexford Mental Health Service for Block 1. Following participant referral from members of the mental health teams, an assessment and consent session was conducted by the IEP. The assessment included the collection of socio-demographic information, assessment of PA levels and participant mental and physical health status.

Following assessments, the IEP decided whether the participant was eligible to commence the intervention, based on their assessed risk and medical conditions. If they were eligible to participate, they were invited to take part in the 8-week exercise programme intervention.

In total, there was 4 x 8-week blocks which were delivered as follows:

- Block 1- July 6th- September 11th 2020
- Block 2- October 12th- December 4th 2020
- Block 3-January 4th -February 26th 2021
- Block 4- March 22nd May 14th 2021

The IEP worked on an individual basis with each of the participants and prescribed an exercise programme based on the individual goals, fitness levels and preferences of each of these participants. This meant that the exercise programmes ranged from light intensity aerobic exercise (e.g., walking programmes) to more moderate and high intensity aerobic exercise where agreed and tolerable to the service user (e.g. jogging and sprinting programmes). Programmes also included basic mobility, pilates, yoga, flexibility and resistance type exercises. Some service users opted to engage in supported High Intensity Interval Training (HIIT), which included exercises performed for short periods of time at a near maximum capacity.

1.5 Conclusion

This chapter described the background to the *Exercise Effect* project. The international literature clearly identifies the key role such an IEP can play within mental health services. The *Exercise Effect* developed a model for the introduction of an IEP into the Wexford Mental Health Services including the service level agreement between the HSE and SAW, the required operating procedures, recruitment of the IEP and a model for clinical mentorship. The following chapter describes the research methodology used to evaluate the *Exercise Effect* Project.

CHAPTER 2. RESEARCH PROJECT METHODOLOGY

2. Introduction

This chapter provides an overview of the methodology used to undertake this evaluation study. The study aims and objectives are outlined, in addition to an overview of the research design. Data collection and analysis methods are detailed and ethical considerations are discussed.

2.1 Research aim and objectives

The aim of this research was to carry out an evaluation of the *Exercise Effect* project (see section 1.4 for a full description of the *Exercise Effect* project, which involved the integration of an exercise practitioner, employed by a Sport Partnership, into mental health services).

The research objectives included:

- To examine participant outcomes from the IEP intervention including physical activity levels, mental health and quality of life outcomes.
- To examine stakeholders' views of the *Exercise Effect* project with respect to implementation.
- To make recommendations for the future roll out of such IEP - projects in Irish mental health contexts.

2.2 Research design

To carry out this research evaluation, the widely used Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) framework was used to guide a mixed methods inquiry. The RE-AIM framework is a complete, global instrument for identifying individual and organisational characteristics of health interventions (Glasgow *et al.*, 1999) and is one of the most frequently applied implementation frameworks.

The RE-AIM dimensions refer to: reach (R); effectiveness (E), which includes both individual (i.e., those who are intended to benefit), and organisational levels; adoption (A); implementation (I); and maintenance (M), which focuses on the individual, staff and setting levels.

Reach: WHO was intended to benefit and who actually participated or was exposed to the intervention?

Effectiveness: WHAT were the most important benefits you were trying to achieve. What was achieved and what was not achieved? Any unexpected outcomes? Importance or relevance of the outcomes to the context/setting/group?

Adoption: WHERE was the program or policy applied and WHO applied it? Reasons for adoption or non-adoption?

Implementation: HOW consistently was the program or policy delivered, HOW was it adapted, HOW much did it cost, and WHY did the results come about?

Maintenance: WHEN did the initiative become operational; how long was it sustained (Setting level); and how long are the results sustained (Individual level)?

Adapted from Glasgow et al. 1999

Throughout this project, data was gathered from a range of sources, including referral information, service user assessments, ongoing progress notes, and individual interviews and focus groups with key stakeholders. This comprehensive approach to inquiry ensured a diverse and in-depth examination of project implementation processes and outcomes.

2.3 Data collection methods

Data collection methods included a range of quantitative and qualitative data collection tools including IEP activity records, service user assessment questionnaires, individual interviews and focus groups.

2.3.1 Quantitative Data

The quantitative data came from the IEP activity records, service user referral forms, service user assessment questionnaires administered prior to and on completion of the intervention, and IEP progress notes.

The IEP records included measures of IEP activity; the numbers of service users referred; the source of referrals; the number of participants maintained on waiting list; the numbers that engaged with the IEP intervention for pre- assessment; the number of contacts with service user participants, the numbers that declined the IEP intervention; the number of PA interventions provided as planned; the

number and nature of PA sessions modified due to COVID-19 ; the service user intervention adherence levels; IEP case records including progress notes detailing the service users' goals set and achieved; the number of IEP contacts with family and carers of service users; and IEP engagements with mental health professionals, including the number of multidisciplinary team meetings attended. Additional data included service user demographic and clinical information provided by the referrer where consent was given to do so.

Physical activity and sedentary behaviour levels were assessed using the Simple Physical Activity Questionnaire (SIMPAQ) 7-day recall Tool (Rosenbaum *et al.* 2020). This tool uses an interview format to estimate time in bed, sedentary time, structured exercise participation, and incidental or non-structured PA. The SIMPAQ tool also provides an estimate of moderate to vigorous physical activity (MVPA). This tool was specifically designed and validated for measuring PA in mental health populations (see Appendix 2). Information on PA levels each week was also recorded by the IEP in the progress notes for each participant. These progress notes documented the type of exercise being delivered by the IEP and the nature of activity being undertaken by the service user outside of their interaction with the IEP, including the amount of MVPA minutes per week.

The SF-12 (see Appendix 3) is a 12 item self-reported outcome measure assessing the impact of health on an individual's everyday life and was used in this study as a quality-of-life measure (Jenkinson *et al.* 1997). The tool assesses physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health. Each health domain score contributes to the Physical Component Summary (PCS) and Mental Component Summary (MCS) scores. On these scales, a score below 50 would be considered to be below average, based on the average adult population. Other measures can be derived from SF-12v2 data, including the SF-6D[®] preference-based utility index, where utility scores range from 0 (extremely poor health) to 1 (perfect health).

The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) (Lovibond & Lovibond, 1995) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress (see Appendix 4). Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic nonspecific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items.

For the CAMHS service users, separate measurement tools that have been validated for child populations were used. The PAQ-C and PAQ-A (Kowalski *et al.*, 2004) has been specifically developed to assess general levels of PA in children aged 8 to 14 years of age and can be completed by the child or their parents (see Appendix 5). It has been proven to have relatively strong correlation coefficients with other PA measures compared to other recall measures and has demonstrated good reliability and validity within this population (Kowalski, Crocker, & Faulkner, 1997; Kowalski, Crocker, & Kowalski, 1997). The PAQ-C derives an activity summary score based on self-reported PA and sports participation over the past 7 days. A score of 1 indicates low level of PA, whereas a score of 5 indicates high level of PA. While the PAQ-C does not provide an estimate of caloric expenditure or specific frequency, time, and intensity information on PA minutes achieved per week, the weekly progress notes detailed by the IEP during the 8-week exercise intervention were also used to provide a reliable estimation of the amount of MVPA minutes per week.

The Me and My Feelings Questionnaire (Deighton *et al.* 2013) was also specifically developed as a measure of mental health for children from 8 years of age (see Appendix 6). It has been evaluated to show good reliability and validity within this population (Deighton *et al.* 2013; Patalay, Deighton, Fonagy, Vostanis, & Wolpert, 2014). The tool covers two broad domains: emotional difficulties and behavioural difficulties and provides an overall score. Deighton *et al.* (2013) established cut-offs using the Strengths and Difficulties Questionnaire (SDQ), as follows: for the Emotional Difficulties Subscale, scores of 10 and 11 indicate borderline difficulties, and scores of 12 and above indicate clinically significant difficulties; for the Behavioural Difficulties Subscale, scores of 6 indicate borderline difficulties, and scores of 7 and above indicate clinically significant difficulties.

The IEP also undertook an assessment including the PAR-Q and specific questions were also developed that assessed participants goals and motivation levels with respect to their engagement in the project (see Appendix 7).

The financial evaluation of the programme was undertaken with respect to measuring and tracking the cost of programme establishment, taking in to account staff time and resources required to deliver the IEP project. This included consideration of costs incurred by SAW in relation to the IEP role and the costs associated with the steering group and clinical mentor.

2.3.2 Qualitative data

A range of qualitative data was collected from the progress notes maintained by the IEP on the service users during the intervention. Additionally, individual interviews were undertaken with service users and the parents / guardians of CAMHS service users. Focus groups were conducted with mental health teams, and individual interviews with steering group members.

Progress notes were completed weekly by the IEP following each intervention contact with the service user participants. These notes captured the IEP's view of the service users level of adherence to the goals set and the exercise plan developed and the IEP and service users views of how the exercise plan was progressing. The individual interviews with the service users/ parents/ guardians of CAMHS service users were based on a topic guide structured by the RE-AIM framework (Holtrop *et al.*, 2018) (see Appendix 8) and these were conducted by the research team following completion of the intervention. The topic guide for the focus groups with the mental health service teams were also structured using the RE -AIM framework (see Appendix 9). These focus groups were held with all the mental health teams that had engaged with the IEP and took place before and towards completion of the *Exercise Effect* project. The IEP took part in an individual interview (see Appendix 10 for topic guide), and the project steering group members took part in either an interview or questionnaire framed by the same the topic guide (see Appendix 11).

2.4 Population and participants

Participants in the research included mental health service users who undertook one of the 8-week block interventions with the IEP, health professionals from the HSE mental health services and SAW staff.

The service user sample included:

- Children up to 18 years old suffering with mental health difficulties under the care of the South County Wexford Child and Adolescent Mental Health Team
- Adults with Mental Health difficulties under the care of two Community Adult Mental Health Teams based in the South of the county – Summerhill (Wexford) and Maryville (New Ross)
- Adults with mental health difficulty onset after the age of 65 living in the community and those in residential care in a Mental Health Commission Approved Centre under the care of the Wexford Psychiatry of Later Life Team

- Adults who have severe and enduring mental health difficulties who require specialised rehabilitation, residential care and assertive outreach care provided by the Wexford Rehabilitation and Recovery Team

Service users referred by a service provider were invited to take part in the IEP intervention, complete assessments with the IEP and were also invited to undertake an interview with the research team.

Whilst 56 participants in total took part in the IEP intervention, not all of the participants' data was used for the purpose of this research evaluation. The reasons for this were as follows:

- Participants not completing the 8 week intervention, due to illness, personal choice and COVID-19 restrictions
- Participants choosing not to complete the post assessment due to personal reasons, ill-health or inability to be contacted

In total, 37 out of the 56 participants pre and post intervention assessment data was used for this evaluation. See the table 2.1 below for a breakdown of this sample:

Table 2.1: Service user research sample

Mental Health Service	Number of Service Users who <u>commenced</u> intervention	Number of Service Users who <u>completed</u> intervention	Number of Service Users involved in <u>research evaluation</u> quantitative data	Number of Service users/ Parents involved in qualitative interviews
CMHT 1	11	10	8	2
CMHT 2	15	10	9	0
Rehab and Recovery	10	8	7	2
Psychiatry of Later Life	4	3	2	0
CAMHS	16	15	11	3
Total Adults	40	31	26	4
Total Children (Parents)	16	15	11	3
Total Participants	56	46	37	7

Service users from all blocks were invited to participate in individual telephone interviews and four adult service users agreed. Parents of CAMHS service users who had undertaken the 8-week intervention with the IEP were also invited to take part in an interview with the research team. Three agreed to this and were interviewed via telephone call.

Mental health professionals from the above services were invited to attend focus groups with the research team prior to and towards the completion of the *Exercise Effect* project. Nineteen participants attended focus groups (n=5) which were held online via Zoom. The IEP was also interviewed. In addition, the research team collected data from the project steering group members from SAW and the HSE. This was facilitated either by a Zoom interview (1 x interview) or written responses (n=4), whichever means best suited the participant.

2.5 Ethics

Ethical approval for the multi-component evaluation was sought and obtained from the Regional Research Ethics Committee of the HSE, and Waterford Institute of Technology. All data gathered by the IEP in their delivery of interventions, routine service user monitoring and shared with the research team, in addition to data gathered by the WIT research team, were subject to scrutiny for collection and data management. In this regard, the process of data collection (e.g., consent and anonymity), storage (data transfer and security) and use (analysis, GDPR compliance), in addition to considerations of participant and project team safety were prioritised and considered extensively.

For the service user, the quantitative data from the referral form and assessment form, together with the qualitative data from the progress notes, were shared with the research team. De-identification procedures were followed to ensure that all data received by the research team was coded and anonymised. The IEP coded all information received from participants as part of the routine assessment form and removed all personally identifiable information from the forms before sharing them with the research team. The research team did not have access to the code or to any personally identifiable information regarding the research participants.

At the point of initial assessment with the IEP, service users were informed of the opportunity to engage with the research evaluation being carried out by WIT. Participants were provided with the Research Information Sheet (see Appendix 12). Following this, eligible participants were asked to provide informed consent for individual interviews by completing the Informed Consent Forms, if they wished to be interviewed by the research team (see Appendix 13).

For CAMHS service users, information on the research project was provided to the parent/ guardian of the service user via the Research Information Sheet (see Appendix 11). If the parent/ guardian was interested in taking part in the individual interview with research team, the parent/ guardian signed the informed consent form (see Appendix 13) and returned same to the research team.

For MDT members, IEP and SAW staff, research information sheets were provided (see Appendix 12) and those interested in participating in the qualitative data collection (focus groups/ individual interviews) were asked to return completed consent forms (see Appendix 13).

2.6 Recruitment process

Section 1.4 detailed how the *Exercise Effect* project was undertaken. This included steps taken to raise awareness of this new resource for the mental health services through information sessions with the participating MDTs.

Recruitment of the service users came through MDT service provider referral to the IEP. The mental health professionals discussed the IEP service with mental health service users who they felt would benefit from the service. If the service user was willing, a referral was made to the IEP via a participant referral form. Upon engagement with the IEP for therapeutic intervention, the IEP gave the research information to the service users to make them aware of the ongoing research component to the project. All were informed of the invitation to be interviewed by the research team, were provided with the information sheet and consent form, and asked to contact the research team if they were willing to be interviewed.

2.7 Data analysis

Quantitative data was inputted into IBM SPSS v.25 and was analysed using descriptive statistics. The SF12 data was also analysed using software available from Quality Metrics to ascertain the SF-6D® preference-based utility index.

All qualitative data was managed using data analysis software (NVivo). Data was subject to thematic analysis (Braun and Clarke, 2006) to explore issues of importance and common themes with respect to the project's reach, effectiveness, adoption, implementation and maintenance.

2.8 Impact of COVID-19 on methodology

As this *Exercise Effect* project intervention commenced in June 2020, it was impacted by COVID-19 restrictions. As discussed in Section 1.4, the IEP interventions had to be adapted considerably to continue to deliver the project in line with national COVID-19 restrictions. Similarly, the research methodology had to be adapted due to COVID-19. For example, it had been planned to do individual interviews face to face with service users/ parents / guardians of CAMHS users, and instead, these interviews had to be conducted over the telephone/ Zoom. Similarly, the focus groups with mental health professionals following the *Exercise Effect* project had to be undertaken via Zoom. It was intended that cardio-respiratory fitness of service users taking part in the exercise interventions would be measured by the IEP, using objective measures of validated field fitness tests, and that any changes in VO2 max could be calculated. This was not feasible during COVID-19 restrictions.

Due to restrictions in place, achieving community integration during this project also proved difficult. The original project plan would have utilised the connections through the SAW partnership to gradually integrate the exercise sessions into community settings, clubs and groups, and the research would have examined this community integration. However, due to COVID-19, no gyms, leisure centres, sports clubs or exercise group classes were open, and hence the research could not examine the *Exercise Effect* project interactions with such facilities.

CHAPTER 3 FINDINGS

3. Introduction

Chapter 1 detailed the background and implementation of the *Exercise Effect* project. Chapter 2 detailed the methodology used to evaluate the *Exercise Effect* Project. This chapter explores the findings from the evaluation of the project and utilises a comprehensive and robust approach to monitoring progress against the agreed milestones.

As detailed in chapter 2, both quantitative and qualitative data was gathered as part of the research evaluation. In addition to quantitative outcomes from individual participants measured at the pre and post stage of intervention (n=37), the WIT research team carried out an extensive post-programme qualitative evaluation of outcomes that may not be captured from structured assessment tools. To structure this inquiry, the RE-AIM Framework (Holtrop *et al.*, 2018) was utilised. In carrying out this qualitative inquiry, one to one semi structured interviews were conducted with adult service user participants (n=4) and guardians of participants in the case of CAMHS (n=3). In addition, mental health team members involved in the project (n=18) participated in semi-structured focus groups (n=5) framed by RE-AIM. Furthermore, the project IEP, and steering group members (n=5) participated in either a semi-structured interview or survey questionnaire using the RE-AIM framework.

The following sections present the findings of the project evaluation under the five dimensions of the RE-AIM evaluation framework.

3.1 Reach

The Reach dimension of the RE-AIM framework assesses the percentage of people from the target population who participated in the programme, describes their characteristics and considers factors that may have contributed to the participation or non-participation of the target audience (Holtrop *et al.* 2018; Sweet *et al.* 2014). However, being a pilot project with a limited resource (one full time equivalent IEP), and furthermore, the short duration of the project where COVID-19 restrictions inherently shaped the nature of intervention provided, the true nature of the potential reach of the project versus those who were reached during the pandemic could not be explored. Nonetheless, it was possible to determine the extent to which the *Exercise Effect* intervention achieved full capacity within the restrictions in terms of participant numbers and their completion history. It was also possible to obtain a profile of participants and the extent to which they were representative of the broader population of those attending specialist mental health services in South County Wexford.

For the purposes of this report, the following questions were explored under the Reach dimension:

1. What are the numbers of those who engaged in the IEP Programme?
2. Did we reach the target populations, as envisaged by the mental health teams?
3. Who was missed and why?
4. What are the characteristics of those who engaged with the IEP?

The responses to these questions are discussed below.

3.1.1 Numbers who were referred/ engaged in the project

This question is answered as follows: the numbers referred to the IEP for assessment; the numbers of referrals eligible to take part in the programme; the numbers who commenced the intervention; the numbers who completed the intervention; and finally, the numbers on a waiting list for assessment post completion date of the research programme. This data gathered is summarised and presented in Figure 3.1 and Table 3.1 below.

Figure 3.1: Number of service users from referral to intervention completion

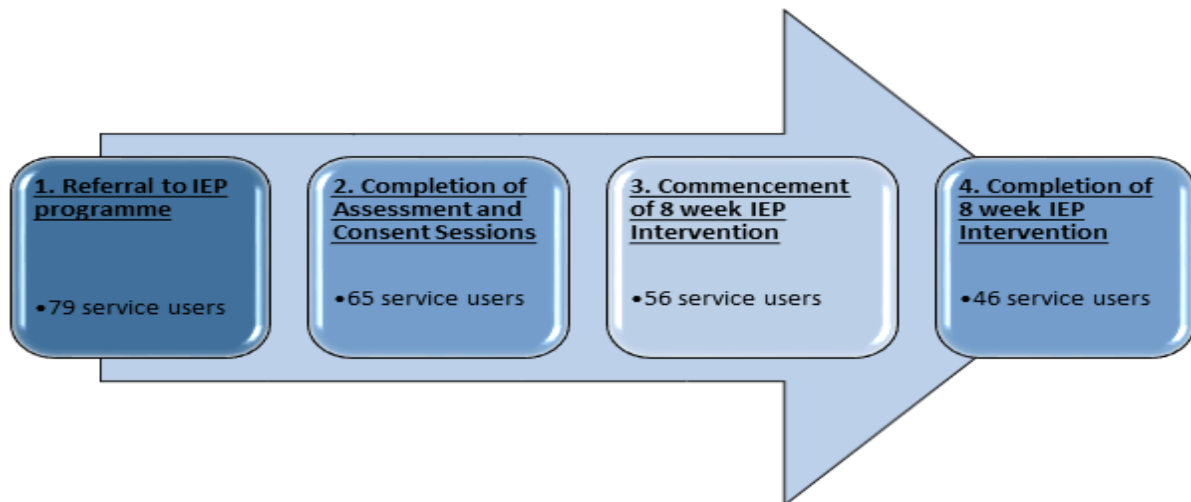


Table 3.1: Breakdown by service of referral to assessment and programme commencement

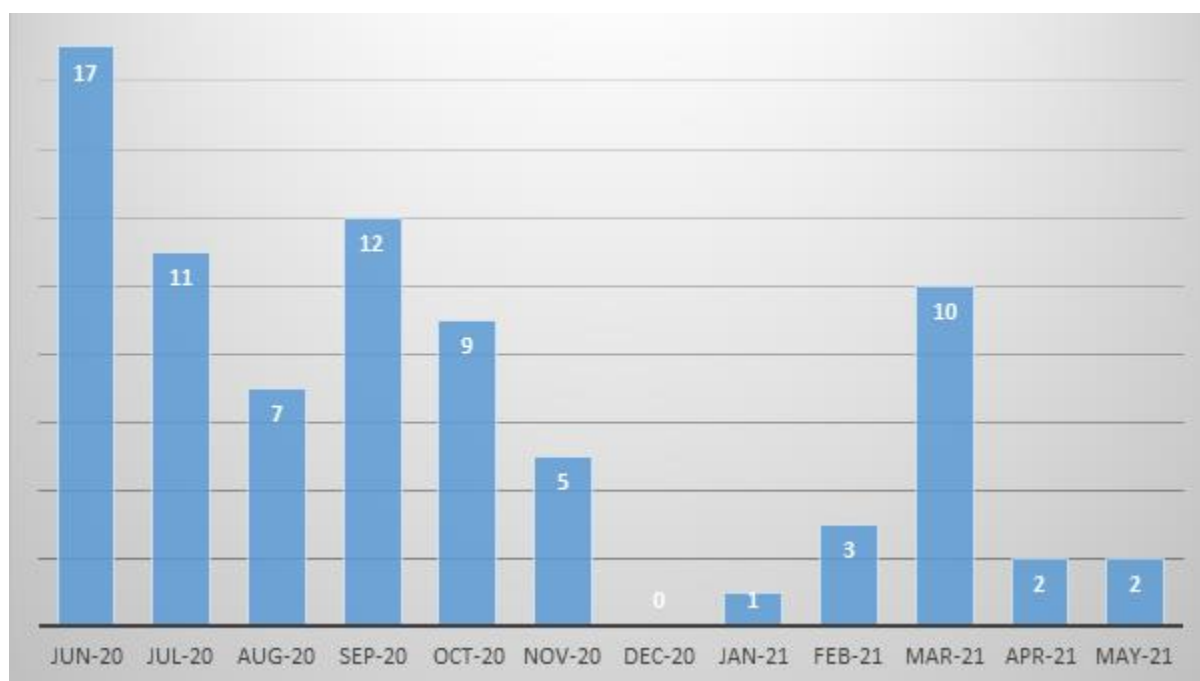
	Referred	Completed Assessment Protocols	Commenced Intervention ^a	Completed 8 weeks of Intervention	On waiting list for return of IEP Programme
CMHT 1	13	11	11	10	2
CMHT 2	18	18	15	10	0
Rehabilitation and Recovery	17	10	10	8	7
Psychiatry of Later Life	13	9	4	3	4
CAMHS	18	17	16	15	1
Total Adults	61	48	40	31	13
Total Participants	79	65	56	46	14

The reasons for the service users who were referred not commencing intervention included-

- 3 service users deemed not eligible for the programme due to physical health concerns
- 6 service users from Psychiatry of Later Life unable to participate due to COVID-19 restrictions at the point of intervention.
- 1 service user too mentally unwell to take part (as determined by clinician).
- 1 service users discharged before they could be accommodated on the programme.

There were 79 referrals from the mental health services to the IEP programme. The received referrals were dispersed over the 12-month duration of the intervention as detailed in Figure 3.2.

Figure 3.2: Number of service user referrals per month



These referrals have been divided between the five South Wexford Mental Health services as in Table 3.2.

Table 3.2: Participant referrals and participation from each service

Mental Health Service	Number Referred	% of Total Referred	Number of participants
CMHT 1	13	16	11
CMHT 2	18	23	15
Rehabilitation and Recovery	17	22	10
Psychiatry of Later Life	13	16	4
CAMHS South Wexford	18	23	16
Total Participant Referrals	79	100	

The revised *Exercise Effect* model allowed for the IEP to have a maximum potential caseload of sixteen service users per exercise block. The table below illustrates the active caseload for each block.

Table 3.3: The active caseload for the IEP for each block of the programme

Mental Health Service	1:1 Caseload Block 1	1:1 Caseload Block 2	1:1Caseload Block 3	1:1 Caseload Block 4
CMHT 1	2	4	2	3
CMHT 2	3	4	4	4
Rehabilitation and Recovery	2	2	5	1
Psychiatry of Later Life	3	1	0	0
CAMHS South Wexford	4	2	5	5
Total participants	14	12	16	13

The average caseload per week for each of the 4 blocks was approximately 14 service users; this was lower than the initial planned caseload of 16, and occurred as a result of participant drop-out following recruitment. This primarily occurred because of acute relapse of mental health condition (unrelated therefore to the intervention).

3.1.2 Target population reached

In the original model as detailed in Chapter 1, the total potential caseload at any given week was approximately 28 individual service user clinic appointments. The total potential caseload for group intervention was approximately 45 attendees weekly across 3 group initiatives running in any given week. Under the original plan therefore, the caseload throughput would have allowed for more service users to access the intervention. However, the target number of 45 participants for the group interventions could not be met due to COVID-19 restrictions. In total, 56 participants took part in the IEP programme as outlined above (Table 3.3). This exceeded the target number of participants which the original programme planned to engage on an individual basis. However, rather than these service users taking part in weekly sessions for the duration of the project, they each took part in an 8-week exercise intervention.

Table 3.4 provides a breakdown of the intended target number of participants per mental health team for individual sessions compared to the number accommodated in the revised model. No group interventions could take place due to COVID-19.

Table 3.4: Intended target number of participants per mental health team Vs actual number of participants who engaged in the individual IEP programme

Mental Health Service	Target Number of individual participants	Actual number of individual participants that engaged	Target number of participants in group sessions	Actual Number of participants in group sessions
Adult Mental Health Services (Maryville and Summerhill)	16	26	15	0
Rehabilitation and Recovery Services	4	10	10	0
Older Adult Services	4	4	10	0
Child and Adolescent Mental Health Service	4	16	10	0
Total	28	56	45	0

During the peak initial wave of the COVID-19 pandemic, when users of mental health services would not have had access to the majority, or possibly any, of their usual planned therapeutic or recreational interventions, this project's ability to reach 56 individuals accessing specialist mental health services, to engage in 8 weeks of individualised exercise intervention, is an output which must be seen to have a meaningful value. The service and intervention they received was seen to be very valuable by both service users and service providers. One service provider noted the value of the programme:

"The people we work with, they're almost the most restricted people in society at the moment because they're all in community settings and have had very little intervention, so having somebody to provide dedicated support for a period to people who are really isolated and really restricted".

The value and benefits of the intervention will be discussed further in the section of this chapter that deals with 'Effectiveness' (see section 3.2) as per the RE-AIM framework.

3.1.3. Examining target populations missed

An even dispersal of referrals to the programme among the different services was received but due to COVID-19 restrictions, those from 'Psychiatry for Later Life' services were unable to participate to the same extent as those from the other adult mental health services and CAMHS.

The CAMHS team had the highest number of service users who participated in and completed the 8-week IEP intervention. Although not explored as part of the evaluation, one possible explanation is the change to a tele-health intervention for Block 3 and 4 due to COVID-19 restrictions at the time. This was alluded to by a service provider, claiming that such an approach can be effective with the CAMHS age group (8-17 years).

In terms of how the programme reached those who need it, information gathered from the focus groups indicated that the referral process itself may have had an impact on referrals and by association, reach. While there were service providers who felt that the process was straightforward and worked well, others found the process unnecessary and against their teams normal working procedures. The current mode of referral utilised for the intervention was a short form containing 'tick the boxes' and 'short answer' questions which would be collected by the IEP. However, the multi-disciplinary teams involved in this project refer service users and devise care plans through team discussions and so, for some, the form appeared unnecessary and burdensome. A service providers experience of this issue is discussed in the below quote.

"We do all our referrals on our team really through discussion and through team meetings, so the form is just a formality for me".

Although discussion was the preferred method of referral by many MDTs, it was recognised that the unusual circumstances created by COVID-19 precluded this approach, as the IEP could not be physically present during MDT meetings. The paperwork seemed for some people to be a barrier, making mental health professionals reluctant to refer. A small number of the service providers felt that the referral process was used in an 'ad hoc' fashion and that the formality of the process was at odds with the normal interventional referrals in their service. One participant from this MDT stated;

"Some people that just wouldn't be bothered going and doing the paperwork required for a referral".

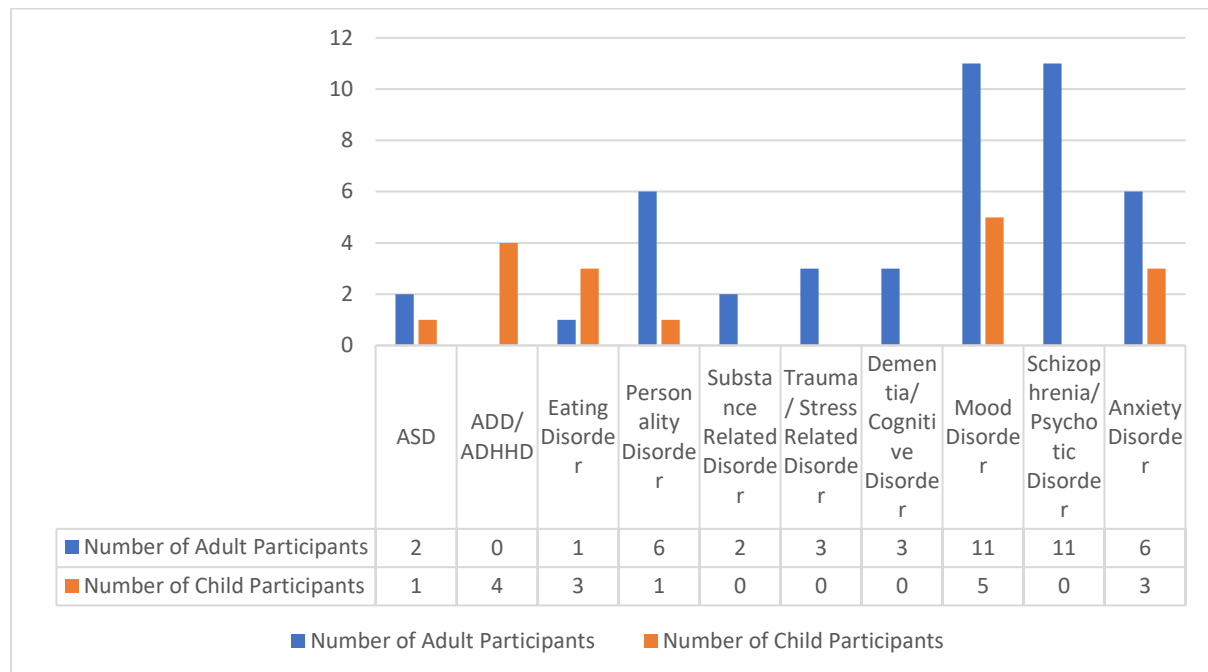
Several mental health professionals felt that if the IEP was physically present during the team meeting where care plans are discussed, referrals would occur organically. However, COVID-19 restrictions imposed during the intervention did not allow for this physical presence to be realised. The impact of such restrictions is explored further in this chapter where 'Adoption' is examined (See section 3.3.3).

3.1.4 Characteristics of service user

The research examined the characteristics of service users who took part in the intervention. Figure 3.3 demonstrates the diversity of mental health diagnosis of service users that engaged with the IEP,

as detailed on the clinician referral form. The mean duration of attendance of adults with the mental health services was 7.61 years, while the mean duration of attendance with the CAMHS was 1.5 years.

Figure 3.3: Mental health profile of participants



Participant characteristics presented in Table 3.5 and Table 3.6 are: age, gender, marital status, education level, employment status, mental health diagnosis and medical history, number of years attending the relevant mental health service and health related behaviours.

Table 3.5: Socio-demographic characteristics of participants

Variable	Adult	CAMHS
Age		
Adult Mean Age	41.45 (23-83) ?	12.71 (Range 8-17 years)
Gender		
Male	13	6
Female	16	8
Missing	11	2
Marital Status		
Single	20	N/A
Married	4	
Widowed	2	
Divorced	1	
Co-Habiting	2	
Missing	11	
Education		
Primary	2	4
Secondary	21	10
Further Education	1	
Third Level	4	
Missing	12	2
Employment Status		
Full time	1	
Part time	5	1
Unemployed	17	
Retired	4	
Student	0	13
Missing	12	2

The physical co-morbidities and relevant health behaviours of intervention participants can be seen in Table 3.6. No additional health issues were reported for the CAMHS participants.

Table 3.6: Health and health behaviour profile of participants

	Adults (number)	CAMHS (number)
Diabetes	6	0
High Blood Pressure	6	0
Asthma	3	0
Neck or back pain	2	0
Other muscle pain	1	0
Smoker		
Yes	8	3
No	21	11
E-Cigarette		
Yes	9	3
No	20	11
Alcohol Use		
Yes	19	2
No	10	11

From the data presented on participant characteristics, it is apparent that a good cross-section of participants from the relevant mental health services engaged in the project. It also demonstrates the project and the IEP's capacity to accommodate a diverse group of service user participants within the *Exercise Effect Programme*.

3.2 Effectiveness

The 'Effectiveness' dimension of the RE-AIM framework explores the impact of an intervention, both positive and negative, on programme or service outcomes and can be examined from the perspective of the different stakeholders involved. This section looks at the impact of the IEP project at the levels of both service user and service provider. The questions used to explore the effectiveness of the intervention were:

1. What outcomes were achieved from the intervention?
2. How relevant are the outcomes to the context, setting or group?

In terms of changes or benefits experienced by the two stakeholder groups, a number of key themes emerged from the analysis of the data gathered during the ongoing monitoring and final evaluation of the IEP project. These are presented below and include; improved service delivery (3.2.1); service users' changes in behaviour and knowledge (3.2.2); effect on quality of life (3.2.3); positive psychological outcomes (3.2.4); and increased level of PA (3.2.5).

3.2.1 Improved service delivery

Improved service delivery occurred in three key areas; enhanced MDT team capacity; quality of the service provided to service users; and enhanced interagency partnership and co-operation.

Enhanced multidisciplinary team capacity

Having access to the IEP was important to all multidisciplinary teams, as the staff members viewed physical health as an integral part of their care plan. All participants from MDTs felt that the programme complimented the service already provided and that it was a progression toward a more holistic and comprehensive service. It was evident from the focus groups that service providers were concerned about the service users' physical health and PA levels in addition to their mental wellbeing, but felt they lacked the tools to address such concerns.

"It's now a part of our care plan, that this physical activity side things needs to be looked at, needs to be addressed and to have someone that you can just say, oh, I'll send you a referral there to our integrated exercise practitioner, that makes such a difference".

One service provider expressed the view that when service users enter a service in the future, they should be referred to a professional to address their PA levels. Another service provider indicated the IEP was more knowledgeable in this key area making the role a very important resource for the team. It was felt that the education, training and experience of the IEP provides them with the expertise to prescribe safe, appropriate exercise to fulfil the needs and co-morbidities of each referred individual. This is further qualified by staff feedback which indicated that the IEP role improves the service provided, as it offers expertise and knowledge in an area which the current services are lacking.

"I think automatically when you come into service, you should be automatically referred to someone who is has a knowledge base on physical activity [...] I just think they should be part of a team because physical activity and mental health go hand in hand".

Across all stakeholders, the IEP was perceived to have a role in providing therapeutic options for the physical health of service users with an emphasis on individualised care. One service provider acknowledged that prior to the IEP project, services were limited in the care that they could offer for physical health.

“The big thing that I see from (the IEP) is that....she can provide that one-to-one support to services users that maybe we can’t on a day-to-day basis”.

Service providers were pleased to have a member of staff who had the responsibility of addressing the physical needs of service users. Some staff have become dependent on the service for the role it provides and would be unsure of how this void in the service could be filled if the IEP was not to continue.

“It’s now a part of our care plan,[...]So, in my head, I’m now thinking towards the summer going, ‘God, if (the IEP) is not there, what am I going to do now with this person”.

Enhanced service provided

The *Exercise Effect* project enhanced the service provided to service users in a number of ways. Service users were provided with individualised PA plans developed by a trained IEP, which were tailored to each individual’s needs and circumstances. Prior to the introduction of the IEP, therapeutic PA options were limited to classes in a large group format, delivered by an exercise professional contracted from outside the mental health service. While the merits of this approach to intervention were noted, it was also noted that such an approach was not sufficient to engage all stakeholders. Some service providers noted this point during focus groups.

“Grouped activities are not for everyone you know so (the IEP) provided this lovely little area that was for individual”.

In the focus group conducted with CMHT 1, service providers discussed that in their experience, the exercise groups utilised by their team in the past did not cater for all service users. For a variety of reasons, service users can find a group environment uncomfortable and as such, be unwilling to engage. Furthermore, this focus group found that the individualised structure of the *Exercise Effect* project was perceived by some service providers to offer PA that is more acceptable to service users and therefore believed to be very effective with regard to increasing PA levels of service users.

“Not only are groups not for everyone but I think also having (the IEP) has helped push people to another level of fitness that you know they were going to groups, but this has actually helped bring them forward”.

Both service users and mental health professionals found that the IEP project provided a necessary supplementary therapeutic option for people with mental health problems. Some service providers discussed that the IEP service was different from the medical services provided by the existing MDT and noted the clinical importance of this alternative treatment approach and style. Service providers also noted the importance of broadening the existing MDT. It was further noted that the project was most effective if supported by multiple members of the MDT in terms of driving engagement with the IEP.

“Encouragement from another discipline in the multidisciplinary team was a huge benefit to some of the clients”.

The benefit of this non-traditional therapeutic option was seen to extend to CAMHS. It was the opinion of one parent that traditional talk therapy was inadequate for children of a certain age and that the IEP intervention was an impactful treatment option, where traditional talk therapies had proved ineffective for their child who was a CAMHS service user. This parent believed that this was the case for many service users like her child.

“He got more from the exercises than he did... I think from going to CAMHS, now to be honest with you [...] from my own experience I've two teenagers, I have three kids, sometimes exercise just does the mental health far more than talking to somebody [...] sometimes they don't even know, they can't articulate what's wrong them”.

The *Exercise Effect* project was also perceived to enhance the service offered to the service user due to the inclusive way the service was delivered, ensuring equity of access to PA opportunities to all mental health service users. The IEP served as an integrated member of the MDTs, thus enabling a direct referral pathway to the *Exercise Effect* programme, regardless of the individual's social, economic or environmental circumstances. In this regard, the *Exercise Effect* project was perceived to have improved service delivery by providing professionally supported PA as a treatment option that is available through the mental health services, while embracing a person-centred and community focused ethos for such interventions.

However, for some, the timeframe of the programme was insufficient. Where this was noted, this issue was linked to a reduced effect of the IEP intervention. For instance, one parent of a CAMHS service user expressed the view that trust and rapport building need to be considered within the timeframe of intervention in CAMHS services.

“They are kids that find it hard to build up trust and who struggle with relationships, and that the programme is asking them to build up relationships with someone [...] and then it's gone”.

Reasons for participating

As part of the inquiry into the *Exercise Effect* project effectiveness, an understanding of service users' reasons for participating in the programme was examined. Regarding adult service users, the rationale given for joining the programme was consistent across the interviews conducted. Most participants stated their primary goal was to start or increase exercise, which they felt had decreased during the COVID-19 'lockdown'. In addition, participants engaged with the IEP to address their deteriorating mental health, which was connected to the COVID-19 restrictions by participants. One service user who initially expressed reservations about engaging in an exercise programme, discussed having felt reassured by the IEP from the outset.

“it's not about losing weight [...] it's more about like trying to make yourself feel good just through just moving essentially”.

The rationale for parents of service users was focused on increasing their childrens' activity and re-engagement with services/ community exercise. One parent of a CAMHS service user participant with a diagnosis of depression felt that the programme was successful in engaging CAMHS service users because the nature of intervention deviated from more traditional therapeutic approaches offered by the mental health services.

“She was kind of suspicious of anything [...] she wasn't engaging with psychiatry, she wasn't engaged with social worker and we kind of thought [...] this might kind of break down some barriers and it's something she used to love”.

Other parents of CAMHS service users discussed their hopes that the programme would facilitate the children to re-engage with sports and friends, in addition to the services themselves. One parent also expressed an aspiration for her child to become more active and motivated through the programme, because they had become isolated and inactive during the course of their mental illness.

3.2.2 Services user changes in behaviour and knowledge

Individuals that engaged with the project were shown to develop in two key areas: structure and routine; and education and capacity building.

Structure and routine

From the data analysis, it was evident that this project facilitated service user participants to follow a daily routine, thus adding additional structure to the lives of those who participated. One service provider explained their experience of observing this during one of the MDT focus groups.

“Often people are suffering with their mental health, or not working or not socially very active, there’s a sense of I’m doing nothing and there’s nothing I can do. When they engage with an exercise program and can see and feel results in themselves. I think that kind of positive experience can spill over in lots of different ways”.

Another service provider expressed a similar sentiment in that it gave participants a sense of purpose and accomplishment by completing the exercise session with the IEP. For many the MDT members, it seemed considerable changes were observed over the course of the intervention regarding the routines of involved service users. One service provider noted an example in which a service user who had engaged with the IEP project had subsequently altered other lifestyle behaviours around PA since completing the programme (e.g. adapted a healthier diet and improved sleep patterns).

“They (service user) couldn't get themselves out of bed, and now they're getting up in the morning, going for their morning walk”.

The sentiments about improved routines and structure relating to PA that service providers observed during the intervention were shared among those working in community and residential settings, indicating a transcending benefit across populations.

Education and capacity building

The IEP was shown to provide an intervention that helped a number of service users who had experienced worsening levels of PA and developed unhealthy dietary patterns during their mental illness. In CAMHS, a member of the team noted during a focus group how the IEP worked to modify low levels of PA and deleterious dietary practices among many service users. In one notable example

where an individual was engaging in 'over-exercising' as part of their illness, the IEP provided therapeutic input in relation to education and controlled and safe amounts of PA.

"I wasn't actually expecting the young person that was exercising for three hours a day to reduce down to a healthy level of exercise for that age group. But that actually was the outcome, that young person actually did fully recover".

The success cited in the above example was attributed to the IEP's ability to educate and support individuals on healthy exercise habits, and by communicating in an age-appropriate manner. The service provider that discussed this example also explained that the IEP worked extensively on education, awareness, and behaviour change in collaboration with the service user's multidisciplinary team and clinical mentor.

"The programme helped with reining him in [...] exposing him to different kinds of exercise and teaching him that healthy does not mean looking like a particular physique".

The education and awareness role that the IEP played was most pronounced in CAMHS, where over-exercising and negative exercise behaviours were present among some of the intervention service users. Among adult services, similar phenomena were discussed, but in a different context. For example, one service user discussed that her beliefs prior to the programme centred on exercise as a weight-loss resource, rather than an activity for pleasure and fulfilment. However, this service user discussed a change in their attitude from having taken part in the intervention.

"I thought of exercise as like, a punishment to lose weight, or like because I ate something [...] She (the IEP) taught me that you can do it just because you want to do and you can have fun while doing it, rather than seeing it as like a punishment".

Much of the effectiveness of the programme is reflected in changes in knowledge and awareness that arose from education and support work provided by the IEP. One service provider from a community adult service discussed their experience of changing attitudes towards PA among service users. In her experience, the success of education provided by the IEP was due to the individualised and tailored nature of the interventions provided.

"It was very much based on whatever people's interest were with it, that was walking or jogging or going to the gym or lifting weights and it wasn't to only just lifting weights. The IEP offered a lot of flexibility and a lot of different options services which changed the narrative of exercise from total and utter torture, by demonstrating that physical activity doesn't have to be dull or boring".

Both service user and service providers expressed the view that the IEP increased awareness of the connection between mental health and PA and cardiorespiratory fitness and physical health. Service users that engaged with the project were believed to be more aware that PA was a treatment option for their mental health.

3.2.3. Changes in quality of life

The SF12 tool was used to assess quality of life by using a combined mental health component score and a physical health component score. On these scales, a score below 50 is considered to be below average, based on the average adult population. The data analysis showed that adult project participants increased their mean physical health component score (PCS) from 44 at baseline, to 49 post intervention. Mean mental health component scores (MCS) increased from 44 at baseline, to 48 post intervention.

An overall utility score using this tool was also calculated. Utility scores range from 0 (extremely poor health) to 1 (perfect health). The overall average quality of life utility score for all participants increased from 0.71 at baseline to 0.76 post intervention. With 23 adult participants consenting and included in the analysis, it is estimated that an average change in Quality Adjusted Life Years (QALYs) of 1.15 years ($23 * 0.05$) occurred following completion of the intervention.

Apart from the data collected from the SF12 tool data, other data intrinsic to quality of life is represented under the heading of 'Psychosocial benefits' and 'Physical activity levels'. This data contains both qualitative and quantitative data is presented below:

3.2.4 Psychosocial benefits

Positive psychological outcomes were explored in three key areas; increased motivation toward PA; improved confidence and self-esteem; improved mood.

Increased motivation toward physical activity

Most service providers, including the IEP, service users and parents from CAMHS service users found increased motivation toward PA to be a common outcome from the IEP intervention. This is mostly in reference to service user participants increasing their motivation to be physically active, and becoming open to engaging in new and different types of PA. One service provider discussed that the success of the IEP in increasing motivation to PA among service users was the capacity of the IEP to work intensively and one-to-one with service users.

“Working on one-to-one with (the service users), it boosts their confidence... and makes them more motivated”.

Similarly, service users and parents of CAMHS service users reported experiencing significant increases in their motivation for PA as a result of the programme. Some parents of CAMHS service users felt the programme was able to motivate their child and help them get out of the ‘negative spiral’ characterised by low levels of PA, which, in part, was exacerbated by lockdown. For one adult service user, the intervention first helped her regain the motivation she once had for PA and then further increased her motivation towards PA to new level.

“I didn't realise how motivated I would have been at the end of the programme, like I was really buzzing at the end of it”.

Improved confidence and self-esteem

Feedback from both service providers and service users indicated that the programme improved confidence and self-esteem among service user participants. According to one service provider, this came about as a result of slowly reintroducing service users to exercise in a graded manner, and as such, demonstrating to them that they were capable of doing exercise through incremental dosing.

“They're (service user) like ‘I'm not fit, I can't do exercise’ [...] but it's really just building up the confidence and being like, ‘you are able to exercise’, and there is exercise available to everybody”.

The service providers perception for some of the participants was that the programme increased global confidence and self-esteem at a time when many service users had become isolated and withdrawn. In this regard, the intervention was seen to improve mood states among many who engaged with the IEP.

“Their mood has markedly increased their confidence, their self-esteem, [...] their confidence was very down, very withdrawn and isolated, and now to actually introduce somebody and kind of give them a little bit of hope”.

In POLL, the improvements in confidence experienced by service users were discussed in a different context. Psychiatry of Later Life services used the IEP service for one intervention block only due to COVID-19. Within the POLL context, service providers from the focus group discussed examples of service users developing confidence in their physical ability. These changes in confidence were believed to be observable. For example, service providers discussed observing service user with

newfound capacity (e.g. independently transferring from chairs and becoming ambulatory over short distances). These behaviour changes were believed to reflect a greater sense of independence.

“The programme had a significant effect on this lady as she had started to go out in the community, started to go out and meet friends and things and she wasn't anxious about leaving her home and falling”.

Improved mood

Following the intervention, adult participants of the IEP programme were shown to have decreased mean depression scores as measured by the Depression, Anxiety and Stress Scale (DASS), from 7.00 (baseline) to 5.45 (post-intervention). Furthermore, mean anxiety scores decreased from 5.31 to 3.62, and mean stress scores decreased from 6.81 to 5.62. Using the DASS severity scale, which accompanies the DASS instrument, the mean decrease in depression scores moves the severity rating from the ‘moderate range’ to the ‘mild range’, indicating a potential clinical importance. While the sample size was small, the improvements made at individual levels on the DASS represent a likely improvement in key mental health outcomes. Further illustration of this will be explored in the case study examples below (Section 3.2.7).

The CAMHS participant mental wellbeing was measured using the "Me and My Feelings Scale" (Deighton *et al.* 2013). Participants’ overall mean scores were seen to decrease from baseline (13.8) to (9.9) post-intervention, which indicates a likely improvement in the child participants’ emotional and mental wellbeing post- intervention. The "Me and My Feelings Scale" scores were further broken down into ‘emotional difficulties’ scores and ‘behavioural difficulties’ scores. Across the participating CAMHS service users, mean emotional difficulties scores decreased from 10.3 at baseline to 7.6 post-intervention, which is below the threshold for difficulties. For the behavioural difficulties subscale, scores of 6 indicate borderline difficulties, and scores of ≥ 7 indicate likely difficulty severe in nature. The analysis of data showed that mean behavioural difficulties scores decreased from 3.5 at baseline to 2.3 post-intervention.

Improvements in service user mental health were further explored and contextualised through qualitative inquiry. A common narrative discussed by both service user and service provider was a belief that exercise promotes neurotransmitter and ‘endorphin’ activity in the brain. This phenomena was believed to be a core underpinning factor in the capacity of exercise to improve mental health outcomes among service users. In the below example a service provider makes this connection to mental health outcomes.

“Exercise improves their brain function, their memory, their triggers, their anxieties, their level of depression”.

Another service provider referenced their belief that the IEP intervention was impacting positively on service users sleep patterns.

“Exercise improves their quality of sleep; at night and they feel much calmer. Anybody with depression or anxiety, it has been shown kind of to reduce the risk and reduce the symptoms”.

Service users also discussed their experienced improvements in mood as a result of engaging with the IEP intervention. One adult participant described having periods of low mood, where she began contemplating support from the nursing staff, but instead undertook an intervention session with the IEP, and experienced consequent mood improvement.

“That when I go for a walk, I would be just like chatting away and... even though I was having a bad day, I feel so much better”.

3.2.5 Increased physical activity levels

Analysis of the quantitative data using the SIMPAQ for adults and the PAQ C and PAQ A for CAMHS service users demonstrated improvements in PA levels. These findings were supported by the qualitative data which showed perceptions of improvements in PA levels and increased physical fitness (cardiorespiratory fitness, strength, and flexibility / mobility).

For adults, the overall PA levels (structured exercise participation and incidental) reported for participants of the IEP intervention showed a substantial increase in PA levels, as measured by mean minutes of PA per day. Results showed an increase from an average of 68 minutes per day at baseline assessment to an average of 118 minutes per day at the post intervention assessment.

The SIMPAQ also provides an estimate of MVPA, which was seen to increase by 41%, from a mean of 27 minutes MVPA per day at baseline, to a mean of 38 minutes MVPA per day post-intervention. The analysis of SIMPAQ data also indicated that time spent in sedentary behaviour by the adult participants decreased 8%, from a mean of 11 hours and 40 minutes pre-intervention to 10 hours 46 minutes per day post-intervention.

These changes in PA levels were supported in the qualitative data gathered. One service provider found that in their experience, some service users had stopped exercising, and the IEP was a successful

driver of re-introducing PA. Another service provider noted that at the start of the programme, several participants did not believe that they could exercise, and the programme helped them engage in supported and incremental exercise, starting with 10 to 15 minutes at a time in some cases. A service provider from a focus group conducted with POLL noted an observable increase in some service users' PA levels.

"There was obvious improvement in activity levels during the [...] 8 weeks or whatever those classes were going on".

For the CAMHS participants, the Physical Activity Questionnaire-Children's version (PAQ-C) was used to measure PA levels (Kowalski, Crochet and Donnen, 2004). Using this tool, a score of 1 indicates a low level of PA, whereas a score of 5 indicates a high level of PA. The CAMHS service users that engaged in the project reported a mean PAQ-C score of 1.20 at baseline increasing to 2.26 post intervention.

It was reported from the initial assessment section of progress notes maintained by the IEP that the majority of CAMHS service users were achieving zero minutes of MVPA per week prior to the commencement of the intervention. The weekly progress notes detailed for each CAMHS service user during the 8-week exercise intervention blocks provided an estimation of the amount of MVPA minutes undertaken per week. The mean amount of weekly MVPA minutes performed by CAMHS service users during this intervention was 94 minutes. This ranged from 49 minutes per week to 174 minutes per week signalling an increase in MVPA levels in addition to an increase in global PA scores on the PAQ-C.

Qualitative data obtained from parents of CAMHS service users also identified the positive impacts on PA participation. For example, one parent discussed her experience of her daughter's change in PA behaviour following the intervention.

"She spent eight months in bed and wasn't moving [...] she had been kind of basically in her head for months upon months and that working with the (the IEP), that was the first kind of movement. She is more active in that she is kind of walking more, she goes for the occasional run".

Increased physical fitness

Throughout the qualitative interviews, indicators of improved physical fitness were explored. These included perceptions of improved strength, cardio-respiratory fitness and increases in mobility. One service user participant describes their experience of strength gains following a resistance exercise intervention with the IEP:

“I started out with kind of a lower weight... then like, I think I like doubled and tripled the weight of exercises, which I did not believe was possible in six weeks”.

Although weight loss was not promoted as a specific goal of the *Exercise Effect* programme, mental health professionals discussed the phenomena of weight gain as a side effect of psychotropic medication, and a belief that the IEP programme could help in this regard. Examples of weight loss from programme engagement were also discussed by some service user participants. One service user reported losing weight during the programme. For her, this was a meaningful achievement, as she had tried unsuccessfully to lose weight under her own volition previously.

Some service users also reported improvements in their flexibility and mobility, particularly older service user participants. This perceived benefit is exemplified in the below quote taken from focus groups with service providers from POLL services:

“Two of the residents had really great impact at the end, like they were able to transfer independently where as they were requiring assistance, so their mobility had greatly improved. There's the physical benefits of it as one of them in particular, and probably got gained more confidence... mobilising short distances, getting in and out of the chair, things like that”.

3.2.6 Increased social and service integration

The onset of the COVID-19 pandemic impacted on how the IEP could use community exercise facilities. Despite this, the IEP developed other ways by which PA and social integration could be fostered. Sport re-engagement was mostly discussed among CAMHS service providers. In one example, a service provider discussed her experience of working with an individual who engaged with the IEP to regain a level of ‘fitness’ to be able to return to competitive sports.

Notably, within CAMHS services, a particular phenomenon which saw the IEP intervention inadvertently act as a gateway therapeutic intervention to established mental health services was discussed by a number of service providers. Through the CAMHS focus group with service providers, it was noted that that the IEP was of a relatable age demographic for the CAMHS service users, which may in part have supported this concept; others believed it was the nature of the traditional intervention being offered. In the example below, a parent of a CAMHS service user discusses their child’s engagement with the IEP programme and the parent’s perceptions of how this impacted on the child’s engagement with the other CAMHS services. It seems the parent believes that a good

rapport developed while working with IEP positively impacted on their child's re-engagement with other services.

"I think it did kind of kick start that and she also towards the end of that (IEP programme) she started to interact with the counsellor, with the social worker more, and she started to engage with him, which she hadn't for most of those six months before that (referring to a member of the MDT). She hadn't engaged properly with him, so she did start to talk more (referring to post-intervention state)".

An additional outcome relating to social integration and peer support was discussed by several service user participants and service providers. It appears that service users were, in some cases, encouraging their peers to seek referral to the IEP project, indicating an organic growth and integration of service over the course of the intervention. Here a service provider describes this process:

"It started with one member of the group attending, and feeding back on how they're getting on with [...] the gym [...] then someone else kind of expressed interest [...] it spiralled from there".

Mental health professionals praised the programme for having a positive social impact on service user participants who had, at the time, been isolating in their homes. Service providers intimated that as a consequence of engaging in the IEP programme, service users gained the confidence to go for walks or to walk to the local shop. One service provider believes the IEP service provided a much needed social outlet during what was a difficult period. An example provided was the case of a service user who happily travelled some distance to meet the IEP because it was a recreational outing for him and an opportunity to engage with another person. This point may have had particular salience during the pandemic period.

"I actually think that was kind of important as well though for during COVID-19, during the lockdowns, because I remember there was one man and he used to travel from one of the beaches up by the coast in Wexford [...] he's like, 'a lot of the time (the IEP) was the only person I have to contact each week'".

Among service users in residential facilities, service providers discussed their experience of how service user participants would discuss the IEP programme before it started and after it ended; it was noted that this discussion could continue into mealtime conversation. Once again, this presents an example of enhanced social interaction among some service users as a consequence of participation in the intervention.

3.2.7. Effectiveness – case studies.

While the data used to discuss effectiveness here are diverse and multimodal with respect to methods, we provide here a series of 4 case studies which exemplify effectiveness across the differing population groups involved in this pilot project.

Case study 1:

This participant was a 21 year old female who attended the adult mental health services for support with a mood and anxiety disorder. Her main aim was to improve quality of life and be motivated to exercise. She attended 7 out of 8 of the exercise sessions and focused mainly on HIIT workouts, so the time spent doing PA may have been short but the intensity and impact of the sessions was very high. This participant's DASS scores improved significantly with their depression score decreasing from 11 (severe) to 3 (normal), anxiety from 6 (moderate) to 2 (normal), and stress from 9 (mild) to 5 (normal) following the intervention. On the SF12 measurement tool, her overall quality of life improved from 0.60 to 0.66 with her mental health scores improving from 22 to 47 and her physical health scores from 48 to 54. Using SIMPAQ, her PA levels showed an increase from 89 minutes to 110 minutes of PA per day following the intervention. The feedback received from this participant further outlined the impact the 8 week intervention had on her when she stated she "*always feel so much healthier and fitter after session*", she is now "*Fitting into smaller clothing*" and she added "*more inclined to do weight and resistance training in the future*". The IEP progress notes on completion stated "*Feels they have gained plenty of resources through the IEP to continue exercising on their own and plans to get a personal trainer after this 8-week programme*".

Case study 2:

This participant was a 73 year old male who was in residential care with the older adult mental health services. He had Dementia and Type 2 Diabetes and the main goal for his participation in the project was to increase mobility, functional fitness and wellbeing. He took part in weekly resistance based exercise incorporating mobility exercise to increase leg strength, in addition to aerobic exercise for functional fitness. This participant's DASS scores improved significantly with their depression score decreasing from 7 (moderate) to 1 (normal), anxiety score decreasing from 6 (moderate) to 3 (normal) and his stress score decreasing from 6 (Normal) to 1 (Normal). His overall quality of life on the SF12 scale increased from 0.74 to 1, with his mental wellbeing score in particular increasing from 51 to 66 following the intervention. The feedback in terms of this participant's improvements in functional fitness were also of substantial value with staff reporting "*It used to take two staff members (to*

transfer him from chair to chair), and over the last week, only one person was required". The IEP also reported that he improved considerably on the sit to stand exercise test, and that the individual was able to perform a sit to stand without assistance following intervention completion. The participant stated *"I feel better physically and have more energy"*.

Case study 3

This participant was a 15 year old female with a diagnosis of ADHD and a mood disorder who had been attending the CAMHS for a year. The individual was referred to the IEP programme with a goal to increase motivation to *"Get back to previous fitness level"* and return to her local community sports club where she was previously a member. The participant attended all of the exercise sessions of the intervention, and further took part in a running programme and yoga and pilates sessions run by the IEP. The participant reported enjoying the exercise sessions, which prompted an increased interest in the area of health and fitness, stating that *"she may look at going into this as a career"*, along with having her parents set up a gym at her home. She further explained how involvement with the IEP had *"probed (her) to become more active or gave (her) motivation to get more active as (she) wasn't doing much before the programme"*.

The participant's PA score on the PARQ-C also supported this finding of increased PA levels with her scores increasing from 1.07 at baseline to 2.13 post intervention. Additionally, the participant reported that they had made plans for exercise after the intervention. This consisted of *"Going on walks and runs more and to do home exercises 3 or 4 times a week"* along with having *"Made commitment to walk with friends around Min Ryan park weekly and to go for walks with mum on beach"*.

The participant's mood and mental well-being was also reported to have improved, with the individual stating that taking part *"Made (her) sleep and feel better"* and become *"More confident."* Scores on the *"Me and My Feelings Questionnaire"* qualified some of these statements, with the overall scores improving from 21 at baseline to 10 post intervention, indicating improvement in emotional and mental wellbeing. On the emotional difficulties aspect of this scale, a decrease from 13 at baseline to 9 post intervention was noted indicating a move from a clinically significant difficulty to below a borderline level difficulty, and on the behavioural difficulties aspect, a decrease from 8 to 1 also indicated a change from a clinical significant difficulty to a minimal difficulty, as captured by this scale.

Further feedback from the participant's mother also highlighted the value of the programme for her daughter. *"She really enjoys coming to sessions and would love to stay on with IEP"*.

Case study 4

This participant was a 49-year-old female with a diagnosis of schizophrenia, who had been attending the rehabilitation and recovery mental health service for 10 years. The individual engaged in the IEP programme with a goal to improve mood, motivation for activity, and increase PA level. The participant attended all exercise sessions within the intervention block and further took part in a variety of PA activities including walking, resistance based exercise, HIIT workouts and Yoga. The participant enjoyed the opportunity to be supported to try a variety of activities that would otherwise be challenging to engage with. *"It motivated me to ring my niece and organise going to a kickboxing session in the local club"*.

The participant's total PA levels were shown to increase based on SIMPAQ monitoring (from 84 minutes per day to 99 minutes per day). It was notable that the type of activity the individual engaged in during the IEP intervention was of a higher intensity and introduced a number of new activities. In relation to mental wellbeing, the DASS scores showed a decrease in symptoms of depression from 5 (Mild range) to 2 (normal range), symptoms of anxiety from 8 (severe range) to 2 (normal range) and stress from 5 (normal range) to 2 (normal range) following the intervention. In relation to measures of quality of life, the SF12 results showed an improvement in physical wellbeing from 39 at baseline (11 points below the normal cut off point of 50) to 48 (just 2 points off the normal cut-off point of 50) and improvements in mental wellbeing from 52 to 58 following the intervention.

The participant feedback also supported the positive impact that this programme had, as indicated by the routine monitoring and assessment discussed above. She said, *"It feels great after the sessions, I am getting out and about more thanks to this programme"*. Furthermore, the individual stated that the programme had given them a *"boost again"* after they had *"Found they got a bit sluggish after the lockdown"*. They surmised that the programme *"was challenging but very enjoyable"* and they *"can't wait to get back into kickboxing again"*.

3.3 Adoption

The 'Adoption' dimension of the RE-AIM framework typically assesses the proportion and representativeness within the target setting. It assesses the reasons for adoption or non-adoption

among implementing staff who have consented to take part in a programme (Glasgow *et al.*, 2019). However, as the *Exercise Effect* project was a pilot study by design, the scope of inquiry within the 'Adoption' domain was nuanced. The questions used to explore issues of 'Adoption' were:

1. How representative were the settings which took part in the Project?
2. Within the participating MDTs, which personnel engaged with The *Exercise Effect* project and how?
3. Why did key stakeholders engage or not engage with the programme?

3.3.1 Representation of settings

The project delivered the IEP intervention across five mental health teams that were identified at the outset to participate in the *Exercise Effect* project. The services that were represented were therefore the South County Wexford general adult mental health, rehabilitation and recovery, POLL services and CAMHS. The participation of POLL was impacted by COVID-19 restrictions in place at the time.

3.3.2 MDT engagement with the *Exercise Effect* project

MDT engagement with the *Exercise Effect* project was varied. The focus group data suggested that a variety of different personnel engaged with the referral process across settings and over time. In one focus group, participants explained that many referrals initially came from the doctors, and then generally through occupational therapists. In the CAMHS focus group, it was noted that the consultant psychiatrist played a role in active referral to the service, which reflected a global team-wide support for the service. Similarly, CAMHS service providers discussed the value of project promotional leaflets which were used to enhance integration and facilitate MDT engagement with the project across relevant services.

In the focus group conducted with POLL, one service provider explained that not all team members would have met the IEP in person during the course of intervention blocks. This, combined with the sentiment expressed by some POLL service providers that referrals for such an intervention are the responsibility of occupational therapy, demonstrates a challenge for the project in relation to 'Adoption'.

"Everyone on the team wouldn't have met her [...] where people feel like well, maybe that's the responsibility of the OT, because they look at more of that kind of thing with the residents or with the

community service. So, they maybe didn't come to that initial meeting and felt like, oh, that's not our thing".

Participants of the focus group conducted with POLL service providers indicated that, over time, an interest among non-occupational therapy staff began to build, with other professionals engaging with the referral process toward the end of the project.

In many cases across different services, referrals were instigated by service users themselves. This was particularly noted in the experience of rehabilitation and recovery service providers. There was a view articulated in the focus groups with service providers, that if the project continued, a natural evolution would occur as interest and awareness about the IEP project proliferated, and the role became more widely recognised.

3.3.3 Factors influencing MDT participation

A number of salient factors with the potential to influence why teams, and in particular individual team members engaged with the IEP project were explored. These include: project information dissemination; project champion; concerns regarding confidentiality and training; and visibility and presence.

A factor that contributed to staff supporting and engaging with the IEP project was the information and engagement received prior to the commencement of the project from the project steering group. A participant from the CAMHS focus group noted:

"They explained it. It is important that people have an understanding as people can be 'iffy' about someone new. We had the SOP and that was explained to the teams, the operation procedures were given to all the teams to look at. It was just about people understanding that it was okay for them (the IEP) to be part of a team and to sit in on meetings"

An informal 'link' person who supported the acceptance and integration of the IEP within each of the multi-disciplinary teams was seen as fundamental to successful IEP integration. Having a person on each team who directly linked with the IEP provided other team members the opportunity to discuss referrals, the process, and issues that arose across teams. It was suggested that this person was needed to advocate for the programme, providing the role of 'champion', until the IEP role was fully integrated. It was further noted that this was especially important under the circumstances of COVID-19, which prevented the IEP being physically present at team meetings. One

service provider from community adult services referred to this point and the merits of the 'champion'.

*"Any case I referred, I also discussed with (the champion), They have been really helpful because you know, often, especially with level five (referring to highest level government restrictions), the IEP hasn't been in the office as much, but I've been able to talk through some of it with ***** (the champion)".*

The substantial challenge that was voiced across all service provider focus groups were concerns regarding client confidentiality and related risks to the service user. There was apprehension about sharing service user information with the IEP because they were not, strictly speaking, employed by the health service.

"A lot of the nursing staff have concerns about (the IEP) accessing MDTs case files... especially when they weren't an actual HSE worker".

One service provider from community adult services expressed GDPR and data protection concerns and the appropriateness of an exercise professional attending meetings in which service user clinical diagnosis and related information would be discussed. The same service provider expressed their concerns about risk management with regard to safety for the IEP and the service users with whom they are working. This concern about risk appeared to emanate from a perception that IEP was not from a recognised health care profession with mental health grounding.

"Skilled MDT members know their patients inside out [...] they know when they're slipping... not all (are) at the optimum level of their mental health all the time, they have very bad days and they may have suicidal thoughts [...] so it's very important that that risk is managed".

This concern outlined in the above quote was also expressed in the focus group conducted with CAMHS service providers, with a number of participants expressing concern over the management of disclosures made to the IEP, again, in the context of the IEP not holding employment with the health service.

"A young person would disclose something and there would be risk, and it wouldn't be reported back to us".

Further to these points, focus groups with service providers also explored a need for a formal mechanism of written communication between the IEP and the referrer/ MDT. The absence of a formal feedback mechanism was evident where a service provider from one MDT discussed their concern over not receiving service user progress after a referral was made.

“There wasn't really any feedback from the IEP on their engagement with them or how it went”.

Under the system developed for this pilot project, the **referrers** only source of information on service users whom they have referred was through the service user themselves, where they chose to discuss their progress. Several suggestions were made which will facilitate the development of a more robust feedback system agreeable to all parties. For example, it was suggested that work conducted by the IEP could be recorded in the service users' case file. One service provider encapsulated this point during focus group interviews.

“Other team members to see the benefit would be where they're looking through a file and seeing that report or seeing evidence of it”.

Additionally, staff felt that it would be helpful if the IEP had a HSE email. It was believed that this would allay fears among service providers about service user confidentiality, in addition to streamlining the referral system.

COVID-19 restrictions prevented the IEP from attending the HSE buildings and it was felt this precluded a sense of full team integration for this new role. One service provider indicated that before the project commenced, that they envisaged that the IEP would be more physically present in the building, that people would 'be able to put a face to the name', and issues such as referral could be discussed in an *ad-hoc* face-to-face fashion. However, this was not possible due to the COVID-19 restrictions at the time. As discussed among several service providers, the majority of referrals came from a small number of members of the MDT.

During the course of the IEP intervention, all MDT meetings were conducted by teleconference. The IEP engaged in 46 MDT meetings and 163 individual meetings with clinicians working in the Wexford mental health services over the project duration. However, one staff member expressed the view that, in the context of the IEP, virtual team meetings were largely ineffective in meeting the needs of IEP integration within services, as discussed by some service providers. One service provider stated:

“It could be (at) the end of it (multi-disciplinary team meeting) before we even realised she's on it”.

3.4 Implementation

The 'Implementation' domain of the RE-AIM framework explores the extent to which the programme was consistently implemented as intended across all settings where the intervention was adopted. This not only helps identify critical areas of effectiveness in programme delivery, but also areas found

to be in need of improvement. According to Ory *et al.* (2015), the implementation domain also monitors programme costs which will help measure return on investment for key stakeholders.

For the purposes of this report, answers to the following questions were explored under the implementation domain:

1. How consistently was the *Exercise Effect* programme delivered across the duration of the project?
2. What adaptations were made to the *Exercise Effect* programme and why??
3. Why did the results come about?
4. What was the cost of delivering the *Exercise Effect* Project?

3.4.1 Consistency of programme referral and delivery

The 'Reach' dimension of the RE-AIM framework demonstrated the extent to which the project succeeded in meeting its proposed outcomes and the degree to which it enabled the facilitation of PA opportunities for SUs. Details of the numbers of service users who started and completed the exercise programme, the characteristics of those who participated and the representation from each setting were provided under that section. This data, together with qualitative feedback from staff participating in the focus groups, show that the *Exercise Effect* Programme was fully implemented. However, whilst the *Exercise Effect* Programme ran the full duration of the intended timescale, as set out in the project design, a number of adaptations were made to the original project design.

Ongoing monitoring of the project implementation by the steering group found that the programme could not be implemented consistently across each of the blocks, given the public health restrictions in place at different time points due to COVID-19. Furthermore, differences in the referral process observed across the five settings related to the circumstances and operational procedures within the individual settings.

In relation to criteria for referral of service users to the IEP, feedback indicated that due to the limited places available on the *Exercise Effect* programme, some MDTs implemented a prioritisation system with respect to referral. While such an approach was adopted in a number of MDTs, it nonetheless differed between MDTs in terms of the prioritisation approach. Members from one MDT indicated that referral was based on the stage of recovery of service users, whilst another indicated that referrals were based on the service users' motivation to engage in the programme and the service provider's perception of the likelihood that each service user would sustain engagement in the

intervention. A third MDT discussed the level of support that service users received as a contributing factor in the referral decision process.

Service user readiness and suitability for PA intervention was discussed by some service providers during focus groups. For instance, one service provider indicated that before referring a service user to the IEP, he would undertake an informal assessment to deem the suitability of a service user both physically and mentally for the intervention. This was done again in an effort to prioritise intervention places for service users that may benefit most from the intervention.

Waiting lists were formed due to the large demand for the service and limited available spaces in intervention blocks. In this regard, service provider expressed the view that the IEP as a service, was 'overextended'.

"She was so thinly spread [...] I just think it's not enough a half day a week to really get what we would want for all the clients and the case load and obviously, some is better than nothing" .

Due to the demand for the IEP service, and the implemented waiting list system, some service providers discussed the view that service user circumstances may have changed by the time the individual was given service access. One staff member expressed a reluctance to utilise the service because of the length of the waiting lists in this context; in some incidences the service user was discharged from the service before having an opportunity to attend the IEP.

Not all staff members were comfortable referring service users to the IEP. One MDT member felt that for the service users within their caseload, a longer period working with the community psychiatric nurse (CPN) as an adjunct component to the IEP intervention was necessary to build rapport with the IEP. They recommended that the CPN be involved more closely with the IEP intervention. The service provider further suggested that the IEP would need specific mental health training to manage a diverse caseload.

"Additional training as part of the integrative practitioner (IEP) role or close supervision in attendance at the session by the CPN".

In terms of personnel involved in the referral process, this too varied between settings and over time. One service provider focus group indicated that the OT was a natural link person for the IEP due to their involvement in PA promotion prior to the *Exercise Effect* project. In some cases, the service user may have heard about the IEP and asked for referral from any MDT member. Regardless, it was apparent from the feedback that most referrals came from a small group within most MDTs. However,

it was a common belief among service providers that had the IEP been more physically present, more team members would have been willing to refer and utilise the service.

“Possibly there would have been a wider reach if (the IEP) had been more physically present among the team”.

3.4.2 Factors impacting on project outcomes

Factors impacting the project results or outcomes that were explored with the project management team, service providers and service users included: the structures in place to develop and support the IEP role; the IEP skills and experience; the programme delivered; and the costs of programme delivery.

Structures in place to develop and support the IEP role

Sláintecare, in its championing of the integrated care model, facilitated the project team to build on the existing partnership with SAW and Wexford County Council by employing the IEP through SAW, embedded in the Wexford County Council HR structure. This gave the added benefit of the practitioner being supported by the management structure of SAW, and also leveraging this expertise in community based PA.

The integration of the IEP role into the HSE mental health service delivery structures was managed by means of standard operating procedures, agreed by HSE Mental Health Service Management and SAW. It was felt by a member of the steering group involved in developing the SOPs that the process of developing and agreeing the SOPs was a fundamental factor in establishing a successful project partnership. The SOPs supported the project management team in their work by setting out terms of reference for the project, in addition to partner roles and responsibilities. This facilitated interagency team-work.

As already indicated under the ‘Adoption’ domain discussed earlier in this chapter, having key workers in each of the five respective service teams to champion the project was also considered to have positively contributed to the success of project in terms of effectiveness. A service provider explained the role of the champion in the quote below.

“In some settings, everyone would have known about (the IEP), (the champion) was great about getting the word out.”

Feedback from the focus groups suggest that an important component in the implementation of the IEP was the mentorship system that was established as part of the SOPs. As an example, one service

provider found value in having the IEP being introduced by a mentor who was embedded in the service.

“It paved the way for a new person, they could show them the ropes, they can have a period of induction”.

Another service provider indicated that having a mentor in place contributed to the risk management structure. The mentorship was found to be a reassurance to the different MDTs, that should an issue have arisen, an established experienced professional would be available to the IEP if required.

“The clinical mentor was a key role in bridging the gap between the external employment of the IEP by SAW and the direct engagement and integration into the mental health services required by their practice.”

This mentor was also seen as personal support to the IEP, who by definition, was a new member of staff.

“They are a sounding board and a source of information and personal support to the IEP post holder and to the line manager in SAW to navigate the interagency nature of the working relationship.”

Prior to integration and as part of the induction process, the IEP received training specific to the mental health service. The training related to characteristic differences across mental illness diagnoses. This training was noted as important among service providers that worked with the IEP in interventions. It is believed to have fostered confidence for the IEP service providers with which they worked.

The IEP: skills and experience

Both service providers and service users believe the IEP contributed to the attainment of project outcomes and effectiveness in multiple ways. The IEP’s skills and competencies acquired through her academic and training qualifications, together with her industry-based work experience were expressed by some to be key to the successful outcomes obtained through this programme. In addition to holding a degree in Exercise and Health Studies, the candidate had additional certification in specialist exercise fields such as yoga instructor training and physical activity for adults with mental health conditions. Further to this, the IEP had significant experience in working with vulnerable groups including people with intellectual disabilities, people undergoing cardiac rehabilitation and cancer groups. Her experience and training gave the service users and mental health professionals confidence

in her ability to provide a safe and effective training environment. One service user spoke about having an old knee injury which was a factor in her becoming physically inactive. The participant discussed feeling reassured in carrying out PA if supported by the IEP, due to her knowledge in safe exercise prescription. Mental health professionals also discussed their views that PA information was better received by service users when provided by an expert in this field.

“They really took it on board from (the IEP) more than they would from the rest of us because in their eyes [...] she was a dedicated exercise professional [...] this was her bread and butter and she knew what she was talking about and it just became [...] stronger coming from her”

Another factor that was linked to the intervention adherence was the IEP’s ability to build rapport and commitment to the IEP role. One service provider stated the IEP was very respectful of how they engaged with every service user and adapted their way of working to suit each service user. Parents of CAMHS service users also expressed this sentiment, noting that the IEP had a natural ability to build rapport and trust with young people and adopted a method of communication which was empowering for CAMHS service users.

Throughout the duration of this pilot project, restrictions shifted to meet the severity of the COVID--19 outbreak. Through the focus group interviews, each MDT commented on the lengths to which the IEP went to adjust to the changing circumstances.

“All the different levels of modification. I've seen how in the summer (the IEP) was working outdoors with people, I've seen how she's worked online with people and I'm aware of her also supporting people over the phone, who don't have internet access”.

During another focus group, one service provider attributed the success of the project to the interpersonal skills of the individual.

“Their (the IEP’s) personality and ability to just come in and get going in the middle of this, going into how many new teams in a global pandemic in a project that was delayed, delayed, delayed, and she just hit the ground running”.

The Programme

There were a number of programme features which were perceived to have contributed to the successful project outcomes. These include the individualised nature of service delivery and use of technology. The IEP worked on a one-to-one basis with each of the intervention participants,

developing a prescribed exercise programme based on the individual's goals, level of fitness and exercise preferences. The result of this was a range of diverse and varied exercise programmes between individuals.

The individualised aspect of the IEP project was noted as a strength of the programme for engaging CAMHS service users who were believed to have specific PA needs that make engagement in community PA challenging. One parent acknowledged the individualised element of the programme during interviews, noting that the IEP would enquire about the service users past experiences and exercise history accordingly. She explained how her child had previously been in a boxing club. The IEP incorporated this interest into the programme developed for the individual.

An unexpected factor that was found to contribute to the success of the programme among certain groups was the use of technology (such as telephone and video conferencing) for programme delivery during blocks 3 and 4 of the intervention. This approach to delivery was believed to facilitate a high level of programme adherence for many service users. Furthermore, using telephone intervention methods was shown as helpful for some individuals where they had competing priorities such as school or work; delivering the exercise programme by telehealth reduced the time commitment involved (e.g., reduced travel time) and could be fitted more easily in the service users daily schedule. For others, conducting the exercise programme via telephone meant they could participate in locations that suited the individual service users' needs.

3.4.4 Cost associated with delivering the Exercise Effect Project and perceptions of same

The direct costs for the project were €86,915.58. This included costs of service delivery by the IEP and SAW overhead allocations. Included in these costs also is the mentoring put in place by the mental health service and the project management oversight by the steering group, calculated on hourly rates for steering group members, based on midpoints of their salary scale. The project management cost included costs that related to project set-up as well as project management.

Given the short duration of the project and intervention blocks, a cost benefit analysis to measure cost savings with respect to reduced need for medical and mental health service engagement was not feasible in this instance. Nonetheless, the costs can be viewed in the context of the benefits experienced by the SUs, as noted in the 'Effectiveness' section of this chapter. In particular, in relation to the impact of the intervention on the quality of life of the 18 adult participants who took part in the SF12 analysis, an average change in Quality Adjusted Life Years (QALYs) of 0.9 years ($18 * 0.05$) was found to occur following participation in the 8-week exercise intervention with the IEP. If the

overall project cost is divided across all 56 participants who took part in this project, it results in an approximate cost of €1,552 per participant. Considering the impressive outcomes on quality of life, mental and physical well-being plus community integration experienced by the project participants, the project costs should be regarded as worthwhile and inexpensive for services. It must also be remembered that these considerable outcomes occurred in the context of an adapted model of intervention delivery due to COVID-19 restrictions.

Regarding perceptions of value for investment, one MDT member expressed the view that the cost of the programme was a minor expense considering the vast benefit obtained. Another service provider contextualised this point by advocating that the programme was a welcome indication of services spending money on service development, which some staff believe is not the norm within mental health services.

“Generally mental health is very underfunded, and that this programme, in the greater scheme of things [...] it's a very minor expense for the amount of outcome you get from it”

A different service provider supported the sentiment of the service provider in the above quote, but further drew comparisons to what they believed to be wasted expense in inpatient settings. In this regard, the IEP programme was thought of as a welcome expense in a preventative service.

“It's a drop in the ocean when you think of the money that's spent on one night in a bed in a psychiatric inpatient unit”.

For CAMHS in particular, this programme was viewed as an ‘up-stream’ intervention which may prevent service users from needing access to the mental health services in the future.

“It's absolutely worth that significant investment to get to recovery in adolescence where most mental health disorders emerge”.

3.5 Maintenance

The ‘Maintenance’ dimension of the RE-AIM framework considers the sustainability of delivering the programmes at both organisational and individual levels plus the extent to which primary outcomes are sustained six months or more post intervention (Sweet *et al.*, 2014). In the case of the *Exercise Effect* project, the final evaluation was conducted immediately on completion of the project. Consequently, it was not possible to assess long-term impact. Therefore, for the purposes of this project, the following questions were explored to assess the maintenance and sustainability of the project:

1. To what extent are service users continuing to benefit from participation in the exercise programme?
2. Is it intended to continue with The *Exercise Effect* programme following completion of the project term?

3.5.1 Extent of benefit for service users following programme

It was apparent that those interviewed had sustained the PA levels developed through the programme. One adult service user reported walking up to 5km per day and continuing with flexibility training after the completion of the intervention block.

“it's just to keep my flexibility really because of my injuries as well, I kind of felt before like I was a bit restricted but now it's much better”.

Many of the CAMHS service users were also able to sustain their PA levels once the programme had concluded. This was evident in one example in which a parent observed that her child had begun to incorporate a range of diverse activities into their daily routine following the intervention.

“She is more active in that she is kind of walking more, she goes for the occasional run [...] she is going for an occasional swim, and she walks most days somewhere to do something, which is a big improvement [...] there is an improvement in her in her kind of willingness to exercise”.

Similar observations were made by service providers from other services. One described a case in which an adult service user had begun to undertake regular running exercises (via a ‘couch to 5km’ programme), supported by the nursing staff following the intervention.

From the data collected from interviews and focus groups, it was apparent that for some service users, the improvements in PA levels, were sustainable.

The qualitative data collected during the programme evaluation indicated that intervention goals agreed to by the IEP and the service users were aligned with behaviour change methods, focusing on goals that foster intrinsic motivation and autonomous regulation of PA. For example, one parent of a CAMHS service user discussed how the IEP worked with her child to establish goals that would foster this intrinsic motivation. *“(The IEP) wanted him to do something for himself”.*

This focus on intrinsic motivation and autonomous regulation of exercise within goal setting may in part explain why some service users reported making further progress since the conclusion of the intervention. For example, one parent reported that her child has gone from being completely sedentary and isolated to pursuing activities and social integration.

“He's not in his room half as much which I think is great, like taking up golfing, he's doing his basketball, he's out on his hover board, he goes out more”.

In another example, a parent of a CAMHS service user discussed how her child had begun to talk openly about his intention to re-engage in sport following the completion of the intervention.

“He went out to play football [...] and when he came home, he said to me and Mommy, I think I'll join back soccer, thinking about joining back at soccer [...] and he had talked about going back to boxing training as well”.

Examples of continued and sustained PA levels were also apparent through interviews with adult service users. An adult service user indicated that the motivation instilled through the programme has continued five months post intervention. Another noted that after the IEP gave her the boost that she needed, she is now thinking of ways to incorporate exercise into her daily life. It seemed that the IEP was able to instil intrinsic motivation in some of the service users she has worked with, encouraging some to pursue further activity and others to re-engage with past activities.

Apart from maintaining the increased PA levels, the programme also led to sustained positive psychological outcomes among some service users. One parent noted that their child's mental health improved as a result of working with the IEP, something that he was able to maintain since the programme concluded.

Beneficial intervention outcomes were not sustained across all outcome domains and service user groups. Feedback obtained from the POLL MDTs suggested that the physical benefits gained from project participation were transient and remained only during the intervention phase among that group. For example, one service provider noted that whilst there was a noticeable increase in PA levels among those that participated in the programme, once the sessions with the IEP were concluded, the increases observed began to reverse gradually returning to levels found at baseline. Service providers in POLL believe that the progress made during the intervention cannot be maintained independently in this population and continuous stimulation is required to sustain this outcome. In the case of CAMHS, a parent of one service user noted that the IEP helped her child increase their PA level, but acknowledged that without continued contact with an IEP, it was likely that the individual would find maintaining PA challenging and unsustainable.

“I think that took a while to build before and I just think it worked in that it got her up and moving, but to ingrain, say habits, I think you would need longer (referring to contact with the IEP)”.

3.5.2 Future intentions for the IEP Project

Steering group members that participated in the evaluation indicated a desire for the programme and funding options to continue; expansion of the IEP services within the Wexford Mental Health Services had been explored prior to conducting the evaluation. Therefore, although there is the intention to maintain an IEP service, the specific details on how this might be achieved were not available at the time of this report. It is envisaged however, that the process will be informed by this report.

Steering group members indicated the view that the multi-agency approach to the provision of an IEP in the Wexford MH services was successful. The initial expectation of the project was that it would be undertaken as an integrated care model, harnessing the relevant strengths and expertise of all partner organisations involved to inform the model development and implementation. It was widely acknowledged that this expectation was met. However, it was also stated repeatedly by service providers and steering group members that the resource of 1 WTE IEP was over stretched in their role and that this limited the capacity and effectiveness of the project in part. Many interview respondents discussed the need for more IEP resources, working in a more intensive way within individual services, rather than across multiple services. This is a key learning through this report as there is now an understanding on the likely demand for IEP services within the region. This was discussed in detail by members of the steering group that were involved in the evaluation.

“It was a chance to experience the project and has helped gauge where demand will come from in the future, and where best to place resource”.

As the *Exercise Effect* project only accommodated half the service in the relevant county, many services within the relevant region did not receive IEP services. The services which were not accommodated in this intervention may have been aware of the project despite not participating. In this regard, some service providers that work in both services (where the IEP was present and where no IEP was present) reported that services where no IEP was present would be enthusiastic about having an IEP as a member of their MDT and that there is demand and interest from service users in these relevant services.

In qualitative data collected from participating MDTs, a strong interest in having the role continue on their teams was expressed. For some teams, this service has become part of the day-to-day care plans and it was apparent that losing the IEP service would create a void in the treatment options being provided by services.

“The physical activities side of things needs to be looked at, needs to be addressed and for which the IEP was well suited. It's such a great opportunity that we have here [...] it would be a real shame to let this opportunity go”.

Some service providers expressed confidence about sustaining a role such as the IEP, referring to music exploration, dance classes and yoga classes which the service has been able to maintain in the past.

“The mental health services are really good at [...] including new services and including new team members, it would be no problem”.

However, one considerable factor in inhibiting future IEP services was recognised to be funding. This was discussed by many MDT member that engaged with the evaluation. The programme was unique in that the IEP worked within the mental health service as part of the MDT, but was employed by SAW. Some service providers questioned whether this structure is tenable as a long-term model, especially as it relates to a need for continual and conditional funding. It was the opinion of some service providers that the IEP should be a HSE employee. This was seen as a possible solution to a number of issues observed, including communication, visibility, risk and team integration.

3.6 Summary of Findings

The research project objectives set out to examine service user participant outcomes from the IEP intervention including PA levels, mental health and quality of life outcomes and to examine stakeholders' views of the *Exercise Effect* project with respect to implementation.

Looking at participant outcomes, the findings identified that PA levels increased during the 8-week intervention for adult participants as measured by the SIMPAQ, with an increase in overall PA, an increase in MVPA and a reduction in sedentary behaviour. For CAMHS users, PA measured by the PAQ-C/ PAQ-A, showed an increase from base-line to completion of intervention. The IEP progress notes data also supported this increase in PA and the qualitative interviews with SUs/ parents of CAMHS service users offered some limited evidence of maintenance of PA.

The DASS 21 identified that following the intervention, adult participants had decreased mean depression (mean 7.00 to 5.45), anxiety (mean 5.31 to 3.62), and stress (mean 6.81 to 5.62) scores. For CAMHS participants, the Me and My Feelings Scale identified that overall mean scores decreased (13.8 to 9.9), indicating a likely improvement in emotional and mental wellbeing. The scale findings also showed a decrease in emotional (mean 10.3 to 7.6) and behavioural difficulties (3.5 to 2.3) scores.

Quality of life for adult participants as measured by the SF-12 showed that participants physical health and mental health component scores increased from base line to completion of the exercise intervention, where the overall utility score also showed an increase in Quality Adjusted Life Years of 1.15 (23*0.05).

The qualitative interview data from adult participants and parents of CAMHS participants supported the interventions beneficial impacts on outcomes following completion of the intervention. Continuation of these impacts were not assessed in this evaluation, but the qualitative interviews suggested that the benefits were maintained for some participants. It seemed however that functional improvements in POLL participants did not persist post intervention.

The project set out to reach service users in a range of services including CAMHS, Adult Community Mental Health, POLL and Rehabilitation and Recovery services. The original grant application set out to deliver an exercise intervention to 77 participants across these services. The planned delivery of the interventions had to change substantially due to COVID-19. Despite the on-going challenges due to national lockdowns and restrictions in place, the project delivered an exercise intervention to 56 participants (46 completed the 8 weeks). These participants ranged in age from 23- 83 years for adult participants, and 8-17 for CAMHS participants. Participants presented with a wide range of diagnosis and the mean time attending service prior to referral was 7.6 years for adults, and 1.5 years for CAMHS participants. Intervention blocks 3 and 4 were delivered virtually and seemed to work well, particularly with CAMHS service users.

The SOPs developed seemed to address all the project requirements. Referrals and participation were reasonably spread across the different services although POLL participants could not participate in three of the blocks due to public health related restrictions. The referral process generated referrals from a range of MDT members, but not all stakeholders were happy with the burden of work that was expected of service providers in this process. The IEP could not attend the services premises/ team meetings in person due to COVID-19, but instead linked via telephone/ online means. This lack of presence was seen as a factor which hindered full integration with the MDTs. Integration of the IEP was helped by raising awareness with the MDT of the IEP role and including a role for a 'champion' within the team to promote the role. The support of the clinical mentor was regarded as important for the IEP and the need for specific mental health training for the IEP was also seen as required. Multidisciplinary team members raised concerns regarding GDPR, and the IEP as an external team member having access to confidential information. Further concerns were expressed regarding a need to consider more robust risk assessment/ management processes for the IEP in working with service users.

Overall, the stakeholders perceived the project as being effective as the IEP complemented the care already being provided and offered individualised exercise expertise to promote the service users physical and mental health. The 8-week block system used seemed to achieve beneficial outcomes for service users. However, it seemed that there needed to be more flexibility regarding duration of intervention depending on individual needs. Waiting lists were created due to the limit of one IEP resource, and MDT members therefore appeared to prioritise when referring, but articulated the need for access to more IEPs.

Reasons given by service users for participation in the exercise intervention included a recognition of the need to increase PA levels, particularly during times of infection and public health restriction, and parents of CAMHS felt a key reason for participation was to get their child re-engaged with exercise and activities. Participation appeared to benefit service users by providing structure and an exercise routine. The exercise intervention also enhanced service user motivation, knowledge, confidence, and capacity to exercise and also benefited the service users social engagement.

A financial costing based on the direct costs for the project, including project set up and management, indicated a cost of €1,552 per participant. The views of the stakeholders supported continuation of such an IEP role, and indeed increasing and extending the resource available to other MDTs.

CHAPTER 4 DISCUSSION AND RECOMMENDATIONS

4. Introduction

The *Exercise Effect* project was a Sláintecare Integration funded project to integrate an IEP into multiple outpatient mental health services using a partnership approach between Sports Active Wexford and the mental health services, Wexford. In achieving this, the report here presents evaluation data from a project that is the first of its kind in Ireland, where previously exercise was delivered ad-hoc across services (Matthews, Cowman and Denieffe, 2018).

This report details the process of introducing a novel exercise practitioner, integrated into specialist mental health services in Ireland. This work is in essence a service reform project that is underpinned by a robust evidence base for integrated exercise or PA as part of routine care for physical and mental health among populations with mental disorders (Stubbs *et al.*, 2018; Firth *et al.*, 2019). Among young people with mental disorders, PA is also a therapeutic tool for mental health and functioning outcomes (Pascoe *et al.*, 2020).

This chapter will also provide a discussion around key findings and consequent recommendations emerging from the *Exercise Effect* project. The discussion will focus on how the project was implemented and two, the outcomes from the project for key stakeholders, including service users and service providers.

4.1 Project Implementation

The best available evidence outlined in the EPA position statement recommends either physiotherapy or exercise professionals delivering integrated exercise within specialist mental health services (Stubbs *et al.*, 2018). Currently, neither professionals work as an integrated member of Irish mental health services (Matthews, Cowman and Denieffe, 2018), despite low levels of PA observed in Irish mental health setting (Matthews *et al.*, 2018). The *Exercise Effect* project presents a pilot initiative whereby an interagency operating procedure has been developed to ensure integrated multidisciplinary mental health working from the employ of a local sports partnership. There is now an ever present need for enhanced, well-resourced and easy to access lifestyle related interventions as part of specialist mental health services (Firth *et al.*, 2019; Rosenbaum *et al.*, 2021).

Ultimately, this project, which commenced the first intervention on 6th July 2020 and completed the final intervention block on 14th May, 2021 coincided directly with the onset of the COVID-19 pandemic. As such, the project was fundamentally shaped by the National Government Guidelines of Ireland at the time. Due to these restrictions, the project implementation had to rapidly and flexibly adjust to

the relevant guidelines during the course of the intervention blocks. With respect to research and evaluation, the modifications made during programme implementation also presented challenges for understanding the research outcomes within the context of the literature.

The major impact of COVID-19 was the degree to which the planned community integration could occur, due the closure for almost the full duration of the project of indoor amenities and some outdoor facilities which were intended to serve as a focal point of interventions. Despite these challenges, the project implementation was considered successful, as both the steering group and the IEP worked to move interventions either online or outdoors, utilising infection control measures, adhering to COVID-19 guidelines as appropriate. For the most part, exercise sessions were delivered in a modified manner, and intervention blocks were fully subscribed, resulting in the formation of a waiting list from the referral process.

While the total number of individuals engaged in the programme are comparatively small (n=56), the drop-out rate from intervention blocks (26%) indicated good programme adherence. Previous meta-analyses have shown mean drop-out rates of 20% among people with depressive disorders (Stubbs *et al.*, 2015). In the current research, the diverse sample, including severe comorbid diagnostic groupings must be acknowledged as factor of influence on this drop-out rate. Further to this, the drop-out rates observed in the current project must also be considered in the context of remote and tele-health intervention components that were utilised in the majority of interventions. While people with mental disorders face numerous barriers to PA (Firth *et al.*, 2016), the findings from the current report add weight to the evidence that people with severe mental illness find PA intervention acceptable and appropriate when adequately supported by a professional.

The *Exercise Effect* project was an example of an integrated care model providing a specialised non-clinical service, operated by the Local Sports Partnership (SAW), through the provision of individually tailored PA programmes with an emphasis on community integration and self-managed, autonomous PA for mental health service users. Through their amenities, knowledge and networks, SAW acted as active partners in facilitating individuals in recovery to access exercise support in their communities and create sustainable PA habits in their own localities and communities.

Different models of IEP working have been developed internationally. In some contexts, IEPs are employed by the mental health service to work as part of the mental health team and there is little partnership to external community-based physical activity resources (e.g. sports or exercise groups). The model adopted in this project used a partnership approach, where the IEP was employed by an external sports/ exercise organisation (SAW) with an established history of supporting health services

to provide PA to different clinical populations in the community. In this way, the partnership approach facilitated the IEP to work as a member of the team, attending MDT meetings and engaging with team members, but was limited in their level of integration with respect to line management and affiliation. It was evident in the findings that this partnership approach had strengths and weaknesses. The strengths included the IEP having full access and awareness of community exercise facilities, therefore making a wide and varied network of therapeutic PA opportunities available to the service user, and also promoting community integration. The weaknesses of not being fully integrated, appeared to foster a reluctance among some MDT individuals to view the IEP as a full team member. However, this evaluation showed that despite not being fully integrated (HSE employed), the project was successful in delivering a service with positive outcomes with learnings for a partnership approach to integrated PA in mental health.

Despite COVID-19 challenges, overall, the project demonstrated a number of clear successes in terms of outcomes. First, the partnership between HSE mental health services and SAW was shown as a valuable approach as evidenced by findings explored with the service user, service provider, parents of CAMHS service users and steering group members. While such an approach is undoubtedly a deviation from complete 'integration of service' in so far as multidisciplinary team membership, the preparatory work of the steering group prior to project commencement allowed for far reaching MDTs working on the part of the IEP, and further made community orientated programmes more readily available to service users. The model of service is therefore similar, but nonetheless a deviation from other integrated exercise practitioner services in mental health seen in Australia (Lederman *et al.*, 2017). The model of working developed in the *Exercise Effect* project also shares similarities to social prescribing models of exercise, which appear beneficial and complimentary among mental health and clinical populations (Chatterjee *et al.*, 2018). The findings from the *Exercise Effect* project demonstrated a strength of interagency co-operation. In this context, the collaborative cooperation between key agencies provided mechanisms of mentorship and support, which would not have been present within the existing mental health service structures where the project was piloted. By engaging the employment structures of SAW, the project enabled the Wexford Local Authority, through SAW, to become an active partner in the delivery of this frontline mental health service.

In Blocks 3 and 4, at a time of national lockdown, further necessary modifications were made to the nature of interventions provided by the IEP, where interventions were delivered entirely through secure online platforms - WhatsApp and Zoom. At the time of the intervention implementation, it seems no guidance existed for delivering integrated exercise in mental health settings using tele-health methods. Despite this, the IEP successfully engaged with the service users and completed the

8-week blocks of intervention to service users. Reviews of mobile technology for promoting PA indicate that such interventions can be effective at promoting PA where they are personalised for users (Carter *et al.*, 2018). It is likely that success of the *Exercise Effect* project in using digital technology to continue the programme during government restrictions was due to the use of digital platforms to facilitate personalised and one-to-one intervention, rather than more generic intervention.

While mobile intervention delivery appeared satisfactory for all the relevant service users, it was ubiquitously discussed as a successful approach to intervention during interviews with CAMHS stakeholders, indicating its particular appropriateness and efficacy among CAMHS service users. This may reflect an ever-present generation use of technology. Smartphone applications and telehealth intervention have been demonstrated as effective and appropriate for managing mood and anxiety among CAMHS populations previously (Das *et al.*, 2016). In this regard, the evidence indicates that mobile technologies cannot circumvent the need for personalised intervention, and that technologies are effective when delivered by a practitioner and in a personalised manner (Firth, Schuch and Mittal, 2020).

While not without its limitations, this hybrid of integrated, community focused model was shown to be beneficial and important to the project success. This report provides these operating procedures for the purpose of scale up in other contexts. However, it should be considered that the operating procedures developed for the *Exercise Effect* project were done so between SAW and Wexford mental health services, and so have local and contextual nuance. Future adoption of these procedures should consider this context specificity.

As this project was a pilot initiative, the Steering group served as governance and support body for the IEP. The evaluation of the project pointed to an effective way of working; this was particularly relevant in managing project adaptation and delays resulting from COVID-19. However, it is likely that this model of governance will shift as recognition of the IEP role grows. For instance, this was in a sense a pilot initiative, supplemented by simultaneous research, and so a large key-stakeholder steering group was required to oversee this work and ensure milestones were being met in accordance with Sláintecare conditions. In the spirit of MDT integration, it is likely that an IEP hierarchy across MDTs would be required to sustain the role and provide governance, similar to what exists currently in Irish mental health service for other allied health professionals (e.g. occupational therapists), where peer learning between professionals is a valuable part of service development (O'Connell and McKay, 2010).

The need for this IEP specific hierarchy within services is arguably further illustrated through the expressed importance for a mentor to the IEP in the current project. Respecting the integrated nature of the IEP, as intended from project outset, the IEP themselves benefited personally from having access to mentorship. Mentorships models are widely utilised by other mental health professionals for both training, education and support for individuals (Moll *et al.*, 2018). Again, it is likely that a nursing model of mentorship employed here has shaped the dynamic of interventions provided. More work is needed to explore the implications of this mentorship model on the IEP and service delivered. It is likely that a specific IEP hierarchical system would again allow for specific mentorship where IEPs are integrated nationally at scale. While it is not within the scope of the current project, the research team anticipate that the implementation of IEPs for mental health at scale would also require professional accreditation in line with other MDT professionals.

It was evident from the evaluation that the project was successful in reaching its capacity number of service users across each of the relevant services involved in the work. However, it was also evident, that in trying to provide services for five separate mental health teams, across 4 types of service, that the project 'over stretched' and was therefore limited in its effectiveness due to this. In this regard the evaluation illustrated that service providers were more selective about their referrals because of their belief that the IEP service was limited and used a wait-list. It was also evident that the IEP was impeded in realising full service integration, because of their competing demands across multiple services.

4.2 IEP Service Delivery

The success of the project with regard to its reach to 56 service user participants across 4 separate 8-week blocks of intervention is a point of merit in and of itself. Across each of the relevant services, there were different issues which impacted on service delivery. For example, in POLL all eligible participants were cocooning in-situ as per the national guidelines for three blocks of intervention.

The literature clearly shows that where there is integration of an exercise practitioner into a mental health team, there is more likely to be a positive impact for service users (Firth *et al.*, 2015; Stubbs *et al.*, 2018). Previous research has documented poor uptake of external exercise referral schemes, where integration is not characteristic of service delivery (Robertson *et al.*, 2011). Integrated approaches to PA are likely to be effective for providing lifestyle interventions such as PA (Stubbs *et al.*, 2018; Firth *et al.*, 2019; Rosenbaum *et al.*, 2021). Integrated exercise practitioners possess a high level of knowledge and expertise in exercise prescription for mental health populations, thus

demonstrating value above other mental health professionals for this specific purpose (Stanton *et al.*, 2017).

This project advanced the state of service delivery in-line with best practice evidence, and in doing so, many service providers and service users perceived a depth of service integration for the IEP. However, there were some that did not share this sentiment. Exploring this issue further, a number of challenges with respect to the implementation and integration of the service were explored among participants of the research and evaluation. Notably, adapting to COVID-19 restrictions was a significant factor that framed much of the project. However, despite restrictions, the IEP achieved a good degree of integration, attending MDT meetings (n= 46) and having telephone contacts with MDT members (n= 163). Due to the restrictions however, MDT meetings were either attended online or via teleconference. The IEP could not therefore meet in person with team members or maintain a visible presence in facilities or at meetings. This challenge to IEP integration into the MDT emerged in the focus groups, and may have accounted for a perception among some service providers that the IEP was not fully integrated into the team, and that the opportunity to build good working and therapeutic relationships across teams was not realised to its full potential. Notwithstanding the role of COVID-19 restrictions in influencing this perception, the international literature prior to the time of infection has previously identified a need for concerted efforts to legitimise and integrate IEPs into mental health teams, thus indicating that this challenge is not unique to the Irish context. Qualitative research in acute settings has shown that service providers often require in-depth information about new IEP services to enhance uptake and utilisation (Fibbins *et al.*, 2019). While not feasible within the current project due to time and resource constraints, previous interventions have offered IEP and lifestyle interventions to MDT service providers, with consequent improvements in their knowledge and attitudes to metabolic health issues and intervention, thereby addressing issues of culture which influence service integration (Rosenbaum *et al.*, 2020b).

Similarly, a number of factors were discussed as having a positive impact on perceptions of integrated working of the IEP. For instance, it was believed that nurse mentorship, discussed earlier, may have created a sense of legitimacy for the IEP role among other MDT members. It also seemed that having a champion within each team assisted with integration and MDT representation on the steering group was also suggested as a means of enhancing integration of the IEP. Across all contexts, including this pilot project, there is a need for wider recognition and funding of the IEP role as part of mental health MDTs (Lederman *et al.*, 2016; Stanton *et al.*, 2017).

It seems that the block model of intervention delivery, while not originally planned for ended up have value, increasing the number who accessed IEP. However, it seemed that the duration of the block

should be assessed by the referrer and IEP and should be on a service user need basis and not rigid. This would allow for the accommodation of both Individual and group needs in addition to facilitating movement from individual to group, if required.

The referral process for the *Exercise Effect* project consisted of mental health professionals forwarding eligible service users to the IEP. The number of referrals fluctuated and declined over the time period of the intervention. This is likely attributed in part to the initial information sessions to MDTs which would have stimulated interest in the project. It is perhaps an indication of the need for ongoing promotion of the IEP service, particularly where there is turnover of staff.

The referral process developed for the *Exercise Effect* programme required the referrer to complete a short form, containing tick boxes and short answer style questions, which outlined key clinical issues and a rationale for IEP referral. Upon receipt of the form, the IEP initiated contact with the referred service user and communicated programme information. The evaluation demonstrated mixed feelings about the referral process among mental health professionals. For some, it appeared simple and easy to use, while others found the process unnecessary and against their teams normal working processes. Those multi-disciplinary teams or team members who were opposed to the referral process did so because they would normally refer patients to services and devise care plans through team discussion. In this case the addition of a formal process was seen as burdensome and a barrier to service utilisation. While these findings should be considered where future IEP project development is taking place, it is also important to note that in many advanced international contexts, mental health professionals have seldom received formal training on PA, and prescription practices on PA can vary between individual professionals (Romain *et al.*, 2020). Among some professionals within psychiatry, there is a considerable proportion that do not see lifestyle intervention as their role (Bartlem *et al.*, 2016).

The evaluation also identified that service providers largely opted not to refer individual service users who are considered to be acutely unwell with their mental health condition. Service providers suggested that more structured MDT support could be made available to the IEP when delivering interventions to such service users. While valuable feedback, we note that 'lack of time' to support PA is a widely acknowledged barrier among mental health service providers within the literature (Verhaeghe *et al.*, 2013; Matthews, Cowman and Denieffe, 2020). In this regard, the IEP service is well positioned to negate this issue. We therefore postulate that such close support from the MDTs would be relevant for specific individuals identified by the MDT and that the training of an IEP for mental health services would ensure that they have a good understanding of mental illness and the support of a clinical mentor.

Given the widely acknowledged benefit of PA as a routine therapeutic, a position paper produced for the European Psychiatric Association has recommended screening and monitoring of PA levels in mental health settings (Stubbs *et al.*, 2018). The implementation of the *Exercise Effect* project has allowed for the realisation of the recommendation, and brought this knowledge to the individualised care planning process, using a validated and specific tool (Rosenbaum *et al.*, 2020). Given the nature of the referral process in the current project, there is arguably a need to adopt service wide screening on PA, as per EPA guidance. This may assist in identifying individuals that may be suitable for interventions going forward into the future, rather than for the purpose of intervention assessment.

In the current report, the champion was a service provider that has provided the role of both project advocate for other service providers in addition to gatekeeper to services for the IEP. While such a phenomena was suggested as essential for the success of integrating the IEP service into existing services available, we further postulate here that a reliance on champions is likely not a sustainable approach for building project integrity. Rather, this new form of service provision is better placed within mental health services that is wholly redesigned to incorporate lifestyle intervention as part of a balanced and holistic model of care that is integrated and collaborative, rather than predisposed to pharmacotherapy and talk therapy alone (Ee *et al.*, 2020). A wider service shift should theoretically address factors outlined as barriers to integration noted earlier, such as burdensome referral systems.

4.3 Service user Outcomes

Fundamentally, SIMPAQ data, supplemented by qualitative data, indicated that PA levels of participating service users improved where post intervention scores were compared to baseline. In context, improved PA level is and of itself, a valuable outcome measure for such interventions for people with mental illness (Ashdown-Franks *et al.*, 2018). Among CAMHS participants of the *Exercise Effect* project, PA levels were also shown to increase based on mean PAQ-C scores, indicating a wide reaching success of the programme. As a whole, the project was successful in improving the key mental health outcomes and quality of life of the service users that engaged with the IEP. Such findings are consistent with top-tier evidence regarding trans-diagnostic benefits of integrated therapeutic exercise for people with severe mental illness (Stubbs *et al.* 2018; Rosenbaum *et al.* 2014).

Notably, a range of mental health outcomes were found to have improved following 8-week intervention blocks, as examined through qualitative and quantitative inquiry. For instance, symptoms of mood improved throughout the intervention. Our findings align with findings across intervention research internationally, which demonstrate a moderate to large effect on mood among people with severe mental illness (Rosenbaum *et al.*, 2014; Schuch *et al.*, 2016). Similarly among young people

with severe mental disorders, PA intervention is therapeutically beneficial for mood, although the literature base for this is smaller (Pascoe *et al.*, 2020).

The *Exercise Effect* project ran intervention blocks for 8 weeks in duration. This decision was taken by the steering committee to maximise intervention reach. That said, our findings reflect an evidence base that strong anti-depressant effects can be accrued from short intervention periods among clinical populations (Morres *et al.*, 2019). While our findings demonstrate efficacy, it is unclear from the current project as to the extent that behaviours and outcomes were maintained long-term. In this regard, the research was limited due to time constraints placed on the project as a whole.

Despite this unknown, some findings give rise to knowledge which infers long term benefits for service users. First, in looking at other contexts where youth mental health service have employed an IEP, service users point to desires to increase PA levels and fitness as reasons for engagement (Pearce *et al.*, 2021). The current project appears to deliver on these desired outcomes. Additionally, research with people with mental disorders has shown intrinsic and autonomous motivation is associated with PA adherence (Vancampfort *et al.*, 2016). The current research points to service user benefits with respect to key relevant outcomes, such as 'confidence about PA', and 'motivation toward PA', therefore indicating a comprehensive intervention with likely long-term benefits.

Future continuations of the *Exercise Effect* project should examine the issue of maintenance for both service user and service level outcomes. For example, research suggests that structural changes of the brain, such as hippocampal neurogenesis, which are implicated in the mental health effects of PA are accrued in interventions lasting 3-12 months (Kandola *et al.*, 2016).

4.4 Conclusion

From the outset, the Exercise Effect project had the anticipated deliverables to:

- Develop and implement a model, including and not limited to job specification, standard operating procedures, referral pathway procedures and discharge protocols for the integration of an IEP in an Irish mental health service;
- Develop a partnership governance structure for the IEP that is replicable;
- Evaluate the impact of the physical activity programmes delivered by the IEP to each of the included population groups as per needs identified in care planning and available community resources;

- Evaluate the implementation of the IEP within existing specialist multidisciplinary mental health teams, including examining the feasibility of expanding the model regionally and nationally.

Drawing on the findings from this evaluation, it can be seen that a workable model for the integration of an IEP into existing specialist multidisciplinary mental health teams was developed. This model adopted a partnership approach between a local authority Sports Partnership (SAW) and a HSE mental health service, incorporating multiple teams. Clear and effective operating procedures were developed by a newly established project Steering group and are available for use in other settings with the proviso that they need to be considered within local contexts.

In the absence of any structures to support such a new service, the model developed included oversight from the project Steering group in addition to a clinical mentor. This approach was found to be effective and acceptable. An IEP with the necessary expertise was recruited to provide individualised therapeutic PA programmes to service users. The IEP delivered programmes in a tailored and flexible manner that ensured the project continued despite the onset of the COVID-19 pandemic.

The evaluation found that, for the most part, the programmes developed and implemented by the IEP were successful in meeting the needs of service users that were referred to and engaged in the intervention. Mixed method inquiry found that interventions delivered to service user participants were beneficial for service users and holistic service delivery, with findings that reflect the best available international literature. The evidence obtained through the research evaluation show that the project has scope to continue and further warrants scale-up to other mental health services. This scale-up is also necessary to allow more focused working of IEPs in specific services. The recommendations outlined in the below section can help ensure the successful future expansion of additional IEPs into mental health services.

Finally, this pilot project has seen the development of five specialist local mental health services, by enhancing service capacity to deliver therapeutic PA as part of routine therapeutic care. In this case, the development and establishment of the IEP role has seen PA delivered as part of the multidisciplinary care package thus making therapeutic PA available to mental health service users. Such an approach brings these relevant services in line with best practice standards internationally. These interventions are a fundamental component of a package of care to support the mental, physical and social health of the individual service users.

4.5 Limitations of Research Methodology

This research project was faced with a number of complexities in evaluating a real-world pilot intervention using both quantitative and qualitative methods. First, there was a small sample size for the quantitative element of the evaluation, particularly in relation to the findings drawn from validated tools (SIMAQ, DASS and SF12, Me and My Feelings). The qualitative element also drew on a small sample of possible participants and were reliant on participants to volunteer for the research. There was no long-term follow up to ascertain the longer term maintenance of benefits for service users due to resourcing constraints attached to the research and evaluation.

This report presented inquiry into a project which spanned multiple and diverse specialist outpatient mental health services within a region of Ireland. As such, the populations and contexts involved in this evaluation were heterogeneous in nature. While this approach added strength in so far as implementation findings may delineate optimal and suboptimal approaches within these contexts, it was nonetheless challenging to draw comparisons from the literature as this is typically defined in terms of context (e.g. acute psychiatry or first episode services) (Lederman *et al.*, 2017; Furzer *et al.*, 2021). Furthermore, the necessity of the intervention and therefore the research to span five separate services also limited the potential sample size available to the project, as the IEP did not have the capacity to deliver services to all service users.

The research conducted was a pragmatic intervention and therefore assessments were standardised subjective tools used as part of and in conjunction with routine clinical assessment. These tools provided valuable information for clinical assessment in addition to research and evaluation purposes. With respect to PA as an outcome, self-report measures are limited by inherent recall bias, and therefore thus the sensitivity of these measures may be lacking.

The tailored nature of the interventions provided by the IEP and which were shown as efficacious were undoubtedly influenced by a personable disposition on the part of the IEP. This allowed a rapport to be established with service users, thus furthering the level of support available and accessibility of the interventions. While this is an unquantifiable phenomenon, it was alluded to within the qualitative inquiry. Future IEP projects should be cognisant of this factor during recruitment stages of a project.

4.6 Recommendations

Below are the recommendation arising from the evaluation of the *Exercise Effect* project. The recommendations address the development and implementation of a model to integrate an IEP into mental health services.

- The collaborative approach between SAW and HSE mental health services worked well with respect to supporting the service implementation and can be recommended as a delivery model for an IEP as it provides the expertise and opportunities for community integration as an adjunct to integrated models of recovery and therapeutics for service users.
- There is a need to ensure standard operating procedures are in place that are relevant to local contexts and that these are reviewed by a project steering group and amended as necessary. Such measures are important for protecting the fidelity of integrated components of the model in the context of this partnership delivery.
- Further pilot initiatives should utilise a project steering group model, where representation from local sports partnerships, HSE health and wellbeing, and a member of each mental health team is present to develop and oversee the project implementation. However, this model of implementation should be reviewed for IEP services being delivered at scale. A hierarchal system of IEPs working within services may be preferable long-term.
- There is need to ensure there is a robust recruitment process for the IEP with appropriate person specifications in place to ensure that the IEP has the necessary skill set, knowledge and personal qualities for the role.
- Preparation of MDT teams where an IEP is being introduced should be planned and delivered. There should be a means to ensure new MDT members are aware of the availability of an IEP to the team, and informed about their role and capabilities. All MDT members should be encouraged to promote PA generally.
- Identification of a 'champion' for the IEP within each MDT is recommended during pilot stages of a new project of this nature.
- The IEP should use the same standard referral processes in place as used by other MDT members.

- There is a need to implement measures that strengthen the level of MDT integration on the part of the IEP. This should include the IEP maintaining a physical presence in MDT facilities and meetings, similar to any MDT members. The IEPs therapeutic input should also be recognised and discussed at MDT meetings, this may require ongoing engagement with the MDT to educate on the role of the IEP in mental health. The IEP should also have access to a HSE email. These points should be facilitated and endorsed by HSE management.
- There is need to ensure a formal communication/feedback mechanism from the IEP back to the referrer/ MDT, perhaps through contributions made to the service user case file by the IEP.
- There is a need to provide induction training and comprehensive ongoing training for the IEP, including mental health specific training.
- There is a need to ensure that an IEP has access to a clinical mentor to provide support and guidance when required. This role can be fulfilled by a nurse manager in the short-term. A long-term view should focus on establishing internal hierarchal frameworks to govern and mentor IEPs.
- There is a need to ensure the IEP carries out appropriate, physical health screening and clearance protocol prior to undertaking the exercise intervention.
- Due to COVID-19, this project was unable to deliver group interventions. It is recommended that these be considered for use in future IEP projects and evaluated across contexts.
- There is a need to ensure that the IEP can provide personalised interventions that are tailored to individual service user needs. The IEP should be prepared to offer a blend of online/mobile technology within their interventional approach among younger or otherwise interested mental health service users.
- Due to COVID-19, this project was unable to examine how the IEP project could utilise community exercise facilities in a hybrid approach to integrated care. It is recommended that community facilities be utilised in future IEP projects and evaluated across contexts.
- It is recommended that long-term effects of the intervention be examined in a future IEP project.

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APPENDICES

Appendix 1 Project Steering Group Members

Elaine Banville	Researcher, Waterford Institute of Technology
Helen Corrigan	Senior Occupational Therapist, Wexford CAMHS, The HSE
Mary Cowman	Lecturer & Researcher, Waterford Institute of Technology
Suzanne Denieffe	Dean of School, Waterford Institute of Technology
Mary Flynn	Officer, Sports Active Wexford
Nuala Harpur	Senior Health Promotion Officer, Health and Wellbeing, The HSE
Shelia Kissane	Service Reform Fund Manager, South-East Community Health Care, Mental Health Services, The HSE.
Miriam Lambert	Clinical Nurse Manager, South-East Community Health Care, Mental Health Services, The HSE.
Paula Lowney	Project Lead, Service Reform Fund, South-East Community Health Care, Mental Health Services, The HSE.
Evan Matthews	Research Fellow, Waterford Institute of Technology
Brian Mulhare	Researcher, Waterford Institute of Technology
Fran Ronan	Coordinator, Sports Active Wexford
<i>Members listed alphabetically</i>	

Appendix 2 SIMPAQ

<p><i>I am going to ask you about what you have been doing over the past seven days, including time spent in bed, sitting or lying down, walking, exercise, sport and other activities.</i></p>	
<p>1A.What time did you mostly go to bed over the past seven days? <i>Prompt: between ___ and ___ pm?</i></p> <p style="text-align: right;">Answer: _____ am/pm</p>	<p>1. Average hours in bed per night -</p>
<p>1B.What time did you mostly get out of bed over the past seven days?</p> <p style="text-align: right;">Answer: _____ am/pm</p>	
<p>2A. That leaves approximately _____ hours a day for other activities. Out of those _____ hours, how long did you spend sitting or lying down, such as when you are eating, reading, watching TV or using electronic devices? <i>Prompt: e.g. sitting at work, transport, leisure-time or at home.</i></p> <p style="text-align: right;">Answer: _____ Hours _____ minutes /day</p>	<p>2A. Average hours sedentary per day</p>
<p>2B. How much of this time is spent napping? Answer: _____ Hours _____ minutes /day</p>	
<p>3. That leaves approximately _____ hours a day for other activities. Which days in the past seven days did you walk for exercise or recreation or to get to or from places? How many minutes did you usually spend walking on those days?</p>	<p>3. Average hours walking per day</p>

<p>4A. Now think about any activity that you do for exercise and sport, such as jogging, running, swimming, bike riding, going to the gym, yoga, _____ [e.g. 1] or _____ [e.g. 2]</p>	<p>4. Average hours sport/exercise per day</p>																																																		
<p style="text-align: center;">Which days in the past week did you do any of these, or similar activities?</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;">Mon</td> <td style="padding: 5px;">Tues</td> <td style="padding: 5px;">Wed</td> <td style="padding: 5px;">Thus</td> <td style="padding: 5px;">Fri</td> <td style="padding: 5px;">Sat</td> <td style="padding: 5px;">Sun</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Mon	Tues	Wed	Thus	Fri	Sat	Sun																																												
Mon	Tues	Wed	Thus	Fri	Sat	Sun																																													
<p>4B. What activities did you do and how much time did you spend on each activity on each day?</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 30%;">Activity and intensity (0-10)</th> <th style="width: 15%;">Number of sessions</th> <th style="width: 15%;">Minutes</th> <th style="width: 25%;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: left; padding: 5px;"><i>e.g.</i></td> <td style="padding: 5px;">Resistance training (5/10); tennis (9/10)</td> <td style="padding: 5px;">1 ; 1</td> <td style="padding: 5px;">15; 50</td> <td style="padding: 5px;">65</td> </tr> <tr> <td style="padding: 5px;">Monday</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Tuesday</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Wednesday</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Thursday</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Friday</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Saturday</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Sunday</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td style="padding: 5px;">Total</td> <td></td> <td></td> </tr> </tbody> </table> <p style="margin-top: 10px;">/</p>		Activity and intensity (0-10)	Number of sessions	Minutes	Total	<i>e.g.</i>	Resistance training (5/10); tennis (9/10)	1 ; 1	15; 50	65	Monday					Tuesday					Wednesday					Thursday					Friday					Saturday					Sunday							Total			
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<p>1. Now think about any other physical activities that you did as part of your work, or activities you did while at home such as gardening or household chores. How many minutes did you spend on these activities on most days?</p> <p><i>Prompt: this does not include walking, sport or exercise</i></p> <p>Answer: _____minutes /day/</p>	<p>5. Average hours other activities per day</p>
<p>Check: The sum 1, 2A, 3, 4 and 5 should total approximately 24 hours.</p>	<p>Total:</p>

Appendix 3 Short Form-12

Answer every question by placing a check mark on the line in front of the appropriate answer.

1. In general, would you say your health is:

Excellent (1)

Very Good (2)

Good (3)

Fair (4)

Poor (5)

The following two questions are about activities you might do during a typical day. Does YOUR HEALTH NOW LIMIT YOU in these activities? If so, how much?

2. MODERATE ACTIVITIES, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf:

Yes, Limited A Lot (1)

Yes, Limited A Little (2)

No, Not Limited At All (3)

3. Climbing SEVERAL flights of stairs:

Yes, Limited A Lot (1)

Yes, Limited A Little (2)

No, Not Limited At All (3)

During the PAST 4 WEEKS have you had any of the following problems with your work or other regular activities AS A RESULT OF YOUR PHYSICAL HEALTH?

4. ACCOMPLISHED LESS than you would like:

_____ **Yes (1)**

_____ **No (2)**

5. Were limited in the KIND of work or other activities:

_____ **Yes (1)**

_____ **No (2)**

During the PAST 4 WEEKS, were you limited in the kind of work you do or other regular activities AS A RESULT OF ANY EMOTIONAL PROBLEMS (such as feeling depressed or anxious)?

6. ACCOMPLISHED LESS than you would like:

_____ **Yes (1)**

_____ **No (2)**

7. Didn't do work or other activities as CAREFULLY as usual:

_____ **Yes (1)**

_____ **No (2)**

8. During the PAST 4 WEEKS, how much did PAIN interfere with your normal work (including both work outside the home and housework)?

_____ **Not At All (1)**

_____ **A Little Bit (2)**

_____ **Moderately (3)**

_____ **Quite A Bit (4)**

_____ **Extremely (5)**

The next three questions are about how you feel and how things have been DURING THE PAST 4 WEEKS. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the PAST 4 WEEKS –

9. Have you felt calm and peaceful?

_____ **All of the Time (1)**

_____ **Most of the Time (2)**

_____ **A Good Bit of the Time (3)**

_____ **Some of the Time (4)**

_____ **A Little of the Time (5)**

_____ **None of the Time (6)**

10. Did you have a lot of energy?

_____ **All of the Time (1)**

_____ **Most of the Time (2)**

_____ **A Good Bit of the Time (3)**

_____ **Some of the Time (4)**

_____ **A Little of the Time (5)**

_____ **None of the Time (6)**

11. Have you felt downhearted and blue?

_____ **All of the Time (1)**

_____ **Most of the Time (2)**

_____ **A Good Bit of the Time (3)**

_____ **Some of the Time (4)**

_____ **A Little of the Time (5)**

_____ **None of the Time (6)**

12. During the PAST 4 WEEKS, how much of the time has your PHYSICAL HEALTH OR EMOTIONAL PROBLEMS interfered with your social activities (like visiting with friends, relatives, etc.)?

_____ **All of the Time (1)**

_____ **Most of the Time (2)**

_____ **A Good Bit of the Time (3)**

_____ **Some of the Time (4)**

_____ **A Little of the Time (5)**

_____ **None of the Time (6)**

Appendix 4 Depression Anxiety and Stress Scale 21

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you **over the past week**. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- | | | | | | |
|--------|---|---|---|---|---|
| 0 | Did not apply to me at all | | | | |
| 1 | Applied to me to some degree, or some of the time | | | | |
| 2 | Applied to me to a considerable degree or a good part of time | | | | |
| 3 | Applied to me very much or most of the time | | | | |
| 1 (s) | I found it hard to wind down | 0 | 1 | 2 | 3 |
| 2 (a) | I was aware of dryness of my mouth | 0 | 1 | 2 | 3 |
| 3 (d) | I couldn't seem to experience any positive feeling at all | 0 | 1 | 2 | 3 |
| 4 (a) | I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion) | 0 | 1 | 2 | 3 |
| 5 (d) | I found it difficult to work up the initiative to do things | 0 | 1 | 2 | 3 |
| 6 (s) | I tended to over-react to situations | 0 | 1 | 2 | 3 |
| 7 (a) | I experienced trembling (e.g. in the hands) | 0 | 1 | 2 | 3 |
| 8 (s) | I felt that I was using a lot of nervous energy | 0 | 1 | 2 | 3 |
| 9 (a) | I was worried about situations in which I might panic and make a fool of myself | | | | |
| 10 (d) | I felt that I had nothing to look forward to | 0 | 1 | 2 | 3 |
| 11 (s) | I found myself getting agitated | 0 | 1 | 2 | 3 |

12 (s)	I found it difficult to relax	0	1	2	3
13 (d)	I felt down-hearted and blue	0	1	2	3
14 (s)	I was intolerant of anything that kept me from getting on with what I was doing				
15 (a)	I felt I was close to panic	0	1	2	3
16 (d)	I was unable to become enthusiastic about anything	0	1	2	3
17 (d)	I felt I wasn't worth much as a person	0	1	2	3
18 (s)	I felt that I was rather touchy	0	1	2	3
19 (a)	I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3
20 (a)	I felt scared without any good reason	0	1	2	3
21 (d)	I felt that life was meaningless	0	1	2	3

Appendix 5 PAQ C/ PAQ A

We are trying to find out about your level of physical activity from the last 7 days (in the last week). This includes sports or dance that make you sweat or make your legs feel tired, or games that make you breathe hard, like tag, skipping, running, climbing, and others.

Remember:

1. There are no right and wrong answers — this is not a test.
2. Please answer all the questions as honestly and accurately as you can — this is very important.

1. Physical activity in your spare time: Have you done any of the following activities in the past 7 days (last week)? If yes, how many times? (Mark only one circle per row.)

	No	1-2	3-4	5-6	7 times or more
Swimming ☐☐☐☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rowing/canoeing/Sailing ☐☐☐☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roller Skating ☐☐☐☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking for exercise ☐☐☐ ☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bicycling ☐☐☐☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jogging or running ☐☐☐☐☐ ☐☐☐☐☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Playing Tag or Chase ☐☐☐ ☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baseball or Rounders ☐☐☐ ☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dancing ☐☐☐☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gaelic Football ☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hurling/Camogie ☐☐☐	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Badminton ? ? ? ? ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scooting/ Skateboarding ? ? ? ? ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soccer ? ? ? ? ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volleyball ? ? ? ? ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basketball ? ? ? ? ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Horseriding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Martial Arts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gymnastics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rugby	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tennis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hockey	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Handball	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Athletics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

? ? ?

?

2. In the last 7 days, during your physical education (PE) classes, how often were you very active (playing hard, running, jumping, throwing)? *(Mark one circle only.)*

I don't do PE ?	<input type="radio"/>
Hardly ever ?	<input type="radio"/>
Sometimes ?	<input type="radio"/>
Quite often	<input type="radio"/>
Always ?	<input type="radio"/>

3. In the last 7 days, what did you do most of the time at school break time?

(Mark one circle only.)

Sat down (talking, reading, doing schoolwork	<input type="radio"/>
Stood around or walked around ?	<input type="radio"/>
Ran or played a little bit ?	<input type="radio"/>
Ran around and played quite a bit	<input type="radio"/>
Ran and played hard most of the time ?	<input type="radio"/>

4. In the last 7 days, what did you normally do at lunch time (besides eating lunch)? *(Mark one circle only.)*

Sat down (talking, reading, doing schoolwork	<input type="radio"/>
Stood around or walked around ?	<input type="radio"/>
Ran or played a little bit ?	<input type="radio"/>
Ran around and played quite a bit ?	<input type="radio"/>
Ran and played hard most of the time	<input type="radio"/>

?

5. In the last 7 days, on how many days right after school, did you do sports, dance, or play games in which you were very active? *(Mark one circle only.)*

None	<input type="radio"/>
1 time last week ?	<input type="radio"/>
2 or 3 times last week ?	<input type="radio"/>
4 times last week ?	<input type="radio"/>
5 times last week ?	<input type="radio"/>

6. In the last 7 days, on how many evenings did you do sports, dance, or play games in which you were very active? *(Mark one circle only.)*

None	<input type="radio"/>
1 time last week	<input type="radio"/>
2 or 3 times last week	<input type="radio"/>
4 times last week	<input type="radio"/>
5 times last week	<input type="radio"/>

?

7. On the last weekend, how many times did you do sports, dance, or play games in which you were very active? *(Mark one circle only.)*

None	<input type="radio"/>
1 time	<input type="radio"/>
2 — 3 times	<input type="radio"/>
4 — 5 times	<input type="radio"/>
6 or more times	<input type="radio"/>

?

8. Which one of the following describes you best for the last 7 days? Read all five statements before deciding on the one answer that describes you.

A. All or most of my free time was spent doing things that involve little physical effort	<input type="radio"/>
B. I sometimes (1 — 2 times last week) did physical things in my free time (e.g. played sports, went running, swimming, bike riding, did aerobics)	<input type="radio"/>
C. I often (3 — 4 times last week) did physical things in my free time	<input type="radio"/>
D. I quite often (5 — 6 times last week) did physical things in my free time	<input type="radio"/>
E. I very often (7 or more times last week) did physical things in my free time	<input type="radio"/>

9. Mark how often you did physical activity (like playing sports, games, doing dance, or any other physical activity) for each day last week.

	<i>None</i>	<i>Little Bit</i>	<i>Medium</i>	<i>Often</i>	<i>Very often</i>
Monday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wednesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thursday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

?

10. Were you sick last week, or did anything prevent you from doing your normal physical activities? (*Mark just one circle*)

Yes

No

If Yes, what prevented you? _____

Appendix 6 Me and My Feelings Questionnaire

Below is a questionnaire which is going to ask you how you feel. There are no right or wrong answers. You should just pick the answer which is best for you.

	Never	Sometimes	Always
I feel lonely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I cry a lot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am unhappy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nobody likes me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I worry a lot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have problems sleeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I wake up in the night	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am shy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I worry when I am at school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get very angry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I lose my temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I hit out when I am angry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do things to hurt people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am calm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I break things on purpose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 7 IEP Assessment Form Pre- Intervention



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LAIRGE



Assessment Form for IEP Service: Pre Intervention

IEP Reference number: _____

Date: _____

Demographics:

Age: _____

Gender: Male / Female / Rather not say

Address: _____

Current Housing: _____

Marital Status:

Single

Married

Widowed / Separated

Engaged

Divorced

Cohabiting

Education Level:

Primary School

College of Further Education

Secondary School

College

Additional comments: _____

Smoker: Yes/ No If yes, how many cigarettes per day? _____

E-cigarettes use Yes/ No If yes, how many ml per day? _____

Alcohol intake: Yes/ No. If yes, how many units per week _____

Employment Status:

Full-Time

Unemployed

Retired

Part-Time

Student

Additional comments: _____

(CAMHS) *If in school, what year? _____

1. Current Engagement with Community for exercise?

2. Current Engagement with Community for other activities?

3. Contact with Health Professionals

Number of visits to general practitioner (GP) within the last year?		
0	1-2	3-4 5-6 7-8 9-10 More than 10
In the past year, number of contacts with other healthcare professionals, Psychiatrist		
Nursing Staff		
Other Medical Consultant	Dentist	
Physiotherapist	Occupational therapist	
Social worker		
Speech therapist	Dietician	Chiropodist
Other. Please specify _____		
Were you hospitalised in last year Yes No		
If yes, for how many days		
In paid employment Yes No		
Missed work due to illness- Yes No		
If yes, how many days on average each year		

Physical Activity Readiness Questionnaire (PAR-Q)

Regular exercise is associated with many health benefits, yet any change of activity may increase the risk of injury. Completion of this questionnaire is a first step when planning to increase the amount of physical activity in your life.

Please read each question carefully and answer every question: (Tick the appropriate answer)

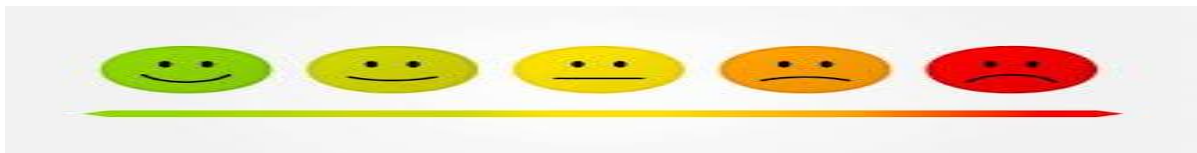
	Yes	No
Do you have a heart condition and should only do physical activity recommended by a physician?		
When you do physical activity, do you feel pain in your chest?		
When you were not doing physical activity, have you had chest pain in the past month?		
Do you ever lose consciousness or do you lose your balance because of dizziness?		
5. Do you have a joint or bone problem that may be made worse by a change in your physical activity?		
6. Is a physician currently prescribing medications for your blood pressure or heart condition?		
7. Are you pregnant?		
8. Do you know of any other reason you should not exercise or increase your physical activity?		

(If yes to any of the above questions, IEP will ask the SERVICE USER to contact their key worker and IEP will link with referrer to plan next step in relation to concern raised. In addition, the IEP will also inform participant that if at any stage their health changes, resulting in a 'yes' answer to any of the above questions to please inform the IEP seek guidance from their GP)

Goals Set (Service users own words)

- 1.
- 2.
- 3.

Satisfaction with this assessment by IEP



Very Satisfied More than Satisfied "Satisfied Partly Satisfied Not at all Satisfied

Appendix 8: Interview Topic Guide for Adult Participants / CAMHS

Research Interview with Mental Health Service users

Questions include the following:

1. How did you come to be involved in the IEP project?
 - *what about the programme interested you? Why did you want to sign up?*
 - *Was there anything about the project at the start which made you hesitant about signing up or did you have any initial concerns*
2. What did you hope to get out of working with the IEP?
3. Did you get what you hoped for from working with the IEP?
4. Did you get what you hoped for?
5. Were there any outcomes that you were not expecting?
6. How do you feel about a role like the IEPs being part of your mental health care plan?
7. What parts of the programme do you feel worked well?
8. What parts of the programme do you feel did not work well? How could they be made better?
9. How did you feel about the 8-week intervention?
10. Do you think other mental health services users would be interested in working with an IEP and why?
11. Can you tell me about the exercise plan that the IEP recommend for you? what was involved?
12. What type of goals did you and the IEP agree to set during the intervention?
13. What support did you receive from the IEP in implementing your exercise plan and in reaching the set goals?
14. Do you feel the exercise plan and support provided by the IEP was working for you?
15. How long has it been since your last contact with the IEP and since the 8-week intervention programme?
16. After the intervention had ended, were you able to continue the exercise plan? Why was that?
17. Have you made progress in the goals set at the conclusion of the intervention?
18. Compared to what you were doing when you started the programme with the IEP, what are you doing differently now?

19. Is there anything that could be done differently in the intervention or by the IEP that could have helped you make further progress?
20. What exercise goals have you got going forward?
21. Is there anything that you think is important to mention about your experience of working with the IEP?

Research Interview Topic Guide CAMHS Parents -Guardians

Questions could include the following:

1. How were you/your child informed about the Exercise project?
 - What interested you and your child about the programme? What made you and your child want to sign up?
 - Was there anything about the programme initially that would have made you or your child hesitant or concerned about using this service?
2. How did the Integrated Exercise Practitioner make initial contact with you/your child?
3. What did you or your child hope to get from working with the IEP?
4. What positive benefits did your child experience from working with the IEP during or after the exercise intervention that you have observed?
5. Did you observe any negative experiences/ outcomes for your child which occurred during or after working with the IEP?
 - If yes, What do you think caused this?
6. How do you feel about a role like the IEP's being part of your child's mental health care plan?
7. How does your child feel about the IEP being involved in their mental health care plan?
8. What aspects of the role do you feel worked well and what aspects did not work well?
9. How do you think having someone like the IEP could be used with other children with the same or other mental health conditions?
10. How did you and your child feel about the 8-week intervention?
11. What type of exercise plan did the IEP recommend for your child?
12. What type of goals were set for your child during the intervention?
13. What support did the IEP provide to help your child to implement their plan/ achieve their goals?
14. What kind of contact did you receive from the IEP during the implementation of the intervention?
15. Were you happy with this level of contact?
16. How long has it been since your child's last contact with the IEP and since the 8-week intervention programme?
17. What aspects of the intervention is your child still implementing in their day-to-day life?

18. How have the goals set at the conclusion of the IEP's intervention been progressing?
19. Were there any goals which were difficult to achieve?
20. Compared to your child's exercise behaviour/habits when they started, what are they doing differently now?
21. Is there anything that could be done differently in the intervention or by the IEP that could have helped your child to maintain the progress made in the intervention or to make further progress to in their goals?
22. Is there anything that you think is important to mention about your experience of working with the IEP?

Appendix 9 Focus Group Topic Guide for MDT

Opener

1. What is your understanding of the role of IEP?
2. Has this changed in any way?

Reach

3. What is your understanding of how patients are referred to the IEP?
4. Do you believe this was effective?
 - *In your opinions, what factors might have contributed to the referral /non referral of patients?*
 - *What factors might have contributed to the participation/non-participation of patients?*
 - *Was everyone referred accommodated on the programme?*
 - *Were there people who should have been referred that were not?*
 - *If yes, was there a reason they were not or is this a retrospective view?*
 - *What could be done to facilitate the programme to more of the target audience?*

Effectiveness

5. In your opinion what are the possible outcomes for a patient that has been referred to the IEP?
 - *What were your initial expectations of this project?*
 - *How successful was the programme in reaching your expectations?*
 - *What factors contributed to this?*
 - *Were there any outcomes that you were not expecting? (Positive or negative)*

Adoption

6. Would this role integrate easily into the services already offered in the mental health sector?

- *What factors influenced your decision to be part of the IEP project?*
- *What about your experience of the IEP role would encourage you to recommend the service to other professionals in the sector?*

7. Would it be well received by other professionals in the sector?

- *Do you perceive any barriers that would prevent other service providers from accepting the role of IEP as part of the mental health service?*

Implementation

8. What can you tell me about the programme itself and how it is being delivered to patients?

- *To what extent was the IEP project implemented as it was originally intended?*
- *What factors influenced how the programme was implemented and to what extent?*
- *Have any modifications been made to the original project in order to implement the programme effectively? What were these modifications and the purpose behind them?*
- *Did you or your organisation request or make modifications and if so, why?*

Maintenance

9. Do you think this service is viable in terms of professional and patient utilisation and cost effectiveness?

- *Do you see a value to sustaining the role of the IEP?*

-Why is that?

- *What do you think is needed for role to be sustained?*
- *To what extent is the role of IEP and the service the role provides viable as part of the mental health services?*

- *Do you believe the effects of the IEP programme can be maintained by service users and the effect sufficient to warrant the cost of the programme?*

Appendix 10: Interview Topic Guide for IEP

RE-AIM Component	Exploratory Themes
Reach	What factors contributed to the participation/non-participation of the service users in this intervention?
Effectiveness	To what extent were the project expectations met/not met? What factors affected these outcomes?
Adoption	How has the role of the IEP been perceived by staff members and service users? What factors affected this perception?
Implementation	How has the programme been implemented across the services? What has worked well and what has not worked well?
Maintenance	To what extent is the IEP programme model being maintained since the start of the project? What reasons exist for maintaining, or discontinuing the existing model? Do service users maintain exercise behaviour following the 8 week intervention period?

Appendix 11 Topic Guide / Questionnaire for Steering Group

The Exercise Effect IEP – MH project is being evaluated with a view to examining the impacts of the project and making recommendations for future roll out IEP projects.

As you have been a member of the Steering Group, we would be interested in getting your views on the IEP project

We are therefore asking you to complete this interview/ survey. Your answers will remain confidential to the Research team and we will make every effort to ensure you are not identifiable in any respect in any reports.

1. Are you: Male Female
2. Who is your employer? SAW HSE
Other- please specify_____
3. What is your profession?_____
4. What did you see as your role on the Steering Group? _____
5. What is your understanding of the role of the IEP? _____
6. What were your expectations from the Exercise Effect project when the project started
7. Were these expectations met- yes -no. Please explain your answer
8. What factors, do you think, contributed to the participation/non-participation of the service users in the IEP intervention?
9. How do you think the role of the IEP has been perceived by staff members
10. What factors affected this perception of the role?
11. How do you think the role of the IEP has been perceived by service users?
12. What factors affected this perception of the role?
13. Do you have any views on why there were differences, if any, in the project successes between teams/contexts?

14. What worked well with the Exercise Project and should be maintained.
15. What did not work well, and how could/ should it be modified?
16. What recommendations would you make, if any, for improving the IEP project?
17. The IEP project was implemented using a model, where there was a partnership between the HSE and SAW, with oversight by a Steering Group and a clinical mentor in place to support the IEP.
 - a. In your opinion what did the HSE bring to the IEP project and how did they support it?
 - b. In your opinion what did SAW bring to the IEP project and how did they support it?
 - c. What were your perception of the oversight provided by the Steering group?
 - d. In your opinion, how did these different organisations/groups work in collaboration to deliver the role of the IEP?
18. What recommendations would you make regarding a Steering committee for an IEP Project if running in another county?
19. What recommendations would you make regarding a Clinical mentor for an IEP Project if running in another county?
20. What recommendations would you make regarding SOPs for an IEP Project if running in another county?
21. In your opinion should the IEP model in its current format be maintained? Yes/No?
22. What recommendations would you make for the model going forward?"
23. The project is being evaluated under the RE-Aim framework-
 - a. We are looking at how the project reached the intended target population. What are your views on this 'Reach' for the Exercise Effect Project
 - b. What are your views on the 'efficacy / effectiveness' of the Exercise Effect Project
 - c. What are your views on the 'adoption' of the Exercise effect project by service users, staff or systems?
 - d. What are your views on the 'implementation' of the Exercise effect project?
 - e. What are your views on how the intervention effects from the Exercise Effect can be 'maintained' over time?

24. Have you any thoughts or reflections on the project or process that may not have been explored in the above questions?

Appendix 12 Research Information Leaflets

Research Information Sheet Adult IEP-MH Programme Participants

Study title: The Exercise Effect: An evaluation project of an integrated exercise professional in mental health (IEP-MH)

Principal investigator's name: Dr Suzanne Denieffe

Principal investigator's title: Dean of the Faculty of Humanities,
Waterford Institute of Technology,
Waterford

Telephone number of principal investigator: 051 302250

Data Controller's/joint Controller's Identity: Dr Suzanne Denieffe

Data Controller's/joint Controller's Contact Details:

Email: sdenieffe@wit.ie

Telephone- 051-302250

Data Protection Officer's Identity: Ms Corina Power

Data Protection Officer's Contact Details: cspower@wit.ie

You are being invited to take part in a research study being carried out by Waterford Institute of Technology.

Before you decide whether or not you wish to take part, you should read the information provided below carefully and, if you wish, discuss it with your family, friends or mental health key worker GP (doctor). Take time to ask questions – don't feel rushed and don't feel under pressure to take part.

You should clearly understand the risks and benefits of taking part in this study so that you can make a decision that is right for you. This process is known as 'Informed Consent', you are fully informed before you decide to take part or not

You don't have to take part in this study. If you decide not to take part it won't affect your participation in the Integrated Exercise Practitioner (IEP) Programme.

You can change your mind about taking part in the study any time you like. Even if the study has started, you can still opt out. You don't have to give us a reason. If you do opt out, rest assured it won't affect the quality of treatment you get in the future.

Why is this study being done?

An Integrated Exercise Practitioner (IEP) - Mental Health is now working with the Wexford mental health services. This is the first time such a person has been in this role in place in mental health services in Ireland. The study is examining the effects of having the IEP in place and the research results will help plan for the introduction of this role in other mental health services.

Who is organising and funding this study?

This research study is being undertaken by Waterford Institute of Technology. The research study is being funded by the Slaintecare Integration Fund (2019).

Why am I being asked to take part?

You are being invited to take part in this research study as you are linking with the IEP for an exercise programme.

How will the study be carried out?

You have been invited to take part in semi structured interviews with research staff from Waterford Institute of Technology to collect information on your experiences of engaging with the IEP-MH for an exercise programme. The interview will take no longer than 1 hour and will be recorded by dictaphone and then analysed by the research team within two weeks.

All information gathered will be treated in the strictest of confidence. To ensure this, your name and all personally identifiable information will be removed from all data and replaced with an ID code number and a pseudonym. Only the researchers will know the ID number. The Dictaphone recordings will be destroyed immediately once transferred to a password protected computer.

The research team in WIT will analyse all of the anonymised data to evaluate the outcomes of the exercise programme and will write a publication based on the research evaluation. You will be able to access this publication by contacting the research team.

What will happen to me if I agree to take part?

Once you let us know you were interested in taking part in this study, you received this research information sheet and informed consent form from the research team at WIT. You need to carefully read both documents and if you would still like to take part in the research, you will be invited for an interview, which can be done over the phone, online via video link or in person. Prior to starting the interview you will be asked to read and sign the informed consent, and to ask any questions you may have.

The interview will be casual and questions will be asked about your experiences of the IEP programme. The interview will be recorded for the purposes of remembering the information you are telling us. This data will be anonymised and your name and personal details will all be removed and replaced with an ID number and a false name. The results of the evaluation study will be published but will not identify any of the research participants.

You will be offered the opportunity to read your interview data until this data is merged with all other interview data, after which point individual results cannot be differentiated. This will happen within 2 weeks of the interview. You can request for your interview to be removed from the research up until the point that the results are merged together. You can request your data from the study up to 10 years post completion of the study- this would include a copy of your consent form and the notes taken from your interview.

What are the benefits?

Your involvement will help us to see how well the IEP role is working and the effects it has on your and other participants' health. Knowing this will help us to promote and plan for the expansion of the programme to a wider body of service users.

What are the risks?

The only risk that exists is a potential for distress caused by the completion of the interview. If you become distressed at any time during this process please let the research team know and they can assist you. You can end the interview at any time if you feel distressed and wish not to continue.

Is the study confidential?

This study is confidential. The research team will not have access to your medical records or contact with your GP or other healthcare providers. The results of the study will be published but no personally identifiable information will appear in these publications as they will be replaced by codes and pseudonyms. We will not be keeping any information of samples for use in future research studies.

Should any information be disclosed by you during the study which may indicate that you or someone else is at risk of harm, the researchers are obliged to disclose this information to a relevant party, for example your mental health team, or Tusla if a child is involved.

Data Protection

1. We will be using your information in our research to help us evaluate the role of the Integrated Exercise Practitioner in Mental Health services and the impact it has on your and other participants' health.
2. The data is being processed for the purpose of scientific research (General Data Protection Regulation 2016, Article 9(2)(j))
3. As per the Data Protection Regulation (2018) and the WIT Data Retention Schedule (2020) all information will be kept only for the purposes of this study and will be held for up to 10 years after study completion.
4. The audio recording from the Dictaphone will be destroyed once the data has been added to a password protected computer. This computer audio file will be deleted once the audio data has been coded and analysed. This will occur within 2 weeks of the interviews/focus groups being conducted.
5. Following the collection of the interview data, every participant will be given a random number so that their interview transcripts can be analysed. Only the Principal Investigator will know the key to these numbers.
6. All electronic data will be stored on password protected computers at Waterford Institute of Technology accessible only to the research team. The paper consent forms will be stored in a locked cabinet in the office of the PI at WIT and stored for up to 10 years.

7. You have the right to withdraw consent to your data being used in this research project at any time by contacting the Research Team.
8. You have the right to lodge a complaint with the Data Protection Commissioner.
9. You have a right to request access to your file and a copy of it, through the Freedom of Information officer in WIT. However your individual data from the interviews cannot be removed once it has been merged for analysis with other people's data. This will occur within 1 month of your interview.
10. You have a right to have your data collected but not processed as part of this research.
11. You have a right to request your interview data to be removed from the data analysis for up to four weeks following the interviews. After this point, your individual data cannot be separated from the analysed data.

Where can I get further information?

If you have any further questions, please feel free to contact any of the research team at WIT, contact details below:

Dr Elaine Banville (Research Team WIT) ebanville@wit.ie	Dr Suzanne Denieffe (Research Team WIT) sdenieffe@wit.ie Phone: 051302250	Dr Evan Mathews (Research Team WIT) ematthews@wit.ie
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Thank you for taking time to read this Research Information Sheet.

Information Leaflet

Study title: The Exercise Effect: An evaluation project of an integrated exercise professional in mental health (IEP-MH)

Principal investigator's name: Dr Suzanne Denieffe
Principal investigator's title: Dean of the Faculty of Humanities,
Waterford Institute of Technology,
Waterford

Telephone number of principal investigator: 051302250

Data Controller's/joint Controller's Identity: Dr Suzanne Denieffe

Data Controller's/joint Controller's Contact Details:

Email: sdenieffe@wit.ie

Telephone- 051-302250

Data Protection Officer's Identity: Ms Corina Power

Data Protection Officer's Contact Details: cspower@wit.ie

You are being invited to take part in a research study being carried out by Waterford Institute of Technology.

Before you decide whether or not you wish to take part, you should read the information provided below carefully and, if you wish, discuss it with your family, friends or mental health key worker GP (doctor). Take time to ask questions – don't feel rushed and don't feel under pressure to take part in the study.

You should clearly understand the risks and benefits of taking part in this study so that you can make a decision that is right for you. This process is known as 'Informed Consent'.

You don't have to take part in this study. If you decide not to take part it won't affect your child's participation in the Integrated Exercise Practitioner (IEP) Programme.

You can change your mind about taking part in the study any time you like. Even if the study has started, you can still opt out. You don't have to give us a reason. If you do opt out, rest assured it won't affect the quality of treatment your child will get in the future.

Why is this study being done?

An Integrated Exercise Practitioner (IEP) - Mental Health is now working with the Wexford mental health services. This is the first time such a person has been in this role in place in mental health services in Ireland. The study is examining the effects of having the IEP in place and the research results will help plan for the introduction of this role in other mental health services.

Who is organising and funding this study?

This research study is being undertaken by the Mental Health Services, Sports Active Wexford and Waterford Institute of Technology. The research study is being funded by the Slaintecare Integration Fund (2019).

Why am I being asked to take part?

You are being invited to take part in this research study as your child has linked with the IEP-MH for an exercise programme.

How will the study be carried out?

You are being invited to take part in semi structured interviews with research staff from Waterford Institute of Technology to collect information on yours and your child's experiences of engaging with the IEP-MH for an exercise programme. The interview will take no longer than 1 hour and will be recorded by dictaphone and analysed by the research team. All information gathered will be treated in the strictest of confidence. To ensure this, your name, your child's name and all personally identifiable information will be removed from all data and replaced with an ID code number and a pseudonym. Only the researchers will know the ID number. The Dictaphone recordings will be destroyed immediately once they have been transferred to a password protected computer. This computer audio file will be deleted once the data has been analysed.

The research team in WIT will analyse all of the anonymised data to evaluate the outcomes of the exercise programme and will write a publication based on the research evaluation. You will be able to access this publication by contacting the IEP or research team.

What will happen to me if I agree to take part?

Once you let the research team know you were interested in taking part in this study you received this research information sheet and informed consent form from the research team at WIT. You are asked to carefully read both documents and if you would still like to take part in the research, you will be invited for an interview, which can take place over the phone, online via video conferencing or in person. Prior to commencing the interview you will be asked to read and sign the informed consent, having the opportunity to ask any questions you may have.

The interview will be casual and questions will be asked about your experiences of the IEP programme. The interview will be recorded for the purposes of transcribing the information. The data will be anonymised and your name and personal details will all be removed and replaced with an ID number and a pseudonym. The results of the evaluation study will be published but will not identify any of the research participants. You will be offered the opportunity to read your interview transcription data notes until this data is merged with all other interview data, after which point individual results cannot be differentiated. You can request for your interview to be removed from the research up until the point that the results are merged together, this merging will take place 4 weeks post the interview. You can request your data, that is your consent form and the notes from your interview up to 10 years post completion of the study

What are the benefits?

Your involvement will help us to see how well the IEP role is working and the effects it has had on your child's health and wellbeing. Knowing this will help us to promote and plan for the expansion of the programme to a wider body of service users.

What are the risks?

No risk exists to you other than the potential for distress caused by the completion of the interview. If you become distressed at any time during this process please let the research team know and they can assist you. You can end the interview at any time if you feel distressed and wish not to continue.

Is the study confidential?

This study is confidential. The research team will not have access to your child's medical records or contact with your GP or other healthcare providers. The results of the study will be published but no personally identifiable information will appear in these publications as they will be replaced by codes and pseudonyms. We will not be keeping any information of samples for use in future research studies.

Should any information be disclosed by you during the study which may indicate that you or someone else is at risk of harm, the researchers are obliged to disclose this information to a relevant party, for example, Tusla if a child is involved.

Data Protection

1. We will be using your information in our research to help us evaluate the role of the Integrated Exercise Practitioner in Mental Health services and the impact it has on your child's health and wellbeing.
2. The data is being processed for the purpose of scientific research (General Data Protection Regulation 2016, Article 9(2)(j))
3. The research team at Waterford Institute of Technology will have access to the information provided in the interview but will replace all personally identifiable information during the transcription of notes prior to data analysis and publication of evaluation findings.
4. As per the Data Protection Regulation (2018) and the WIT Data Retention Schedule (2020) all information will be kept only for the purposes of this study. The anonymised data and informed consent forms will be held for up to ten years after study completion. The audio recordings will be destroyed once the interviews have been analysed within two weeks of the interview.
5. Once collected the data will be pseudonymised – each participant will be given a random number so that their interview transcripts can be analysed. This data will be stored on password protected computers at Waterford Institute of Technology accessible only to the PI.

6. You have the right to withdraw consent to your data being used in this research project for up to four weeks after the interview by contacting the Research team in WIT.
7. You have the right to lodge a complaint with the Data Protection Commissioner.
8. You have a right to request access to your file and a copy of it, through the Freedom of Information officer in WIT.
9. You have a right to have your data collected but not processed as part of this research. However your individual data from the interviews cannot be removed once it has been merged for analysis with other peoples data.
10. You have a right to request any inaccurate information be corrected or deleted unless your request would make it impossible or make it very difficult to conduct the research. e.g. deleting data at the end of a research project just before it is due to be published.
11. Your data will not be used for profiling or moved to any other service

Where can I get further information?

If you have any further questions, please feel free to contact either the IEP ***** or the staff members of the research team at WIT, contact details below:

Dr Elaine Banville (Research Team WIT) ebanville@wit.ie	Dr Suzanne Denieffe (Research Team WIT) sdenieffe@wit.ie Phone: 051302250	Dr Evan Mathews (Research Team WIT) ematthews@wit.ie
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Research Information Sheet for Staff of Wexford Sports Active/Wexford Mental Health Service

Information Leaflet

Study title: The Exercise Effect: An evaluation project of an integrated exercise professional in mental health (IEP-MH)

Principal investigator's name: Dr Suzanne Denieffe
Principal investigator's title: Dean of the Faculty of Humanities,
Waterford Institute of Technology,
Waterford

Telephone number of principal investigator: 051302250

Data Controller's/joint Controller's Identity: Dr Suzanne Denieffe

Data Controller's/joint Controller's Contact Details:

Email: sdenieffe@wit.ie

Telephone- 051-302250

Data Protection Officer's Identity: Ms Corina Power

Data Protection Officer's Contact Details: cspower@wit.ie

You are being invited to take part in a research study being carried out by Waterford Institute of Technology.

Before you decide whether or not you wish to take part, you should read the information provided below carefully. Take time to ask questions – don't feel rushed and don't feel under pressure to make a quick decision to take part in the study.

You should clearly understand the risks and benefits of taking part in this study so that you can make a decision that is right for you. This process is known as 'Informed Consent'.

You don't have to take part in this study.

You can change your mind about taking part in the study any time you like. Even if the study has started, you can still opt out. You don't have to give us a reason.

Why is this study being done?

An Integrated Exercise Practitioner (IEP) - Mental Health is now working with the Wexford mental health services. This is the first time such a person has been in this role in mental health services in Ireland. The study is examining the effects of having the IEP in place and the research results will help plan for the introduction of this role in other mental health services.

Who is organising and funding this study?

This research study is being undertaken by Waterford Institute of Technology. The research study is being funded by the Slaintecare Integration Fund (2019).

Why am I being asked to take part?

You are being invited to take part in this research study as you have been involved in linking with the IEP-MH through your work.

How will the study be carried out?

You are being invited to take part in focus groups with other staff members from your organisation, to collect information on your experiences of engaging with the IEP-MH and your opinions on the efficacy of the IEP-MH role. The focus group will be conducted by research assistants from WIT and will take no longer than 1 hour. The focus group will be recorded by dictaphone and analysed by the research team. You will also be offered the option of attending a 1:1 interview with the research team if you wish to discuss any specific information relating to the IEP programme which you would like to discuss in confidentiality.

All information gathered will be treated in the strictest of confidence. To ensure this, your name, your organisations name and all personally identifiable information will be removed from all data and replaced with an ID code number and a pseudonym. Only the researchers will know the ID number. The Dictaphone recordings will be destroyed immediately once the notes have been analysed. within two weeks of conducting the interview.

The research team in WIT will analyse all of the anonymised data to evaluate the outcomes of the exercise programme and will write a publication based on the research evaluation. You will be able to access this publication by contacting the IEP or research team.

What will happen to me if I agree to take part?

Once you expressed your interest in taking part in this study you received this research information sheet and informed consent form from the research team at WIT. You are asked to carefully read both documents and if you would still like to take part in the research, you will be invited to a focus group interview, which can be conducted online via video conferencing or in person (Covid risk assessment management plan permitting). Prior to commencing the focus group you will be asked to read and sign the informed consent, having the opportunity to ask any questions you may have.

The focus group will be informal and questions will be asked about your experiences of the IEP programme. The focus group will be recorded for the purposes of transcribing the information. The data will be anonymised and your name and personal details will all be removed and replaced with an ID number and a pseudonym. The results of the evaluation study will be published but will not identify any of the research participants. You will be offered the opportunity to read your interview data until this data is merged with all other interview data, after which point individual results cannot be differentiated. You can request for your interview to be removed from the research up until the point that the results are merged together.

Should you wish to participate in the study, but not to attend the focus group, arrangements can be made for an individual interview, either in person or online. Again your interview will be recorded for the purposes of transcribing the information. The data will be anonymised and your name and personal details will all be removed and replaced with an ID number and a pseudonym.

What are the benefits?

Your involvement will help us to see how well the IEP role is working and the effects it has had on participants' health and wellbeing. Knowing this will help us to promote and plan for the expansion of the programme to a wider body of service users.

What are the risks?

While the Research team will keep your information confidential, when you attend a focus group, the need to keep the focus group confidential will be stressed to all those present but cannot be guaranteed by the Research Team.

Another risk exists is the potential for distress caused by the completion of the focus group or interview. If you become distressed at any time during this process please let the research team know and they can assist you. You can end the interview at any time if you feel distressed and wish not to continue.

Is the study confidential?

This study data is treated as confidential by the Research Team. The results of the study will be published but no personally identifiable information or information relating to your organisation will appear in these publications as they will be replaced by codes and pseudonyms. We will not be keeping any information for use in future research studies.

Should any information be disclosed by you during the study which may indicate that you or someone else is at risk of harm, the researchers are obliged to disclose this information to a relevant party, for example a mental health team, or Tusla if a child is involved.

Data Protection

1. We will be using your information in our research to help us evaluate the role of the Integrated Exercise Practitioner in Mental Health services and the impact it has on participant's health and wellbeing.
2. The data is being processed for the purpose of scientific research (General Data Protection Regulation 2016, Article 9(2)(j))
3. The research team at Waterford Institute of Technology will have access to the information provided in the interview/focus group but will replace all personally identifiable information with a participant code during the transcription of notes prior to data analysis and publication of evaluation findings.
4. As per the Data Protection Regulation (2018) and the WIT Data Retention Schedule (2020) all information will be kept only for the purposes of this study and will be held

for up to ten years in anonymised format after study completion. The audio recordings will be destroyed once the interviews have been analysed, this will occur within two weeks of the interview. .

5. Once collected the data will be pseudonymised – each participant will be given a random number so that their interview transcripts can be analysed. This data will be stored on password protected computers at Waterford Institute of Technology accessible only to the research team.
6. You have the right to withdraw consent to your data being used in this research project at any time by contacting the research team in WIT.
7. You have the right to lodge a complaint with the Data Protection Commissioner.
8. You have a right to request access to your file and a copy of it, through the Freedom of Information officer in the HSE.
9. You have a right to have your data collected but not processed as part of this research. However, your interview data will not be possible to remove once it has been analysed as it cannot at that stage be separated from the data from other participants. This analysis will take place four weeks post completion of the interview/ focus groups.
10. You have a right to request any inaccurate information be corrected or deleted.

Where can I get further information?

If you have any further questions, please feel free to contact f the research team at WIT, contact details below:

Dr Elaine Banville (Research Team WIT) ebanville@wit.ie	Dr Suzanne Denieffe (Research Team WIT) sdenieffe@wit.ie Phone: 051302250	Dr Evan Mathews (Research Team WIT) ematthews@wit.ie Phone:
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Thank you for taking time to read this Research Information Sheet.

Appendix 13 Informed Consent Forms

Consent Form Adult participants

Study Title: The Exercise Effect: An evaluation project of an integrated exercise professional in mental health (IEP)

I _____ am aware that I am being invited to participate in the research study being conducted by Waterford Institute of Technology, to examine the effect of the Integrated Exercise Practitioner-Mental Health (IEP) Programme in order to determine how well the IEP role is working and the effects it has on my and other participants health.

Please insert a ✓ in the boxes provided if happy to do so.

	Yes	No
I have read and understood the research information sheet and I have had the opportunity to ask questions on this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I voluntarily agree to participate in this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that even if I agree to participate now, I can withdraw up to 4 weeks post completion of the interview/focus group, without any consequences of any kind.	<input type="checkbox"/>	<input type="checkbox"/>
I have had the purpose and nature of the research explained to me in writing and I have had the opportunity to ask questions about the research.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that this research evaluation is being carried out by WIT and is funded by the Slaintecare Integration Fund (2019)	<input type="checkbox"/>	<input type="checkbox"/>
I understand that all information I provide for this research will be treated confidentially.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that the results of this research may be published and that in any report on the results of this research my identity will remain anonymous. This will be done by assigning a code and no details will be provided to the research team that may reveal my identity	<input type="checkbox"/>	<input type="checkbox"/>

I understand that under Freedom of information legislation I am entitled to access the individual interview data I have provided at any time up to 10 years post completion of the study	<input type="checkbox"/>	<input type="checkbox"/>
I understand that I am free to contact the research team to seek further clarification and information.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that under the Data Protection Regulation (2018) and the WIT Data Retention Schedule (2020) all information will be kept only for the purposes of this study and will be held for up to ten years in anonymised format after study completion.	<input type="checkbox"/>	<input type="checkbox"/>
I am aware that I can request a break at any time during the interview and that the interview can be stopped and re-started at another time, or cancelled completely, if I become distressed.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that the researcher has boundaries on confidentiality whereby any information that may suggest the risk of harm to myself or others will be discussed with relevant authorities and confidentiality broken as a result.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that taking part involves an interview where I will be discussing my experiences of engaging with the IEP.	<input type="checkbox"/>	<input type="checkbox"/>
I agree to my interview being audio recorded. I consent for extracts/quotations of our discussion to be used in publications that may arise from this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that giving consent for the data collected during the interview to be used by WIT for the purpose of the evaluation of the IEP Programme is voluntary and opting not to consent will not exclude me from participating in the programme.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that by signing this form I am giving my consent to participate in the IEP Programme Evaluation and that I am aware that my data will be analysed by Waterford Institute of Technology.	<input type="checkbox"/>	<input type="checkbox"/>
I consent to take part in this research study having been fully informed of the risks, benefits and alternatives.	<input type="checkbox"/>	<input type="checkbox"/>
I give informed explicit consent to have my data processed as part of this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I consent to be contacted by researchers as part of this research study.	<input type="checkbox"/>	<input type="checkbox"/>

FUTURE CONTACT	
<i>I consent to be re-contacted by Waterford Institute of Technology about possible future research related to the current study for which I may be eligible.</i>	<p>Yes</p> <p>No</p>

Signature of Participant: _____

Date: _____

Signature of Research Assistant WIT: _____ Date: _____

A copy of this form will be retained by WIT and one copy is for my own records.

Consent form Parents/guardians of child participants

Study Title: The Exercise Effect: An evaluation project of an integrated exercise professional in mental health (IEP)

I _____ am aware that I am being invited to participate in the research study being conducted by Waterford Institute of Technology, to examine the effect of the Integrated Exercise Practitioner-Mental Health (IEP) Programme in order to determine how well the IEP role is working and the effects it has on my child's and other participants health.

Please insert a ✓ in the boxes provided if happy to do so.

	Yes	No
I have read and understood the research information sheet and I have had the opportunity to ask questions on this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I voluntarily agree to participate in this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that even if I agree to participate now, I can withdraw up to 4 weeks post completion of the interview/focus group without any consequences of any kind.	<input type="checkbox"/>	<input type="checkbox"/>
I have had the purpose and nature of the research explained to me in writing and I have had the opportunity to ask questions about the research.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that this research evaluation is being carried out by WIT and is funded by the Slaintecare Integration Fund (2019)	<input type="checkbox"/>	<input type="checkbox"/>
I understand that all information I provide for this research will be treated confidentially.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that the results of this research may be published and that in any report on the results of this research my identity will remain anonymous. This will be done by assigning a code and no details will be provided to the research team that may reveal my identity	<input type="checkbox"/>	<input type="checkbox"/>

I understand that under Freedom of information legislation I am entitled to access the individual interview data I have provided at any time up to 10 years post completion of study	<input type="checkbox"/>	<input type="checkbox"/>
I understand that I am free to contact the research team to seek further clarification and information.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that under the Data Protection Regulation (2018) and the WIT Data Retention Schedule (2020) all information will be kept only for the purposes of this study and will be held for up to ten years in anonymised format after study completion.	<input type="checkbox"/>	<input type="checkbox"/>
I am aware that I can request a break at any time during the interview and that the interview can be stopped and re-started at another time, or cancelled completely, if I become distressed.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that the researcher has boundaries on confidentiality whereby any information that may suggest the risk of harm to myself or others will be discussed with relevant authorities and confidentiality broken as a result.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that taking part involves an interview where I will be discussing my experiences of engaging with the IEP.	<input type="checkbox"/>	<input type="checkbox"/>
I agree to my interview being audio recorded. I consent for extracts/quotations of our discussion to be used in publications that may arise from this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that giving consent for the data collected during the interview to be used by WIT for the purpose of the evaluation of the IEP Programme is voluntary and opting not to consent will not exclude me from participating in the programme.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that by signing this form I am giving my consent to participate in the IEP Programme Evaluation and that I am aware that my data will be analysed by Waterford Institute of Technology.	<input type="checkbox"/>	<input type="checkbox"/>
I consent to take part in this research study having been fully informed of the risks, benefits and alternatives.	<input type="checkbox"/>	<input type="checkbox"/>
I give informed explicit consent to have my data processed as part of this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I consent to be contacted by researchers as part of this research study.	<input type="checkbox"/>	<input type="checkbox"/>

FUTURE CONTACT	
<i>I consent to be re-contacted by Waterford Institute of Technology about possible future research related to the current study for which I may be eligible.</i>	<p>Yes</p> <p>No</p>

Signature of Participant: _____

Date: _____

Signature of Research Assistant WIT: _____ Date: _____

A copy of this form will be retained by WIT and one copy is for my own records.

Consent Form Staff Members of Wexford Mental Health Services/ Sports Active Wexford

Study Title: The Exercise Effect: An evaluation project of an integrated exercise professional in mental health (IEP-MH)

I _____ am aware that I am being invited to participate in the research study being conducted by Waterford Institute of Technology, to examine the effect of the Integrated Exercise Practitioner-Mental Health (IEP-MH) Programme in order to determine how well the IEP role is working and the effects it has on participants health.

Please insert a ✓ in the boxes provided if happy to do so.

	Yes	No
I have read and understood the research information sheet and I have had the opportunity to ask questions on this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I voluntarily agree to participate in this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that even if I agree to participate now, I can withdraw at any time without any consequences of any kind.	<input type="checkbox"/>	<input type="checkbox"/>
I have had the purpose and nature of the research explained to me in writing and I have had the opportunity to ask questions about the research.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that this research evaluation is being carried out by WIT and is funded by the Slaintecare Integration Fund (2019)	<input type="checkbox"/>	<input type="checkbox"/>
I understand that all information I provide for this research will be treated confidentially.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that the results of this research may be published and that in any report on the results of this research my identity will remain anonymous. This will be done by assigning a code and no details will be provided to the research team that may reveal my identity	<input type="checkbox"/>	<input type="checkbox"/>

I understand that under Freedom of information legislation I am entitled to access the individual interview data I have provided at any time up to 10 years post completion of the study.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that I am free to contact the research team to seek further clarification and information.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that under the Data Protection Regulation (2018) and the WIT Data Retention Schedule (2020) all information will be kept only for the purposes of this study and will be held for up to ten years in anonymised format after study completion.	<input type="checkbox"/>	<input type="checkbox"/>
I am aware that I can request a break at any time during the interview and that the interview can be stopped and re-started at another time, or cancelled completely, if I become distressed.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that the researcher has boundaries on confidentiality whereby any information that may suggest the risk of harm to myself or others will be discussed with relevant authorities and confidentiality broken as a result.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that taking part involves an interview where I will be discussing my experiences of engaging with the IEP-MH.	<input type="checkbox"/>	<input type="checkbox"/>
I agree to my interview being audio recorded. I consent for extracts/quotations of our discussion to be used in publications that may arise from this research study.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that giving consent for the data collected during the interview to be used by WIT for the purpose of the evaluation of the IEP-MH Programme is voluntary and opting not to consent will not exclude me from participating in the programme.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that by signing this form I am giving my consent to participate in the IEP-MH Programme Evaluation and that I am aware that my data will be analysed by Waterford Institute of Technology.	<input type="checkbox"/>	<input type="checkbox"/>

<i>FUTURE CONTACT</i>	
<i>I consent to be re-contacted by Waterford Institute of Technology about possible future research related to the current study for which I may be eligible.</i>	Yes No

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Signature of Participant: _____ Date: _____

Signature of Research Assistant WIT: _____ Date: _____

A copy of this form will be retained by WIT and one copy is for my own records.

Appendix 14 Summary Tables of Quantitative Assessment Tools- Pre and Post

Table14.1 DASS Pre and Post Intervention Scores

	Depression Score		Anxiety Score		Stress Score	
	Pre	Post	Pre	Post	Pre	Post
Mean	6.8	5.9	5.3	4.0	6.7	6.0

DASS Scoring Range

	Depression	Anxiety	Stress
Normal	0 - 4	0 - 3	0 - 7
Mild	5 - 6	4 - 5	8 - 9
Moderate	7 - 10	6 - 7	10 - 12
Severe	11 - 13	8 - 9	13 - 16
Extremely Severe	14 +	10 +	17 +

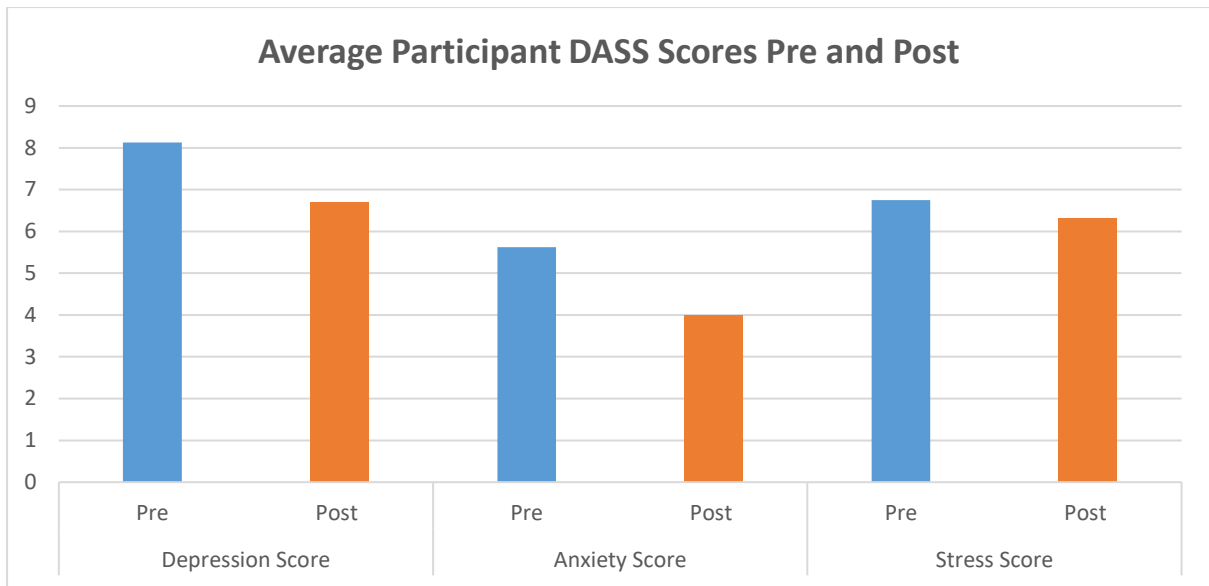


Figure 14.1: Average DASS Scores Pre and Post Intervention

Table 14.2 SF 12 Data Pre and Post Intervention

Participant ID	PCS Pre	PCS Post	Population Average	MCS Pre	MCS Post	Population Average	SF6D_R2 Pre	SF6D_R2 Post
Average Scores*	44.72	48.31	50	39.34	38.39	50	0.66	0.67

*Score of 50 is population norm.

Figure 14.3 Average SF 12 Scores

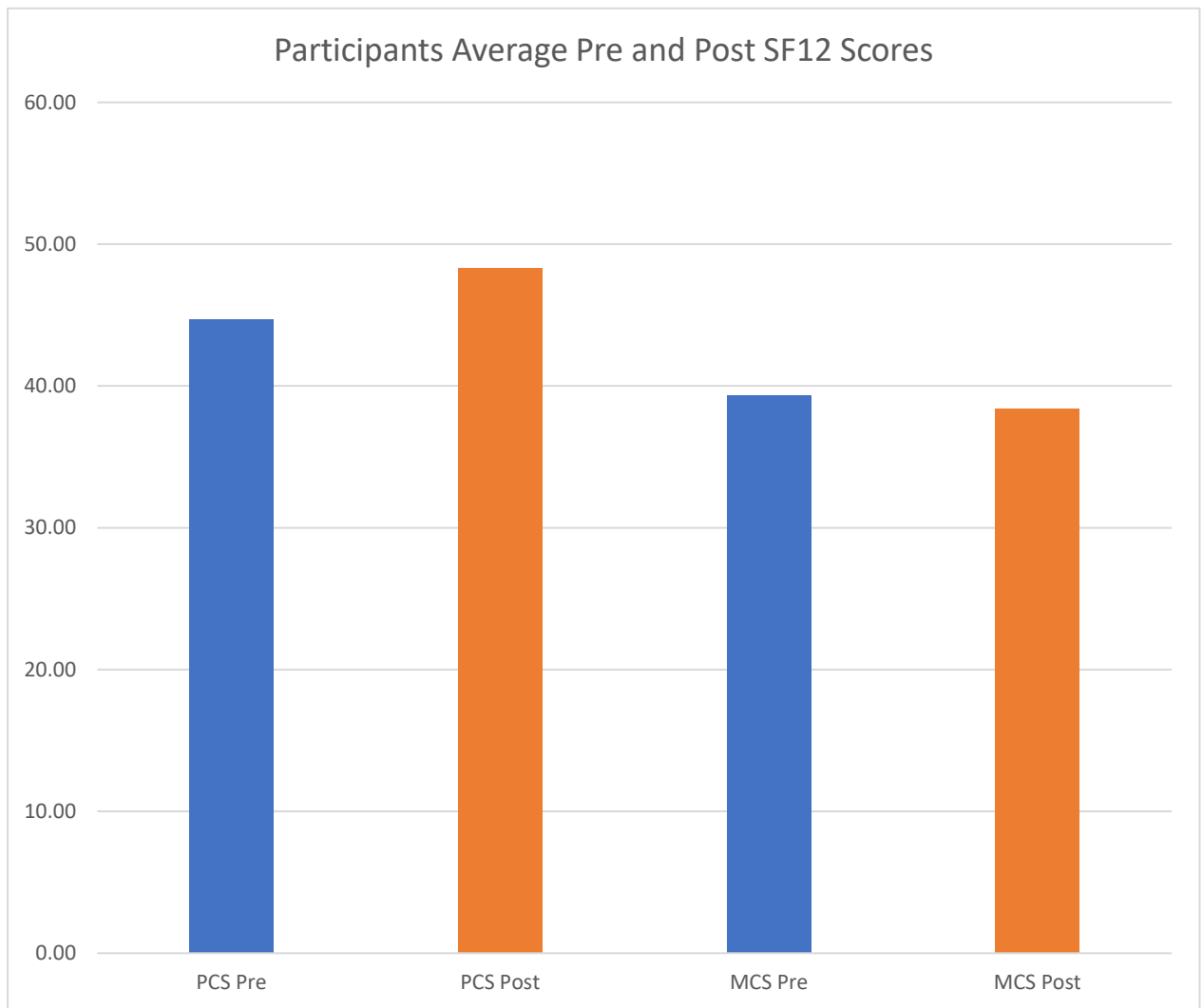


Table 14.3 Me and My Feelings

	Pre total score	Post total score	Pre Emotional Scale Score	Post Emotional Scale Score	Pre Behaviour Score	Post Behaviour Score
Mean	15	13	10	9	5	4

Deighton *et al.* (2013) established cut-offs using the Strengths and Difficulties Questionnaire (SDQ), as follows: for the Emotional Difficulties Subscale, scores of 10 and 11 indicate borderline difficulties, and scores of 12 and above indicate clinically significant difficulties; for the Behavioural Difficulties Subscale, scores of 6 indicate borderline difficulties, and scores of 7 and above indicate clinically significant difficulties.

In the Wellbeing Measurement for Schools the cut-offs were established as follows: for the Emotional Difficulties Subscale, scores between 0 and 9 are considered expected, and scores equal or above 10 are considered elevated; for the Behavioural Difficulties Subscale, scores between 0 and 5 are considered expected, and Scores equal or above 6 are considered elevated.

Table 14.4 SIMPAQ

	Pre MVPA	Post MVPA	Pre Activity per day	Post Activity per day
Mean	0:27	0:38	1:08	1:58

Children's Baseline and Post Intervention Physical Activity Scores using PAQ-C/

PAQ-A

	Baseline	Post
Mean Activity Score	1.15	1.96