FULL TITLE OF THE STUDY:

Assessing NHS ImplemeNTation of an onlinE Resilience-training Acceptance and Commitment Therapy (ACT) programme to prevent job loss in Multiple Sclerosis

SHORT STUDY TITLE:

INTERACT-MS

PROTOCOL VERSION NUMBER AND DATE:

Version 1.0, 26/03/2024

- **This protocol has regard for the HRA guidance**

RESEARCH REFERENCE NUMBERS

IRAS Number:	338801
ISRCTN Number:	tbc
CPMS:	61223
Funder's Reference Number:	Award ref 158

SIGNATURE PAGE

The undersigned confirm that the following protocol has been agreed and accepted and that the Chief Investigator agrees to conduct the trial in compliance with the approved protocol and will adhere to the principles outlined in the Declaration of Helsinki, GCP guidelines, the Sponsor's (and any other relevant) SOPs, and other regulatory requirements as amended.

I agree to ensure that the confidential information contained in this document will not be used for any other purpose other than the evaluation or conduct of the clinical investigation without the prior written consent of the Sponsor

I also confirm that I will make the findings of the trial publically available through publication or other dissemination tools without any unnecessary delay and that an honest accurate and transparent account of the trial will be given; and that any discrepancies and serious breaches of GCP from the trial as planned in this protocol will be explained.

For and on behalf of the Trial Sponsor:

Signature: Date:

..../...../.....

Name (please print):

.....

Position:

.....

Chief Investigator:

Signature: Date:

..../...../.....

Name: (please print):

.....

i. KEY TRIAL CONTACTS

Chief Investigator	Dr Charlotte Wicks Charlotte.wicks1@nhs.net Tel 0113 39 26230
Sponsor	Leeds Teaching Hospitals NHS Trust St. James's University Hospital, Leeds, LS9 7TF Tel: 01132060483
Funder(s)	MS Society MS National Centre 372 Edgware Road London NW2 6 ND Registered Charity Number: 1139257 Email: research@mssociety.org.uk
Key Advisors	Professor Helen Ford Consultant Neurologist Leeds Centre for Neurosciences Leeds Teaching Hospitals NHS Trust Great George Street, Leeds, LS1 3EX Email: helen.ford17@nhs.net Tel: 0113 392 8122 Professor Kenneth Pakenham Professor of Psychology Faculty of Health and Behavioural Sciences University of Queensland Australia. QLD 4072 Email: k.pakenham@psy.uq.edu.aus Tel: +61 7 336 56677

	Dr Laura Thompson Chartered Coaching Psychologist Metanoia Institute, 13 N Common Rd, London W5 2QB Email: laurabethanthompson@googlemail.com Dr Emma Tallantyre Consultant Neurologist Cardiff and Vale Health Board University Hospital of Wales (UHW) Heath Park Cardiff CF14 4XW Email: TallantyreEC@cardiff.ac.uk Tel: 029 20745564 George Pepper Managing Director and CEO of shift.ms 3 Moor Park Avenue, Leeds, United Kingdom. LS6 4BT Email: George@shift.ms Tel: 07989655586

ii. LIST of CONTENTS

iii. LIST OF ABBREVIATIONS

Define all unusual or 'technical' terms related to the trial. Add or delete as appropriate to your trial. Maintain alphabetical order for ease of reference.

ACT	Acceptance and Commitment Therapy
CI	Chief Investigator
GCP	Good Clinical Practice
GDPR	General Data Protection Regulation
HCP	Healthcare Professional
ICF	Informed Consent Form
IRAS	Integrated research application system
ISF	Investigator Site File
MS	Multiple Sclerosis
MSIS-29	Multiple Sclerosis Impact Scale (29 items)
MS-WIS	Multiple Sclerosis Work Instability Scale
MPFI	Multidimensional Psychological Flexibility Index
NFI-MS	Neurological Fatigue Index for Multiple Sclerosis
NHS	National Health Services
PF	Psychological Flexibility
PI	Principal Investigator
PIS	Participant Information Sheet
PPI	Patient and Public Involvement
PwMS	People with multiple sclerosis
READY(for MS)	Resilience for Adults Everyday
REC	Research and ethics committee
R&D	Research and development
SE	Self-efficacy
SUS	System useability scale
TMF	Trial Master File
TMG	Trial Management Group
TSC	Trial Steering Committee
USE-MS	Uni-dimensional Self-efficacy Scale for Multiple Sclerosis
VAS	Visual Analogue Scale
WI	Work Instability

iv. TRIAL SUMMARY

Trial Title	Assessing NHS ImplemeNTation of an onlinE Resilience-training Acceptance and Commitment Therapy (ACT) programme to prevent job loss in MS	
Internal ref. no. (or short title)	INTERACT-MS	
Trial Design	Hybrid Feasibility-Implementation Trial	
Trial Participants	(1) MS Healthcare Professionals (2) People with Multiple Sclerosis (in employment)	
Planned Sample Size	(1) 50 (2) 250	
Treatment duration	12 weeks	
Follow up duration	6 months	
Planned Trial Period	42 months	
Research Aim(s) and Objectives	To assess NHS implementation of an online type of Acceptance and Commitment Therapy (ACT) co-developed with PwMS 'REsilience and Activities for every DaY for MS' (READY) resource to support PwMS resilience at work To assess: (1) The feasibility and effectiveness of training MS health practitioners in several NHS centres to support delivery of the digital READY programme to PwMS following an immersive training programme. (2) The effectiveness of delivering the READY programme in the NHS for PwMS when supported by trained MS practitioners and the long-term outcomes (3) Which/how contexts influence how MS practitioners support/engage with PwMS completing the READY programme? (4) Which/how contexts influence how PwMS engage with the READY programme and the long-term outcomes (5) To what extent intervention fidelity mediates these long-term outcomes	
	Primary Outcomes	**Secondary Outcomes**
Outcome measures	Work Instability (MS-WIS) Psychological Flexibility (MPFI) Resilience (R-15) Self-efficacy (USE-MS)	User Satisfaction (SUS) Mood (HADS) Impact of MS (MSIS-29) Qualitative data

v. FUNDING AND SUPPORT IN KIND

FUNDER(S) (Names and contact details of ALL organisations providing funding and/or support in kind for this trial)	**FINANCIAL AND NON FINANCIALSUPPORT GIVEN**
MS Society MS National Centre 372 Edgware Road London NW2 6ND	**Total: £211,757.34** Salaries: £195,229.55 Consumables: £11,347.79 Equipment: £180.00 Conferences: £4,000.00
Leeds Teaching Hospitals NHS Trust Beckett St, Leeds LS9 7TF	Study site, provision of premises for study participant visits and assessments

v. ROLE OF TRIAL SPONSOR AND FUNDER

The study SPONSOR is Leeds Teaching Hospitals NHS Trust and it will provide premises for carrying out study specific activity that involves patients. As the NHS trust is the sponsor for the study, the NHS indemnity scheme will cover the study specific activity that takes place on trust premises. The sponsor has no role in the development or design of the protocol but will have reviewed the protocol and provided its approval prior to any study specific activity commences. The outcomes of the study will be made known to the sponsor and the sponsor will be acknowledged in any publications arising from the study.

The FUNDER is the UK MS Society. The outcomes of the study will be made known to the funder and the funder will be acknowledged in any publications arising from the study. Terms and conditions of the Award are provided in Appendix A.

vi. ROLES AND RESPONSIBILITIES OF TRIAL MANAGEMENT COMMITEES/GROUPS & INDIVIDUALS

Trial Management Committees

Trial Management Group (TMG)

The TMG will meet at regular intervals to ensure all practical details of the trial are progressing well and working well and everyone within the trial understands them.

The trial management group will consist of the following members:

Chief Investigator:	• Dr Charlotte Wicks, Fellowship Awardee
Main Supervisor:	• Professor Helen Ford, Consultant MS Neurologist
Advisors:	• Dr Laura Thompson, Chartered Psychologist, London • Emeritus Professor Kenneth Pakenham, University of Queensland • Dr Emma Tallantyre, Consultant MS Neurologist, Cardiff • George Pepper, CEO of Shift.ms, Leeds

The TMG in this study will also have the following general responsibilities:

- Attend TMG meetings and advise on availability for future TMG meetings
- Input into and comment on the protocol
- Develop strategies to encourage recruitment and address any issues with recruitment
- Be involved in the day-to-day running of the study by supporting the Chief Investigator
- Provide clinical or other expert guidance on clinical and practical queries and interpretation of data collected
- Provide responses to any issues or concerns raised by the chief investigator or the external ethics committees
- Input into the interpretation and writing up of the study results
- Presentation of the study results at scientific meetings and in written publications

Trial Steering Committee (TSC)

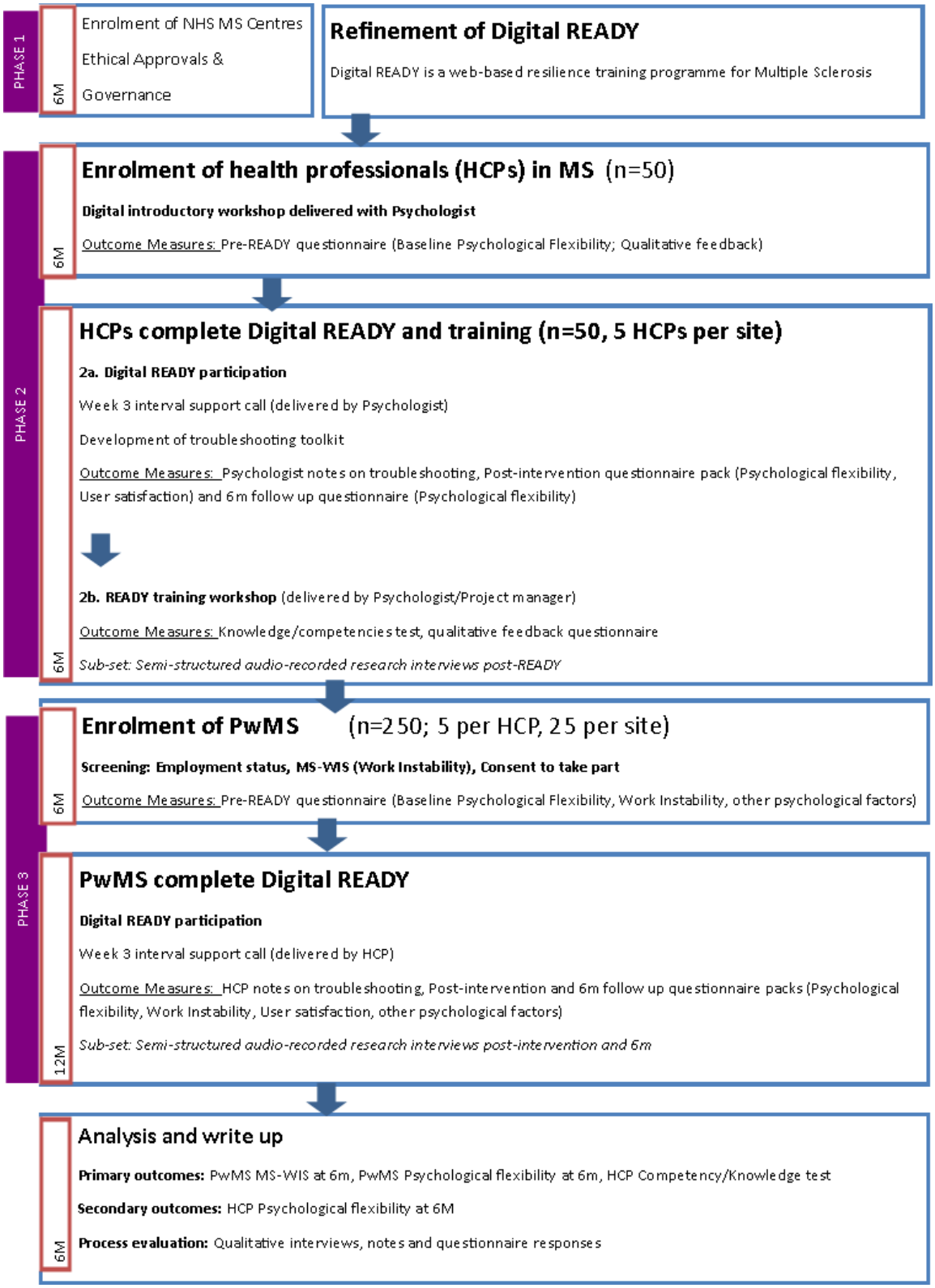
The TSC will provide supervision of the trial and monitor progress, safety, and efficacy of the trial.

The TSC will be made up of PPI and expert representatives, including a Chair. Members will be independent of the trial investigators, their employing organisation (the sponsor), and the funder.

The TSC will meet regularly and send reports to the sponsor.

viii. KEY WORDS: Multiple Sclerosis, Vocational Rehabilitation, Employment, Psychological Intervention, Implementation, Feasibility to function

vi. TRIAL FLOW CHART



1 BACKGROUND

Multiple Sclerosis (MS) is commonly diagnosed between the ages of 20-40[1], a key life stage for working and during which career milestones tend to occur. Despite the majority of PwMS being in work at time of diagnosis, up to 80% have left work within 10-15 years[2,3]. PwMS are less likely to be in paid employment compared with the general population[4] and even compared with other chronic conditions[5]. These correlates occur even where there is low physical and cognitive impact[6] suggesting that psychological barriers and fatigue may be key barriers to job retention[7,8].

Low mood and self-efficacy are associated with reduced work participation and declining work performance in PwMS[7,9,10]. Perceived lack of support and stigmatisation can also lead to negative work outcomes for PwMS[11,12]. However, over half of PwMS not in paid work report that they "ideally, would like to work"[13]. In addition to financial security, paid employment offers psychological benefits including improved quality of life[14] and self-confidence[15]. PwMS who stay in work also report lower symptom incidence[16].

A validated scale for PwMS developed at Leeds can measure and help screen for the risk of job loss (MS Work Instability Scale (MS-WIS)[17]). Previous research using this scale has linked risk of job loss to psychological factors such as self-efficacy[7]. An on-going study at Leeds (MS Proactive) has shown that PwMS with lower psychological flexibility tend to have higher work instability (WI; i.e. risk of job loss).

Psychological flexibility, closely linked to resiliency, is the cornerstone of mental health[18] and refers to the ability to effectively manage unwanted inner experiences (e.g., thoughts, memories, bodily sensations) in the present, while adjusting behaviors in the context of changing situational demands to ensure one is behaving consistently with personal values[19,20].

A review of psychological interventions for PwMS found a positive impact for both physical and psychological outcomes, including fatigue[21]. One type of psychological intervention called acceptance and commitment therapy (ACT) is an approach underpinned by the psychological flexibility framework. ACT has been shown to significantly improve self-efficacy as well as pain acceptance, low mood and anxiety[22].

Increasing self-efficacy can also offer protective factors against illness invalidation experiences[22, 23]. Illness invalidation in invisible illnesses can lead to negative work outcomes, which may further contribute to withdrawing from work early[24]. Further, the increased psychological flexibility from ACT interventions can play a positive mediating role in organisational wellbeing[25].

A team in Australia have developed an ACT-based programme for PwMS called 'REsilience and Activities for every DaY'[26] (READY). Researchers at Leeds have recently co-developed with PwMS a UK online version called 'READY for MS'. This online programme can be used

on a computer or mobile device from home or while commuting, thus reducing the need to take further time off work to visit a psychologist.

There is often a gap in uptake of evidence-based psychological interventions[27]. One way to address this is by training health professionals in the delivery of such interventions. In order to check that the intervention can be delivered and supported by health professionals as intended, we need to test it in its proposed setting. This is known as assessing 'intervention fidelity' and can help to provide empirical evidence to support the implementation of an intervention.

In a recent Italian study, psychologists trained to deliver the group-version READY programme experienced personal and professional benefits such as resilience, ACT skills development, and a reduced vulnerability to burnout[28]. Training health professionals to support the UK digital READY may therefore have a positive impact on wellbeing for the health professionals receiving this training. This is particularly timely, as a recent study has reported that burnout among MS healthcare professionals increases the risk of sickness absence[29]. Furthermore, our online READY programme is predominantly self-guided with supplementary support from a facilitator. It therefore offers an intervention option that should not add significant burden to the healthcare professional workload.

Psychological support services in the UK are under significant strain with 1.6 million people reported to be on NHS waiting lists for specialised mental health support[30].The UK Household Longitudinal Study[31] reported that psychological wellbeing in the UK has significantly worsened following the Covid-19 pandemic, further increasing the need for accessible psychological interventions. Psychological flexibility offers protective factors that mimimise the adverse mental health impacts of Covid-19[32]. In the UK, PwMS are more likely to be in regular contact with a MS nurse, occupational therapist, or physiotherapist than a neuro-psychologist. Therefore, training these health professionals to deliver and support this programme may improve access to psychological interventions for PwMS who would benefit from them.

Socio-economic status further impacts work opportunities for PwMS[33] and so developing interventions should consider accessibility to all socio-economic groups. Qualitative work throughout this research project will seek to engage with multiple MS communities, especially marginalised groups, to identify barriers to such interventions.

While this study will focus on the impact of risk of job loss for PwMS, previous versions of the READY programme have been shown to improve a range of psychological factors that influence quality of life in MS[34]. Therefore, successful implementation of this programme by healthcare professionals could lead to wider use of this programme for PwMS in a range of settings who may benefit from resilience-training interventions.

2 RATIONALE

PwMS are disproportionately leaving work early[4, 35]. Previous research has shown that psychological factors play a key role in this[7]. However, in the UK, psychological services are under significant strain with 1.6 million people reported to be on NHS waiting lists for specialised mental health support[30]. Psychological wellbeing in the UK has significantly worsened following the Covid-19 pandemic[31], further increasing the need for accessible psychological interventions.

Psychological flexibility offers protective factors that minimise the adverse mental health impacts of Covid-19[32] There is often a gap in uptake of evidence-based psychological interventions[36]. One way to address this is by training health professionals in the delivery of such interventions. An Italian study trialled a training programme for psychologists to deliver the group-version READY programme and found it can lead to personal and professional benefits for these health professionals[37]. Training health professionals to support the UK digital READY programme may improve access to psychological interventions for PwMS who would benefit from them.

In the UK, PwMS are more likely to be in regular contact with an MS nurse, occupational therapist, or physiotherapist than a neuropsychologist. Therefore, training these MS health professionals may offer greater access to the READY programme. MS nurses, occupational therapists, and physiotherapists may also be able to offer more personalised support as part of the digital READY programme. ACT interventions have been shown to protect against burnout, which may be particularly relevant in the wake of the Covid-19 pandemic.

The Italian study found that healthcare professionals who engaged in the READY programme as part of training to deliver it benefitted from this increase in psychological flexibility[28]. Therefore, training health professionals to support digital READY may increase their capacity to continue working, further benefitting PwMS who seek support from them.

It is important to test whether the READY intervention can be plausibly implemented in an NHS or community healthcare setting. If there are barriers to using this intervention in this setting, there is unlikely to be significant uptake and therefore the intervention cannot reliably benefit PwMS. Assessing the effectiveness of integrating an intervention option that can be supported by healthcare professionals in a way that reduces rather than increases long-term burden is also important. Giovannetti et al[37] found that where health professionals were supported to undertake and deliver a group-based READY programme, beneficial outcomes included resilience, ACT skills development, and reduced vulnerability to burnout.

The integrated process evaluation allows us to assess in-depth what will work and what might need to be adjusted prior to investing time and resources to a large-scale randomised control trial (RCT). While this study will focus primarily on the impact of risk of job loss for PwMS, previous versions of the READY programme have been shown to improve a range of

psychological factors that influence quality of life in MS[34]. Therefore, successful implementation of this programme by healthcare professionals could lead to wider use of this programme for PwMS in a range of settings who may benefit from resilience-training interventions.

2.1 Assessment and management of risk

PwMS who are excluded at screening due to having low work instability may feel disappointed at not being able to participate in the trial. We will explain that the trial is looking at the effectiveness of the READY programme for PwMS who report work instability, whereas it would be difficult to measure a meaningful improvement if work instability is already low.

The READY for MS digital programme asks participants to think about and reflect on thoughts that may be psychologically difficult or distressing. The PIS will include contact information for the research team as well as where to find additional support. Participants will receive a check-in phone call with the opportunity to raise and discuss any further support needed. If a safeguarding concern is identified, site specific safeguarding protocols will be followed.

The benefit of participating in the study is that this research addresses one of the key priorities of the MS Society in improving self-management of MS.

Training health professionals to support the UK digital READY may have a positive impact on wellbeing for the health professionals receiving this training. The online READY programme is predominantly self-guided with supplementary support from a facilitator. It therefore offers an intervention option that should not add significant burden to the healthcare professional workload. In the UK, PwMS are more likely to be in regular contact with a MS nurse, occupational therapist, or physiotherapist than a neuro-psychologist. Therefore, training these health professionals to deliver and support this programme may improve access to psychological interventions for PwMS who would benefit from them.

Participants will be informed of their right to withdraw from the study at any time, without the need to give a reason. Participants' consent to continue participation will be re-confirmed at research contact points, such as research data collection (questionnaires).

3 OBJECTIVES AND OUTCOME MEASURES/ENDPOINTS

3.1 Aim/s and Objectives

A digital resilience-training programme called 'READY for MS' has been co-developed in the UK and piloted with PwMS who report work instability. It is important to assess that the digital UK READY for MS programme can be delivered and received as intended; this is known as "Intervention fidelity". Specifically, this study aims to monitor fidelity to function, i.e. measuring the core functions of the READY for MS programme, through psychological self-report measures. This is important for checking (validating) the use of READY for MS in a "real world" setting. To do this, we will train MS healthcare professionals to support the delivery of READY for MS and then check whether it has been delivered and received as intended. We will also check that READY leads to the intended long-term outcomes for PwMS who receive it.

Aim: To assess NHS implementation of an online type of Acceptance and Commitment Therapy (ACT) codeveloped with PwMS 'REsilience and Activities for every DaY for MS' (READY) resource to support resilience at work for PwMS.

This will be delivered through five objectives:

1. The feasibility and effectiveness of training MS health practitioners in several NHS centres to support delivery of the digital READY programme to PwMS following an immersive training programme.
2. The effectiveness of delivering the READY programme in the NHS for PwMS when supported by trained MS practitioners and the long-term outcomes
3. Which/how contexts influence how MS practitioners support/engage with PwMS completing the READY programme?
4. Which/how contexts influence how PwMS engage with the READY programme and the long-term outcomes
5. To what extent intervention fidelity mediates these long-term outcomes

3.2 Primary endpoint/outcome

The primary quantitative outcome measures for this study will be work instability, as measured by the MS Work Instability scale, resilience, psychological flexibility, and self-efficacy. We want to check that the digital READY programme will continue to work as

intended when supported by trained healthcare professionals, therefore we would expect to see a psychological benefit for PwMS being supported to use the READY programme in an NHS setting.

We expect that this ACT-based programme should lead to increased resilience, psychological flexibility, and self-efficacy. We theorise that increasing these psychological factors should lead to a reduction in work instability. This should mean we see a significant reduction in work instability in participants who complete the digital READY for MS programme.

3.3 Secondary endpoints/outcomes

Secondary outcomes will include psychological factors, such as anxiety and psychological impact of MS. Measuring these additional wellbeing factors will help us to determine how effective the digital READY programme could be for PwMS in other contexts.

3.4 Exploratory endpoints/outcomes

The key qualitative outcomes of this study will be to understand the contexts in which the digital READY programme can be supported by healthcare professionals to achieve these work-related and psychological outcomes. This will help to inform future adaptations to the READY for MS programme to additional contexts and settings.

4 TRIAL DESIGN

This study is a hybrid effectiveness-implementation trial, by which we are simultaneously trialling the effectiveness of an intervention but also exploring its implementation. We will focus on ‘fidelity to function’, meaning that the intervention still delivers the expected outcomes, while recognising that local adaptation is vital for any intervention to work because every setting and site is different.

We will use purposive sampling for this study, which means we will actively seek to include representatives of different demographic and socio-economic backgrounds.

The trial will include the following phases:

Phase 1: Programme refinement

Findings from the recent co-production and pilot study (MS PROACTIVE) will be utilised to refine and further develop the digital READY programme. The digital programme consists of an introductory module, 6 core modules on ACT factors (Mindfulness, Acceptance, Defusion, Observer Self, Values/Meaningful action, and Future Planning) then a final booster module to be completed after a 5-week break. Aside from the booster module, it is recommended to complete one module per week and each module takes around 40 minutes to complete. There are additional exercises that participants can complete under their own initiative between modules, with accompanying guided audio-recordings (e.g. Mindfulness of the breath). A workbook accompanies the digital content, with reflective written exercises for participants to complete during and between modules. This workbook forms a personal plan that participants can refer back to on completion of the programme.

Phase 2: Getting HCPs READY

MS healthcare professionals (HCPs) will be invited to a brief introductory (virtual) session to introduce the READY programme and meet the supporting psychologist. Following this virtual session, HCPs will be sent a digital baseline questionnaire that includes the CD-RISC-10 (Connor-Davidson Resilience Scale) and MPFI scales (Multidimensional PF Inventory) to measure baseline resilience and psychological flexibility, as well as free-text response questions to explore their expectations about the programme itself. HCPs will then be invited to complete the digital READY programme. The psychologist or researcher will conduct an interval support call with HCPs around their third week of doing the READY programme. The psychologist will keep notes on any troubleshooting that arises from these support calls, for example, any core concepts that the HCPs need further guidance with. Once HCPs complete the digital READY programme, they will be invited to complete a follow-up digital questionnaire pack including MPFI (post-intervention psychological flexibility) and SUS (user satisfaction) scales. After completing the READY programme and the follow up questionnaire, HCPs will be invited to take part in a digital training workshop delivered by the psychologist and myself. HCPs will complete a knowledge test following the workshop which will measure their ACT-based competencies. A digital free-text response questionnaire will also be sent to HCPs following the workshop to assess their experience of the training and any anticipated barriers to supporting others to complete the programme. HCPs will be invited to complete a further follow-up questionnaire at 6 months, including the MPFI scale to measure long-term impact of the READY programme. A sub-set of HCPs (purposively selected for diversity) will be invited to take part in semi-structured research interviews to understand their experiences of the programme, how they have understood the core concepts and their expectations around supporting PwMS to use the programme. We

will also seek to understand how, when, and in what contexts different HCPs might ask their patients about employment and difficulties at work. The week 3 support calls will be audio-recorded by the psychologist. Anonymised troubleshooting examples that arise from the Week 3 HCP-psychologist support calls will be utilised to develop 'case examples' in a 'troubleshooting toolkit'. This troubleshooting toolkit will be shared with PwMS who use the programme and a copy given to HCPs to aid support conversations.

Phase 3: PwMS

The CI and local PIs will work with HCPs to identify PwMS who are experiencing difficulties at work. The CI will also work to engage with different MS communities to invite PwMS to the study. PwMS will complete a screening MS-WIS (MS Work Instability Scale) and those with a score of 11 (medium WI) or above will be invited to enter the study. PwMS will complete a baseline digital questionnaire pack including MS-WIS, CD-RISC-10 (Connor-Davidson Resilience Scale), USE-MS (Unidimensional self-efficacy scale for MS) and MPFI (Psychological Flexibility) scales. Participants will be asked to consent to be contacted by a trained HCP who will offer support in completing the READY programme. PwMS will be provided with a link to the digital READY programme, the accompanying READY workbook and the troubleshooting toolkit. HCPs will conduct the interval support calls and record notes on any troubleshooting that arises from these support conversations. PwMS will be invited to complete a follow up digital questionnaire pack on completion of the READY programme, to measure post-intervention work instability, self-efficacy and psychological flexibility. PwMS will be invited to complete this questionnaire pack again at a further follow up time-point of 6 months. A small subset of PwMS will be invited to complete post-intervention and 6-month follow-up semi-structured interviews to explore their experience of the programme and any long-term impact.

This project will include a process evaluation, which is a method for collecting detailed information to understand if, how and in what contexts an intervention works. The process evaluation will consist of analysis from the HCP interviews, the PwMS interviews, qualitative feedback forms from HCPs and the notes from the HCP-PwMS interval support calls. Lightning reports will be utilised to provide iterative feedback on fidelity to function and identify any necessary adaptations to intervention delivery as the project progresses.

5 TRIAL SETTING

This is a multicentre non-commercial trial held in the UK.

Recruitment will be from outpatient MS and OT clinics (for which MS patients are registered) in 10 NHS sites across the UK. The intervention can be completed remotely via the online platform. Self-report questionnaires will be available in paper- or digital-format.

6 PARTICIPANT ELIGIBILITY CRITERIA

6.1 Inclusion criteria

- Participants capable of giving informed consent
- Age 18 years or above
- Currently in paid employment with an intention to remain in employment for at least 6 months
- *Phase 2:* A registered healthcare professional or allied health professional who works in direct contact with patients diagnosed with Multiple Sclerosis **OR**
- *Phase 3:* An individual with a clinical diagnosis of Multiple Sclerosis and reporting a WI score ≥11/22 (on MS-WIS)

6.2 Exclusion criteria

- Individuals lacking capacity to give informed consent
- Individuals intending to leave paid employment within the next 6 months
- Individuals who will not have access to a device used to access the internet (e.g. laptop or smartphone) for the duration of study participation

7 TRIAL PROCEDURES

7.1 Recruitment

Phase 2: HCPs

The research team or site PI will approach relevant healthcare professionals for recruitment. Registered or allied healthcare professionals (n=50) who are responsible for patients with MS will be approached and invited to participate; this includes MS nurses, Physiotherapists, and Occupational Therapists. Healthcare professionals can also self-refer to the trial from enrolled NHS study sites. Potential participants will be provided a PIS and given time to consider participation (minimum 24 hours). Potential participants will have opportunity to ask any questions about participating in the trial and then asked if they wish be enrolled. Participants will be informed that they can withdraw at any time without needing to give a reason. See Table 2 for Schedule of Procedures.

Phase 3: PwMS

Recruitment will be from outpatient MS clinics, daycase units, or OT clinics (in which MS patients are registered) from 10 NHS sites across the UK. The outpatients department and day-case units will be the same locations which patients routinely attend for their regular clinical visits and will be a familiar environment for the participants. Potential participants will be provided a PIS and given at least 24hours to consider the study. Potential participants will have opportunity to ask any questions about participating in the trial and then asked if they wish be enrolled. Participants will be informed that they can withdraw at any time without needing to give a reason. See Table 3 for Schedule of Procedures.

Healthcare professionals on each site will help to identify PwMS who may be interested in participating in the trial.

This study will aim to recruit from a diverse range of backgrounds including socio-economic background, demographic factors, and employment factors.

7.1.1 Screening

Phase 2: HCPS

Healthcare professionals who wish to take part in the study must have responsibility for patients with Multiple Sclerosis as a part of their regular caseload.

Phase 3: PwMS

The MS Work Instability Scale (MS-WIS) will be used as a screening tool to identify subjects with medium or high levels of work instability (WI). In the baseline population from a longitudinal study of 208 PwMS, 20.2% had high WI, 37.0% had medium WI and 42.8% had low WI[38].

Potential participants for phase 2a (PwMS) who wish to be enrolled in the study will be invited to complete the MS-WIS. Respondents who report a score of ≥11 on the MS-WIS will be invited to enter the study.

7.1.2 Payment

The participants will not receive any financial incentives to participate in the study.

7.2 Consent

The Principal Investigator (PI) retains overall responsibility for the conduct of research at their site, this includes the taking of informed consent of participants at their site. They must ensure that any person delegated responsibility to participate in the informed consent process is duly authorised, trained and competent to participate according to the ethically approved protocol, principles of Good Clinical Practice (GCP) and Declaration of Helsinki.

Potential participants must be given a minimum of 24 hours from receiving the PIL to consider the study prior to providing consent. Delegated research team members who conduct consent conversations will ensure that the potential participant has understood each statement of consent presented on the ICF and ensure any questions have been answered satisfactorily. Potential participants will be made aware of their right to withdraw at any time without needing to give a reason.

Potential participants who are unable to attend a face-to-face consent conversation for any reason will have the option to complete a secure digital consent form remotely. For remote consent-taking, the researcher must conduct the consent process via telephone or conferencing platform (e.g. Microsoft Teams) and receive verbal consent in addition to the potential participant completing the digital consent form.

All participants will be given a signed copy of the ICF for their own records. For PwMS, a copy will also be included in their medical records and a letter sent to their GP.

7.3 Baseline data

Phase 2: HCPS

Following an introductory virtual workshop, HCPs who have consented to the study will be invited to complete a baseline questionnaire pack which will collect data on:

- Professional group
- Validated self-report scales for Resilience (CD-RISC-10) and Psychological Flexibility (MFPI; see Table 1).
- Free-text responses for their expectations about the READY programme

Phase 3: PwMS

At baseline, demographic data for consented participants will be collected from medical records to include:

- Date of birth
- Sex
- Confirmed MS diagnosis and subtype
- Year of onset and diagnosis
- DMT status

Participants who have consented to and entered the study will be invited to complete a baseline questionnaire pack. The questionnaire pack will be available to be completed digitally and will collect the following data:

- Gender identity
- Ethnicity
- Employment status
- Employment contract type
- Household income
- Number of sick days taken in last 6 months
- Relapse occurring in last 6 months
- Anchor VAS question on general health rating
- Validated self-report scales for Work Instability (MS-WIS), Resilience (CD-RISC-10), Psychological Flexibility (MFPI), Self-efficacy (USE-MS), Mood (HADS), and Impact of MS (MSIS-29; see Table 1)

Table 1 - Validated scales

Full title (Acronym)	Items	Measure	Citation
Multiple Sclerosis Work Instability Scale (MS-WIS)	22	Work Instability	McFadden E, Horton MC, Gilworth G, McFadden M, Tennant A. (2011), Screening for the risk of job loss in multiple sclerosis: Development of an MS-specific Work Instability Scale (MS-WIS). , Multiple Sclerosis Journal, 18, 862-870
Connor-Davidson Resilience Scale (CD-RISC-10)	10	Resilience (Attribute, some process)	Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depression and anxiety*, *18*(2), 76–82. https://doi.org/10.1002/da.10113
Multi-dimensional Psychological Flexibility Inventory (MFPI)	60	Psychological Flexibility	Rolffs, J. L., Rogge, R. D., & Wilson, K. G. (2016). Disentangling Components of Flexibility via the Hexaflex Model Development and Validation of the Multidimensional Psychological Flexibility Inventory (MPFI). *Assessment, 25*(4), 458–482. https://doi.org/10.1177/1073191116645905.
Unidimensional Self-efficacy scale for MS (USE-MS)	12	Self-efficacy	Young, C. A., Mills, R. J., Woolmore, J., Hawkins, C. P., & Tennant, A. (2012). The unidimensional self-efficacy scale for MS (USE-MS): developing a patient based and patient reported outcome. *Multiple sclerosis (Houndmills, Basingstoke, England)*, *18*(9), 1326–1333. https://doi.org/10.1177/1352458512436592
Hospital Anxiety and Depression Scale (HADS)	14	Mood (Anxiety and Depression)	Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand. 1983 Jun;67(6):361-70. doi: 10.1111/j.1600-0447.1983.tb09716.x. PMID: 6880820.
Multiple Sclerosis Impact Scale (MSIS-29)	29	Psychological and Physical Impact of Multiple Sclerosis	Hobart J, Lamping D, Fitzpatrick R, Riazi A, Thompson A. The Multiple Sclerosis Impact Scale (MSIS-29): a new patient-based outcome measure. Brain. 2001 May;124(Pt 5):962-73. doi: 10.1093/brain/124.5.962. PMID: 11335698.
System Useability Scale (SUS)	10	User satisfaction	Brooke, J. (1996). SUS: a “quick and dirty’usability. *Usability evaluation in industry*, *189*(3), 189-194.

7.4 Follow up data

Phase 2: HCPS

***T1/Week 3*:** HCPs will be invited to complete the READY programme. The psychologist or CI will conduct an interval support call with HCPs between weeks 2-4 of completing the programme. The support calls will be audio-recorded. Anonymised troubleshooting examples that arise from these support calls will be utilised to develop 'case examples' in a **'Troubleshooting toolkit'**. This troubleshooting toolkit will be shared with PwMS who use the programme and a copy given to HCPs to aid support conversations.

T2/Week 8: At week 8 from baseline (proposed completion of READY modules), HCPs will be invited to complete a follow-up digital questionnaire pack which will collect data on:

- Validated self-report scales for Resilience (CD-RISC-10), Psychological Flexibility (MFPI) and User Satisfaction (SUS; see Table 1).

After completing the READY programme and week 8 questionnaire, HCPs will be invited to take part in a digital training workshop delivered by the psychologist and CI.

HCPs will be invited to complete a knowledge test following the workshop which will measure their ACT-based competencies. A digital free-text response questionnaire will also be sent to HCPs following the workshop to assess their experience of the training and any anticipated barriers to supporting others to complete the programme.

T3/Month 6: HCPs will be invited to complete a further follow-up questionnaire at 6 months, which will collect data on:

- Validated self-report scales for Resilience (CD-RISC-10), Psychological Flexibility (MFPI) and User Satisfaction (SUS; see Table 1).

Table 2 - Schedule of procedures (Phase 2: HCPs)

Phase 2: HCPs	**T-2 Approach**	**T-1 Screening (≥24h)**	**T0 Baseline (Pre-READY)**	**T1 Week 3 (± 7 days)**	**T2 Week 8 (Post-READY)**	**T3 Month 6**
PIS given	X					
Consent		X				
Baseline Demographics - Date of birth - Sex - Gender identity - Ethnicity			X			
Employment demographics - Professional group			X			
Connor-Davidson Resilience Scale (CD-RISC-10)			X		X	X
Multi-dimensional Psychological Flexibility Inventory (MFPI)			X		X	X
System Useability Scale (SUS)					X	X
Qualitative: Introductory workshop feedback form (Expectations about READY programme)			X			
Qualitative: Interval support call audio-recording				X		
Qualitative: Training workshop feedback form					X	
ACT-based Competencies					X	
Qualitative: Semi-structured interviews					X	

Phase 3: PwMS

T1/Week 3: The HCP will conduct an interval support call with HCPs between weeks 2-4 of completing the programme. HCPs will be encouraged to record notes from these support calls to contribute to lightning reports and the overarching process evaluation

T2/Week 8: Participants will be invited to complete follow-up questionnaire packs at week 8 from baseline. The questionnaire packs will be available to be completed digitally and will collect demographic information to include:

- Employment status
- Employment contract type
- Household income
- Number of sick days taken in last 6 months
- Relapse occurring in last 6 months
- Anchor VAS question on general health rating
- Validated self-report scales for Work Instability (MS-WIS), Resilience (CD-RISC-10), Psychological Flexibility (MFPI), Self-efficacy (USE-MS), Mood (HADS), and Impact of MS (MSIS-29) and User Satisfaction (SUS; see Table 1)

T3/Month 6: Participants will be invited to complete a further follow-up questionnaire pack at month 6 from baseline. The questionnaire packs will be available to be completed digitally and will collect demographic information to include:

- Employment status
- Employment contract type
- Household income
- Number of sick days taken in last 6 months
- Relapse occurring in last 6 months
- Anchor VAS question on general health rating
- Validated self-report scales for Work Instability (MS-WIS), Resilience (CD-RISC-10), Psychological Flexibility (MFPI), Self-efficacy (USE-MS), Mood (HADS), and Impact of MS (MSIS-29) and User Satisfaction (SUS; see Table 1)

.

Table 3 - Schedule of procedures (Phase 3: PwMS)

Phase 3: PwMS	**T-2 Approach**	**T-1 Screening (≥24h)**	**T0 Baseline (Pre-READY)**	**T1 Week 3 (± 7 days)**	**T2 Week 8 (Post-READY)**	**T3 Month 6**
PIS given	X					
Consent		X				
Screening		X				
Baseline Demographics - Date of birth - Sex - Confirmed MS diagnosis and subtype - Year of MS onset/ diagnosis - Gender identity - Ethnicity			X			
MS History - MS subtype - Confirmed relapse(s) (last 6 months) - DMT status			X		X	X
Employment demographics - Employment status - Employment contract type - Household income - Number of sick days (last 6 months)			X			
General health VAS			X		X	X
Multiple Sclerosis Work Instability Scale (MS-WIS)		X	X			
Connor-Davidson Resilience Scale (CD-RISC-10)			X		X	X
Multi-dimensional Psychological Flexibility Inventory (MFPI)			X		X	X
Unidimensional Self-efficacy scale for MS (USE-MS)			X		X	X
Hospital Anxiety and Depression Scale (HADS)			X		X	X
Multiple Sclerosis Impact Scale (MSIS-29)			X		X	X
System Useability Scale (SUS)					X	X
Qualitative: Interval support contact notes				X		
Qualitative: Semi-structured interviews					X	X

7.5 Qualitative assessments

Phase 2: HCPs

Qualitative interviews:

A sub-set of HCPs (purposively selected for diversity) will be invited to take part in post-READY semi-structured research interviews to understand their experiences of the programme, how they have understood the core concepts and their expectations around supporting PwMS to use the programme. These interviews will also seek to understand how, when, and in what contexts different HCPs might ask their patients about employment and difficulties at work.

Phase 3: PwMS

Qualitative interviews:

A sub-set of PwMS (purposively selected for diversity) will be invited to complete post-intervention and 6-month follow-up semi-structured interviews to explore their experience of the programme and any long-term impact.

7.6 Lightning Reports

At Phase 3, all research participants ≥2 weeks from baseline (HCPs and PwMS) will receive an email-based pulse free-text questionnaire at 2-weekly intervals to ask:

1. What has been going well with the READY programme
2. What has not been going well with the READY programme
3. Any recommendations for improvement to the READY programme

Participants will also be invited to take part in optional additional unstructured tele-interviews to discuss their responses further. During these tele-interviews, the researcher will invite participants to expand on their responses given to the 3 key questions details above. Participants will be asked for verbal consent to audio-record these tele-interviews.

Responses to the pulse questionnaires will be assessed by rapid qualitative analysis to contribute to lightning reports (see Brown-Johnson et al., 2019[39]).

8 STATISTICS AND DATA ANALYSIS

8.1 Sample size calculation

A minimum of 200 cases is recommended for Structural Equation Modelling (SEM) frameworks[40]. Assuming an attrition rate of 20%[41], recruitment rate of at least 250 subjects should provide this minimum recommended number of cases.

The minimal clinical important difference for the MS-WIS is yet to be established. The MS-WIS has been shown to be predictive of job loss over a 28 month period, following up a cohort of those in work at the onset[38].

8.2 Statistical analysis plan

This is a hybrid trial assessing implementation and effectiveness of the digital READY programme in NHS settings.

In terms of effectiveness, this study seeks to understand who might benefit from the digital READY intervention and in what contexts. Participant outcomes (e.g. Work Instability, Psychological flexibility, Self-efficacy) will be measured at multiple time-points (baseline, week 8 and month 6). While the first step will be to assess for any change to outcome variables over time using repeated measures ANOVA, this provides only an overview of interventional impact and assumes homogenous change within the study group[42]. Latent Growth Curve Modelling (LGCM) can be useful to identify patterns within subgroups of a population to understand who benefits from an intervention and why[43]. Latent Growth Curve Modelling (LGCM) will be used to determine trajectories over time. Changes from baseline to week 8 and baseline to month 6 will be assessed. Logistic regression models will be utilised to understand potential predictors of these trajectories. Specifically, the relationship between psychological flexibility, resilience, and work instability, how these change for participants from baseline to post-intervention and longer term, and if changes in these variables seem to be linked. If there is evidence of a relationship between work instability and resilience or psychological flexibility over time, such that increases in resilience or psychological flexibility relate to decreases in work instability, this would suggest that the READY programme could be effective in reducing work instability.

Lightning reports will be produced using rapid qualitative synthesis following a pre-defined framework[39]. These lightning reports will enable iterative assessments of implementation that will inform the final qualitative assessments.

The process evaluation will help to identify contextual factors that may influence core processes of the intervention through qualitative inquiry.

9 DATA MANAGEMENT

9.1 Data collection tools and source document identification

This project will collect and store qualitative and quantitative data.

Participants who enter the study will be assigned a unique identifier to anonymise their records. Access to study data will be limited to those necessary for data collection, control, and analysis.

Questionnaires: Participants will complete questionnaires at baseline, week 8 and month 6. These questionnaires will include demographic data, work information, and validated scales. Data will be collected using secure GDPR-compliant online self-report forms and stored on a secure research database. The research team at participating sites will be responsible for identifying missing data and contacting the participant to complete missing data queries.

Medical record data: Data collected from medical records (e.g. MS history) will be stored securely on NHS computers and should only be shared across secure NHS email accounts or input to the research database directly by research team members involved in the study.

Qualitative data: Research interviews will be audio-recorded on an encrypted password protected dictation device. Audio files will be stored on a secure NHS computer for the duration of the study. Audio files will be sent for transcription to an approved transcription company. The transcription company must sign a confidentiality agreement before any files can be shared.

The research team at each participating site will be responsible for data collection. The CI will be responsible for the data once it is transferred to the Sponsor site.

9.2 Data handling and record keeping

All the investigators in the study will comply with the requirements of the Data Protection Act 2018, and by extension the principles of the GDPR 2018 as well. Study specific information will be kept in the study site file including the participant consent forms and assessment sheets, as well as pertinent personal information. The site file will be stored in a secure location, not accessible to the public and other staff not part of the study. All the participants'

data will be depersonalised, coded and then stored electronically in password protected files. There will be an encrypted digital copy of the original files kept in separate storage media. The data will be processed and stored for the duration of the study and thereafter for the purposes of any follow-up. Access to the data will be limited to the minimum number of individuals necessary for quality control, audit, and analysis.

9.3 Access to Data

Direct access will be granted to authorised representatives from the Sponsor, host institution and the regulatory authorities to permit trial-related monitoring, audits and inspections- in line with participant consent.

9.4 Archiving

All the investigators in the study will comply with the requirements of the Data Protection Act 2018, and by extension the principles of the GDPR 2018 as well. Study specific information will be kept in the study site file including the participant consent forms and assessment sheets, as well as pertinent personal information. The site file will be stored in a secure location, not accessible to the public and other staff not part of the study. All the participants' data will be depersonalised, coded and then stored electronically in password protected files. There will be an encrypted digital copy of the original files kept in separate storage media. The data will be processed and stored for the duration of the study and thereafter for the purposes of any follow-up. Access to the data will be limited to the minimum number of individuals necessary for quality control, audit, and analysis.

10 MONITORING, AUDIT & INSPECTION

The Trial Management Group (TMG) will meet formally on a quarterly basis during the course of the study to monitor progress, completion of appropriate assessment and troubleshoot any issues raised during the study, either by participants or other members of the TMG. The agenda of these meetings and timetable will be driven by the chief investigator. It is anticipated the chief investigator will meeting with individual members of the TMG more frequently as required. The patient representative will not be needed to attend all the TMG meetings, but will be invited to meet with the TMG on a six monthly basis

to provide input on the progress of the study and future direction. The TMG meetings will be minuted and a record kept in the study file.

A Trial Steering Committee (TSC) will be convened of experts and PPI representatives. The TSC will meet formally a minimum of once annually for the duration of the study. Any significant concerns from the Trial Management Group will be escalated to the TSC. The TSC will receive the minutes from the TMG and a formal report of the progress of the study.

A Site Initiation Visit will be conducted virtually between the Sponsor site and Participating sites prior to any study activity at the Participating site.

11 ETHICAL AND REGULATORY CONSIDERATIONS

11.1 Research Ethics Committee (REC) review& reports

Before the start of the trial, approval will be sought from Leeds Teaching Hospitals NHS Trust Research Ethics Committee (REC) for relevant trial documentation including trial protocol, informed consent forms and participant information sheets. The trial will also be submitted to the Health Research Authority (HRA) via the Integrated Research Application System (IRAS). Subsequently, any substantial amendments that require review by the HRA will then be applied for separately and the Leeds Teaching Hospitals Trust REC will be notified of any amendments to the protocol. Where required the chief investigator will produce an annual report to the Leeds Teaching Hospitals Trust REC. The chief investigator will notify the Leeds Teaching Hospitals Trust REC and NHS HRA upon completion of the study. Within one year after the end of the study or if otherwise specified, the chief investigator will submit a final report with the results to the HRA and Leeds Teaching Hospitals REC. All correspondence with the REC will be retained in the Trial Master File.

11.2 Peer review

This project has been developed by the chief investigator with advice from co-investigators, the MS Society Research Network and the MS Society Grant Review Panel. The MS Society Research Network is made up of reviewers living with Multiple Sclerosis.

11.3 Public and Patient Involvement

Design: PwMS were involved in the co-development of the MS-Work Instability Scale. This is the primary outcome measure in the MS-PROACTIVE trial.

The 'READY for MS' Acceptance and Commitment Therapy programme was developed by Professor Kenneth Pakenham in Australia to improve resilience and self-efficacy. The programme has been tested by PwMS in Australia and in Italy.

The pilot study that precedes this proposal was submitted to the MS Society Research Network for lay review and received positive comments on the importance of research on employment and MS, as well as support for testing of an online intervention.

PwMS were involved in the development and design of the READY digital programme as part of a co-production phase for the current pilot study. Therefore the digital programme that we would now like to trial in an NHS setting has been developed by and for PwMS.

Two occupational therapists provided written feedback at the design stage of this research project. Based on this feedback, we will provide the HCP training sessions in groups virtually to encourage peer support

We submitted this research proposal to the MS society research network and received 4 lay review and 3 peer review responses. PwMS felt positively about a psychological intervention for PwMS who are struggling to stay in work, as well as the potential wider benefits of the READY programme for psychological outcomes. PwMS were also in favour of resources being available online.

Focus groups will be utilised to explore priorities for PwMS and ensure our final study design is in line with these. We will actively recruit people from diverse backgrounds for the focus groups to identify how we might better engage with different communities before recruitment begins.

Management of the research: The Chief Executive of Shift.ms who has multiple sclerosis is an advisor for this project and a member of the Trial Management Group. The Trial Steering Committee will have representation from PwMS.

Participants will be invited to contribute to lightning reports which will inform the ongoing running of the study.

Undertaking the research: 50 HCPs and 250 PwMS will be invited to complete the READY programme. 5 HCPs and 10 PwMS will be invited to complete research interviews which will contribute toward the process evaluation. The embedded process evaluation will be an opportunity to explore qualitatively the contexts that act as barriers or facilitators to people

with MS engaging with research and psychological interventions, in particular, the digital READY programme. We also want to understand what barriers MS healthcare professionals may face when trying to support people with MS who are facing workplace challenges.

Dissemination of findings: Dissemination to the scientific community will be made via conference abstracts, submissions to peer-reviewed journals, so that other researchers and healthcare professionals can bring these findings to their own practices.

Key findings will also be shared via MS charity public forums including the MS society and shift.ms so that people affected my MS can benefit from insights and increased awareness of potential new interventions.

11.4 Regulatory Compliance

Before any patients are recruited into the study, the chief investigator will ensure that appropriate approvals from the local REC and R&D department are in place. The study will also need to have received HRA approval via IRAS. Any subsequent amendments to the protocol will be submitted via IRAS for HRA approval prior to any change in the study parameters. The chief investigator will work with the R&D department at the study site as well as the TMG so they can put the necessary arrangements in place to implement the amendment, to confirm their support for the study as amended. As part of the required clinical standard in conducting research within the NHS, the chief investigator has Good Clinical Practice (GCP) certification.

11.5 Amendments

The chief investigator will be responsible for the decision to make any amendments to the protocol after agreement with the co-investigators. For any substantial amendment to the protocol, the chief investigator will submit a valid notice of amendment to the HRA for consideration via IRAS. Amendments will also be notified to the local Leeds R&D team to assess whether the amendment affects the NHS permission for that site. The protocol version with the amendment will be updated and the most recent version of the protocol will be disseminated to all relevant study personnel. The updated version of the protocol as well as the historical version of the protocol will be filed in the site file.

11.6 Protocol compliance

All investigators will conduct the trial in accordance with the trial protocol as agreed to by the local REC and which was given favourable opinion by HRA. The chief investigator will log any protocol deviations and these will be made known to the TMG and where deemed appropriate, the chief investigator will also inform the local R&D team and REC.

11.7 Notification of Serious Breaches to GCP and/or the protocol

A 'serious breach' is a breach which is likely to affect the safety, or rights of trial participants and/or data reliability and robustness of the trial to a significant degree. The chief investigator will notify the Sponsor in the event of a serious breach. Where appropriate, the chief investigator and/or Sponsor will also inform the REC and any other regulatory bodies.

11.8 Data protection and patient confidentiality

All the investigators in the study will comply with the requirements of the Data Protection Act 2018, and by extension the principles of the GDPR 2018 as well. Study specific information will be kept in the study site file including the participant consent forms and assessment sheets. The site file will be stored in a secure location, not accessible to the public and other staff not part of the study. Electronic files will be stored on secure NHS drives. All the participants' data will be depersonalised, coded and then stored electronically in password protected files. There will be an encrypted digital copy of the original files kept in separate storage media. The data will be processed and stored for the duration of the study and thereafter for the purposes of any follow-up. Access to the data will be limited to the minimum number of individuals necessary for quality control, audit, and analysis. Digital questionnaires will be distributed to participants via a secure GDPR complaint platform.

11.8 End of study

The end of study will be denoted by completion of the 6-month follow up data collection from the last participant. The Chief Investigator will notify the Sponsor, the REC, and any other regulatory bodies within 90 days of the end of study date or within 15 days of early termination.

11.9 Post trial care

Participants in the trial will continue to have access to the digital intervention post-trial. Participants in phase 3 will return to their standard care pathway.

11.10 Access to the final trial dataset

The final trial dataset will be stored securely at the Sponsor site. The Trial Monitoring Group will review formal requests for access to the final dataset. Formal requests will need to be made to the Chief Investigator in writing.

12 DISSEMINIATION POLICY

12.1 Dissemination policy

The data arising from the study will be owned by the chief investigator and held on the Sponsor site. All Background Intellectual Property Rights (including licences) and Background Know-How and their improvements used in connection with the Study shall remain the property of the Sponsor site. Participating sites shall not publish any Study Data, including through presentation or submission of an abstract, without the prior permission in writing from the Sponsor (which shall not be unreasonably withheld or delayed). Participating Sites may, with the prior written permission of the Sponsor (such permission not to be unreasonably withheld), use Study Data gained during the performance of the Study, at its own risk, in the furtherance of its normal activities of commissioning clinical services, teaching and research to the extent that such use does not result in the disclosure or misuse of Confidential Information or the infringement of an Intellectual Property Right of the Sponsor or their Funder or the holder of the Intellectual Property Rights of the Intervention.. On completion of the study, the data will be analysed and a final study report will be prepared. The full study report will then be submitted for peer review publication in relevant journals. The funding body and sponsor will be acknowledged within the publication. The findings from the study will be communicated to the participants via newsletter and local clinical networks. Participants will be able to request copies of any publications resulting from the study and where possible these will be made available. The findings from the study will be presented at local and national or international scientific meetings.

12.2 Authorship eligibility guidelines

Authorship eligibility will be based on the IMJC recommendation for meeting all four of the following criteria:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or reviewing it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Contributors who meet some but not all these criteria will be acknowledged in publication/s.

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14. APPENDICIES

*Provided as separate documentation.