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centre for sport, physical education & activity research

UK active
More people
More active
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This Mum Moves
Final Report



November 2021

THE NATIONAL LOTTERY

SPORT ENGLAND

Canterbury Christ Church University

About *spear*

The Centre for Sport, Physical Education & Activity Research (*spear*) is located within the Faculty of Science, Engineering and Social Sciences at Canterbury Christ Church University. *spear* undertakes a range of evidence-led analyses, from critical commentaries and reflections on current policy and practice, to commissioned research, evaluation and consultancy.

The Centre's research is funded by a range of national and international funders such as the International Olympic Committee, World Health Organisation, Terre des Hommes, Department of Health, Department for Education, Activity Alliance, Access Sport, Premiership Rugby, Chance to Shine, Mencap, Sport England and the Youth Sport Trust. Recent work has focused on physical activity, health and wellbeing in schools and communities.

Research conducted by *spear* helps guide and inform public policy by contributing to the wider evidence base used by policy makers, providing a rationale for government and commercial investment, and steering programme improvements that enhance the experience of practitioners and participants.

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Context

About This Mum Moves

This Mum Moves is a National Lottery and Sport England funded project delivered by ukactive. The project aimed to support pregnant women and new mums to remain active, by engaging healthcare professionals to promote physical activity within routine care. To improve their knowledge, confidence and motivation to deliver up to date guidance and clear and consistent messages regarding physical activity engagement, healthcare professionals were provided with training and resources. The overarching aim of This Mum Moves was to reduce the decline in physical activity levels during and following pregnancy and to improve mental and physical health outcomes for pregnant women and new mothers.

During the 4 year project, ukactive have worked with NHS trusts in the geographical areas of Sheffield, Sunderland, Plymouth, Cambridge and Bexley. In these areas, training of healthcare professionals has been implemented using a cascade training model. Within routine appointments, pregnant women and new mums have been recruited by healthcare professionals, to complete surveys detailing their physical activity and healthcare perceptions and experiences during pregnancy and postpartum.

About *spear's* evaluation

spear was commissioned from October 2018 to November 2021 to conduct an independent evaluation of This Mum Moves. The evaluation, and this Final Report, appraises programme delivery, examines the impact of This Mum Moves on key programme outcomes and explores the experiences of pregnant women, new mums and healthcare professionals. Commentary provided accounts for alterations in delivery and evaluation arising from the COVID-19 pandemic, and general reported impacts of the pandemic on physical activity behaviours of pregnant women and new mums and the professional practice of healthcare professionals.

Data collected between November 2019 and September 2021 from online surveys, telephone interviews and site visits provide insight into the physical activity and healthcare experiences of pregnant women and new mums, as well as the perceptions, attitudes and experiences of healthcare professionals. An overview of findings, outcomes and lessons learned are also presented.

This Mum Moves outcomes

…for pregnant women and new mums

1. Maintaining or increasing physical preparation to give birth and aiding physical recovery post childbirth
2. Improved measures of mental wellbeing, individual development, social and community development and economic development throughout pregnancy and post birth
3. Increased awareness of guidelines for being active during pregnancy and barriers and enablers to being active during pregnancy and post birth
4. Establishment of the point at which physical activity drops off

…for healthcare professionals

1. Delivery of ambassador training for This Mum Moves ambassadors and cascade training for practitioners
2. Increased confidence, knowledge and skills surrounding physical activity guidelines and imbedding these in professional practice
3. Increased awareness and support of the government's physical wellbeing outcomes

Evaluation questions

1. Has the programme empowered pregnant women and new mums to make informed physical activity choices throughout pregnancy and beyond?
2. Has the programme impacted on the physical activity levels and wellbeing of pregnant women and new mums?
3. Has the programme impacted on the confidence, skills and knowledge of healthcare professionals to deliver effective physical activity messages to pregnant women and new mums?
4. Has the programme affected awareness and support of the Chief Medical Officers' guidelines for physical activity among healthcare professionals?

Evaluation Process

	Procedures followed
Relationship management	Monthly telephone updates with ukactive Monthly updates to the CPMS system and NHS trusts with recruitment figures and details from November 2019 – September 2021
Consent to Contact forms	Healthcare professionals completed online forms providing contact details of eligible women interested in participating in the study (survey completion) 581 consent to contact forms completed by healthcare professionals across all 5 sites and processed by *spear* New inputs checked twice weekly by *spear* and contacts provided with links to the appropriate survey followed by a reminder 2 weeks later
Pregnant women and new mums' surveys	4 surveys developed and hosted online and accessed via bespoke weblinks Tracking and monitoring of participants to send surveys and reminders at the appropriate time of their pregnancy/postpartum at all study sites 96 surveys completed at timepoint 1 (trimester 1) 85 surveys completed at timepoint 2 (trimester 2), 89 surveys completed at timepoint 3 (trimester three), and 18 surveys completed at timepoint 4 (6 months postpartum) Data analysed and findings presented in Final Report
Healthcare professionals' surveys*	4 surveys developed and hosted online and accessed via bespoke weblinks Tracking and monitoring of participants to send surveys and reminders at the appropriate time prior to or following their engagement in training 393 pre-training surveys, 247 post-training surveys, 35 3-month post and 34 6-month post surveys from ambassador training and health visitor cascade training included in this analysis
Case Studies	2 case studies completed based on the training experiences of healthcare professionals and imbedding this in practice 2 case studies completed exploring the physical activity experiences of pregnant women and new mums (including the effects of COVID-19 and lockdown on physical activity) From 2020 site visits were unable to take place. Analysis of data collated through site visits (2019), telephone interviews (2020, 2021) and qualitative survey questions used to enrich insight data and collate case examples
Delivery of Reports	2020 Interim Report completed 2021 February Annual Report completed 4 case studies completed 2021 November Final Report

Engagement

Programme delivery for This Mum Moves started in November 2019 with the delivery of face-to-face ambassador training in Sheffield. Commencement of delivery at the further sites was delayed during spring/summer 2020 due to the COVID-19 pandemic. Four further geographical locations (Bexley, Cambridge, Sunderland and Plymouth) joined the study in autumn/winter 2020, at which point the data collection period was extended to September 2021 in a bid to ensure the programme could continue with the smallest possible impact on recruitment.

Face-to-face ambassador training sessions were delivered in 2019 to 20 healthcare professionals in Sheffield. In autumn 2020, a further 78 healthcare professionals attended This Mum Moves ambassador training sessions hosted via online video conferencing software. Ambassadors delivered cascade This Mum Moves training to their teams within their healthcare trusts. Healthcare professionals completed online surveys, monitoring their confidence, skills and knowledge relating to providing physical activity guidance for pregnant women and new mums. Surveys were completed immediately pre and post-training, and healthcare professionals were invited to complete follow-up surveys after 3 and 6 months to assess sustained impact on their professional practice.

Trained midwives and health visitors supported recruitment of pregnant women and new mothers by completing consent to contact forms with eligible participants during routine prenatal appointments. Pregnant women received 'very brief advice' and a This Mum Moves information leaflet from their healthcare professional and were invited to participate in the research.

spear facilitated survey completion by emailing links to online surveys corresponding to the stage of pregnancy of each individual throughout pregnancy and postpartum. Surveys explored the physical activity behaviours, experiences and attitudes of pregnant women and new mums during each trimester of pregnancy and 6 months postpartum.

Pandemic impacts, competing priorities and ongoing restrictions throughout 2020 and 2021 significantly constrained overall recruitment of both healthcare professionals and pregnant women to the study. All sites actioned a temporary halt to recruitment, however following this, sites have elected to revise and reduce recruitment intentions to the study. Healthcare professionals noted that shorter appointment times restricted the inclusion of 'non-essential content'. Furthermore, when appointments were digital, or masks were worn, healthcare professionals were less able to engage with women in a relaxed and informal way to initiate conversations promoting physical activity or This Mum Moves.

Value of This Mum Moves

"

We have a great opportunity to give women information and resources on how they can keep active and the benefits during pregnancy and postnatally. We often establish a good rapport during early pregnancy and have a working relationship throughout and postnatally. In our area of community, we aim to provide continuity so women feel trust in our care and I feel they would definitely take this information on board.

Midwife, Cambridgeshire

"

We have ideal opportunities with pregnant women/new mums to help reinforce the importance of keeping fit throughout pregnancy and postpartum.

Health Visitor, Bexley

"

As part of the booking process, we are required to discuss physical activity. It will be beneficial to have something more structured to help us do this.

Midwife, Sunderland

"

Healthcare Professionals, Pre-training survey data

COVID-19 impacts

The COVID-19 pandemic caused disruptions to study logistics and alterations to the intended study timeline. Training of healthcare professionals and recruitment to research were deemed lower priority activities within ever changing healthcare protocols, resulting in shortening the data collection period and reductions in recruitment targets for the study. The day to day impacts of COVID-19 among healthcare professionals, pregnant women and new mums featured strongly within qualitative data captured.

Healthcare professionals commented on impacts to the This Mum Moves training and the virtual delivery of ambassador and cascade training; attendees reported they would have preferred to attend face to face training, and ambassadors felt it would have been easier to deliver face to face cascade training.

Changes in their interactions with pregnant women have led to changes in the priority of the research. Fewer face to face appointments and shorter appointment times reduced the contact opportunities available to healthcare professionals to deliver advice and recruit participants.

Overall delays in study roll out led to a reduced momentum in those who received training in the initial delivery phase and have reduced the recruitment time available. Some ambassadors delayed delivery of cascade training in the hope of delivering face to face, or felt they had forgotten the necessary content due to delays. With regard to providing guidance to pregnant women and new mums, some healthcare professionals chose to exercise caution in promoting physical activity recommendations, as these may have been perceived to contradict the governments national lockdown 'stay at home' instructions.

COVID-19 considerations were prevalent in the reported activity behaviours of pregnant women and new mums. Some women said they left the house less than they would have done otherwise, and some followed early government advice to 'shield' from external contact during the third trimester of pregnancy.

Barriers created by COVID-19 restrictions were also widely reported. Closure of sports facilities, leisure centres, and specifically swimming pools prevented women being active, particularly during winter months when weather did not invite being active outdoors. Although many reported attending online fitness classes, generally women felt they would have been more motivated to attend these face to face and the online experience lacked socialisation.

Women felt appointments with healthcare professionals did not provide them with opportunities to talk about physical activity.

I mean we were fine but there wasn't the opportunity to have those conversations. Even with my first, no nothing at all really. Pregnant Woman.

Felt like my appointment was really rushed, I felt like it was just really focused on the purpose of what's supposed to happen and there wasn't much interest on top of that. Pregnant Woman.

The impact of COVID-19 on healthcare professionals

"

Essential care has been prioritised over routine antenatal advice. In my role, face-to-face contact has been reduced massively and recruiting women to the study doesn't feel essential. Having said that I am regularly encouraging women to stay active by walking and getting fresh air, in order to promote physical and mental health during lockdown.

"

Due to COVID, I have been unable to give much advice on being active and getting outside, as the main message has been to stay at home.

"

I do not get on with virtual training. The information was relayed as best as it could be but I found it too much time to be at a screen.

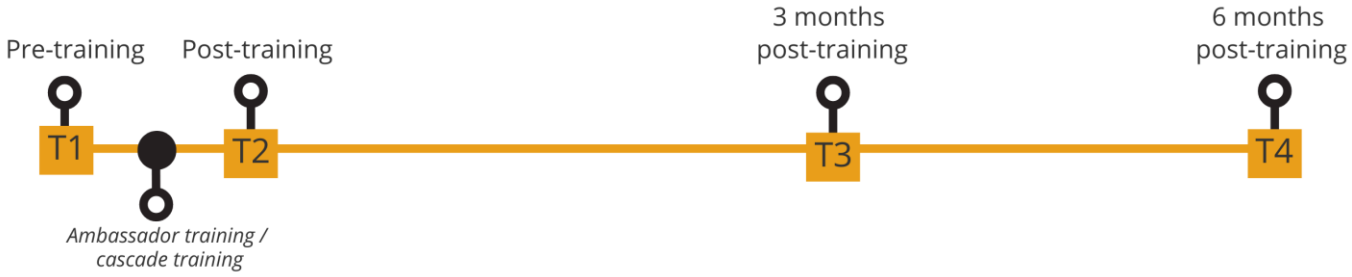
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It was impossible to see the infographics on the Virtual Training, such a shame as they are an excellent resource.

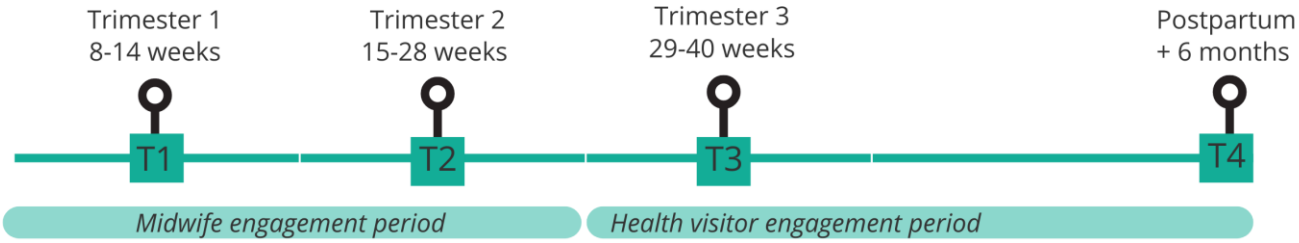
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Healthcare Professionals, Survey data

Healthcare professionals' survey



Pregnant women / New mums' survey



Healthcare professionals...

99 Healthcare professionals trained as ambassadors

>250 Healthcare professionals received cascade training

336 Healthcare professionals completed pre-training survey
226 Healthcare professionals completed post-training survey
18 Healthcare professionals completed 3-month follow-up training survey
17 Healthcare professionals completed 6 month follow-up training survey

Data collected from: **Sheffield, Bexley/Gravesham, Sunderland, Cambridgeshire, Plymouth**
January 2021

Pregnant women and new mums...

392 Pregnant women invited to participate in the study and sent surveys

66 Pregnant women completed one survey at the T1 timepoint
40 Pregnant women completed one survey at the T2 timepoint
42 Pregnant women completed one survey at the T3 timepoint
11 New Mums completed one survey at the T4 timepoint

Healthcare Professional Training

Pre and post impacts of the This Mum Moves ambassador training are explored in detail in the 2020 This Mum Moves Interim report, alongside 2 supporting case studies. The 2021 Annual report provides further detail on the impact of cascade training and sustained impact of training. Overall, all methods of training delivery have been positively received by healthcare professionals. Most healthcare professionals reported limited or no previous formal education or training on the subject area, despite feeling physical activity was important for pregnant women and new mums.

During the life of the study, a total of 99 healthcare professionals trained as ambassadors, and 326 received cascade training. Pre and post survey data highlights healthcare professional knowledge and confidence, and the acute effectiveness of training in supporting improved understanding of physical activity guidelines. Follow-up survey data 3 and 6 months following training provides insight into the sustainability of the training, its impact on professional practice, and perceived knowledge, skills and confidence of healthcare professionals in care settings.

Updated Findings

Demographic information

Pre-training surveys were completed by 393 healthcare professionals, post training surveys were completed by 247, and follow-up survey data was collected from 35 and 34 healthcare professionals 3 and 6 months following training respectively.

Pre-training survey data is made up of responses collected from all study sites (Bexley, Gravesham and surrounding areas 4%; Plymouth 9%; Cambridgeshire 19%; Sunderland 25%; Sheffield 43%). Of those who took part in training, 37% were midwives, 56% were health visitors, and 7% described their profession as ‘other’, listing occupations including nursery nurse, early years practitioner, family nurse, school nurse, research nurse or student.

The average age of healthcare professionals was 46, and ages ranged between 22 and 76. Average length of professional experience was 13 years and total years of experience ranged from 0-50 years; 21% of healthcare professionals had over 25 years of experience, while 44% had fewer than 10 years of experience.

The majority (88%) of healthcare professionals reported no previous formal education on physical activity in pregnancy and postpartum and confirmed this topic was not included within their professional training. Some reported existing knowledge had been acquired through self-directed reading, study days or through on the job experience. Those who reported prior training linked its

Why did you want to participate in this training?

”

To learn and gain information/knowledge about physical activity in pregnancy and what information we should be informing our mums to be/mums of.

”

To learn about something different and because I am aware of the high numbers of obese women we are looking after now.

”

To be able to better support the parents I work with.

”

To try and encourage postnatal mothers to be more proactive in their own physical recovery.

”

I am interested in the importance of physical activity on health and wellbeing for individuals and communities.

”

To update my knowledge, as more and more women are asking about what exercise is safe to do in pregnancy.

”

Healthcare Professionals, Pre-training survey data

content to targeted programmes for intervention or prevention of obesity and gestational diabetes in pregnant women and new mums, which differed from promoting physical activity to all.

During the course of the This Mum Moves trial, an e-learning for health module entitled '*Pregnancy and Postnatal Period: Being Active'* was developed. To monitor engagement and potential impact of this additional training resource, the 294 healthcare professionals who completed the survey most recently to complete the survey were asked if they had completed this training. A total of 20 healthcare professionals (7% of those asked) had completed this training prior to the This Mum Moves training.

Prior to training, healthcare professionals were asked about their own physical activity levels; 18% were inactive, reporting doing less than 30 minutes of physical activity per week; 49% were fairly active, participating in 30-149 minutes per week, and; 33% were active, engaging in over 150 minutes of physical activity each week.

Perceptions of training

Motivation to take part in the training was positive. Some healthcare professionals reported taking part because training was 'mandatory', however despite this, most healthcare professionals recognised a need to upskill and access knowledge of appropriate guidelines. Healthcare professionals reported a shared consensus of the health and wellbeing benefits of active pregnancy and active motherhood for women and their families, and recognised the importance of consistent physical activity promotion in pregnancy and postpartum.

Despite changes in the delivery format, and a reported preference for face to face training format, healthcare professionals were complimentary of the training they received. The delivery of virtual training was praised in spite of the innate constraints of this delivery method. A total of 97% of healthcare professionals would recommend the training they received to a friend or colleague and much of the feedback obtained suggested training sessions should be longer to facilitate further opportunities for discussions and practice of example scenarios, further highlighting a willingness to engage in the topic and gain relevant experience.

Exercise has so many benefits – if women are feeling empowered and healthy, there is research out there to say they may labour more efficiently and be more focussed. I want to help share and teach this information. Midwife, Cambridgeshire

I want to obtain the knowledge and skills required to encourage mums to be active and therefore improve the health of mums and reduce health inequalities. Health Visitor, Sunderland

It's important to educate where possible the importance of exercise and being active. Our client group requires us to help change outcomes of their lives as well as that of their children. Family Nurse, Cambridgeshire

Pre-training motivation, skills and confidence

"

I feel a lack of training and information in this area has greatly impacted upon my knowledge and confidence.

"

I don't feel confident in the advice and am never sure where to signpost women to.

"

I'm so glad to have training on this as I don't think I ever had before. I know it's so important but I lack confidence on how best to advise women.

"

I am looking forward to being able to give the correct advice.

"

Healthcare Professionals, Pre-training survey data

97% of participants said they would recommend the training they had undertaken to a friend or colleague.

Motivation, skills and confidence

At all four timepoints, almost all healthcare professionals felt motivated to provide advice about physical activity to pregnant women and new mums. Following training almost all healthcare professionals felt they had the knowledge (99%), confidence (98%) and capacity (95%) to deliver physical activity advice either 'a little' or 'a lot'. In addition, following training 85% of healthcare professionals said they were 'committed' (50%) or 'highly committed" (35%) to apply what they had learned in training to their professional practice.

Confidence within specific elements of professional practice was also reported before training, after training and again 3 and 6 months following training. Healthcare professionals were asked to rate their confidence in elements of their practice. Prior to training, in '*Providing advice on physical activity or being active…*', 13% were *'not at all confident'* and 1% were *'highly confident'*. In '*Starting a conversation about physical activity'*, 10% were *'not at all confident'* and 3% were *'highly confident'*. In '*Delivering the safety messages that may apply to being physically active',* 18% were *'not at all confident'* and 2% were *'highly confident'.* Immediately following training, there was a significant improvement in confidence in all areas. No healthcare professional reported feeling '*not at all confident'* in any of the activities and 65%, 81% and 74% felt '*confident*' or '*highly confident'* in these three areas respectively. Figure 1 demonstrates the impact of training on confidence to answer questions from pregnant women and new mums.

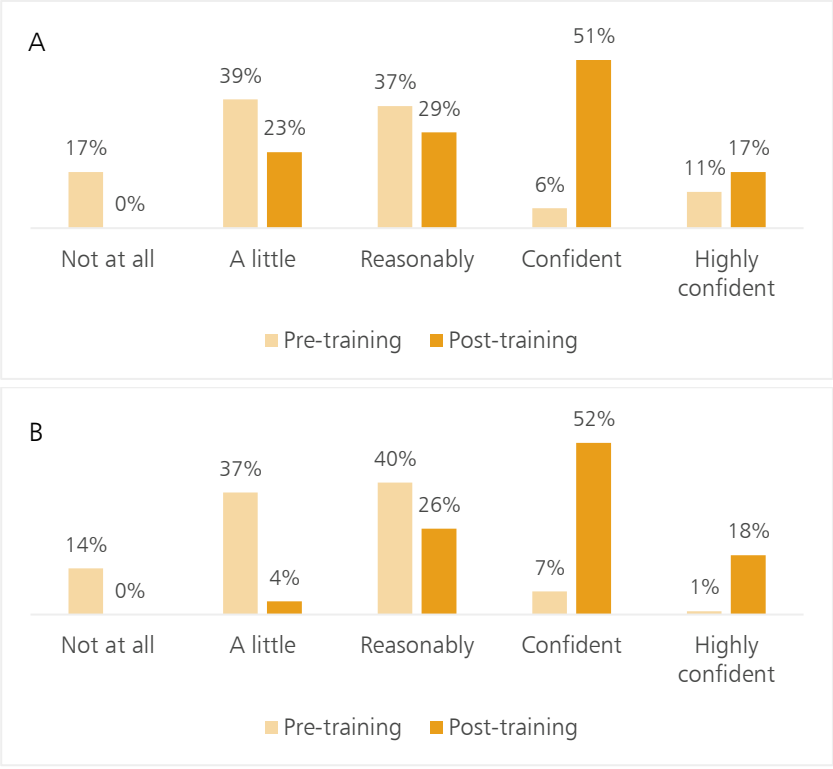


Figure 1. Ranked perceptions of confidence in *'Answering questions about physical activity from pregnant women (A) and new mums (B).* Percentages of healthcare professionals per response pre-training (n=393) and post-training (n=247)

How has the training you received equipped you to deliver information on physical activity in pregnancy and new mums?

"

It has made me aware that this should be part of the routine content of my visit.

"

I feel more confident in encouraging women to stay active at the same level if they are used to exercising. The training served as a reminder and gave me enthusiasm to promote increased physical activity to those who don't particularly think about it.

"

I now feel more confident to provide brief accurate information which suits all.

"

It has given me different ways of approaching the subject – for example, advising women to get out for regular walks.

"

Healthcare Professionals, Post-training and follow-up survey data

When surveyed again 3 and 6 months after implementing training within their professional practice, healthcare professionals remained significantly more confident than prior to training. In addition, 68-81% of healthcare professionals were either '*confident*' or '*highly confident*' at providing advice, initiating conversation, discussing the safety, and answering questions relating to physical activity with both pregnant women and new mums. Confidence in all elements was significantly higher than pre-training, demonstrating confidence gained through training was sustained as healthcare professionals implemented these interactions within professional practice.

Despite improved ratings of confidence, healthcare professionals voiced some residual concerns following training. These related to; how to relay information when appointment time was limited; when faced with language barriers; or when asked specific activity related questions by very active women. In addition, some healthcare professionals wanted more education on pelvic floor exercises, abdominal muscles, and recovery from a caesarean section. Some also highlighted the need for more consistent guidelines on where to signpost women for further information if they are unable to provide the right advice, or if a situation has additional complications.

Knowledge and understanding

The subject area of This Mum Moves training represents a topic studied formally by very few healthcare professionals. Before training, 99% of healthcare professionals felt further training would help them feel they had '*adequate skills and knowledge about physical activity in pregnant women and new mothers'*. Immediately following training, 99% of healthcare professionals felt they now had adequate knowledge and skills, indicating training met perceived knowledge and understanding expectations and needs.

Prior to training, healthcare professionals were asked if they were aware of the Chief Medical Officers' (CMO) guidelines for physical activity. A total of 33% were aware of the guidelines during pregnancy and 30% were aware of the guidelines for the postpartum period.

Statements (9 for pregnancy and 11 for postpartum) taken from the guidelines were used to gauge knowledge, understanding and agreement of the guidelines for both pregnancy and postpartum at all survey timepoints. Prior to the training, up to 35% of healthcare professionals reported 'I don't know' when asked about their understanding of different statements from the guidelines. Immediately following the training, fewer than 1% answered 'I don't know', confirming they had learned all content from the guidelines in the training they attended.

Compared with pre-training there was a significant increase in the number of healthcare professionals who 'agreed' or 'strongly agreed' with all statements from the CMO guidelines for pregnancy and postpartum immediately after training, and 3 and 6 months following training. This demonstrates an increase in

How has the training you have received equipped you with the skills to deliver information on physical activity in pregnancy and/or postpartum?

"

I am more confident at delivering correct, up to date information.

"

More knowledge of physical activity that is safe/not safe in the childbearing period.

"

Overall, I feel more confident to bring up this subject.

"

It has helped me find a way to discuss the subject and given me the knowledge needed.

"

It has further motivated me to empower and encourage women in pregnancy and the postnatal period to exercise not only for their physical health but also their mental and sexual health as well.

"

Very informative, it's good to have more information on a subject I feel we do touch on, but I feel more equipped to talk in detail now.

"

Healthcare Professionals, Post-training survey data

knowledge of the guidelines, and that this knowledge is maintained in the months following the training.

Following training, healthcare professionals were asked to list key things they had learned from the training. Throughout the study, healthcare professionals commonly cited the CMO recommendation of '150 minutes of activity per week', highlighting a lack of awareness of this guideline prior to training. Although this particular guideline is reflective of physical activity prescription targets for all adult populations, healthcare professionals reported learning that pregnancy is an appropriate time to take up physical activity when starting gradually, and activity during pregnancy and postpartum should be advised for all, and not exclusively those who were previously active. In addition, healthcare professionals reported the training had taught them to be more mindful to use inclusive and accessible language, understanding the need to use terminology such as '*being active'*, '*physical activity'* or '*movement*', as this is considered to be more inclusive and less off putting, than language such as 'exercise' and 'sport'.

An improved understanding of physiological health benefits associated with physical activity was also commonly reported in survey responses following training.

What did healthcare professionals learn from the training?



Prior to This Mum Moves training, 7% of healthcare professionals had completed the e-learning module 'Pregnancy and the Postnatal Period: Being active', however, when asked post training, 41% had completion, and after 3 and 6 months 76% and 68% had reported completing the module, suggesting healthcare professionals felt motivated to pursue additional independent education on the subject following their training.

Professional practice

Healthcare professionals were asked to rate the frequency with which they provided physical activity advice to pregnant women and new mums (*never; rarely; sometimes; often; always*). Prior to training, the majority of healthcare professionals '*never', 'rarely'* or *'sometimes'* engaged in these conversations with pregnant women and new mums. However, 3 months following training the majority of healthcare professionals '*often*' or '*always*' had these

What were three important things you learned from the training?

"

Being active at any level is positive and should be shared with all postnatal women.

"

High level activity can continue through pregnancy if no contra-indications.

"

Even if you are inactive prior to pregnancy, it's ok to start gradually and be more active in pregnancy.

"

I'm going to really emphasise that its about general day to day movement and not about getting your lycra on.

"

Bite sized amount of information can be powerful.

"

Empowering Mums to trust their instincts about what they can do early on and encouraging Mum and buggy health walks.

"

We have an opportunity to make a difference at our contacts.

"

Healthcare Professionals, Post-training survey data

conversations with pregnant women (60%) and new mums (69%), demonstrating a significant increase in reported frequency.

However, at the 6 month timepoint, there was a reduction in the frequency of these conversations, as shown in Figure 2. Although reductions in frequency of discussions could be multifaceted (lower prioritisation of This Mum Moves within hospital trusts, coupled with changes in practice due to COVID-19), it is noteworthy this could represent an appropriate timepoint for a training refresher or practice reminders to be delivered. Indeed, this may be echoed through other measures; at the 3 and 6 month post training timepoints, healthcare professionals continue to report significantly higher confidence in all aspects relating to advising pregnant women and new mums about physical activity than pre-training, however the percentage of healthcare professionals who are '*highly* confident' in all aspects is lower 6 months following training.

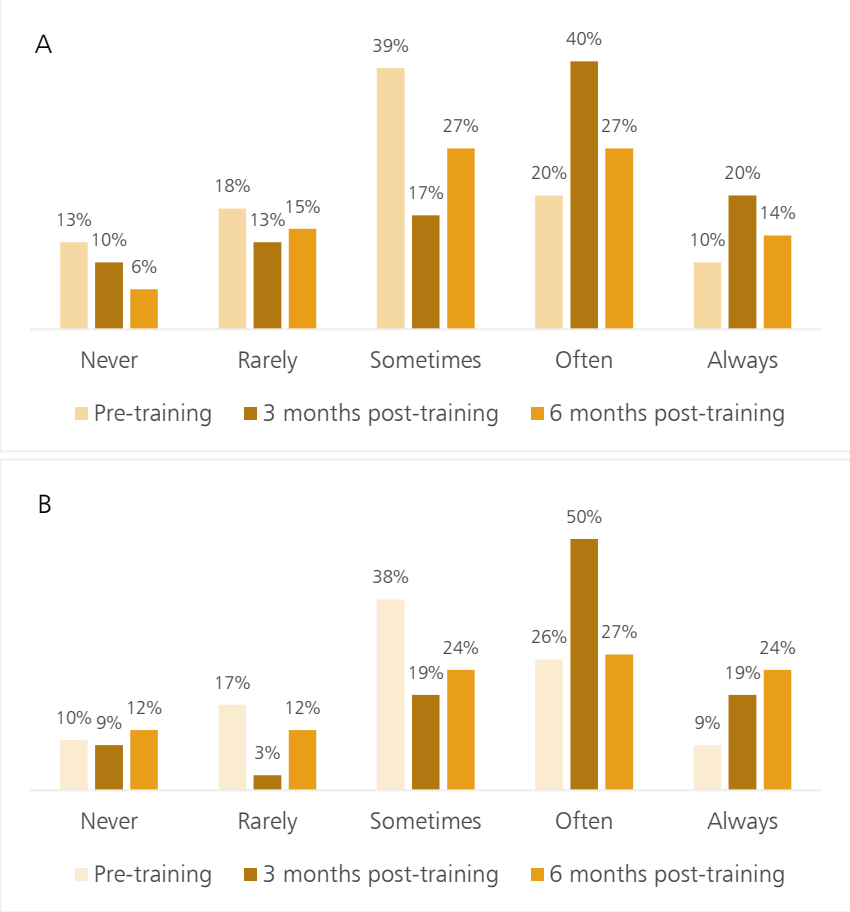


Figure 2. Reported frequency of *'Do you currently talk about / provide advice about being active to pregnant women* (A) *and new mothers* (B). Percentages of healthcare professionals per response pre-training (n=393), 3 months post-training (n=35) and 6 months post-training (n=34).

Some healthcare professionals highlighted a need to include physical activity within lists of standardised checks, alongside other essential health markers. It was suggested this would enforce greater parity in practice and reduce the likelihood of

Using the content in practice…

"

Women are very happy to have those conversations. Talking about health in general is very much part of the job, so this fits well within that conversation.

"

I have incorporated discussions, more than I would have before so the training has definitely impacted on the conversations I have with women. Whereas before they might have been delivered at a booking appointment, it's more on my radar to incorporate that into every day appointments now.

"

I pretty much just talk about it by starting with 'pelvic floor, how's that going?' and then I bring in a bit about getting out and about of the house and how are they managing physically.

"

They are really receptive. I think especially when you talk about it from more of a medical angle by bringing it up in relation to pelvic floor is a really good way to start the conversation. If you go straight in with 'how much physical activity are you doing?' women would get a bit defensive.

"

Healthcare Professionals, Telephone interviews

healthcare professionals forgetting to engage in relevant discussions with pregnant women and new mums.

One health visitor suggested, *"If the local services added 'physical movement' to the electronic templates we use, I'm sure health professionals would systematically remember to speak to every mother at every contact about the information".*

Prior to training, 74% of healthcare professionals said they would refer an alternative healthcare professional if they were '*not able to assist pregnant women or new mothers with their physical activity queries/concerns*'. At the follow-up timepoints, 78% (3 months post training) and 82% (6 months post training), said they would refer a pregnant women or new mum if they were unable to assist. Some healthcare professionals suggested seeking advice from exercise professionals and specialist instructors, some made reference to local initiatives in place in their areas, however most midwives and health visitors indicated they would refer women to their GP, physiotherapist, or consultant gynaecologist for additional physical activity support.

The nature of specific advice offered in practice was different at 3 and 6 month post training timepoints compared to before training. In the pre-training questionnaire, 14% provided specific information from the CMO guidelines and following training 65% (3 months post) and 75% (6 months post) reported providing specific information from the CMO guidelines. Advice offered is shown in Figure 3.

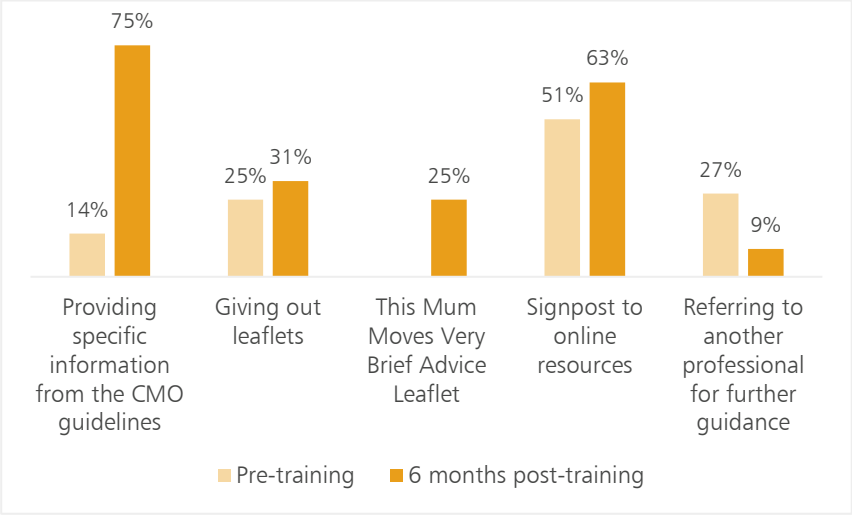


Figure 3. Responses to question '*If you provide advice, what does this include*?'. Percentages of healthcare professionals per response pre-training (n=393) and 6 months post -training (n=34).

Healthcare professionals were asked about their engagement with information and materials in relation to their professional practice. Before training only 22% reported online resources to find information. Most commonly listed resources used were; official public health guidelines from the NHS, Royal College of Gynaecology, or National Institute of Health Excellence, Start4Life, Change4Life, Active for Life and Healthy Start. Other

Resources

"

I don't really have any experience and get my information from the NHS website.

"

I have some information leaflets from the physiotherapists.

"

We use the infographics in the women's handheld notes.

"

I have just used general information on google from sources that look trustworthy.

"

The training definitely equipped me to deliver very brief advice to the women about physical activity. The leaflets are very useful to be able to share with the women.

"

The packs could include a laminated pictogram for us to be able to take to postnatal visits.

"

Healthcare Professionals, Pre-training and Follow-up survey data

responses referred to YouTube videos and tutorials and weight loss resources such as Slimming World and Weight Watchers.

At the follow-up timepoints healthcare professionals were asked about their awareness and engagement with the This Mum Moves website. While most 97% of healthcare professionals said they were aware of the website, 64% (3 months post training) and 60% (6 months post training) of healthcare professionals said they had visited the site. This suggests that in spite of the training, the site was not considered by healthcare professionals to be a primary resource for physical activity information.

The physical activity levels of healthcare professionals were reported as part of the This Mum Moves evaluation in order to explore potential differences in motivations and knowledge in those who were active. There were no differences in professional practice measures relating to activity levels, however compared with pre-training, at the follow-up timepoints, there was a significant increase in healthcare professionals' own physical activity levels, as shown in Figure 4. Fewer healthcare professionals were classified as 'Inactive' and more were 'Active' 6 months after the training. This significant finding suggests engagement in training and the improved knowledge of physical activity guidelines and benefits led to a greater uptake of physical activity in their personal lives.

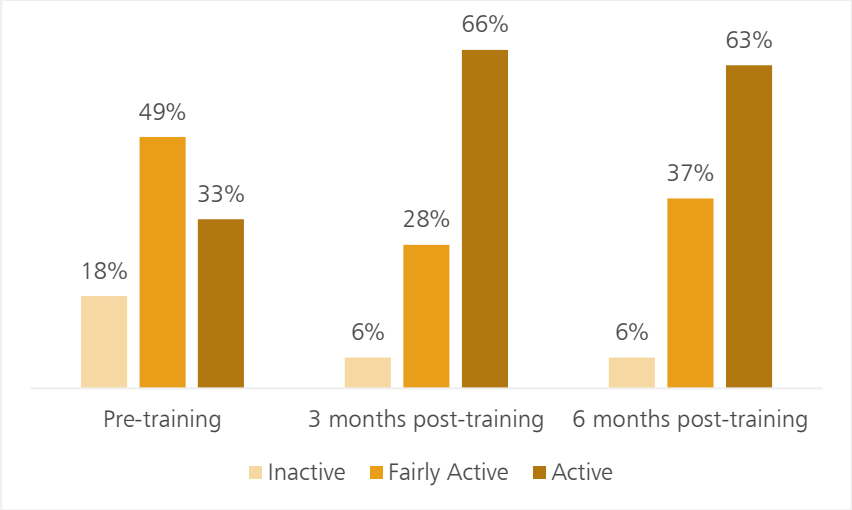


Figure 4. Percentages of healthcare professionals who were Inactive (30 minutes activity per week), Fairly Active (30-150 minutes activity per week) or Active (>150 minutes activity per week) reported pre-training (n=393), 3 months post-training (n=35) and 6 months post- training (n=34).

Further comments…

"

I think this an important part of my role and the training will motivate me further.

"

In the past I have found it difficult to encourage women who were not very active to increase their activity. I am interested to see whether this becomes easier now that there is so much more in the media about the benefits of physical activity.

"

We need to revisit the content of this training and have regular refreshers and updates.

"

It would be good to have more information about how to motivate women who are not interested.

"

I am interested to see whether getting women to be active becomes easier now that there is so much more in the media about the benefits of regular activity.

"

Healthcare Professionals, Post-training and follow-up survey data

Healthcare professional training



Over **400 healthcare professionals** have received This Mum Moves ambassador or cascade training in the **5 study locations**

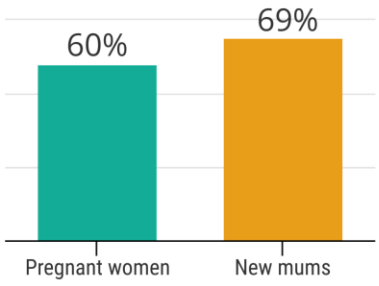
Due to COVID-19 **face-to-face** training was replaced with **online** training

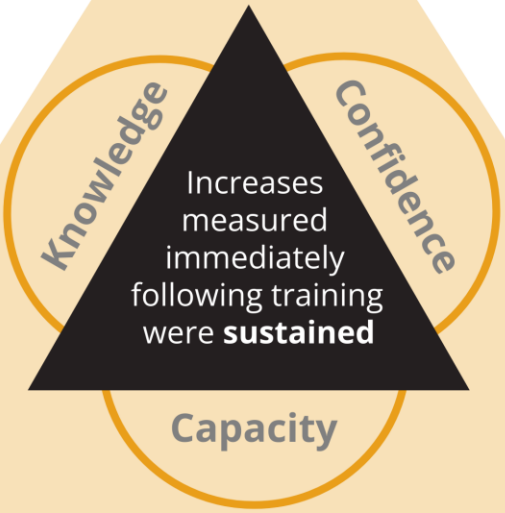
97% of participants said they would **recommend the training** they had undertaken to a friend or colleague

Sustainability

3 or 6 months following the training...

3 months following training the majority of healthcare professionals 'often' or 'always' provided physical activity advice to...

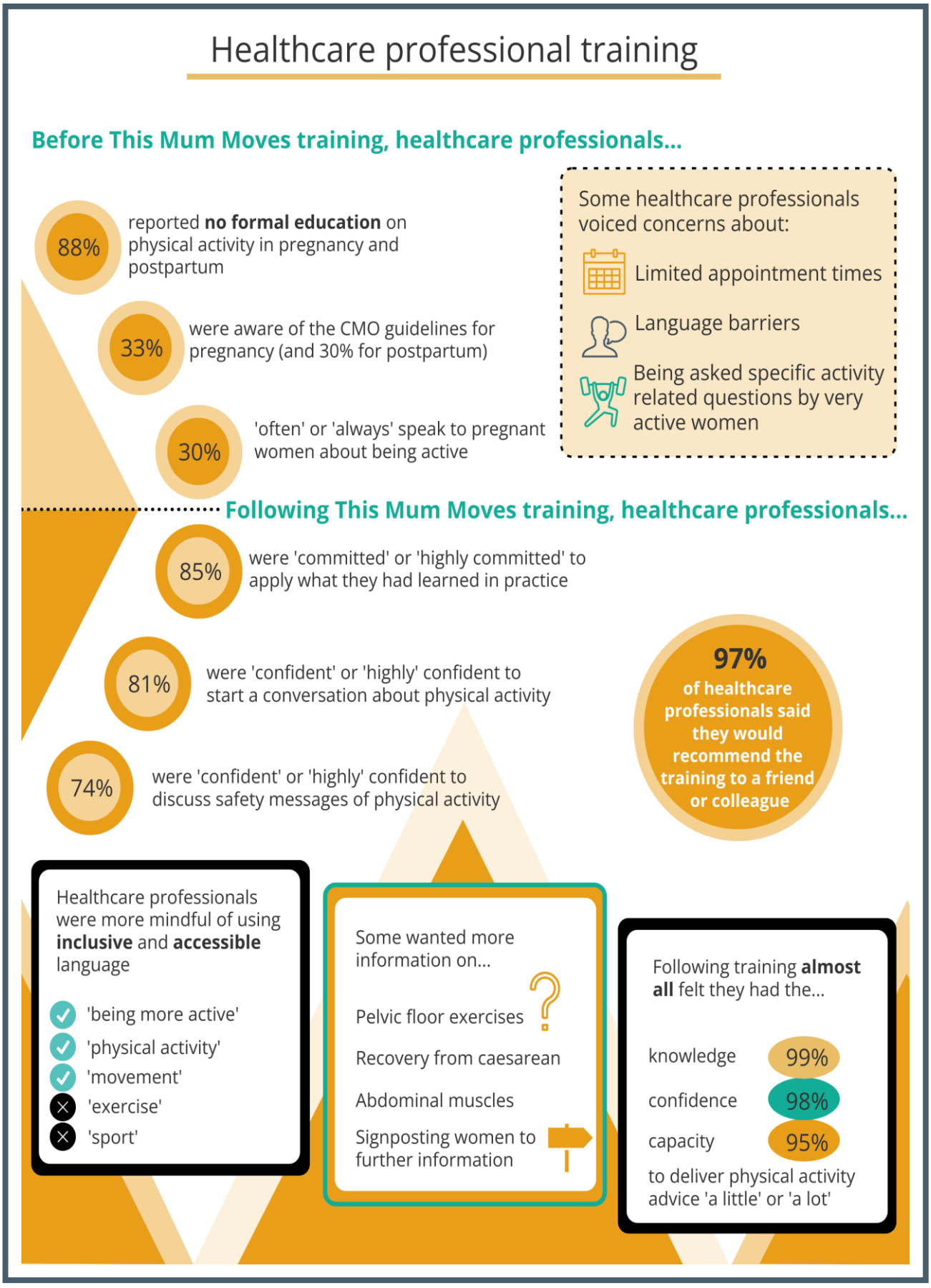




Healthcare professionals reported being **more active** in their own lives

Healthcare professionals felt motivated to pursue additional learning on the topic:

76% completed an e-learning for health module on physical activity in pregnancy and postpartum


Healthcare professional training
Before This Mum Moves training, healthcare professionals...
88%
reported no formal education on physical activity in pregnancy and postpartum
33%
were aware of the CMO guidelines for pregnancy (and 30% for postpartum)
30%
'often' or 'always' speak to pregnant women about being active
Some healthcare professionals voiced concerns about:
Limited appointment times
Language barriers
Being asked specific activity related questions by very active women
Following This Mum Moves training, healthcare professionals...
85%
were 'committed' or 'highly committed' to apply what they had learned in practice
81%
were 'confident' or 'highly' confident to start a conversation about physical activity
74%
were 'confident' or 'highly' confident to discuss safety messages of physical activity
97%
of healthcare professionals said they would recommend the training to a friend or colleague
Healthcare professionals were more mindful of using inclusive and accessible language
'being more active'
'physical activity'
'movement'
'exercise'
'sport'
Some wanted more information on...
Pelvic floor exercises
Recovery from caesarean
Abdominal muscles
Signposting women to further information
Following training almost all felt they had the...
knowledge 99%
confidence 98%
capacity 95%
to deliver physical activity advice 'a little' or 'a lot'

Pregnant women and new mums

Previous research has concluded between 3% and 15% of women are physically active during pregnancy[1], and there is a general lack of clear and consistent guidance provided to women during pregnancy and the postpartum period[2]. As such, the key priority of This Mum Moves was to support pregnant women and new mums to be active. In order to monitor impacts of healthcare professionals' training on the experiences and physical activity choices of pregnant women and new mums, and to better understand physical activity choices, pregnant women were invited to participate in a series of surveys. Surveys were completed online at timepoints corresponding to the three trimesters of pregnancy and 6 months postpartum and explored physical activity knowledge, healthcare experiences and physical activity behaviours, in order to establish how engagement in being active may adapt throughout and following pregnancy.

Healthcare professionals facilitated recruitment by identifying eligible women and inviting them to take part in the study during routine antenatal appointments. Midwives identified women in their first trimester (6-8 week gestation booking appointment) and health visitors invited women in their third trimester (36-weeks pregnant). Potential participants were sent time-appropriate surveys by email from *spear* and consented to their involvement online. Healthcare professionals also provided 'Very Brief Advice', gave out This Mum Moves leaflets and signposted women to explore further information on the This Mum Moves website and Baby Buddy app.

The total sample of recruitment pregnant women and new mums in this final report is lower than previously anticipated as a result of unforeseen challenges caused by the COVID-19 pandemic and current additional constraints in conducting research in health settings.

Reasons for being active during pregnancy

"

I thoroughly enjoyed exercise before pregnancy so I wanted to continue through pregnancy as it makes me feel more energetic. I also wanted to continue so I could make sure I didn't gain too much weight.

"

It is part of my lifestyle, it boosts my mood and makes me feel less stressed and anxious.

"

I love working out and the feeling it gives is important to me.

"

To help me sleep better, improve my mood, stop excess weight gain and also because I enjoy it once I get going.

"

To maintain a level of fitness, to keep weight down, to get me out of the house and to take the children out for fresh air.

"

Pregnant Women, Survey data

[1] Currie, S., Sinclair, M., Murphy, M. H., Madden, E., Dunwoody, L., & Liddle, D. (2013). Reducing the decline in physical activity during pregnancy: a systematic review of behaviour change interventions. PLoS One, 8, e66385.

[2] Stengel, M. R., Kraschnewski, J. L., Hwang, S. W., Kjerulff, K. H., & Chuang, C.H. (2012). "What my doctor didn't tell me": Examining health care provider advice to overweight and obese pregnant women on gestational weight gain on physical activity. Women's Health Issues, 22, e535-e540

Demographic information

Consent to contact, indicating a potential interest in participation, was provided by 581 participants. A total of 194 unique participants then completed 288 surveys; 96 at trimester 1; 85 at trimester 2; 89 at trimester 3 and 18 postpartum[3].

Participants were from Sheffield (45%), Sunderland (53%), Cambridgeshire (<1%) Plymouth (<1%) and Bexley, Gravesham and surrounding areas (<1%). The average age of women was 31 and ages ranged from 18-44. Most women (75%) were educated to degree level or higher and were in full or part-time employment (87%). Over half of women (55%) reported this to be their first pregnancy and of those who said they had been pregnant before this was between 4 months and 12 years previously.

Wellbeing

To explore more general personal wellbeing, questions from the Office of National Statistics Annual Population Surveys were included[4]. Participants rated the extent to which they were satisfied, felt life was worthwhile, and overall happiness on a scale of 1-10. Average scores for happiness (8.3) and satisfaction (8.4) were considered high, and average score for 'to what extent do you feel the things you do in your life are worthwhile' was considered very high (9.1). The average rating of anxiety was 4.4, which is considered 'high' by the scale. This anxiety score is higher than national averages in previous years, but comparable data to the general population during the global pandemic is not yet available.

Overall, 73% of women '*agree*' or '*strongly agree'* they can achieve most of the goals they set themselves. Almost half of women (45%) *'agree'* or *'strongly agree'* with the statement 'most of the people in my local community can be trusted'.

Physical activity behaviours

First, second and third trimester participants were asked to recall their general physical activity levels, based on minutes per week of moderate intensity activity, in the 12 months prior to their pregnancy. Over half of women (51%) said they were previously 'fairly active', 16% were 'inactive' (less than 30 minutes physical activity per week), and 33% were 'active' (150 or more minutes per week). Participants who answered the third trimester survey were more active before pregnancy (49% 'active') than those in the other surveys. This difference could be due to lower accuracy in recall, given that the 12 months prior to pregnancy was the

Reasons for being active during pregnancy or postpartum

"

I really wanted to start moving as I am aware how exhausted I will be later on, and how much labour will take off me. I want to make sure my body is ready for it and I'm not someone who usually does physical activity for pleasure, but I'm doing it because I know there is a benefit for my body.

"

My motivation for being active is for weight loss reasons. I am very body conscious and the way I feel when I look in the mirror affects me.

"

I wanted to stay really active, especially for my mental health, and with lockdown and not being able to see people it became even more important.

"

It's a stress release. It's how I de-stress, and I use exercise for weight management.

"

Pregnant Women and New Mums,
Interview data

[3] Due to the multiple recruitment timepoints and high levels of attrition between timepoints it is not possible to match participant responses between timepoints for analysis. All between timepoint comparisons refer to the whole sample at each timepoint.
[4] www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/personalwellbeingintheukqmi

longest recall for this group of participants. It may also be the result of a recruitment bias; as health visitors may have targeted the most active women for recruitment at this point. Furthermore, it is possible that lesser active women recruited earlier in pregnancy did not proceed to complete later timepoints if they did not perceive a relevance or interest in the topic based on their physical activity levels at that stage in their pregnancy. As a result, it is important to recognise that the third trimester sample may represent a more active population than other timepoints.

Current activity levels (during pregnancy and postpartum) were explored using an amended for pregnancy version of the International Physical Activity Questionnaire (IPAQ). Participants physical activity is quantified based on cumulative minutes of low, moderate and vigorous intensity activity, as well as time seated and sleeping throughout a week. Physical activity levels are presented in Figure 5.

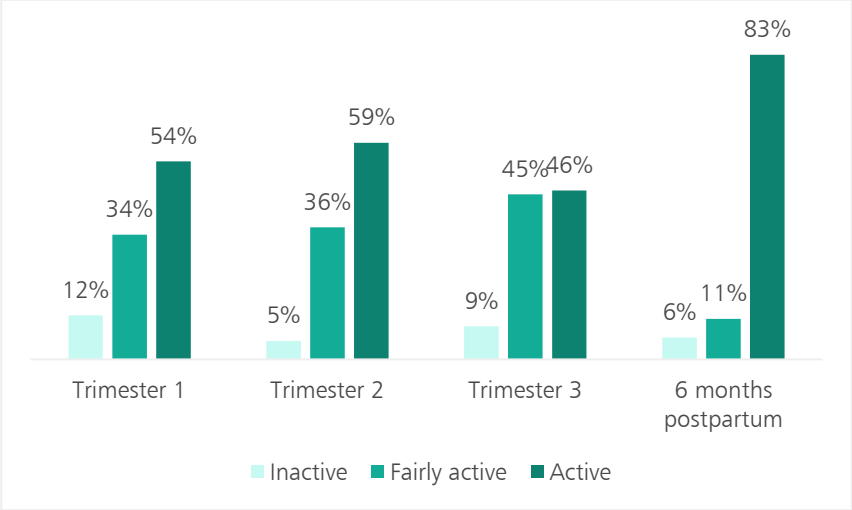


Figure 5. Percentages of women who were Inactive, Fairly Active, or Active, based on IPAQ results. (First trimester, n= 96; second trimester, n=85; third trimester, n=89; postpartum, n=18).

Due to inherent shortcomings of self-recall, and repetition of responses, activity levels measured by the IPAQ can appear somewhat inflated compared with more basic measures, as demonstrated by activity level classification which appear to show greater participation than self-recall of the 12 months prior to pregnancy. However, a further important outcome measure of This Mum Moves was to establish the point at which physical activity behaviours change during pregnancy and parenthood. During each trimester and postpartum, women were asked if their activity levels had '*increased*', '*stayed the same'* or '*decreased*' since the previous trimester. The comparison between these timepoints, shown in Figure 6, demonstrates adaptations to physical activity levels through pregnancy.

Increasing physical activity in the second trimester

"

My sickness has reduced and I have a bit more energy than I did in my first trimester.

"

In my first trimester I was too nauseous to do any kind of activity.

"

My physical activity has increased as my morning sickness stopped. I have become more energetic and generally in a good mood. I also increased my activity to decrease possible ligament pains and prepare my body for labour and post-natal changes.

"

I feel like I have more energy in my second trimester so have been able to go to every gym class I had planned.

"

I have started working from home again and am making sure to exercise daily with small achievable goals for my mental health.

"

I did very little exercise in my first trimester and have now taken up swimming.

"

Pregnant Women, Second Trimester survey data

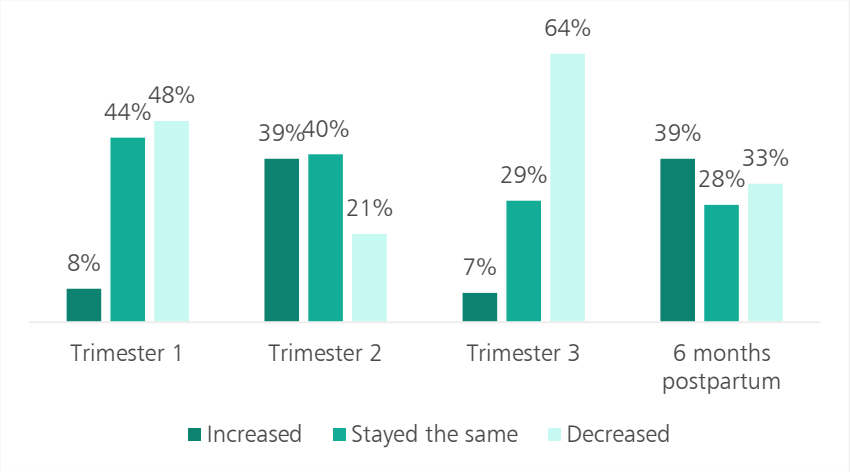


Figure 6. Reported adaptations to physical activity levels since the previous trimester. (First trimester, n= 96; second trimester, n=85; third trimester, n=89; postpartum, n=18).

During the first trimester almost half of women report decreasing their physical activity (48%), however in the second trimester 39% report an increase in physical activity. These trends are reflected in responses to open questions, with many women citing extreme feelings of fatigue and nausea as the reason for reduced physical activity in the first trimester, and alleviation of these symptoms as a reason for increasing their physical activity levels in the second trimester. Some women said they decreased their physical activity during the first trimester due to fear of miscarriage. A notable reduction in physical activity occurs in the third trimester, when 64% of women said their activity decreased. At this timepoint, a lower proportion of women were 'active' according to IPAQ data (Figure 5) than any other timepoint. Women quoted reasons including tiredness, aches and pains, swelling and general discomfort as the key reasons for reduced activity.

Changing physical activity habits and behaviours were explored through a series of questions rating the frequency (*never; rarely; sometimes; often; always*) of actions, scheduling, mindset and activity type. To all questions, at least 20% of women answered *'sometimes'*, indicating a high level of variability in practice and attitudes, and potential engagement with a range of behaviours.

During the third trimester, the number of women who said they '*often*' or *'always'* took part in physical activity alone was significantly higher than in the earlier stages of pregnancy (first trimester, 38%; second trimester, 41%; third trimester, 62%). This may be reflective of a more motivated and habitually active sample at these timepoints; 43% of women in the third trimester felt '*often*' or '*always*' motivated to be active, significantly more than the 33% of women in the first and 37% in the second trimesters. The impacts of COVID-19 on responses must also be considered; group physical activity was prohibited under lockdown restrictions of 2020 and 2021, therefore responses may not reflect preferences for solo or group activity. Over half of women in the first (53%), second (57%) and third trimesters

Reducing physical activity in the first trimester

"

I have suffered with nausea and fatigue during this first trimester, coupled with leading a school through a global pandemic has left me exhausted.

"

I'm always tired and barely have the strength.

"

I am more tired. When finishing work, I just want to eat and lie down rather than doing any further exercise that I would have usually done.

"

Decreased due to weather and lockdown. I'm still doing 4/5 times a week but I would have done 6.

"

Felt extremely tired and sick so have struggled for motivation for the usual running I would do. Also slightly concerned around having another miscarriage as I continued running as normal in my last pregnancy and worry that this might have been a factor.

"

I have been worried about harming the pregnancy.

"

I don't feel confident about doing the same high intensity exercise classes I did before pregnancy.

"

Pregnant Women,
First Trimester survey data

(55%) said they *'never'* or *'rarely'* take part in physical activity in a group.

Almost half of pregnant women (first trimester, 56%; second trimester, 48%; third trimester, 56%) said they *'never'* or *'rarely'* see other pregnant women being active, and less than 1% said they *'always'* see other women being active (Figure 7). Despite this, most women are *'never'* or *'rarely'* worried about what others think of their choice to be active (first trimester, 65%; second trimester, 66%; third trimester, 73%).

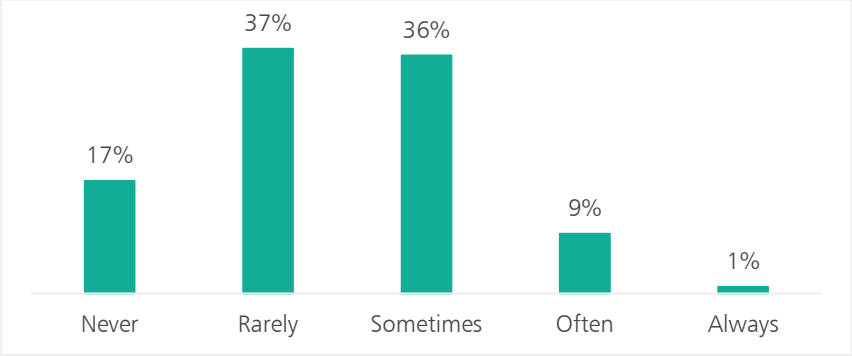


Figure 7. Average percentages of pregnant women who 'Never', 'rarely', 'sometimes', 'often' or 'always' see other pregnant women being active (n=270).

The main form of activity mentioned by women at all timepoints was 'walking', and women cited convenience, transport, enjoyment, and intensity as justification for this choice. Women also mentioned running/jogging, yoga, Pilates, strength training, circuit training, HIIT training, playing with toddlers/children and housework at all timepoints. Reasons given for participation in chosen activities commonly related to mood, maintaining existing habits and health benefits.

Physical activity knowledge and information

Information from the CMO guidelines made up the brief advice offered by healthcare professionals and leaflets given to pregnant women. Agreement to statements derived from these guidelines was used as an indication of knowledge within surveys. The majority of respondents '*agree'* or *'strongly agree'*, indicating that they have a good understanding of the physical activity recommendations for their population and recognise the potential benefits within their activity choices. There was no difference in knowledge of guidelines between timepoints therefore average responses for all stages of pregnancy are shown in Figure 8. Statements referencing specific and complex health benefits (blood pressure and diabetes) were the least understood as about a third of women reported '*I don't know'* to these. Almost all women agreed physical activity could *'improve mood'* (89%) and '*control weight gain'* (88%).

Types of activity

"

I enjoy team sports and the social side of them. I do enjoy doing things on my own, but I do prefer social sport.

"

Due to lockdown and the bad weather I haven't been doing as much. I used to go to the gym.

"

Swimming was something I was doing but now the pools are shut. I would definitely be there if I could.

"

I am more motivated when I do things I enjoy, like dancing.

"

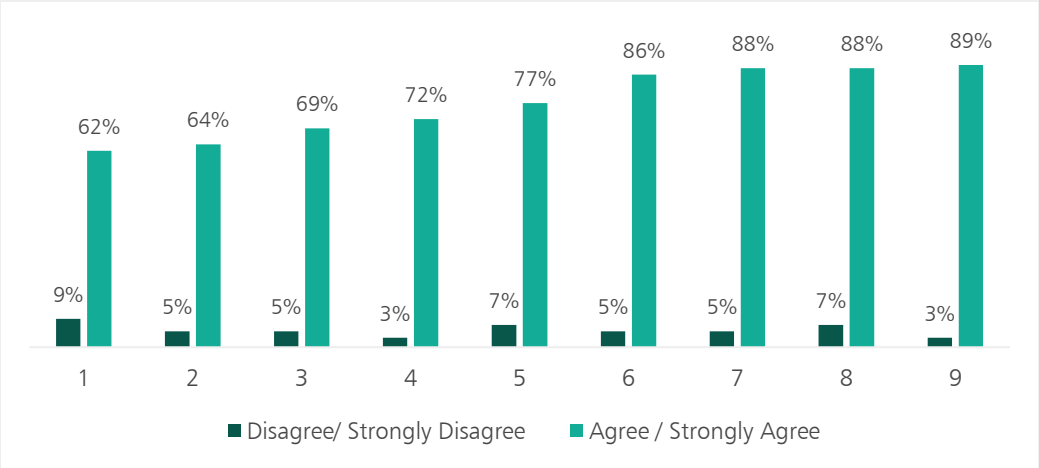
I always go walking but I can't do the variety I used to do now. I can't do things like gym classes or go for a run on my own now. My priorities are very different and I don't have a lot of time on my own anymore.

"

I've never really bothered with home workouts before as I'd rather be in the gym, but I've quite enjoyed that to be honest, it's been a bit of a change.

"

Pregnant Women and New Mums,
Interview data



1. I should do muscle strengthening activities twice a week
2. Regular participation in moderate physical activity helps to prevent diabetes in pregnancy
3. Regular participation in moderate physical activity during pregnancy helps to reduce high blood pressure problems
4. During my pregnancy, I should listen to my body and may need to adapt the activities I do
5. I should aim to accumulate 150 minutes of moderate intensity physical activity per week
6. Regular physical activity during pregnancy can improve sleep
7. Regular participation in moderate physical activity during pregnancy improves fitness
8. Regular participation in moderate physical activity during pregnancy helps to control weight gain
9. Regular physical activity during pregnancy can improve mood

Figure 8. Percentage of pregnant women who agree or disagree with each CMO guideline statement (n=270).

Women were asked about their use of resources to find information about physical activity in pregnancy. While most women did not use any resources, 37% said they engaged with Apps and websites. Sources listed included google searches for local activities, the NHS and Start4Life websites; social media apps such as Instagram, Pinterest, YouTube; mainstream fitness apps such as Strava, Peloton, Fitness Pal, Fitbit; and pregnancy specific resources including Bounty, Pregnancy+, Babycenter, Jennis and Emma's Diary. There was no mention of the This Mum Moves website, or the Baby Buddy app.

Despite not searching for sources, 61% of all pregnant women and new mums agreed with the statement *'I feel like I have enough information to make an informed choice about my physical activity';* the remaining participants said they disagreed (22%) or did not know (18%). This majority suggests that the women surveyed feel confident about the activity choices they make and are empowered to be active if they want to be. It is important to recognise the intention to maintain '*active*' or *'fairly active'* lifestyles throughout pregnancy may not be shared by a wider population.

Did you ask your healthcare professional any questions about being active?

"

If I could re-join my fitness class when it opened. I was advised I could.

"

How to become more active and what to avoid during pregnancy.

"

Can I still run during pregnancy.

"

What exercise is deemed safe – I wasn't given a clear answer.

"

What exercise I should be doing – they said 30 minutes per day.

"

I asked about back pain. The advice was very vague. Advised to look for YouTube videos. I had hoped to be referred to a physio for exercises

"

Pregnant Women, Survey and Interview data

Physical activity postpartum

All of the women surveyed reported delivery of single babies at full term (37-41 weeks gestation). The majority (89%) had a hospital delivery. Of these, 44% reported a natural delivery, 25% instrumental delivery and 31% caesarean section.

Most women (78%), felt their activity levels during pregnancy had an impact on their recovery from childbirth. Many women reported feeling ready to engage in light activity such as walking within a week of giving birth, and cited participation in more strenuous and high impact activities (e.g running) between 4 weeks and 4 months after childbirth. Some believe that their positive birth experience was a result of their active pregnancy.

> *Continuing to be active during pregnancy helped to make my body feel prepared for labour. By feeling fit, strong and healthy my recovery felt quite quick, and I felt I had built the foundations to help me get moving again when I felt I was ready to.* New Mum, Sheffield

> *I kept walking right up until the day before I went into labour and was happy to go out walking two days after my baby was born, I think just keeping up a baseline level of fitness helped me get moving afterwards. On the other hand, I think it was just building good habits in pregnancy such as keeping active every day and doing the recommended pelvic floor exercises that then continues to be good habits and have helped me recover after birth.* New Mum, Sheffield

In the postpartum period, engagement with some physical activity behaviours, attitudes and scheduling were significantly different to during pregnancy. The majority of women (83%) '*often*' or '*always*' take part in physical activity alone, and 71% of women were '*often*' or '*always*' motivated to be active compared with an average of 47% who were most frequently active alone and 41% who were frequently motivated during pregnancy.

Despite higher motivation, over half of new mums (59%) felt they could *'rarely'* or *'sometimes'* achieve the goals they set themselves. No new mums felt they '*always'* had time to be active, however over half '*often*' or '*always*' set aside time each week to be active (59%) and incorporated activity into their daily lives (65%). These markers were all significantly different in the postpartum period to during pregnancy, as shown in Figure 9.

Postpartum physical activity examples

"

Running with a running buggy. Buggy bootcamp classes. Postnatal core classes online. Walking, yoga and stretching.

"

Before lockdown 3, Pilates, swimming and buggy fit.

"

I try to do some activities with the baby, like throwing her up and down.

"

Online exercise videos.

"

At the moment, I am just walking and hiking about 4 miles, 4-5 times a week.

"

I can't fit in as much as I used to but I tend to get a couple of runs a week.

"

I tend to go for a walk twice a day at the moment. Not always for a long time but I like to get out and get some air and keep moving. Sometimes I use the carrier but mostly I am pushing the pushchair.

"

New Mums,
Survey and Interview data

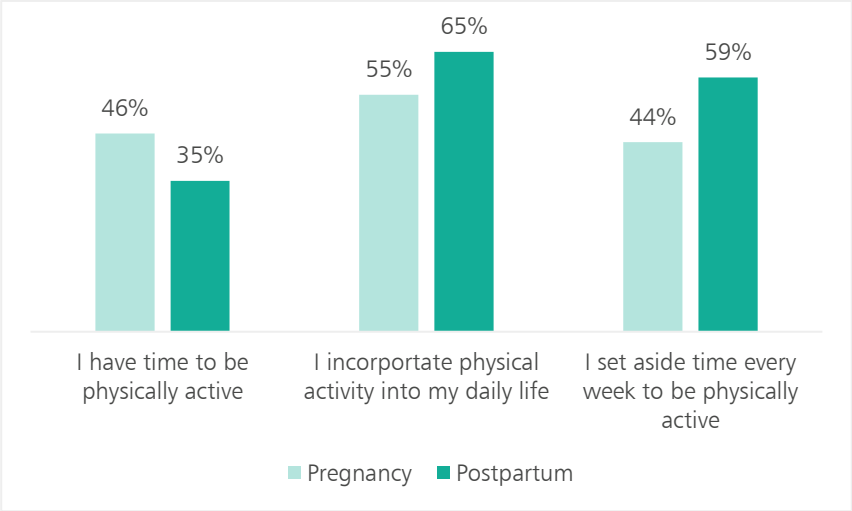


Figure 9. Percentage of women in pregnancy (n=270) and postpartum (n=18) who responded *'often'* or *'always'* to physical activity behaviours.

In the 6 months following the birth of their baby, women reported taking part in activities including walking, swimming, home workouts/ online workouts, high intensity interval training, core training, Pilates, strength exercises, online workouts, hiking and running. Women also mentioned activities involving their babies, including buggy fit, buggy bootcamp and baby yoga, demonstrating a motivation to incorporate parental responsibilities into their active lifestyle. Compared with their activity during pregnancy, 28% of women say their activity has stayed the same, while 39% have increased and 33% decreased their physical activity levels. Reasons for postpartum changes in physical activity relate to time; some feel they have less free time alongside the demands of taking care of a baby, while others report having more time due to maternity leave from work. Residual postpartum discomfort, a lack of motivation, and lockdown restrictions caused by COVID-19 are further reasons given for not increasing physical activity levels postpartum.

Awareness of postpartum physical activity guidelines was asked in postpartum surveys, as these highlight differences in potential physical activity needs and capabilities in the postpartum period compared with pregnancy. Overall knowledge of the guidelines was very high; 95% of women *'agreed'* or *'strongly'* agreed with all guidelines. All women agreed physical activity could improve mood and control weight, which demonstrates agreement with responses during pregnancy.

Engagement with healthcare professionals

As an indication of information cascade following healthcare professional training, women were asked to recall discussions about physical activity with midwives, health visitors and other healthcare professionals at all timepoints.

Do you think that your activity levels during pregnancy have had any impact on your physical recovery from childbirth?

"

I feel like because I was fit before pregnancy and active during labour, my recovery has been faster.

"

Keeping active during pregnancy meant that I recovered physically and was able to get back to fairly relaxed levels almost straight away.

"

Keeping my fitness up helped me with a long labour and recovery.

"

Exercising during pregnancy kept excess weight to a minimum and also made sure I was strong enough to cope with labour.

"

I kept walking until the day I went into labour and was happy to go out walking again two days after my baby was born. I think just keeping a baseline level of fitness helped me to get moving afterwards.

"

Building good habits during pregnancy have helped me to continue good habits in my recovery after birth.

"

New Mums,
Postpartum Survey data

Results demonstrated high variation in frequency of conversations about physical activity and emphasised there was no recall of conversations about physical activity in the vast majority of appointments. The highest recall of these discussions was in the first trimester, when 44% of women said they spoke about physical activity with a midwife during their 6-8 week (booking) appointment, however a further 36% did not speak to a midwife about physical activity during the first trimester, while the remainder recalled conversations about physical activity at different appointment times. When asked about their communications with other healthcare professionals 9% of women spoke about physical activity with a doctor in their first trimester and 3% spoke with a physiotherapist

In the second trimester, 53% hadn't spoken about physical activity and 21% hadn't had an appointment with a midwife. In the third trimester, 70% did not speak about physical activity with their midwife and 4% hadn't had an appointment with a midwife. During their third trimester, 9% of women spoke about physical activity with a health visitor while 51% did not have an appointment with a health visitor. Less than 5% of women recalled speaking about physical activity with doctors, physiotherapists or a chiropractor during each trimester.

When type of advice from healthcare professionals was reported this largely consisted of verbal advice or a leaflet (Figure 10). Only one woman surveyed reported being referred to an exercise professional, or another medical practitioner at any timepoint.

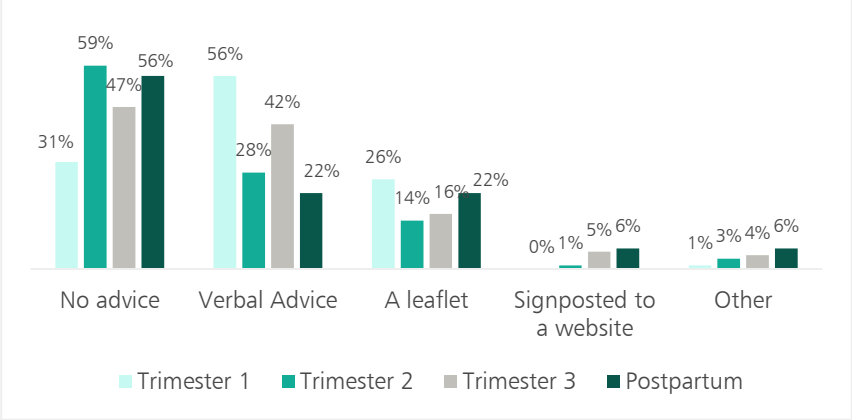


Figure 10. Percentage of women in pregnancy (n=270) and postpartum (n=18) who responded *'often'* or *'always'* to physical activity behaviours.

Differences in frequency and type of advice offered in the different trimesters of pregnancy are reflected in responses to questions about healthcare engagement. In the first trimester, 60% of women '*agree*' or '*strongly agree'* with the statement '*I feel encouraged to be active by healthcare professionals'*, supporting higher recall of conversations about physical activity during appointments. This is significantly higher than the second trimester and postpartum when 44% and 19% agreed with this statement respectively.

Engagement with healthcare professionals

"

She was an incredible midwife. She listens to my concerns and was positive about exercise which was important to me.

"

I felt like my appointment was really rushed. It was really focused on the purpose of what's supposed to happen and there wasn't any interest in other things on top of that.

"

There was a lot of chit chat going on during the appointment, but it didn't feel like this had a specific purpose and they never mentioned physical activity.

"

Personally, if a professional recommends something to me, this is the first step to get me interested.

"

My midwife mentioned physical activity levels she's not been discouraging, but she's not been interested.

"

I asked my GP about running. She was very encouraging and said there is some evidence that you can recover faster afterwards.

"

Pregnant Women and New Mums,
Interview data

In addition, in the first trimester, 39% of women '*agree*' or '*strongly agree'* with the statement *'Healthcare professionals I have encountered have taken an interest in my physical activity choices'*, which is significantly higher than the other timepoints (second trimester, 21%; third trimester, 15%; postpartum, 13%). Finally, to the statement '*Healthcare professionals I have encountered approve of my physical activity choices'*, women in the first and third trimester, agreed more than women in the second trimester and postpartum (first trimester, 40%; second trimester, 24%; third trimester, 36%; postpartum, 31%).

Barriers and enablers

As discussed in the programme engagement section (page 5), the COVID-19 pandemic had a profound impact on study activity, professional practice and the physical activity behaviours of pregnant women and new mums.

It is likely that reported engagement with healthcare professionals was affected by changes to appointment format, and the advice provided by healthcare professionals was adjusted to accommodate COVID-19 restrictions. Some women said their physical activity reduced, as they tried to leave the house less, and due to closure of facilities they would habitually visit. Some women adjusted their engagement to include online or at home workouts which they would not have usually done.

General barriers for physical activity in pregnancy may relate to activity type, emotional support and pregnancy related symptoms.

The influence of friends and family can either support a women to remain active, or contribute to physical activity attrition. Some women mentioned parents or parents-in-law having different opinions on how active a woman should be during pregnancy. Generally, women find it encouraging when they have the support of family members, particularly partners, as it helps them set aside time to be active or gives them someone to be active with.

Women who usually engage in team sport said they stopped taking part in these earliest in pregnancy, as they were unsure if they could or should continue and did not know how best to make pregnancy-safe adaptations. Anxiety around the safety of activity was also cited as a concern for some women. The belief that an active pregnancy can lead to miscarriage was recurrent in survey data and was responsible for activity attrition particularly in the first trimester.

Some women said they preferred to be active with others, within sports or group activities, therefore were less active if they no longer felt able to take part in their usual activities or did not have someone to be active with.

In the postpartum phase many women reported incorporating their activity into life with a baby or children. The issue of childcare was raised as a factor preventing women from doing

Barriers and Enablers

"

When speaking to my parents, they are surprised that I am involved in yoga and swimming, they see the benefits but it wasn't like that when they were having babies.

"

It was nice to be in the studio and I'd love to be able to go back, but at the end of the day, where I do it [yoga] doesn't matter that much.

"

Not having someone to do something with was a major barrier for me. I wouldn't start swimming if my husband wouldn't go with me.

"

I prefer group activities and wouldn't want to do things on my own.

"

I had this vision of me swimming all the way through pregnancy because I love it. Unfortunately the pool closed due to lockdown so this wasn't possible.

"

I used to do things together with my husband, but that's more difficult now we have a child.

"

Pregnant Women and New Mums,
Interview data

the same types of activities as they had previously done. Some women cited engagement in activities which included their young babies such as baby yoga, buggy fit, or using a running buggy; others said they would be interested in activities offering childcare or creche facilities.

Having other children can be viewed as an enabler to being active. Many women said they remained active during pregnancy, or were active very quickly after childbirth as they needed to respond to the needs of older children. Taking children out for fresh air and playing at home were listed as lifestyle activities.

Goal setting, through small and realistic personal goals, setting aside time to be active, and incorporating activity into lifestyle and routines were seen as important by new mums. Walking was listed throughout as the most popular physical activity.

In relation to their experiences during pregnancy, pregnant women and new mums made suggestions of how physical activity could be better promoted within healthcare to improve consistency and clarity of guidance. During interviews, women suggested better display of information in waiting rooms, information on appointment letters, and for other healthcare professionals and staff to signpost to basic advice or websites.

Interview and survey data from pregnant women, new mums and healthcare professionals as part of This Mum Moves has highlighted inconsistencies in what is included in information packs, leaflets and handheld notes. Some Trusts appear to include guidelines on physical activity for women to look at while others do not.

In the waiting room for the midwifery appointments… usually you arrive 10-15 minutes early and there are many posters. I had a good look through the posters out of boredom and there's nothing about physical activity. The flashy ones draw your attention, about diseases, issues, support groups but not much on a positive note or how you can have joy from your pregnancy so I think that would be good. Pregnant woman, Sheffield.

I thought when I first phoned to notify the GP about my pregnancy, or later on when you have your first phone call with the midwife, and she takes down all your information prior to appointment, that is another opportunity to tell you. Pregnant woman, Sheffield.

I would recommend the handheld notes should have the guidelines in, like a diagram. I think the midwife should mention it at 12 weeks but they have so much else to get through. Waiting rooms could have the information. Pregnant woman, Sheffield.

Since we are getting this bounty pack at this 12 week appointment right before it, there was no leaflets of physical activity in there. So I am thinking something in there? Pregnant woman, Sheffield.

Barriers and Enablers

"

Before the lockdown I was going swimming twice a week, once a week depending on swimming pool availability.

"

It was lockdown I didn't get much opportunities to be active and I felt cooped up.

"

My partner works evening and weekends and I work in the day so there isn't anyone free to look after them.

"

I wanted to start doing pregnancy yoga but it was really expensive so I didn't end up doing it.

"

My GP said to keep doing what you're doing as long as your body is saying OK. That advice right from the start helped.

"

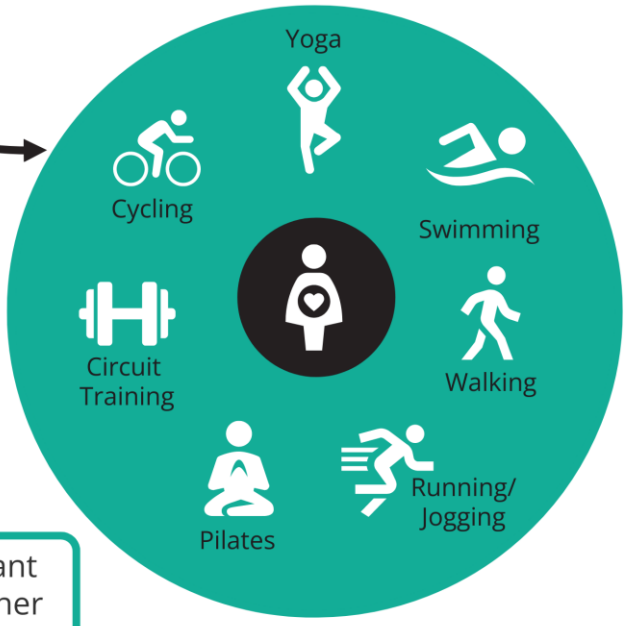
Physically I'm just not as fit after 2 children and I don't quite feel capable at the minute. I've got a bad back and it's taken a bit of a physical toll

"

Pregnant Women and New Mums,
Interview data

Pregnant women and new mums

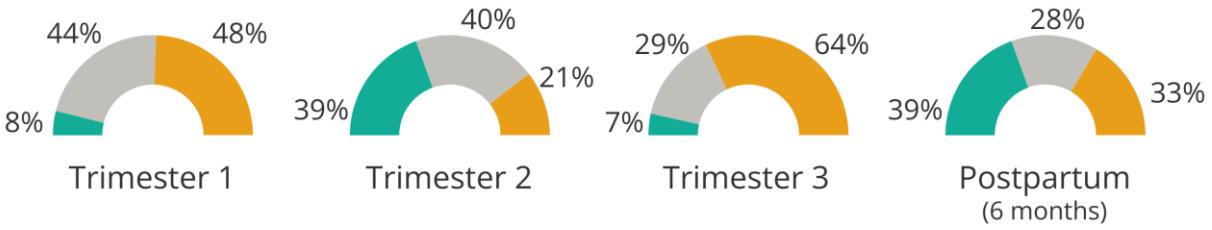
Women reported engaging in various different **physical activities** during pregnancy



10% of pregnant women see other pregnant women being active 'often' or 'always'

Walking is the most popular activity among women at all stages of pregnancy

During pregnancy, **physical activity** levels... Increase Stay the same Decrease



No new mums said they ***'always'*** have time to be active

Almost all women agreed that physical activity could help to **prevent weight gain** during pregnancy

Almost all women agreed that physical activity was beneficial for **sleep, mood** and **fitness**

Pregnant women and new mums



Pregnant women and new mums had a good understanding of CMO guidelines

6 out of 10 pregnant women and new mums have enough information to make an informed choice about their physical activity

Pregnant women and new mums use:

Organisation websites e.g NHS

Search engine results

Pregnancy resources

Social media

Fitness and wellness apps

Engagement with Healthcare Professionals

60% of pregnant women felt **encouraged to be active** by their healthcare professionals in the first trimester

44% of pregnant women spoke about being active in their first midwife appointment

Barriers to physical activity

- COVID-19
- Friends and family
- Unsure about safety
- Limited knowledge of pregnancy-safe adaptions

Enablers to physical activity

- Having other children
- Goal setting
- Opportunities to be active with baby. E.g buggy fit or baby yoga
- Childcare

Programme Overview

Despite setbacks, adjustments and delivery constraints to This Mum Moves, largely as a result of the COVID-19 pandemic, it is important to recognise the value of findings and significance of lessons learned during the project, and how these could be applied to improve activity levels and outcomes in pregnant women and new mums.

The programme has obtained valuable insight into the points at which active women change their physical activity levels during pregnancy and the reasons for this. Data suggests for many women, based on symptoms associated with pregnancy, activity levels may be reduced in the first trimester, increased in the second and reduced in the third trimester. This may highlight the second trimester as a valuable timepoint to promote and encourage physical activity.

Types of activity, motivations, wellbeing and activity preference have also been explored. Pregnant women and new mums demonstrated an interest in activities they could take part in with other pregnant women and new mums. Pregnant women preferred to exercise in the company of other people. New mums also highlighted a desire to be active with their babies, or to access convenient childcare to facilitate their activity levels. These factors must be considered in initiatives aimed at pregnant women and new mums.

In general, many women did not feel they regularly saw other pregnant women or new mums being active. This highlights the importance of This Mum Moves in showcasing the current landscape around physical activity engagement. Further 'normalising' active pregnancy and associated benefits may contribute to improving activity levels in pregnant women and new mums.

Despite relatively infrequent reports of conversations about physical activity with healthcare professionals, awareness and support of the Chief Medical Officer's guidelines among both healthcare professionals and pregnant women and new mums is very high. Within healthcare professionals, this indicates good effectiveness of training and within pregnant women and new mums, some consistency in information provided by the sources they access.

Data collected from healthcare professionals has highlighted both a need and existing motivation to access up to date, evidence-based information about physical activity during pregnancy. Furthermore, This Mum Moves training has been demonstrated to improve the knowledge and confidence of healthcare professionals, and has resulted in sustained changes in their professional practice, and their own activity behaviours at follow-up timepoints. Data has highlighted around 6 months after their initial engagement may be a beneficial time for providing some refresher information.

What can be done to encourage more women to be active?

"

I had a good look at the posters in the midwifery waiting room and there was nothing about physical activity. There are flashy posters to draw your attention, about diseases, issues, support groups, but not much on a positive note or how you can enjoy your pregnancy so that would be a good place to start.

"

It would be good to have some e-mail communication from the midwifery team in between appointments.

"

We get letters informing us about our appointments maybe a note somewhere on the bottom of the letter of where to go to for more advice.

"

I think this should be the midwifes role, as some women don't have any other influence. The midwives and health visitors should be proactive as some women do want this.

"

For example, when the radiographer performing an ultrasound comments on baby's movements, this could be an opportunity to suggest 'it is important for you to keep moving too'.

"

Pregnant Women and New Mums, Interview data

Key Messages

Embed physical activity within professional training curriculum

The majority of midwives and health visitors had not received previous training on physical activity in pregnancy and postpartum guidelines and benefits. Improve consistency of baseline knowledge in initial professional training.

Ensure clear signposting to expert resources and referrals is available

To alleviate healthcare professionals' concerns about being asked highly specific and sport- targeted questions, healthcare professionals should have clear pathways to seek additional expertise to ensure women receive the advice they need to remain active confidently and safely during pregnancy and postpartum.

Consider refresher training

Data collected from healthcare professionals suggested that while knowledge and confidence was sustained 3 months following training, in some areas this was lower 6 months following training. This may indicate an appropriate time point to offer a refresher course, or brief content reminder for healthcare professionals to ensure they maintain confidence in providing relevant, evidence-based information in practice.

Encourage lifestyle activity for all

Many women in the postpartum period said they incorporated physical activity into their daily lifestyle. Recommendations of ways to do this to create healthy sustainable habits during pregnancy may help with postpartum recovery, and be perceived as more achievable to women who are less motivated to be active.

Improve consistency with resources given out

Some Trusts place posters inside women's handheld notes to ensure they reach all pregnant women. Consistency in this practice across all engaged sites will ensure all women have access to basic physical activity information.

Display CMO guidelines on posters in waiting rooms



Many women recalled seeing posters about smoking, breastfeeding, diet and alcohol in a waiting room, and felt information about how to have an active pregnancy was lacking. All women consistently visit healthcare waiting rooms during pregnancy.

Make every form of contact with women count

Empower wider healthcare staff such as radiographers, consultants, GPs and physiotherapists to signpost to relevant information. Women suggested information could be included at the bottom of written appointment notifications.

Appendix A

Methodological note: healthcare professionals

Survey designs

The healthcare professionals' surveys are designed to assess key programme aims and outcomes of This Mum Moves. Demographic information is taken at T1 (the pre-training survey). Questions relating to professional practice are compared at T1, T3 and T4, while questions about knowledge, skills and confidence to deliver physical activity guidance to pregnant women and new mums are repeated at all four timepoints. The surveys and all research approaches are scrutinised by *spear's* quality assurance lead, Professor Mike Weed.

Survey samples & MME

During the project This Mum Moves Training has been received by 425 healthcare professionals. To achieve an MME <+/-5% for the healthcare professionals who have received training, survey responses are needed from 203. The sample of survey returns from healthcare professionals exceeds this target in the pre and post-training surveys (n=247 total responses, MME +/- 4.05%).

Attrition is expected at follow-up survey timepoints in research and has been exacerbated due to restrictions of the COVID-19 pandemic. In addition, delays in training delivery mean that 3 or 6 months had not elapsed since the training in many cases therefore T3 and T4 sample sizes fall below the preferred sample size. A sample of n=35 was collected at T3 and n=34 was collected at T4. Responses were matched within participant, therefore significant results represent actual change within the population who provided repeated timepoint responses.

Data Analyses

Throughout this report, data presented from the healthcare professionals survey represent the responses of all participants (ambassador and cascade) unless otherwise specified. Changes are only noted in this report when they are statistically significant. Where there appear to be differences in data which are not identified as statistically significant, these do not represent changes.

Maximum Margin of Error (MME)

The MME shows the level of accuracy the participant sample has; the smaller the MME, the greater the accuracy. It is calculated at the standard 95% confidence level so we can be 95% confident that the sample results reflect the population results to within the MME. For example, if the survey sample has an MME of +/-5% and 50% of participants say they 'enjoy playing sports', if the survey were conducted 100 times, the percentage who state they 'enjoy playing sports 'would range between 45% and 55% most (95%) of the time.

Statistical significance

Throughout this report, where changes in participants' responses are reported, they are significant at p< .05. This means there is a less than a 5% chance that the changes reported are not real changes that might be expected in the wider population beyond the sample.

Methodological note: pregnant women and new mums

Survey designs

The pregnant women and new mums surveys are designed to assess key programme aims and outcomes of This Mum Moves. Demographic information is taken on the first occasion of survey completion which could be at any timepoint. Questions relating to the CMO guidelines are compared during pregnancy and, where guidelines remain relevant, postpartum. Current levels of physical activity, reported change in physical activity, and behaviours and preferences to be active are compared at all timepoints. Perceptions of experiences with healthcare professionals are compared at all timepoints, and frequency of interactions relating to physical activity with healthcare professionals are collated per timepoint. The surveys and all research approaches are scrutinised by *spear's* quality assurance lead, Professor Mike Weed.

Statistical significance

Throughout this report, where changes in participants' responses are reported, they are significant at $p < .05$. This means there is a less than a 5% chance that the changes reported are not real changes that might be expected in the wider population beyond the sample.

Participants

The COVID-19 pandemic impacted on participant recruitment. Survey completions are lower than projected and analysis was adjusted to reflect this. Due to low recruitment, multiple points of entry into the research and attrition of women completing multiple timepoints, repeated measures analysis is not possible and responses at each timepoint are grouped together to be treated as independent samples. Any detected differences in sample characteristics (for example, baseline physical activity levels) have been reported.

Data Analyses

Throughout this report, data presented from pregnant women and new mums is a comparison of all four timepoints, unless otherwise specified. Changes are only noted in this report when they are statistically significant. Where there appear be differences in data which are not identified as statistically significant, these do not represent changes.