## Supplementary Data File 1 Overview of the resulting themes, categories and exemplar quotes from the focus group discussions

Theme	Categories ('codes')	Exemplar quotes
Reasons for undergoing the FFMOT	Additional exercises to aid recovery.	"The reason I wanted to do that was to see if there was any other avenue of assisting in the recovery if you like of my gait and aches and that." M (65), clinic 1
	Physiotherapists recommendation.	"I was recommended by the physiotherapist [] and I thought it might be a good idea." F (72), clinic 1
	Curiosity.	"I came because I was intrigued and I thought maybe I would benefit from it." F (70), clinic 1
	Personalised fitness advice.	"it would give me an idea how fit I am for my age, and to see if there was anything else I could do to get fitter." F (68), clinic 1
		"So when [the physiotherapist] told me about the MOT fitness I thought that that might help me to become more active and that's why." F (77), clinic 2
Reasons for not being physically active	Health related issues (e.g. injuries, pain, tiredness).	"It's the pain that stops me being active" F (77), clinic 2
	Perception that they were active enough.	"I consider myself to be fairly active." M (67), clinic 1
	Lack of time or other commitments.	"I haven't got the time to do that because I have someone at home I have to be with." F (71), clinic 2
	Psychological reasons (e.g. fear of not being able to keep up with others, lack of motivation).	"I would love to go [to a walking group with my wife], but I'm too slow now" M (81), clinic 1
	to keep up with others, lack of motivation).	"So I really had to give up my main walking club because I don't want to hold people back." F (81), clinic 1
		"That accident [a fall] really put [inaudible] an awful lot, it really did, cause I hurt my head, I really was sore. []." F (85), clinic 2
		"I think for me it's just lack of motivation, and laziness." F (61), clinic 2

	1		
Changes in perception or views on physical activity	No change, because they already perceived themselves as being physically active or they learned nothing new.	"No I have always liked being physically active." M (72), clinic 2 "For me no, it didn't go deep enough for it." M (67), clinic 1	
		"No, I don't think so, can't think of anything" F (70), clinic 1	
	Change in the understanding of need for self-management:     awareness that they are not doing enough.	"The MOT certainly made me more aware of what I wasn't doing, because I think it does stimulate the mind. The more active you are, the more interest you take in life." F (77), clinic 2	
	- awareness that is their own responsibility.	"It made me more aware of the fact that at my age it is all downhill from now on unless I do something about it. It is up to me and not anyone else. I think if anything it focuses on that." F (88), clinic 2	
	Change in the awareness of the importance of balance.	"The other thing, again, which surprised me was how important balance is, and I've learned that from the FMOT, and posture, balance, and these things, so I've learned that from the MOT." F (62), clinic 1	
Changes in awareness of local opportunities to become more physically active  • Yes, change in awareness but did not take up new opportunities because: - the venue / activity is too far away.		"I saw there are other things in other parts of the city, but I wasn't prepared to travel." F (71), clinic 2	
	- the timing of the activities interferes with other commitments.	"Yes, I did have a read through, but I think it was just timing or the places, the venues" F (72), clinic 1	
	- not got around to it yet	"And I thought I would investigate, and I haven't because they are both at times I am committed to other things. So I haven't taken it further forward at all. []." F (88), clinic 2	
	. No object to the second seco	"I found the booklet of all the classes that are available very helpful because I prefer to be involved with other people in exercise and dance. [] I do intend in the new year to see what there is available." F (77), clinic 2	
	No change in awareness because:		
	- I already knew of the opportunities.	"Well it is good to have information I may not originally be aware of. It is just an aide memoir if you like, of where you could go and what you could do." M (65), clinic 1	
		"I was aware of most of the things because I worked for a library service. And I was involved with Get Up And Go, so I knew about a lot of the things." F (61), clinic 2	

		"No, nothing new [in the information pack], nothing new, we knew of all the things that there
		were in the area. "M (81), clinic 1
	- I was only interested in one activity (and they were already doing it).	"Not really, no [because] bowling every day that takes up my days." F (72), clinic 1
		"Well I am feeling better with the neck, with the exercises she gave me, you know, in different ways because I did not realise my posture was quite bad. [] I enjoy doing them because I can do them while I'm going about my everydays". F (68), clinic 2
		"If I had something in the oven for the tea, and would take maybe 20 minutes, I think, right I can get a certain exercise. I'm about in the kitchen anyway. And I found myself doing that when there's a wee bit of time." F (61), clinic 2
	- interrupted sitting more.	"Even now when I'm watching television I'm standing up and getting down. It is more important to me to get back to the stage where I was where I can maybe go back to walking the hills." M (81), clinic 1
	- stimulated thinking wider than just physical activity by changing diet ('health behaviour change').	"I have been more careful eating and I have lost some weight and I do feel better for doing it. [] But being weighed at the MOT made me realise." F (68), clinic 1
	<ul> <li>No changes:</li> <li>perceived themselves as being physically active.</li> </ul>	"No I can't say it did [change my physical activity behaviour] because I was already doing all the things I wanted to do." F (72), clinic 1
	- health issues (pain, injury/injuries).	"Well it would have changed my behaviour but the pain is keeping me back from doing." F (77), clinic 2
Appeal of the FFMOT; likes and dislikes	Liked:     - the one-to-one experience and personal attention.	"I liked the fact that I had somebody just for me." F (85), clinic 2
	- tailored to them specifically	"That's what I liked, the exercises were kind of tailored to your particular needs." F (62), clinic 1
		"I thought it was quite good actually. It was a different kind of exercises than the physio gave me home. And I thought it was really quite good." F (85), clinic 2

- (specific) exercise tests	"[I liked] the balance, because I could balance [] because that is very important as you get older because I always tend to fall. So I thought that was a very good one to test."  F (68), clinic 1
	"[I liked the] Standing on one foot was quite a challenge, because I felt every muscle [] in my foot was working hard to keep me on the one foot." F (72), clinic 1
- the comparison to their peers	"Yes, and on the whole I was slightly above average which highly surprised me. I suppose it cheered me too." F (88), clinic 2
	"[The results of the tests] spurred you on to try and improve it." F (62), clinic 1
	"It was good having the thing in the chart to see where you were positioned. [because] I just wanted to see how I was compared to the average." F (61), clinic 2
	"It was nice to get that sort of a report for your age group, where you are expected to be and where you actually are, and how much you've got to try and achieve to get up to that."  M (81), clinic 1
	"I was pleasantly surprised by what I was able to do at the fitness MOT. [] Therefore it gave me an incentive to do more." M (65), clinic 1
	"Yes, definitely did give me the incentive to try because I wasn't as good as I thought I was. I was not as active as I had expected to be." F (77), clinic 2
Neutral feelings:	"Much the same. Neither up nor down I think." F(88), clinic 2
• Disliked:	
- some of the 'specific tests' (difficult/too easy)	"[I disliked] The standing on one foot, because I just can't do it." F (72), clinic 1
	"I just found it embarrassing because the fact that I wasn't fit. Naturally that annoyed me." F (71), clinic 2
	"I really got a bit of a fright. I thought gee whizz, I don't like being below. I didn't like that at all." F (85), clinic 2
	"Well the thing that put me right off was the scales made me a stone heavier than I am. [] That made me feel terrible." F (72), clinic 1
	"I was disappointed in my performance because as I say I play badminton, tennis and I expected to perform better than I did." M (72), clinic 2

		"I was uncomfortable with the results [] I still can't believe that people can reach 6" below their foot in the stretching exercise" M (67), clinic 1
	- too superficial	"No, well I thought it was, oh what is the word I want, superficial. Anything that I thought about being difficult was not touched on." F (88), clinic 2
	- just made me feel lazy	"Some of them made me feel really lazy." F (72), clinic 1
Appeal of the FFMOT; recommend it to others?	• Yes	"I would recommend it partly because the constellation of the exercises brought me up short. And it was realising that the grip was to do with if you are on the bus can you hold on, can you carry your packages. So it was all to do with functionality. And I was thinking "Oh my goodness, I've really got to pay attention here, because if these functions start to go, the implications are enormous." so I would definitely recommend it to friends." F (66), clinic 2
		"Yes, because I think it is helpful. If you don't know how inactive you are and you go to one of those MOT fitness tests, it certainly is helpful to discover what you can and can't do." F (77), clinic 2
		"I'd recommend it because it was testing you over a wide variety of activities. It wasn't just one thing. So some people might be good at one thing and other things they're not so good at it should be open to more people that the physio departments should offer the chance for people to go for an MOT. And if they had something up there for people who aren't going for physio but are generally inactive. If they went, they would realise how poor their activity was. And it might set them to start being more physically active." F (68), clinic 1
	Neutral	"Well I think I felt pretty neutral about it." F (88), clinic 2
Views on locations and timing of the FFMOT	A physiotherapy service / NHS personnel and facilities	"[A physiotherapy service is] probably the best place because they have the equipment." F (68), clinic 1
		"Yes, because [people from a physiotherapy service] are the experts." F (70), clinic 1
		"I think if you had a notice in the GP's people who were going in for something else might look at it and think 'Oh I wonder how fit I am'. And then they might discover that they'd like to do something, yes." F (68), clinic 1
	Community based provision	"So maybe if you had a notice in the leisure clinic saying "Would you like to find out how fit you are", and that might get people on to start doing things to be extra fit." F (68), clinic 1

	• Timings	"Through community things, like football clubs. So it could tie up, but wouldn't need to be all delivered by the NHS, some of it could be with community things, which might be more approachable to people." F (61), clinic 2  "Community clinics, leisure clinics" F (72), clinic 1  "Ten in the morning to twelve o'clock. It's not too early, and it's not too late. It's giving people time to get there, do it, and then get home again." M (81), clinic 1  "I think early afternoon, as it is today. It is quite a good time because anything you want to do, get it done in the morning, have your time which is hopefully free time in the afternoon, and you could do something like that. Certainly not in the evenings." F (77), clinic 2
Appeal of the FFMOT; recommendations for improvement	Tailor it more (make it more challenging)	"Well I think they could make the tests a bit more challenging. [How?] Well completely different exercises. I don't know exactly what, but completely different exercises." F (72), clinic 1
	Adding functional tests to the battery	"The only thing I would add would be something to test stamina, another, you know, another aspect. [because] it is looking at one other aspect of fitness to me, you know, how good you are." F (71), clinic 2
		"Maybe a treadmill, I thought we would have something on a treadmill. I was surprised there wasn't because I think that would be testing going up a slope or something, which is again I think is quite important, and how steady you are walking." F (68), clinic 1
		"[The cardiovascular element is missing]" F (68), clinic 1
		"[Add] a functional stooping test." F (81), clinic 1
		"Well I would very much like to get up from where I am crouching down somewhere." F (81), clinic 1
		"Maybe a step-up test: see if you can go up and down in a minute, that is quite challenging." F (70), clinic 1
		"Yes, and you could maybe have a stair exercise." M (72), clinic 2
	Discuss obesity and weight	"I'd like it if they had said: "Oh look, you are in risky area in terms of weight, or your body mass index" M (67), clinic 1
	Repeat tests for motivation purposes	"[Do a follow-up after a set period of time] Because that's giving us something to do. It's got something to say: "there's a goal." F (71), clinic 2

	"I thought what might be interesting is for some of the people to do the FMOT again after say three months to see if their levels have improved. I think I might want to know, it might make them do extra exercises and be more active. So then if they did another MOT, and they saw the result of doing it, that might help them to carry on doing the same. A boost to morale" F (68), clinic 1
Do it as a wider health check	"I think you should roll it out in the whole of the NHS, like the MOT that you get where you go when you get your blood pressure." F (70), clinic 1
	"I think there's not enough information pooled. You could combine it with blood pressure and bits and pieces to make a better picture" M (67), clinic 1

**Abbreviations:** F, female; FFMOT, Functional Fitness MOT; M, male. Note: each quotation is identified with gender, age (in brackets) and the clinic from which the participant was recruited.

Supplementary Data File 2 Overview of the resulting themes, categories and exemplar quotes from the interviews with the physiotherapists (PT 1 to 4) and the two Technical Instructors (TIs)

Theme	Categories ('codes')		Exemplar quotes
	Physiotherapists	Technical Instructors	
Perceived benefits of the FFMOT	Quick and with reflective feedback (only 45-60 mins needed)	Relatively easy	"I think lots of benefits. It provides patients with the feedback and a bit of guidance on their current activity levels. Just general aspects, or aspects of the general fitness." PT4  "I think one of the main benefits is that the person is given something objective I think it's quick, it's really quite easy to do in a gym setting". PT1  "You give them the feedback straight away so you then advise them on what they can do to improve that, so that sort of immediate feedback" PT3  "[Administering the FFMOT was] relatively easy." TI1
	Highlights to people what the components of fitness are	Increases awareness of the components of fitness	"And I think the whole point, hopefully it makes people a little bit more aware of the benefits and the importance of physical exercise, strengthening, and balance. So I think it gives people a little bit of feedback, probably brings physical activity more into their conscious awareness." PT4  "I think giving them some advice at the end, and the reasons why we did the tests each going through, yeah everyone each thing, we did the reason we got you to do this 'Sit to Stand Test' is to help you understand the importance of having leg strength." TI2
	• Element of competition (comparing them to their peers)	Draws on competitiveness	"And I suppose to realise where they sit in terms of this is the norm for somebody your age, on how many times a person should be able to rise to stand in ten seconds, you're scoring well above the norm, that's really good. So I think there is an element of competition almost for the person. I think that's a good motivating thing for people there's something to work towards if you like. I think it's quick, it's really quite easy to do in a gym setting." PT1  "I think people, especially elderly, can get a bit competitive and, you know, when they were looking at the results they were "I'm above average for that, I'm going home to tell my mates", yeah, there was a few of them like that, so, yeah, there's a competitive side to them." TI1

	Highlights the components that need improvement	Educates	"and get the exercise that they weren't maybe scoring so well on, so there's that sort of specific side of things, but there's also general advice on different sorts of exercise that they can do." PT3  "The main benefits are to keep people fit, active maintain strength, maintain what strength they have in the prevention of falls, the balance, just overall fitness, wellbeing even." TI2.
	Personal touch	Connects the tests with activities of daily life	" and I think that one-to-one feedback is always quite nice. People get that time spent on them, someone is listening to them specific to their needs as well" PT3  "You've got to be able to get out of the chair, climb stairs. So with each test we did, we'd give a reason why we did that and the benefits that we'd hope would be gained by knowing that information." TI2
	Motivating to be more active	Encourages and informs	"Things that are in their local area. They are given all these handouts and things and links to websites I think it's really useful from that point of view." PT3  "By walking to the shops you are doing exercise. In certain things you are exercising, but you could make yourself better and do this bit more and it's just about educating and encouraging people." TI1.
Things to improve the FFMOT (dislikes)	Representativeness of tests		"We're saying that it looks at aspects of strength, flexibility, and balance. But I suppose I would have to sort of question just how thoroughly you could say it assesses balance by getting a Single Leg Stance, or leg strength." PT1  " thinking about some of my patients with MS for example, whether I would feel that I could put my hand on my heart and say I'd assessed their balance by just doing a couple of tests." PT1
	Concerns about demoralisation (if all results poor)	Making sure to give positive feedback on bad test results.	"if people are really quite unfit they are going to score quite poorly and I guess that might be demoralising." PT4  "[When I gave participants their below average test scores I felt not too bad because I kind of knew I could encourage them not to feel bad about themselves [laughs] hopefully" TI1  "Well the last participant, she said I put the words very nicely. She said: "Could I improve?" I said: "Well, you are slightly deconditioned". She said: "I like that word". So I thought, well that's good, you know, choose the right word for her." TI2

		Other health checks should be included (diet, obesity etc.)	"I think in the prevention of diabetes. In this day and age how we're trying to prevent people from becoming more and more overweight, that could be a useful tool. It could be a bit more useful to have a little bit more discussion on that I don't think you need to be a dietician. But you need to have a knowledge of BMI and weight and diet. And having a little knowledge, or passing on the knowledge of how important it is to avoid too much fats, and have a little discussion would be helpful. "TI2
		Potential Information overload (amount of activities and opportunities)	"I wonder sometimes if we overload them with information. There was so much. It makes you wonder."  TI1
	Adding back in the 6MWT (endurance test)	Agrees/disagrees with removal of 6MWT	"Had it been somewhere like a gymnasium where you had more space, it would have been really nice to include [the 6 Minute Walk Test] actually. But it was just purely because of practical considerations for other staff working here and patients coming in going to appointments. If you have people walking and others coming it would just have been quite difficult." PT1
			"I think we would leave it out for various reasons; one, obviously, space. We can't do that here but that may tire someone out too much Yeah, for some of them, 6 minutes is quite a lot. I mean I do a class in the gym and it is for anybody aged from 16 to kind of 60, or whatever, with back pain, and we do a minute or so of each exercise and they toil sometimes with a minute, so a 6 minute walk for someone who is maybe in their seventies is a lot, so yeah, not so sure I would have that one in." TI1
			"We had a few participants, I don't know if they would have managed to walk six minutes But yeah I think the MOT it should be following the protocol six minutes if you've got the availability." TI2
Roles – who is best to deliver the FFMOT to older people?	Technical Instructors     Band 3 should (be able to) deliver the FFMOT with proper training and subsequently without supervision.	• It should be someone over Band 3 or a physiotherapist doing it.	"I think it would obviously have to be somebody who is dealing with people all the time so obviously the technical instructors are seeing patients all the time, so they are in a good position to do it." Again, if it was somewhere outwith, a leisure centre or something, where there's people advising clients on exercise in a daily basis I think they are in a good position, if they had the training on the MOTs, sort of maybe a weekend training course, I think that is something that would probably be appropriate. I don't think it's something that just anybody could do." PT3
	(or a community provider if well trained)		"I think it should be within the scope of what our TIs are expected to do working in a community service, you know. They are going out for example into the community and seeing patients on their own. But with a person back at the clinic to get advice from. But no no, they work as lone practitioners, and they take classes on their own. But again, that's very much under the supervision of a physio. But they're actually are doing it by themselves. So I think that is what we would expect really. It's good use of skill mix." PT1

			"But I do think if we were going to use somebody who is newly in post as a Band 3, they definitely would need direct direction and support to know, you know, how to answer questions. I think it is the questions that they would find to have that two-way conversation with the patient is more difficult for them. You know, they can go through [inaudible] doing the tests and scoring them. But it's when you try to then have a tailored discussion, I think that is what they find more difficult. I may be wrong, but that's my observation." PT1  "I kind of think that it should have been someone of a higher level that was doing it. I don't think it should have been a Band 3 that was doing it. [because] you are actually erm prescribing exercises. I'm Band 3. Band 4 is a practitionerandthere's a lot of. what's the word debate about what 3s should do, what 4s should do. It's not really to do with this, the issue is probably morephysio-wise. You know, on the one hand in your job you are being told: "Remember, stay within your remit. Don't do this. Don't do that." And yet you are allowed to do it on a Fitness MOT. Does that make sense?" T11  "I believe, my personal opinion is that a TI is someone who is trained inphysiotherapy under supervision, but they may not have the knowledge of exercise, you know, delivering it, or you know teaching classes, or working with the public and in the fitness industry. I think being educated in having a sports science degree, or a fitness qualification. Putting them onto a course where the, like the courses that [name] had with the Later Life Training, postural stability course. I think they need that before actually doing the MOT." T12
Locations – where best to host the FFMOT?	The FFMOT can be delivered outside of the PT service, in the community by the third sector, or maybe even in people's homes.	It could be done anywhere, but maybe should be done in a health clinic because of safety / privacy / accessibility issues.	"I think because you're not looking at highly specialised equipment, really, I think as long as you've got the space, and it's accessible to patients, then I think that's one of the benefits of the FFMOT, you wouldn't necessarily need specialised equipment in a certain setting, it could be run anywhere." PT4  "Yeah I think it's probably more appropriate in things like leisure centres, community centres" PT3  "I don't see why the staff couldn't go to a sports centre for example. You know, if you had funding for it to be done elsewhere. I don't think it needs to be done here. And maybe from the patients' point of view that's better, in that we're asking them to be active in their community." PT1  "It could easily be done in patients' homes, absolutely." PT3  "I think health and safety-wise, because we are NHS we have to be so careful about risk assessment and things, I think it probably is the most appropriate place to have it in a health centre." T11  "One option is perhaps in a gym, and, again this is taking it a stage further, perhaps in a gym and then you could say: "Well, actually we've got someone here if you want", you know. "So do you want to have a look at the gym or any exercises you could do?". Taking them that step further, you know. I just sometimes think it's nice to de-medicalise things." T11

			"Sheltered accommodation, day centres, shopping centres. With support and enough people there. Because you've always got to be prepared for the what if." TI2  "I believe [the most appropriate setting is to perform the FFMOT is] where we are now. A centre where you have physiotherapy centre, health centre with good space, good lighting, toilets, access. Sometimes people might go somewhere and they've got steps, and they can't get into the venue, so having a lift is helpful." TI2
Barriers to implementation in an MSK service	• (Lack of) evidence base		"And what we're looking at is something I guess, FFMOT is something, how do we know in six months or a year's time whether that that had made any impact on the patient group that we have coming through. If we want to invest in something, we need to need to know the impact longer-term." PT3  "It's a difficult one. It's the age-old thing with research, isn't it. I think for you in order to prove something is effective it needs to be tested. But in order to be testing it, you're putting time and resources into something that's maybe not been proven. And that's the challenge." PT4  "So I think if there's an evidence base to suggest that this is helpful, that it reduces risk of falls, that it improves general health etcetera, then you know, I think that kind of gives the remit for continuing with it." PT4
	Space (regarding use of 6MWT)		"We cut out the 6 minute walk here because it just wasn't feasible to do that here [space]." PT3  "I think we would leave [the 6MWT] out for various reasons; one, obviously, space." TI1
	Time and finances (time-constraints on staff, more forms to fill in)	Expectation that there might be financial issues with TI spending time on it.	"But the feasibility of this for the Health Centre, that is one of the barriers, is availability of space, and the therapist's time." PT2  "I think it is just probably in an environment at the moment where your time is limited. We've all got a busy caseload. It's more the fact that it takes away I guess what we're already working on." PT2  "For me as a manager it would be the time-constraints on staff that it took to do this, against our what you would class as normal workload." PT2  "Yeah I think it's probably more appropriate in things like leisure centres, community centres I guess money is always an issue in the NHS, isn't it? And I guess it's just an additional service on top of the person's normal physio treatment, so if you were looking at it from the budget side of things it's perhaps not the best place to be running it. I guess if it's outwith the health centre setting If it's in the health setting it feels like kind of another treatment and they are relying on a the health service, whereas if its

	Not having enough background knowledge and feedback skills for someone trained at this level.	Not having enough background knowledge and feedback skills for someone trained at this level.	outwith then uhm it's encouraging people with managing their conditions, or what have you, it's encouraging them to be more active." PT3  "With it being NHS-wise, you've got to watch because if you've got such an influx you've not got money to do that" T11  "I believe it will be a good resource for the NHS. I think it would be helpful after they've had their outpatient physiotherapy, or parts of the service for advice and education. [] I think it depends on funding"T12  " there are issues with the waiting list the musculoskeletal outpatients and I know that the staff feel really quite burdened by having to fill out forms. I think we'd have to think carefully because they're asked to fill out all sorts of other things We'd have to think carefully about whether that would be feasible. And I suppose the concern I have is just if we were going to do it as part of our service, it would definitely need a clinician to take over the sort of overseeing it to make sure that the TIs got properly trained, that staff you know. I suppose that would be the main training issue." PT1  "I don't know [if I had enough background knowledge], because you could then say that if you are prescribing specific exercises, it should then be a physiotherapist that's doing it, if that makes sense, because only a physiotherapist can actually know what's going on with a patient, so it's difficult to say." T11
Enablers to implementation in an MSK service	Positive buzz in practice during FFMOT		"And then I've been here on a Monday, and there's been a really nice buzz just with patients hearing them chatting to the TI's." PT1
	Continuing     Professional     Development     Opportunities		"But also, I think just the fact that it was most being some of the staff developing into their role with something different for them to do." PT2

Abbreviations: 6MWT, 6 minute walk test; MS, Multiple Sclerosis; NHS, National Health Service; PT1, physiotherapist; TI, Technical Instructor.