Supplementary file 4. Delphi survey qualitative feedback

Feedback themes are presented alongside actions taken alongside statement progression

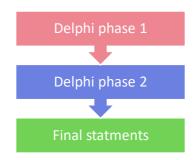
General feedback

Theme	Actions taken
Simplify wording & frame messages more positively	Messages reduced in length, statement wording simplified and standardised. Single sentence 'impact statements' added to headline statements to simplify messages and improve readability.
Reduce medical language	The use of 'patients' has been changed to 'people' or 'individuals'. Medical language simplified, but since this is a medical statement and not aimed at the general public or fitness professionals some medical language remains where it has been felt to provide extra clarity.
Remove the comment that there is 'no evidence' from several of the symptom statements	Wording of symptom statements amended to better reflect the balance of evidence.
Include more about benefits of physical activity in the symptom statements	The benefits of physical activity are not the main focus of this paper, so are not emphasised in this consensus statement.

Feedback on headline messages

Theme	Actions taken	
consider order of the messages: start with patient barriers, address these and then describe benefits/what can be offered by healthcare professionals	this was not been changed, as consensus reached – however, bullet point headlines have added as suggested	
shorten headlines and then give further information in a paragraph underneath	in response to overarching themes about safety considerations, we are now testing an additional 4th statement (see below) to directly address these concerns in the headline messages	

Evolution of each statement is subsequently presented in the following format:



Feedback themes

Actions taken

Headline Message 1	this message reassures that physical activity is appropriate/beneficial to all	statement simplified to reflect feedback
	simplify language and use physical activity, rather than inactivity	mental health is not specifically included, as this is not commonly reported as a specific risk in physical activity interventions
	some long-term conditions may not be preventable, although physical activity can help in their management	
	include mental health	
	it is important to reassure healthcare professionals that physical activity in those with long-term conditions is not dangerous	
	message reinforces the importance of discussion about physical activity between healthcare providers & those with long-term conditions	

Evolution of statement

Physical inactivity poses a high risk to health. The benefits of appropriate physical activity for all people, including those with long-term conditions, far outweigh any associated risks. Regular physical activity is both a powerful preventer and highly effective treatment for long-term conditions.



The benefits of physical activity far outweigh the risks: Physical activity is safe, even for symptomatic people with multiple medical conditions. Regular physical activity, in combination with routine medical care, has an important role in the treatment and prevention of many long-term conditions.



The benefits of physical activity far outweigh the risks: Physical activity is safe, even for people living with symptoms from multiple medical conditions. Regular physical activity, in combination with standard medical care, has an important role in the treatment and prevention of many long-term conditions.

Feedback themes	Actions taken

Headline Message 2

clarify 'tolerance'	statement simplified
it is important to emphasise that increase in physical activity should be gradual	'tolerance' removed
simplify language	
this is a very important message emphasise low risk of physical activity	

Evolution of statement

There is a very low risk of serious adverse events when physical activity is gradually increased, according to tolerance, in symptomatic individuals with long-term conditions. This risk is mitigated by appropriate, well informed conversations between patients and their healthcare provider, and subsequently, where applicable, by patients and physical activity providers.



The risk of serious adverse events is very low, but that's not how people feel:

People with long-term conditions are often fearful of potential undesired consequences from physical activity. However, when physical activity levels are gradually increased, the risk of serious adverse events is very low indeed. Well informed, person-centred conversations with healthcare professionals can reassure people and further reduce this risk.



The risk of serious adverse events is very low, but that's not how people feel: People with long-term conditions are often fearful of worsening their condition or experiencing potentially undesired consequences from physical activity. In fact, when physical activity levels are increased gradually, the risk of serious adverse events is very low. Well informed, person-centred conversations with healthcare professionals can reassure people and further reduce this risk.

Feedback themes Actions taken

Headline 3	avoid use of 'non-compliance'	'non-compliance' removed
	simplify statement	message simplified
	a very important part of the overall message	
Не	important to emphasise the personalised/individualised aspects of conversations between healthcare professionals & individuals with long-term conditions	

Evolution of statement

There is a high risk of non-compliance with opportunistic brief advice about physical activity. Part of the reason for this is a perceived disconnect between advice given and understanding of symptomatic risks and challenges. This risk can be mitigated by individualised, person-centred recommendation of appropriate physical activity. Recommendation should take into account current symptomatology, functional capacity, patient preference and other psychosocial determinants, including patient and carer anxiety.



It's not as easy as simply telling people to move more: Successful opportunistic brief advice helps build motivation and confidence to become more physically active. This can be consolidated at future healthcare visits to support lasting behaviour change. Advice from healthcare professionals should consider both patient and carer anxiety, as well as individual preference, symptoms, functional capacity and other psychosocial factors.



It's not as easy as simply telling people to move more: Successful opportunistic brief advice helps build motivation and confidence to become more physically active. This can be consolidated at further healthcare visits to support lasting behaviour change. Advice from healthcare professionals should consider the concerns of individuals and their carers, as well as individual preference, symptoms, functional capacity, psychosocial factors, social support and environmental considerations.

Evolution of statement



Two things to know about safety: 1. everyone has their own starting point, depending on their current activity level, begin there and build up gradually. 2. people should be advised that if they experience new or worsening chest pain and/or increasing GTN requirement, dramatic increase in breathlessness, a sudden onset of rapid palpitations or irregular heartbeat, dizziness, a reduction in exercise capacity or sudden change in vision, they should reduce their activity level (or stop exercising). If this doesn't settle quickly, they should seek medical review.



There are two important things to know about safety: 1. Everyone has their own starting point, depending on their current activity level. Begin there and build up gradually. 2. All people should be advised to stop the activity they are doing and seek medical review if they experience a dramatic increase in breathlessness, new or worsening chest pain and/or increasing GTN requirement, a sudden onset of rapid palpitations or irregular heartbeat, dizziness, a reduction in exercise capacity or sudden change in vision.

MUSCULOSKELETAL PAIN

	Feedback themes	Actions taken
Musculoskeletal Pain	consider bullet points/reduce length of statement	the statement has been adapted to reflect feedback, and simplified to negate the need for bullet points
	emphasise the potential short-term side effects such as increased pain	specific conditions are included in evidence summary
	reconsider use of 'no evidence'	
	Add in specific conditions such as arthritis, back pain, osteoarthritis	

Evolution of statement

There is no evidence that pain increases as a result of physical activity in the long term, in patients already experiencing pain as a part of their condition. Increased pain with activity does not correlate with tissue damage. In the absence of acute injury (e.g. acute fracture/acute muscle tear, acute significant ligament injury) there is no evidence to suggest any increased risk of serious adverse events in patients undertaking physical activity. Musculoskeletal pain may transiently increase when physical activity is increased. This will normally improve with continued exposure.



For people who experience musculoskeletal pain as part of their medical condition, physical activity will not increase pain in the long term. A temporary increase in pain levels is common when starting a new physical activity, until the body adapts, and people should be counselled to expect this. There is no evidence to suggest this pain correlates with tissue damage or adverse events in the absence of new injury (acute fracture/acute soft tissue injury).



For people who experience musculoskeletal pain as part of their medical condition, physical activity will not increase pain in the long term. A temporary increase in pain levels is common when starting a new physical activity, until the body adapts, and people should be counselled to expect this. There is no evidence to suggest this pain correlates with tissue damage or adverse events in the absence of new injury (acute fracture/acute soft tissue injury).

FATIGUE

	Feedback themes	Actions taken
Fatigue	emphasise that physical activity can improve sleep, and evidence for reduced fatigue and improved wellbeing/psychological benefits specifically mention cancer-related fatigue & associated factors	cancer related fatigue is listed separately in the supporting evidence section but not separated in headline statement
Fat	ME/CFS patients will feel strongly against this statement	specific reference is included in the supporting evidence about ME/CFS, suggesting that people are directed to specialist services for this group, as published literature is inconclusive

Evolution of statement

There is no evidence to suggest that increasing physical activity causes increasing fatigue in the medium or long term in patients already suffering from fatigue. Some short-lived fatigue is common after increasing physical activity in all populations. Chances of significantly increased fatigue can be reduced by gradually increasing levels of activity.



Appropriate regular physical activity helps reduce fatigue and improves wellbeing and sleep. A temporary increase in fatigue is commonly experienced when starting a new physical activity, until the body adapts. People should be counselled to expect this and advised to build up activity gradually. People experiencing fatigue related to chronic fatigue syndromes may benefit from specialist advice.



Regular physical activity helps reduce fatigue and improves wellbeing and sleep. A temporary increase in fatigue is commonly experienced when starting a new physical activity, until the body adapts. People should be counselled to expect this and advised to build up activity gradually. People experiencing fatigue related to chronic fatigue syndromes may benefit from specialist advice.

SHORTNESS OF BREATH

	Feedback themes	Actions taken
Shortness of Breath	patients should be advised to do what they can, rather than stop being physically active during an exacerbation or hospitalisation	specific disease recommendations have been included in supporting evidence – physical activity risk is sufficiently generic to maintain a symptom-based approach.
	reference the fear that people experience and the psychological impact	safety considerations are now addressed in Headline Statement 4
	distinguish between being physically active and doing physical activities	reference to recognising fear has been included in updated statement
	change 'no evidence' to 'balance of evidence' to improve credibility	the role of pulmonary rehabilitation has been referenced in the evidence statement, but is not within the scope of the symptom statement
	improve safety netting advice for this high-risk group	
	reference pulmonary rehabilitation	

Evolution of statement

There is no evidence to suggest increased risk of adverse events in breathless patients undertaking physical activity programmes. Feeling more breathless than usual is normal with increased physical activity in both patients who are breathless at rest and those who are not. Physical activity should be recommended dependent on severity of symptoms and gradually increased according to tolerance. Patients should be counselled regarding concerning features such as chest pain or dizziness.



It is normal for all people to feel more breathless than usual when increasing their activity level. The balance of evidence suggests that the increased risk of adverse events in breathless people when doing physical activity is very low. People should be counselled individually to gradually increase physical activity, taking into account their severity of symptoms and fear of breathlessness.



It is normal for all people to feel more breathless when increasing their activity level. The balance of evidence suggests that the increased risk of adverse events in breathless people when doing physical activity is very low. People should be counselled individually to gradually increase physical activity, taking into account their severity of symptoms, and fear of breathlessness

CARDIAC CHEST PAIN

	Feedback themes	Actions taken
Cardiac Chest Pain	quantify the risks of adverse events, including the temporary short-term increased risk during exercise	It is not possible to accurately quantify risk from available evidence regarding individuals with long term medical conditions – this will be highlighted as an area for future work
	make language more accessible	published incidence data on complications from exercise in individuals with known ischaemic heart disease is derived from supervised cardiac rehabilitation programmes, therefore not generalisable to the target population for this consensus statement, and has not been included
	clarify differences between physical activity and exercise	safety statement has been removed as it is now in headline statement 4

Evolution of statement

The benefits of physical activity far outweigh the risks in patients with ischaemic heart disease. There is an increased risk of adverse events in symptomatic and asymptomatic patients with coronary heart disease and this is higher with increasing age. However, overall this risk remains very low. Individuals who develop new symptoms, or concerning features such as rest pain, a sudden fall in exercise capacity, increasing glyceryl trinitrate (GTN) requirement, visual symptoms or worsening/abnormal breathlessness should stop physical activity and seek immediate medical review.



The balance of evidence suggests that the long-term benefits of increasing levels of regular physical activity far outweigh the temporary slightly increased risk of adverse events when those with ischaemic heart disease. This risk increases with advancing age and exercise intensity, but overall remains very low. People should be counselled individually to gradually increase physical activity, taking into account severity of symptoms, fear of cardiac chest pain and red flag symptoms.



The long-term benefits of increasing regular physical activity far outweigh the temporary, slight increased risk of adverse events in those with ischaemic heart disease. This risk increases with advancing age and exercise intensity, but overall remains very low. People should be counselled individually to gradually increase physical activity, taking into account severity of symptoms and fear of cardiac chest pain.

PALPITATIONS

	Feedback themes	Actions taken
Palpitations	mention new palpitations that occur during activity	comment about new palpitations has been added to Headline Statement 4
	refer to atrial fibrillation specifically	atrial fibrillation is directly addressed in statement and supporting documentation
Pı	consider including other triggers for palpitations, such as anxiety and thyroid disease	

Evolution of statement

An increased awareness of the heartbeat can be normal during physical activity and exercise. Physical activity and exercise are contraindicated in those with uncontrolled, symptomatic cardiac tachy- or brady-arrhythmia, and these should be managed appropriately prior to recommending physical activity in these individuals.



An increased awareness of the heartbeat is normal during physical activity, but can be frightening
Physical activity is contraindicated in people with symptomatic and untreated cardiac tachy- or
brady-arrhythmia. Appropriate medical management should be established prior to
recommending physical activity. Individuals with controlled atrial fibrillation (AF) benefit from
regular physical activity, which should be started gradually.



An increased awareness of the heartbeat is normal during physical activity, but can be frightening.

Physical activity is contraindicated in people with symptomatic and untreated cardiac tachy- or

brady-arrhythmia. Appropriate medical management should be established prior to

recommending physical activity. Individuals with controlled atrial fibrillation (AF) benefit from

regular physical activity, which should be started gradually.

DYSGLYCAEMIA

	Feedback themes	Actions taken
НуродІусаетіа	emphasise the long-term benefits of physical activity, including for decreased medication use and improved glycaemic control	significant changes have been made to the content and structure of this statement, so it has been included in Phase 2 (despite meeting consensus agreement in Phase 1)
	consider renaming to 'dysglycaemia'	title of statement has been changed to dysglycaemia
	reconsider reference to ketones in the main symptom statement	references to ketones have been removed from the Symptom Statement (included in supporting evidence)
	intensity of exercise is important, particularly in young people	comment on intensity of exercise is outside of the scope of this consensus statement
	increased risk of hypoglycaemia in those over 45y - more care is needed in this group	specific risks have been addressed in the evidence statement
	include complications of diabetes such as foot ulcers	diabetic complications have not been included in the symptom statement but have been included in the

supporting evidence statement

Evolution of statement

HYPOGLYCAEMIA - The benefits of physical activity outweigh the risks in both Type 1 & Type 2 diabetes mellitus. Caution is required if ketones are raised before exercise, or in individuals with Type 2 diabetes with impaired glucose control or during acute infections. Hypoglycaemia is the most common adverse event associated with physical activity in Type 1 diabetes, and this may recur if not managed appropriately. However, evidence suggests that in general, the risk of hypoglycaemia is not increased in those who are more physically active.



DYSGLYCAEMIA - The benefits of physical activity outweigh the risks in both Type 1 and Type 2 diabetes. There is a risk of short-term dysglycaemia with physical activity. Hypoglycaemia is the most common adverse event associated with physical activity in Type 1 & 2 diabetes, and other forms of diabetes treated with insulin or insulin secretagogues. This can be recurrent if not managed appropriately. Guidelines are available to help reduce the risk of hypoglycaemia, and evidence suggests that the overall risk of severe hypoglycaemia is not increased in those who are more physically active. People with diabetes should be made aware that high intensity physical activity can cause a rise in blood glucose and offered strategies to combat this.



DYSGLYCAEMIA - The benefits of physical activity outweigh the risks in both Type 1 and Type 2 diabetes. There is a risk of short-term dysglycaemia with physical activity. Hypoglycaemia is the most common adverse event associated with physical activity in people with any form of diabetes treated with insulin or insulin secretagogues. This can be recurrent if not managed appropriately. Guidelines are available to help reduce the risk of hypoglycaemia, and evidence suggests that the overall risk of severe hypoglycaemia is not increased in those who are more physically active. People with diabetes should be made aware that high intensity physical activity can cause a rise in blood glucose and offered strategies to combat this.

COGNITIVE IMPAIRMENT

	Feedback themes	Actions taken
Cognitive Impairment	emphasise available support	title of statement has been kept as 'cognitive impairment' as the statement is following a symptom- based approach and is not limited to dementia
	consider the range of possible impairments and comorbidities in this broad group	statement has been updated to reflect other feedback
	consider changing the name of the statement to 'dementia'	
	address environmental considerations	

Evolution of statement

There is no evidence that physical activity may worsen cognitive impairment, and there are no general contraindications to recommendation of physical activity in this population. Strategies to maintain motivation, engagement and safety are important. Appropriate support is generally beneficial and physical activity should be individualised depending on level of function, communication ability, stage of disease and comorbidities. Individuals with cognitive impairment are at increased risk of falls and associated injury, and approaches to mitigate this should be considered.



The balance of evidence suggests that the benefits of physical activity in people with cognitive impairment far outweigh the associated risks. Strategies to maintain motivation, engagement and safety are important. These should be individualised, depending on level of function, stage of disease, communication ability (including visual and hearing impairment), preferred environment and other medical conditions. People with cognitive impairment have an increased risk of falling so support from others is often beneficial.



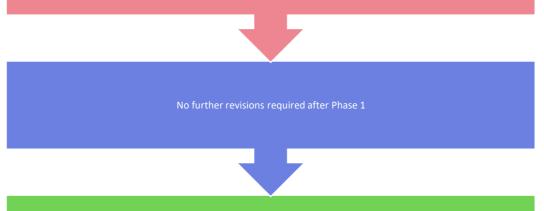
The benefits of physical activity in people with cognitive impairment far outweigh the associated risks. Strategies to maintain motivation, engagement and safety are important and people will often benefit from support from others. Strategies should take into account level of function, stage of disease, communication ability (including visual and hearing impairment), preferred environment, risk of falling and other medical conditions.

FALLS AND FRAILTY

	Feedback themes	Actions taken
Falls & Frailty	a strong and positive statement	osteoporosis is now mentioned in the statement, and included in the supporting evidence
	include osteoporosis	wording updates have been amended as recommended
	change wording from 'the most' ('Frail, inactive patients have the most to gain') as other groups also have a lot to gain from increasing physical activity levels	
	emphasise the importance of strength and balance	

Evolution of statement

Frail, inactive patients have the most to gain from increasing physical activity levels and building strength and balance. Anyone who exercises or engages in physical activity incurs some risk of falling, but this is low and can be mitigated by tailoring physical activity to an appropriate level based on the functional and cognitive capacity of the individual. It may be appropriate for physical activity to be accompanied. Risks can be reduced with balance exercise and improving strength, and small improvements can have a significant functional impact.



Frail, inactive people have much to gain from increasing physical activity levels and building strength and balance, including those with osteoporosis. Even small improvements in strength and balance can reduce a frail individual's risk of falling and improve their confidence. Recommendations for physical activity should be tailored to the functional and cognitive capacity of each individual. This can be further supported by environmental aids and adaptation such as seated exercise plans, and it may be helpful for physical activity to be accompanied.