Appendix
Interview guide

General questions

1. How long have you had COPD?
2. Have you done pulmonary rehabilitation? When was the last time you did a formal exercise program (such as pulmonary rehabilitation)?

Motivations and goals around maintaining physical activity

3. What desires, hopes or expectations do you have in respect to managing your COPD through treatment plans? (i.e. what are the most important health goals you want to achieve?) How well are you (or do you think you'll be) able to keep being active now that (or once) the formal exercise program is over?

I'm going to ask some questions about physical activity, which refers to any movement of the body that requires energy. Physical activity isn't limited to just exercise. Exercise technically means a planned activity that you do with the goal of increasing your fitness, but physical activity can include bodily movements you do for work, household chores or recreation.

4. How do you think that physical activity can impact on your health goals?
   a. How do you feel being sedentary affects your health?
5. What do you like and dislike about the physical activity you do? Can you give me three things you like and three things you dislike?
   a. (Note: If participant only talks about exercise in rehab, remind them the definition of physical activity includes activities they do at home)
6. Can you think of anything that works well to motivate you to do physical activities? What motivators have you found to not work well?"

Technology

7. What types of technology (computers, tablets and mobile phones) do you use and why?
   a. Who owns this technology? [personally owned, borrowed from family, etc]
   b. How accessible is it?
   c. Is it connected to the internet? How (wifi, 4G, etc)?
8. What sorts of things do you do with technology like computers and mobile phones?
   a. ☐ phone calls
   b. ☐ text messages
   c. ☐ internet
   d. ☐ email
   e. ☐ social media
   f. ☐ word processing
   g. ☐ applications ('apps')
   h. ☐ games
   i. ☐ other more complex tasks (define)
9. ? What aspects of technology do you find difficult?
10. Have you used technology to help you manage your exercise (e.g. using a smartphone app to record your physical activity or using the internet to suggest exercises you could do, using email or texts to receive reminders to exercise)?

a. If so, can you tell me about that?
b. If not, what do you think of that idea?
11. How would you feel about wearing a fitness tracking band or watch to track your physical activity?
    a. What benefits do you think a fitness tracking device would have?
    b. What concerns or fears would you have about a fitness tracking device?

Games

12. Do you have any experience playing video games or computer games?
    a. (If yes) What types have you played?
    b. (If no, proceed to Q12e)
13. What devices do you prefer playing games on?
    a. ☐ PC
    b. ☐ tablets/ipads
    c. ☐ mobile phone
    d. ☐ game consoles connected to a TV
    e. ☐ None (what would you be most willing to try?)
14. Thinking about games in general (e.g. video games, board games, card games, sports) what do you like about these games? What would need to have for you to enjoy it or keep you playing it?
    a. Do you like games you play alone or those you play with other people?
15. How familiar are you with video games that require the player to exercise, such as *Nintendo Wii Fit* or games for Xbox Kinect or smartphone games like *Pokemon Go*?
    a. If familiar - did you enjoy them? Why or why not?
    b. If not familiar - how willing do you think you'd be to use a video game or mobile game that required you to do physical activity or to exercise?
    c. What did/would you like or what did/would you not like?
16. What features do you think such a game would need to have for you to be more willing to try it or keep playing it?
17. Would you like to play the game with other people? Who would you like to play with?
    a. ☐ other people with COPD
    b. ☐ family
    c. ☐ friends
    d. ☐ anonymous online strangers
18. How would you feel about a game that shares how much physical activity you have done each day with your friends and family?
    a. Would the comparison or competition make you more likely to keep playing or less likely to keep playing?
19. How would you feel about your physiotherapist or medical team being able to use the fitness trackers and the internet to see how much physical activity you have done each day to guide your management?
    a. Do you think that would be motivating?
    b. Do you have any concerns or fears about that?
20. How do you imagine you could incorporate games into the physical activity that you do?
21. How willing would you be to pay for a technology or game like we've been discussing today? What price would you consider reasonable?
    a. Would you prefer paying a once-off payment or a subscription where you pay each month?

Appendix 2

Code Categories	Code Frequency	n Participants
Use of technology		
Communication with family and friends	22	14
Online shopping	5	5
Gaming	6	6
Working	2	2
Researching health info	4	4
Barriers for technology		
Needing help from younger people	18	11
Not remembering how to do things	8	6
Lack of education or instruction	18	10
Lack of confidence	13	10
Wearable activity trackers		
Wanting to quantify	16	10
Helping to see long-term improvement	5	5
Allowing for clearer goal-setting	17	11
Reminders to be active	3	2
Concerns around social features	3	2
Perceived benefits of sharing data with clinicians		
Value of clinician feedback	12	8
Improved clinical care	8	5
Proof	5	5
Accountability	6	4
Concerns about sharing data with clinicians		
Clinician not interested	4	4
Clinician already knows the information	1	1
Games – socially-focused barriers and motivators		
Fear of failure and embarrassment		
Fear of embarrassment (games)	3	2
Fear of failure (games)	15	8
Fear of failure (AVGs)	7	4
Having fun with other people, especially family		
Games	21	14
AVGs	14	9
Not having anyone to play with		
Games	10	7
AVGs	3	2
Competition is a double-edged sword		
For competition (games)	20	13
Against competition (games)	15	8
Against competition (AVGs)	5	3
Games – self-focused barriers and motivators		
A fun way to pass the time	14	8
Games being too difficult or risky		
Too difficult (games)	7	6
Too difficult (AVGs)	9	6
Too risky (AVGs)	3	3
Not having the required equipment	9	6
Games as a form of beneficial exercise, or not		
Games as beneficial exercise	8	6

Outdoor activities instead of games	5	3
No need for games as exercise	11	8
Games as a form of mental stimulation	13	10