

Multimedia Appendix 2. Instructions for raters.

Step	Preparation tasks	Required Kit	ACDC Reference
1	Assemble the list of apps retained by the PRISMA flow diagram Use www.random.org to select which apps all raters are to assess in the same order (thus minimising the risk of updates influencing scores)	Retained app names www.random.org	
2	Install each clinical management app from respective app store	Mobile device with internet connection, completed PRISMA flow diagram to determine which app	
3	Follow displayed instructions for new users such as establishing or registering a user profile	Smartphone with internet connection	Ease of Use: User Profile Setup
4	Use dummy profile data in Figure 2 as created by own lead investigator and insert clinical values	Smartphone with internet connection, dummy profile data (Figure 2)	
5	Spend five minutes familiarizing yourself with the app Close the app completely then re-open it	Smartphone with internet connection	
Observations during Clinical Data Entry			
	When performing clinical data entry below:		
6	Note the visual appeal of the user interface	Refer to Step 3	Functionality: Graphics and Visual Appeal
7	Identify sequential, structural navigation	Refer to Step 3	Functionality: Structural Navigation
8	Recall responsiveness of app features and components	Refer to Step 3	Functionality: Performance Power
9	Observe medical or technical jargon	Refer to Step 3	Ease of Use: Medical and Technical Jargon
Clinical data entry			
10	Enter clinical measures such as peak flow readings for one week using healthy range values as per Figure 3	Lead investigator to input dummy profile and set of readings similar to Figure 2 + 3	Functionality: Intuitive Design Information Management: Quality and Accurate Information
11	Enter clinical measures (as appropriate) for one week using uncontrolled and unhealthy range values and some missing values (Figure 3 is a guide)	As above	Functionality: Intuitive Design Information

			Management: Quality and Accurate Information
App functionality permitting, complete the following tasks			
12	Note any health warnings provided when inputting unhealthy range values	Refer to Step 3	Functionality: Health Warnings
13	Respond to feedback provided by app such as personal strengths or limitations	Refer to Step 3	Engagement: Self-Awareness
14	View graphical representation of inputted data in graph and numerical form	Refer to Step 3	Information Management: Visual Information
15	Add notes to data entries e.g. high blood pressure due to weightlifting class	Refer to Step 3	Engagement: Interactivity
16	Email the data or outputs to yourself and another rater Ensure emailed data (e.g. .xls, .csv) is readable without significant formatting required	Smartphone mail configuration	Functionality: Connection to Services
17	Access points/rewards system – have your readings accrued any points?	Refer to Step 3	Engagement: Gamification
18	Add goals (lead investigator should devise appropriate goal(s) as part of the dummy readings to be entered)	Refer to Step 3	Engagement: Self-Awareness + Positive Behaviour Change
19	Create in-app calendar entry	Smartphone calendar sync	Functionality: Feedback
20	Initiate daily medication reminder 06:30	Refer to Step 3	Ease of Use: Reminders
21	Attempt to interact with other nominated users or support services (e.g. a helpline)	Refer to Step 3	Functionality: Connection to Services
22	Attempt to change settings (e.g. fonts, colours, notifications)	Refer to Step 3	Engagement: Customisation
23	Navigate to statistics screen and produce multiple views of data, e.g. weekly and/or monthly	Refer to Step 3	Information Management: Statistics
24	Locate user prompts regarding lifestyle tips or behavioral advice based on user input, e.g. ramifications of medication overuse	Refer to Step 3	Engagement: Positive Behaviour Change
25	Locate option to connect app to peripheral device, e.g. Bluetooth monitor	Peripheral device and refer to Step 3	Engagement: Use of Plug-ins
26	Is another health app required to supplement features not available in this app?	Refer to Step 3	Ease of Use: Holistic Usability
27	Identify automated app features such as	Refer to Step 3	Ease of Use:

	pre-populated fields and appointment management		Automation
28	Identify password management option, privacy statement, cloud backup and data encryption	Refer to Step 3	Information Management: Privacy and Data Security
29	Observe extent of information provided for mobile experience	Refer to Step 3	Information Management: Quantity of Information
30	Recognize credible source of app, e.g. government lab logo, cites published research	Smartphone without internet connection	Information Management: Credibility
31	Turn off internet connection and test clinical data input and output displays	Smartphone without internet connection	Ease of Use: Offline Mode