## Material and Methods

### *Recruitment*

An advertisement requesting participation in this study including the online survey link was circulated through Queensland University of Technology (QUT), University of Queensland and Melanoma Patients Australia recruitment and online media channels. A convenience sample of members of the general population who had taken part in a previous study at QUT and were willing to be contacted regarding further research was also invited to participate in this study via e-mail. To enhance the richness of the data, participants were given the option to participate in either an online survey or one of four focus groups held at QUT, Brisbane, Australia. The inclusion criteria for participating in the survey were individuals over the age of 18 years and living in Australia. Individuals over the age of 18 years and residing in Brisbane were eligible for the focus groups. Participants were given a chance to win one of five 20-AUD vouchers for completing the online survey. Participants received a 20-AUD gift voucher for participating in the focus group.

After consenting to the study, participants electing the survey were e-mailed an invitation that included a link to the survey. Participants electing the focus group were sent an e-mail with further information regarding the study, including the date, time and location of the focus groups.

This study was approved by the QUT Human Ethics Committee (QUT approval No. 1400000807).

### *Online Survey*

Participants completed the survey online (see suppl. Appendix). The survey had 6 sections exploring knowledge, attitudes, beliefs and prior experience regarding: (1) SSE, (2) mobile health apps used to conduct mobile teledermoscopy, (3) how to make the app design appealing and intuitive for the purpose, (4) receiving teledermoscopy results, (5) app privacy and confidentiality and (6) demographic characteristics. All questions required a response before moving to the next question.

In section 1, participants were first asked whether they conduct SSEs at home (yes/no) and to further clarify their reasons for whether or not they checked their skin in an open-ended question. In section 2, we asked participants if they would consider using mobile teledermoscopy to take photos of skin lesions and send them to a specialist. Reasons for whether they thought such technology was acceptable or not were obtained. In section 3, participants were asked to view a 1-min video explaining the mobile teledermoscopy process. This video guided the participants through the process of using the app including taking the images of the skin lesions and e-mailing these images to the dermatologist for a telediagnosis. Participants answered open-ended questions to provide their opinion on the advantages and disadvantages of the app after watching the video in an open-ended response. Furthermore, we asked participants to tell us if there were any features missing and if they had any suggestions for app improvement. In section 4, participants were asked for an acceptable time frame to receive their telediagnosis after sending the images to the specialist and how they would like the diagnosis relayed to them (either via telephone, e-mail, an app notification or personally from their medical practitioner). In section 5, we asked the participants if they had privacy or confidentiality concerns about using the app. In section 6, demographics of the participants, such as age, gender and previous melanoma history, were collected.

### *Focus Group*

Focus group discussions lasted approximately 60 min each. The semi-structured focus group guide consisted of main topics structured similar to those of the online survey. These topics were: (1) reasons why participants conducted or did not conduct SSEs, (2) attitudes towards using mobile teledermoscopy and willingness to use it, (3) app design and functionality, (4) receiving telediagnoses via the app, and (5) privacy and confidentiality issues. Participants were shown mock images of a mobile teledermoscopy app for consumer use to stimulate the discussion around the design and functionality topic. Participants then discussed how they would like to receive a telediagnosis and suitable time frames to receive these results. The focus group discussions were audio-recorded, transcribed verbatim by a professional transcription service, and the main themes were analysed.

### *Data Analysis*

Analyses were guided by the technology acceptance model (TAM) by Davis et al [19]. Based on the TAM, intention to use new technology in the dermatology setting is contingent on perceived usefulness, ease of use and attitudes towards use. Baseline demographics of the participants and survey item responses were summarised using descriptive statistics. Content analysis was conducted on the participants’ open-ended responses and summarised using frequencies and proportions.

 The texts of the focus groups were analysed using content analysis. The coding scheme was then developed deductively using a priori codes from the discussion guide and checked for consistency with the TAM. Leximancer Pty Ltd., an automatic content analysis software, was used to support the a priori codes. The content analysis was performed by C.H. and U.K.