Supplementary Table 3. Advantages of an automated vision test

Theme	Quote	Ophthalmologist (n=3) n (freq) ^	Optometrist (n=3) n (freq)	Total (n=6) n (freq)
Self-monitor (detect change)	"…this would be a really good way for you to kind of measure or monitor your vision between examinations"	2 (2)	2 (9)	4 (11)
Increase eye examinations (earlier detection of pathology)	"It's good too because they then get their eyes tested (by an optometrist) and if there was some diabetic retinopathy for example, then it follows on to ophthalmology…… undetected disease out there in the community may come to light with something like this"	2 (3)	2 (4)	4 (7)
Detecting uncorrected refractive error	"It's great.. you pick it up for patients who need glasses, because as we know the uncorrected or refractive error is the major issue there"	2 (6)	1 (3)	3 (9)
Useful tool for health care providers	"It would definitely save optometrists having to take their not-very-good vision charts and poor lighting, you know, these portable tests are fantastic"	0 (0)	3 (7)	3 (7)
Smart technology	"That's cool (technology to detect distance)– I think you'll win a lot of fans through just that. Having some smart technology will win some… win confidence in your users"	1 (1)	2 (3)	3 (4)

Raise public awareness of eye health	"It's additive to the whole vision awareness, I think that's very encouraging, it sort of raises..awareness of screening and if those pop up messages do happen with this app you know we do recommend in Australia a kid has an eye test by the time they're five or, that's all good and it all helps to add to the awareness of the care and I see it more as a vehicle for awareness rather than trying to pick up things"	1 (1)	1 (7)	2 (8)
Novel	"I think it's definitely the future, automation, you know, I think optometrists are generally a bit over-qualified for just testing vision"	1 (1)	1 (2)	2 (3)
Gap in population eye testing	"There's a huge range in between that for school or preschool testing, and then getting to the age of 45, 50, when most people are getting presbyopic symptoms, and most see an optometrist. There's a huge gap when there is no vision screening"	1 (1)	1 (2)	2 (3)
Increase access to eye testing	"The gaps (this test) can fill…as far as people that are either too shy or don't have the capacity to access care and those people are in remote areas or living by themselves in the country town"	0 (0)	1 (2)	1 (2)

^ The number of participants who reported theme (frequency theme reported by participants during interview)

Supplementary Table 4. Challenges and barriers to the use of an automated vision test

		Ophthalmologist (n=3)	Optometrist (n=3)	Total (n=6)
Domain	**Quote**	**n (freq) ^**	**n (freq)**	**n (freq)**
Limited utility (unable to detect eye pathology)	"So it's probably not appropriate for screening for diabetes. It would also obviously not be appropriate for screening for glaucoma, because visual acuity will be preserved in patients with glaucoma"	3 (16)	3 (17)	6 (33)
Reaching individuals who don't go for an eye examination	"People that are more likely to have problems are those that are not presenting or not showing an interest OR people may think vision is ok therefore no problem therefore don't test eyes"	2 (3)	3 (3)	5 (6)
Older adults (access to smartphone, require assistance to perform test)	"So the people you really want on this test would probably be older who would struggle, I guess, technology-wise.. they're not that technologically inclined…I don't know how you could include them in it unless they're doing it through, you know, if their son or daughter is there."	1 (1)	3 (12)	4 (13)
Positive result deters follow-up examination	"Somebody with 6/9 vision, even if they find that I have 6/9 vision, no matter what you tell them, that you have a problem and go see an ophthalmologist, they are not going to go"	1 (4)	3 (9)	4 (13)
Dissemination	"Getting it out there is the challenge. Because there are so many competing health apps"	2 (4)	0 (0)	2 (4)

User privacy	"They might be worried about the ramifications of underperforming, in terms of, "Oh my god, if I perform badly, will the licensing authority find out?"	2 (4)	0 (0)	2 (4)
Reaching males	"Male, particularly and I don't know whether they would access a website to check their vision that age group. They'll more likely walk into a health clinic when the visiting optometrist is in town"	0 (0)	2 (2)	2 (2)
Standardisation (e.g. ambient glare)	"I presume as part of your validation, you're looking at differences between different devices, different models and screen intensities, and so on. If someone's got a cracked screen… you know, all of that sort of stuff"	1 (5)	0 (0)	1 (5)
Population screening	"Population screening of visual acuities in Africa is fine. If that's the standard we want to establish in Australia, I don't think that is the standard we should adhere to. Because there is a lot more to it. Population screening should detect more than just uncorrected refractive error"	1 (4)	0 (0)	1 (4)
Health comorbidities	"If they haven't got the dexterity because they've got arthritis.. so I don't know if it would be good for (them) …because of where they are in terms of physical ability	0 (0)	1 (3)	1 (3)
Liability	"If the patient takes this as their replacement eye test and something does go wrong, someone has to be responsible here. So who do they point the finger at"	0 (0)	1 (3)	1 (3)
Rural areas in need of personalised services	"Because there is no personalized service. So this is what my problem with the remote area and just a vision screening is"	1 (2)	0 (0)	1 (2)

| Loss of clinician/patient interaction | Where is the doctor patient relationship in all of this | 1 (1) | 0 (0) | 1 (1) |

^ The number of participants who reported theme (frequency theme reported by participants during interview)