Inequities in geriatric access to teledermatology and smartphone dermoscopy

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To the Editor:

Melanoma is most frequently diagnosed among individuals aged 65-74 with a median age at diagnosis of 65.[1] The incidence of non-melanoma skin cancer also increases with age.[2] In response to the COVID-19 pandemic, Medicare expanded coverage for telemedicine services for individuals 65 and older, leading to increased access to teledermatology and virtual skin cancer surveillance.[3,4] To differentiate skin cancer from similar-appearing benign lesions via teledermatology, high-quality images are necessary to optimize virtual care.[4] A smartphone rear-facing camera paired with a smartphone dermatoscope attachment allows patients to take dermoscopy images at home that can be shared with their dermatology providers via store-and-forward (SAF) technology and have the potential to improve triage, diagnostic accuracy and overall workflow.

Our cohort study aimed to investigate the utility of smartphone dermoscopy and SAF technology in skin cancer triage. Participants who self-selected clinical lesions of concern and previously uploaded a clinical image using a virtual visit (e-visit, video visit) were offered a clip-on smartphone dermatoscope (Sklip, Sklip Inc., Lake Oswego, OR, USA) to take matching digital dermoscopy images of the same lesion. Dermoscopy images were then evaluated by dermatology providers who determined whether conversion to an in-person follow-up or biopsy would be warranted.

Despite having the highest incidence of skin cancer,[1,2] only 17.4% (n=16) of participants who initiated a virtual visit were ≥65 years of age, of which 56.25% successfully submitted images to the SAF system compared to 77.63% of participants ≤65 years of age (P=0.077) (Table 1). The increased proportion of submissions lacking images amongst geriatric patients likely stems from challenges interacting with the smartphone camera, smartphone interface, dermatoscope or SAF technology; reasons for this may include lack of familiarity with their smartphone camera, electronic medical record patient portal or lack of access to a smartphone. Vision difficulties, arthritis, and cognitive changes may also contribute to challenges taking and submitting images.

The small number of participants ≥65 years of age is speculated to be due to lack of interest in using new technologies in combination with possible provider ageism when selecting which patients to offer a smartphone dermatoscope imaging option. Given that these participants are self-selected and thus, may be assumed to feel confident using mobile health technologies, there would likely be even greater difficulty implementing this technology with the general geriatric population. The small sample size and lack of randomization is a limitation of this study and further studies may aid in validating our findings.

With the greatest incidence of skin cancers[1,2] and increasing difficulty accessing conventional healthcare settings,[5] the geriatric population is likely to benefit greatly from virtual surveillance of skin lesions; however, according to this data, is less likely to successfully engage with this kind of service compared to younger individuals. Although COVID-19 restrictions are lifting, various reasons remain for individuals to seek care via virtual pathways, including overall convenience, decreased wait time, geographic distance from provider, lack of reliable transportation, and fear of increased risk of exposure to disease in healthcare settings. The disparity in e-health literacy must be addressed to provide equitable care for the geriatric population to fully benefit from advances in teledermatology.

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Conflict of interest: AW and JL are co-founders of Sklip, which is the device used in this study. A conflict-of-interest management plan is in place to help ensure that this research is not affected by these financial interests. JL and AW were not involved in data collection or analysis. ALB has no conflicts of interest to disclose.

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Table 1. Mobile surveillance of skin lesions among different age groups.

	<65 years	≥65 years	All ages	Average age	Median age
Participants, n	76	16	92	46.58	43
Participants, % total	82.6	17.4	100		
Submitted images, n	59	9	68		
Submitted images, %	77.6	56.2	73.9		
Did not submit images, n	17	7	24		
Did not submit images, %	22.4	43.8	26.1		

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