Teledermatology adoption patterns in the COVID-19 era: a national cross-sectional study and real-world healthcare implications

Background: Studies have raised concerns regarding heterogeneity in telemedicine adoption and healthcare inequity exacerbation.

Methods: A prevalidated anonymous survey was emailed to a purchased listserv of practicing US dermatologists. Completed results were stratified by teledermatology-adoption timepoint (TAT). Data analysis performed using chi-square and odds ratios (OR) with 95% confidence intervals (95%CI) for categorical data and single-factor ANOVA with post-hoc Tukey-Kramer for continuous data.

Results: Data from 338 practicing US dermatologists was analyzed. Academic/Government dermatologists were 4.08-times more likely (OR 4.08, 95%CI 2.37-7.03) to adopt teledermatology pre-COVID (early-adopter, EA) than private-practice dermatologists. Dermatologists with ≤10 years of experience (YoE) were 1.8-times (95%CI 1.01-3.18) and 2.82-times more likely (95%CI 0.78-10.25) to be EAs or adopt teledermatology at all, respectively, compared to dermatologists with ≥20-YoE. No significant relationship existed between TAT and practice location ($\chi^2(14,n=338)=10.87, p=.70$). EAs/post-COVID-adopters (CAs) practiced more medical-dermatology ($p<.0001$) than non-adopters (NAs), who reported more dermatologic surgery ($p=.003; \text{Tukey-Kramer} \delta \cong <.05$) and dermatopathology ($p<.0001; \text{Tukey-Kramer} \delta \cong <.05$).

EAs were 4.69-times more likely (95%CI 1.46-15.07) to use live-interactive (LI)-only teledermatology post-COVID-19. CAs were 6.09-times more likely (95%CI 3.36-11.06) to utilize LI than EAs. While EAs currently use teledermatology for a larger proportion of patient visits (19.6% v. 10.4%, $P<.0001$), they were 3.43-times more likely (95%CI 1.82-6.46) to report decreased future usage compared to CAs.


Conclusion: Currently, teledermatology may be better suited for medical-dermatology practices compared to procedural practices. Future studies should investigate these financial and logistic barriers to maximize equitable access to dermatological care.