

**Sir,
Comment on: 'Effectiveness of a smartphone application for testing near visual acuity'**

We read with interest the article 'Effectiveness of a smartphone application for testing near visual acuity'.¹ In this article, the authors found that near visual acuity (VA) measured by the EyeHandBook application running on Apple iPhone 5 (Cupertino, CA, USA) overestimated near VA measured with the LPO Rosenbaum pocket screening card by an average of 0.11 LogMAR ($P < 0.0001$), unless the measurement done by the near vision card was 20/20.

0.11 LogMAR represents 5.5 ETDRS letters,² and this is well within the normal test-retest variability of the gold standard ETDRS chart (± 3.5 to 10 ETDRS letters) and the Snellen Chart (± 5 to 16.5 Snellen letters in normal subjects).³ We applaud the efforts of Tofigh *et al* in bringing evidence into this burgeoning field through a well-designed study, but it is unclear that this makes a difference for patients in clinical practice when compared with our currently imperfect VA tests.

However, utilization of smartphone-based VA applications can make a difference on the delivery of eye care on the front line of patient encounters. We performed an IRB approved study at the Stanford Hospital Emergency Department utilizing the smartphone-based Paxos Checkup (DigiSight Technologies, Inc., San Francisco, CA, USA) to check near VA, and to our knowledge we report herein the first documented frequency of VA measurement by ED providers with and without the use of a smartphone-based VA app.

Sixty-four patients (128 eyes) were enrolled in the study. When using a standard distance Snellen chart, ED staff documented VA for 57 eyes (44.5%). When using the automated smartphone-based VA App, ED staff measured and recorded VA in the application for 106

eyes (82.8%). Ophthalmology residents documented Rosenbaum near VA on all 128 eyes (100%).

The failure to record the patient's primary visual vital sign impedes the ability of caregivers to analyze changes in VA, triage effectively, and provide subsequent care. Smartphone Apps may increase the frequency of VA measurement (82.8% measured with the application *vs* 44.5% documented with Snellen) by streamlining workflow in the ED. Further utilization of smartphone-based VA tests to improve the efficiency and provision of eye care should be pursued.

Conflict of interest

The authors declare no conflict of interest.

References

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Eye (2016) **30**, 1028; doi:10.1038/eye.2016.68; published online 15 April 2016