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## CONFERENCE ABSTRACT

### **Development of a mobile eye care services in integrated home-based medical care** ICIC20 Virtual Conference – September 2020

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#### ***Background:***

Many homebound older adults suffered from vision-impairing eye condition in Taiwan. We constructed a mobile eye care services in integrated home-based medical care and evaluated the efficacy of the portable fundus camera in detecting diabetic retinopathy at home.

#### ***Methods:***

We built a novel portable handheld non-mydratic fundus camera with telemedicine system. The image qualities of fundus cameras taken by ophthalmologists and non-ophthalmologists were compared to each other by taking photographs of 112 eyes from the 56 diabetic patients. In all 224 fundus images taken were graded with the three image clarity classifications.

#### ***Results:***

Using the portable fundus camera by non-ophthalmologists, 65.2% (146/224) images were graded as excellent overall quality, 29.9% (67/224) were fair, and 4.9% (11/224) were inadequate. Using the portable fundus camera by ophthalmologists, 71.0% (159/224) images were graded as excellent overall quality, 25.4% (57/224) were fair, and 3.6% (8/224) were inadequate. Diabetic retinopathy was easily and accurately identified from fundus images obtained from the portable fundus camera, even in home visit by non-ophthalmologists.

#### ***Conclusion:***

The mobile eye care services with a non-mydratic portable fundus camera in integrated home-based medical care was qualified to have professional quality of fundus images. It will provide a foundational platform, which can potentially improve the accessibility of diabetic screening programs