

Are retinal cameras essential for remote health clinics?

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Retinal cameras have been used in detecting, diagnosing and managing eye disease for several decades. Their use in primary health care clinics has steadily increased, particularly as they have become more affordable. Given their availability and usefulness for diabetic retinal screening, we sought practitioners' views on whether retinal cameras may be considered "essential equipment" for remote primary health care clinics.

We conducted in-depth, semi-structured interviews with 12 primary health care practitioners and administrators responsible for providing primary eye care services in remote clinics. Interviews were designed to understand the systemic barriers for patients trying to access screening and treatment for diabetic retinopathy, as well key barriers and enablers for diabetic retinopathy screening programs—all from the practitioners' and administrators' perspectives. Additional insights are drawn from the literature and the primary author who has experience delivering eye care training to remote primary health care practitioners.

Practitioners' and administrators' responses focused on image quality and issues around pupil dilation as well as the administrative processes involved in getting appropriate diagnoses and assisting patients with referrals. Having primary care practitioners use a retinal camera rather than a direct ophthalmoscope to view the retina was considered highly advantageous and given broad support. Respondents also considered retinal photography a powerful opportunity to improve patient outcomes, by using the images as a patient education tool, to engage patients in their diabetic eye care.

Primary health care practitioners are required to examine retinas of patients with suspected sight-threatening disease. These practitioners often receive only limited training and practical experience in using ophthalmoscopes and may have a corresponding lack of confidence in viewing the retina. Remote practitioners face additional challenges in determining which eye problems require expensive evacuations for urgent (sight or life saving) ophthalmological care. Given the improved accessibility and useability of modern retinal cameras, and usefulness for referral decision-making regarding medical evacuations, they may be reasonably considered essential equipment for remote health clinics.

Policy recommendations: 1) All remote health clinics, particularly those requiring aerial evacuations for urgent ophthalmology care, should be equipped with a digital retinal camera and corresponding system for tele-ophthalmology to support referral decision-making 2) National diabetic retinal screening programs must consider unique and locally diverse requirements of rural and remote clinics (e.g. IT and training needs).