

Early detection of eye disease in vulnerable groups

Diabetic retinopathy and glaucoma are the biggest cause of vision impairment, leading to blindness. Currently there is no cure, although early stage detection of the disease can lead to appropriate treatment to prevent blindness. Diabetes and ageing are the known risk factors for the development of these diseases, and early detection is possible using current technology during a regular visit to the optometrist. However, many older people have difficulty regularly visiting optometrists, and this can lead to eye disease progressing undetected until the vision impairment symptoms are obvious and any possible treatment is ineffective.

In this project, we aim to refine existing software developed by RMIT University, working with the Centre for Eye Research Australia (CERA), to guide Bolton Clarke nurses to record diagnostic quality images using a smart-phone. Images are analysed on the smart-phone and the at-risk cases are transmitted to ophthalmologists of Royal Victorian Eye and Ear Hospital for their expert opinion. The community members with images suspected of requiring intervention are informed and advised to visit the eye-specialist clinic as soon as possible.
