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Singapore to set up Centre for Innovation and Precision Eye Health

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Tapping on AI and data science to understand and detect eye diseases and investing in gene and cell therapy to treat rare eye disease



Centre for Innovation and Precision Eye Health is being set up by the Yong Loo Lin School of Medicine at the National University of Singapore (NUS Medicine), and the National University Health System (NUHS).

The Centre has introduced the development of novel, portable eye screening and monitoring medical devices for people to get eye check-ups more regularly and conveniently in the primary care settings such as polyclinics or optometrists at the optical shops in the future

Funded by Temasek Foundation, these portable medical eye screening devices were developed by the Department of Ophthalmology at NUS Medicine and have undergone multiple refinements at National University Hospital (NUH). Currently, there is an ongoing pilot programme that conducts community-based eye screening using these novel devices in Pioneer Polyclinic, with plans underway to scale up to more polyclinics.

The new Centre will also focus its efforts in providing certified standardised training and promoting continuous learning opportunities for community-based optometrists.

In addition to new portable devices, the Centre will leverage state-of-art big data analytics and artificial intelligence (AI) technologies to develop more cost-effective algorithms to screen and detect eye diseases. The Centre will be conducting clinical trials in the community to evaluate the real-world performance of these AI models. At the same time, research at the Centre will draw on genomic data to develop precision gene and cell therapy for currently untreatable and blinding retinal degenerative eye diseases.

The Centre has an established partnership with RxCell, a United States biotech company that utilises stem cell regenerative technologies to improve health outcomes. This partnership offers potential for vision restoration in patients with end-stage retinal disease.