

Community Eye Health Journal

VOLUME 35 • NUMBER 114 • 2022

Don't miss out
Download the free
Community Eye Health
Journal app today!
bit.ly/CEHJ-app



SCAN ME



Communication technologies such as smartphone apps help to connect people to the eye care they need. KENYA

© ROLEX / JOAN BARDELETTI CC BY-NC 4.0

Communication technology for eye care



Kriti Shukla
Indian Institute of Public Health.



Anthony Vipin Das
LV Prasad Eye Institute.



Yuddha Dhoj Sapkota
IAPB South East Asia.



Priya Morjaria
London School of Hygiene & Tropical Medicine and Peek Vision.

Communication technology has great potential to improve access to eye health care, provided equity of access is a priority.

Digital technologies are part of our life, and they have tremendous potential to improve people's health if applied in the health sector. The Global Strategy on Digital Health (see bit.ly/digi-WHO), adopted in 2020 by the World Health Assembly, supports the strengthening of digital health services to improve health outcomes. There is also growing consensus that using cutting-edge digital innovations and technologies will enable more people to benefit from universal health coverage.

Digital health is an umbrella term that includes communication technology, health information

technology, big data, artificial intelligence, genomics, and wearable technology. In this issue, our focus is specifically on communication technologies such as mobile health (mHealth), telehealth, telemedicine, and teleconsultations. These have become vital tools for delivering health care services, in part due to the pressures brought by the COVID-19 pandemic.

Communication technology has great potential to help deliver good quality and affordable health care. However, there are challenges. New technology can be expensive and must therefore

Continues overleaf ▶



About this issue

Communication technology has great potential to help deliver good quality and affordable health care, so long as equity of access is prioritised. The articles in this issue provide guidelines for developing inclusive and accessible mobile health (mHealth), teleophthalmology, and artificial intelligence (AI) services for everyone – including people with disabilities, those with low digital literacy, and those who lack internet access – while protecting patients' data and privacy.

Contents

- 1 Communication technology for eye care**
Kriti Shukla, Anthony Vipin Das, Yuddha Dhoj Sapkota and Priya Morjaria
- 4 Teleconsultation for eye health delivery**
Anthony Vipin Das
- 6 Setting up a primary eye care teleconsultation service**
Padmaja Kumari Rani and Anthony Vipin Das
- 8 Running an inclusive and accessible teleophthalmology service for people with disabilities**
Kriti Shukla
- 10 The use of teleconsultation and technology by the Aravind Eye Care System, India**
R Kim, Chitaranjan Mishra and Sagnik Sen
- 11 Teleophthalmology case study: Sankara Nethralaya, India**
Rachapalle Reddi Sudhir
- 12 Using technology to improve access to optometric services**
Jessica Massie and Priya Morjaria
- 13 Artificial intelligence in eye care: a cautious welcome**
Andrew Bastawrous and Charles Cleland
- 14 Innovative approaches to refractive error services: criteria and considerations for success**
Jude Stern
- 15 mHealth for eye care: what is possible?**
Priya Morjaria and Jessica Massie
- 18 Overcoming the challenges of access to eye care through mHealth in Kenya**
Hillary Rono and Lily Kimetto
- 19 Technology-enabled primary eye health care in Pakistan**
Zahid Awan
- 21 Data protection and privacy: an introduction**
Elmien Wolvaardt and Victor Hu
- 22 Online eye care education: an introduction**
Michelle L Hennelly and Irene Ctori
- 24 TRACHOMA**
Harnessing photography and image recognition technology to aid in the elimination of trachoma
Cristina Jimenez, Emily Gower, Emma Harding-Esch and Sheila K West
- 25 EQUIPMENT CARE AND MAINTENANCE**
Electrical safety in the clinical environment – good habits to maintain
Ismael Cordero
- 26 Picture quiz**

be well suited to the needs of the community where it will be used, and of sufficient quality to justify the financial investment made, as our article on refractive error innovations demonstrates. Another major challenge is pre-existing inequalities in communities' access to education, infrastructure, and technology. Appropriate, equitable, and ethical use of technology is a must if we are to avoid deepening already existing health inequities. Factors such as poor internet connectivity, low digital literacy, and lack of access to broadband internet and smartphones – known as the 'digital determinants of health' – should be central in our thinking when incorporating communication technology into existing services.

In this issue, you will therefore find articles that provide guidelines for developing inclusive and accessible teleophthalmology services for people with disabilities, those with low digital literacy, and those who lack internet access, while protecting patients' data and privacy. We also discuss artificial intelligence (AI) in eye care and the need for equitable development of AI services.

We hope that you will find useful ideas and inspiration in articles from different regions that show the potential of AI, mHealth and teleconsultations to bring patients closer to the eye care they need.



Woman holding a smartphone showing the letter 'E' and swiping the screen. **KENYA**

© ROLEX/JOAN BARDELETT

Community Eye Health Journal
VOLUME 35 • NUMBER 114 • 2022



INTERNATIONAL CENTRE FOR EYE HEALTH



LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE



Editor
Elmien Wolvaardt
editor@cehjournal.org

Editor: South Asia Edition
Kriti Shukla

Medical editor
Victor Hu

Consulting editors for Issue 114
Priya Morjaria
Anthony Vipin Das
Andrew Bastawrous
Yuddha Dhoj Sapkota

Editorial administrator
Anita Shah
admin@cehjournal.org

Online, communications, and social media
Astrid Leck
Hugh Bassett
Romulo Fabunan

Editorial committee
Simon Arunga (Uganda)
João M Furtado (Brazil)
Clare Gilbert (UK)
Esmael Habtamu (Ethiopia)
Fatima Kyari (Nigeria)
Ciku Mathenge (Rwanda)
Nyawira Mwangi (Kenya)
GVS Murthy (India)
Heiko Philippin (Germany)
Thulsiraj Ravilla (India)
Serge Resnikoff (Geneva)
Jude Stern (Australia)
Sumrana Yasmin (Pakistan)
David Yorston (UK)

Editorial advisors
Nick Astbury (Partnerships)
John Buchan (Ophthalmology)
Jenny Evans (Systematic reviews)
Michelle Hennelly (Ophthalmic nursing)

Islay Mactaggart (Disability)
Priya Marjoria (Optometry)
Daksha Patel (Education)

Regional consultants
Hannah Faal (AFR)
Kovin Naidoo (AFR)
Van Lansingh (AMR)
Andrea Zin (AMR)
Ian Murdoch (EUR)
Janos Nemeth (EUR)
GVS Murthy (SEAR)
R Thulsiraj (SEAR)
Babar Qureshi (EMR)
Mansur Rabiu (EMR)
Leshan Tan (WPR)
Hugh Taylor (WPR)

Design
Lance Bellers

Printing
Newman Thomson

Download our app
Download the free *Community Eye Health Journal* app today:
bit.ly/CEHJ-app

Visit us online
www.cehjournal.org

Subscribe
Visit: www.cehjournal.org/subscribe
Email: web@cehjournal.org
Readers in low- and middle-income countries receive print copies free of charge. To subscribe, send your name, occupation, and postal address to:
Anita Shah, International Centre for Eye Health, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK.
Email: admin@cehjournal.org