Commentary: When will "Policy framework" catch up to leverage teleophthalmology to realize the holy grail of Universal Eye Health?

In 2015, when Sustainable Development Goals (SDG) were proposed, it spurred the focus on Universal Health Coverage (UHC). UHC is characterized by three components as shown in the Fig. 1: health care access for all individuals and communities, comprehensiveness in care, and financial protection.

Around the same time, evidence showed that Non-Communicable Diseases (NCD) were emerging as the leading cause of mortality. This resulted in the control of NCDs gaining global attention and India becoming a signatory to the global initiative to address non-communicable diseases. Keeping in line with this commitment, India expanded the scope of Primary Health Care to include hypertension, cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes.

We are also fortunate to be in an era of rapid technological advances on all fronts, especially the digital technologies and connectivity becoming both widespread and affordable. This was making it possible for information, images, or videos to be instantly available to anyone or everyone, anywhere.

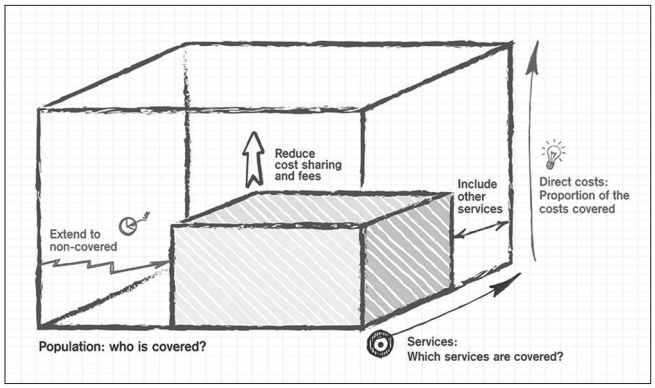

Figure 1: Three components of Universal Health Coverage

When we combine together the potential of all these three developments—commitment to Universal Health, expanded scope of Primary Health Care, and the technological advances, we suddenly have the opportunity to realize the Holy Grail of Universal Health Coverage (UHC) or in our context, Universal Eye Health. Since access is foundational to building comprehensive and affordable eye care, primary eye care delivered through Vision centers (VC) is emerging as a key strategy to ensure that everyone in need of eye care gets the required care. This foundation of a network of VCs is now falling in place and expanding, though slowly. As per India's National Program for Control Blindness (NPCB), there are over 3,000 VCs in Primary Health Centers[1] And there could be an estimated another 1,000 Vision Centers in the non-government sector.

Technology and Telehealth

Telemedicine and remote diagnosis have been around for a while now and many robust applications have emerged, from radiology interpretation to remote management of Intensive Care Units. The Government of India has been promoting telemedicine since 2001 with the Indian Space Research Organization providing connectivity to remote rural areas.[2] In recent years, there has been widespread adoption of electronic medical records (EMR). With growing availability of reliable and high-speed internet connectivity, cloud infrastructure is increasingly being used to host the EMR applications and databases. This facilitates seamless collaboration on patient care between ophthalmologists and vision technicians as described in the article titled "Role of Teleophthalmology to Manage Anterior Segment Conditions in Vision Centers."[3] Technologies such as cloud-based EMR, artificial intelligence, and real-time teleconsultations can effectively bridge the competence gap between primary and higher (tertiary) levels of care, thereby ensuring comprehensiveness of care even in primary levels. The following Table 1 depicts what can be achieved in a Vision Center.

Policy Guidelines Have to Catch-Up

While we have the euphoria of universal eye health becoming a reality through the convergence of primary eye care and telemedicine, there are serious obstacles arising out of lack of policy guidelines. This recently gave rise to an instance

Table 1: Scope of a Vision Center

	Case Finding	Intervention				Compliance Follow-up
		Curative	Preventive	Referral	Rehab	
Cataract	√			√		√
Ref. Error	√	√				√
Child. Blindness	√		√	√		√
D. Retinopathy	√*			√		√
Glaucoma	√*			√		√
Cornea	√	√	√	√		√
Trachoma	√	√	√	√		√
Low Vision	√			√	√	√

*When supported by (low-cost) imaging and Artificial Intelligence Technologies

reported by *The New Indian Express* in September 2018,[4] in which a doctor couple who provided remote consultation was charged with medical negligence by a Bombay High Court, declaring such consultations as illegal, leading to a setback of telemedicine. Similarly, there are examples of the profession also shunning such advancements, as reported by *The News Minute* in May 2019,[5] in which Karnataka Medical Council Vice President Dr. Kanchi Prahlad stated, "Online consultation using these apps violates ethical medical practice. These apps are unethical and there is no question about it."

Closing the Care Loop

A patient's health condition does not improve unless the patient is able to get the prescribed medicines and use them as directed. When medications are prescribed at the village level for specialty conditions (like ophthalmology), such medications are not available in local pharmacies, even if they exist, which often is not the case. The patient then has to go to the nearest town, at considerable expense and effort, to get the medication and in most instances, this does not happen. As a result, the patient's condition does not improve and often deteriorates. Another consequence is that the efforts till then by the patient and the provider goes to waste. The Pharmacy Act stipulates certain minimum physical infrastructure and the presence of a qualified pharmacist to dispense the medications. This works fine in urban settings where the scale of operations can support such staffing and infrastructure. At the grassroots level, the current regulations obstruct patients from getting medications in a timely and affordable manner. This necessitates appropriate policy changes some of which is being initiated have been recently proposed.[6]

Conclusion

The current policy and regulatory framework do not enable effective work at the primary level. Similarly, policies need to be cognizant of technological advances and their demonstrated potential, as well as redefine what staff at the primary level can do with technological support. Such changes are what will drive the effectiveness of primary care approach, which is fundamental to achieving universal health care. We now have enough experience to realize that elimination of avoidable blindness and vision impairment is possible through primary eye care approach and that comprehensiveness care, as well as quality at primary level, can be achieved only through the deployment of digital technologies like telehealth and artificial intelligence. This requires enabling policies.

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