

Eyecare challenges in the Middle East: Priorities of a global ophthalmology task force

BY FATMA SHAKARCHI, SILA BAL, JOSHUA R EHRLICH, MARCIA ZONDERVAN AND MATTAN ARAZI

Global ophthalmology is a rapidly evolving, multidisciplinary field that integrates clinical practice, research, and policy at national and international levels. One of its main objectives is to improve eyecare equity worldwide by preventing avoidable vision impairment. Since the launch of the 'VISION 2020: the Right to Sight' initiative in 1999, significant progress has been made not only in reducing the burden of avoidable blindness and visual impairment but also in increasing the number of skilled eyecare professionals and enhancing eyecare infrastructure.

The World Health Organization (WHO) World Report on Vision highlighted the challenges to enable equitable eyecare, uncovering significant gaps in eyecare coverage, emphasising the need for a larger skilled ophthalmic workforce and the poor integration of eyecare services into health systems [1]. The International Agency for the Prevention of Blindness (IAPB) '2030 IN SIGHT LIVE' agenda outlined the sector's strategic plan for this decade by emphasising vision as a fundamental right, integrating eyecare in health systems, and engaging various stakeholders in this space [2]. To achieve the ambitious goal of 2030 IN SIGHT LIVE we must address the shared and unique challenges across different regions and implement targeted actions accordingly.

The Middle East is a region that covers parts of Africa, the Arabian Peninsula, and Western Asia. It is characterised by diverse geographic landscapes, economic status, and cultural influences. The WHO's Eastern Mediterranean Region covers nearly 745 million people across 21 Member States and Palestinian territories, including East Jerusalem [3], while the World Bank's classification of the Middle East and North Africa (MENA) includes two additional countries, Algeria and Turkey. Israel is geographically placed in the Middle East and is considered part of the WHO European region [4].

In 2020, the prevalence of blindness in the MENA region was higher than the global average, with cataract as the leading cause [5]. Despite significant advances in blindness prevention activities over the past two decades, vision impairment remains a major public health issue, with an age-standardised regional prevalence of vision loss estimated at 4.31%, in comparison to 2.77% in East Asia and 2.90% in Central Sub-Saharan Africa [6]. Economic disparities, diverse cultural practices, and ongoing instability in the Middle East further complicate delivery and access to eyecare services across the region.

The Global Ophthalmology in the Middle East Taskforce

In response to these challenges, we proudly announce the establishment of the Global Ophthalmology in the Middle East Taskforce [7]. This task force aims to confront the distinctive barriers to eyecare access and delivery in this region through a dedicated network of global ophthalmologists, regional experts, public health researchers, and international collaborators.

Our mission and objectives

The Global Ophthalmology in the Middle East Task Force is dedicated to advancing the principles of global ophthalmology by promoting cross-regional collaborations among eye health professionals. Our mission is to uncover the unique disparities in eyecare at regional and national levels and address them through targeted interventions. To achieve this, we employ research initiatives to provide comprehensive information on current eyecare practices, disease prevalence, treatment outcomes, and specific barriers to eyecare access and delivery. By enabling adequate data availability, we can understand specific local challenges, pinpoint areas requiring intervention, and support informed decision-making and targeted policy interventions. Therefore, our task force has three pillars:

- **Advocacy:** engage with global ophthalmology peers and recruit interested individuals to advocate for our task force and eyecare equity in the region.
- **Research initiatives:** implement research projects to understand the prevalence and causes of vision impairment on the national and regional levels, which will determine future interventions and policy recommendations.
- **Workforce collaborations:** promote national, regional, and international multidisciplinary collaborations to implement solutions on a broader scale to facilitate sustainable public health outcomes.

Understanding the regional challenges

The Middle East region poses unique challenges to eyecare access and delivery, which necessitate a further understanding of those challenges and tailored solutions to overcome them. These challenges not only impact direct ophthalmic care but undermine efforts in blindness prevention across the region, leading to impaired individual health outcomes and broader public health initiatives. We require a comprehensive and multifaceted approach to understand the implications of those factors on the ophthalmic workforce distribution and data availability, as well as the impact of conflict on eyecare systems.

Specific health systems challenges: Workforce challenges

Competent and skilled eye health workers, available in adequate numbers and placed strategically, are vital for providing essential health services. The accessibility of eye health workers directly influences healthcare equity. The World Report on Vision highlighted the urgent need for

ophthalmologists, optometrists, and allied ophthalmic personnel (AOP) to address the global burden of blindness. Similarly, eye health worker density and distribution are key indicators for monitoring progress towards universal health coverage [1].

The Middle Eastern region features diverse healthcare practices and systems, despite considerable cultural and linguistic similarities in the region [8]. The distribution of the ophthalmic workforce in the Middle East is characterised by significant disparities. Some countries, such as Somalia, face critical shortages where the density of ophthalmologists is one per two and a half million people. On the other hand, Saudi Arabia has more than 70 ophthalmologists per million which is more than double the global average of 31 ophthalmologists per million.

Similarly, these discrepancies also occur within countries. For example, 11 governmental hospitals in Iraq provide tertiary ophthalmic care, and Baghdad, the capital, is home to three, compared to the nine other Iraqi governorates with no public tertiary ophthalmic hospitals. These variations underscore the urgent need for context-specific interventions to ensure a more equitable distribution of eyecare professionals across the region and within countries.

Moreover, the limitations in data documentation and availability further exacerbate these challenges. Some countries, such as Turkey, lack comprehensive data on these eyecare professionals, which complicates workforce planning and policy development. Ensuring accurate data collection and understanding the specific roles of optometrists and AOP are essential for effective workforce management and to address the eyecare needs of the population adequately.

Across the region, there is a need for targeted interventions to improve the density and distribution of the ophthalmic workforce. This requires concerted efforts in training, resource allocation, and policy development.

Eye health data and research challenges

Reliable data on the eyecare workforce and service delivery is essential for informed decision-making and effective resource allocation. Our task force is committed to enhancing data

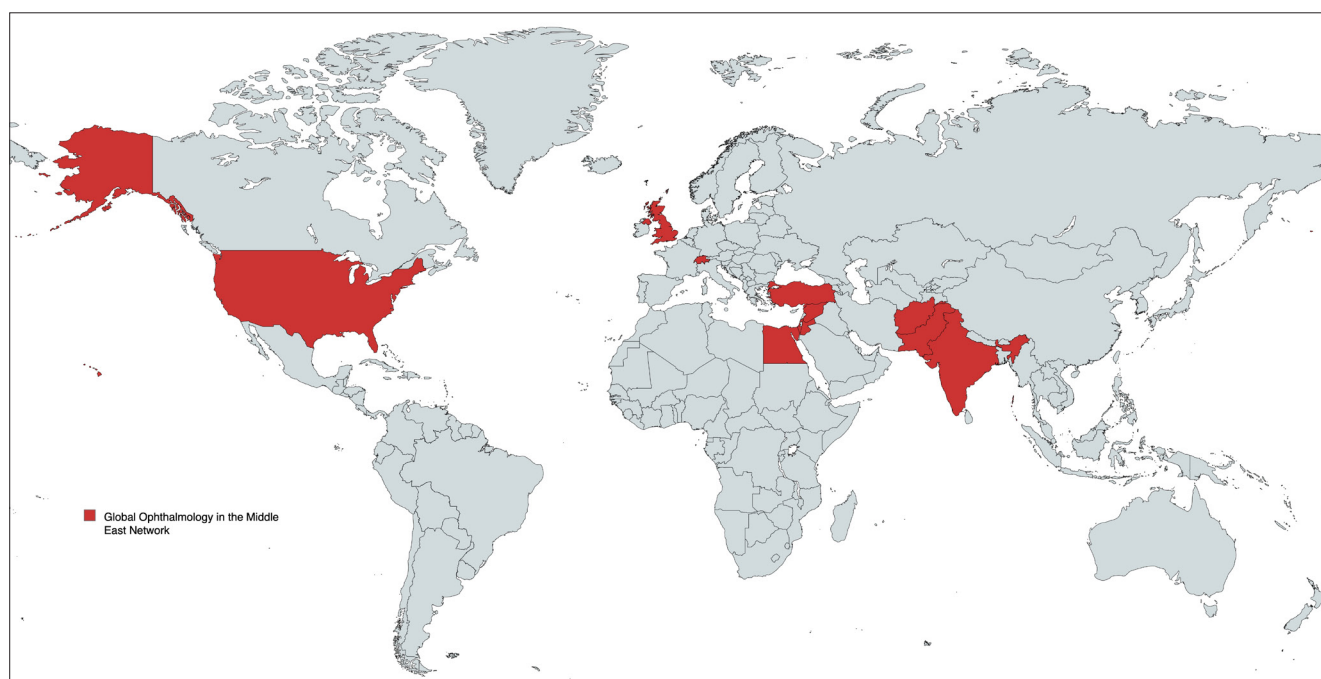
collection and analysis across the region. By collaborating with institutions like the IAPB and leveraging tools like the Vision Atlas and Rapid Assessment of Avoidable Blindness (RAAB), we aim to create a comprehensive picture of eyecare needs and resources [9,10].

Moreover, although higher-income countries in the region offer more comprehensive health coverage, the quality of healthcare in lower-income countries remains insufficient due to inadequate coverage of population needs and limited healthcare capacity, with some of the lowest public health expenditure percentages globally [11]. Although public health initiatives have aimed to map the region's healthcare facilities, comprehensive data on eyecare access and delivery are either outdated or not available at all. This gap prevents a comprehensive understanding of eyecare on regional and national levels, which, in turn, negatively impacts service delivery planning.

Additionally, many countries in the region lack publicly accessible data on the number of eye health professionals. These data deficiencies are not unique to lower resource settings and are shared across the region. For example, both Kuwait and Lebanon do not have data on the public domain on the numbers of AOP. These gaps in workforce data collection and / or availability hinder systemic capacity assessments, and consequently, the ability to accurately identify shortages and allocate resources accordingly.

The impact of conflict on eyecare in the region

Conflict exacerbates the challenges of providing adequate eyecare in the Middle East, as it often leads to a decline in functional hospitals and the displacement of healthcare workers. In conflict zones, specialised eyecare becomes scarce and lower on the list of priorities. For example, migrants frequently encounter long wait times and high costs for essential treatments like cataract surgery, which can range from \$200 to \$700, making eyecare inaccessible for many. Other basic eyecare services are also reduced, as patients are deprived of access to both primary and specialist care to effectively control their chronic eye disorders. This vicious cycle further predisposes to more severe exacerbations of chronic eye conditions, such as diabetic retinopathy, requiring



Global Ophthalmology in the Middle East Taskforce members' countries.
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more advanced care that is often limited in areas with active conflict. This situation not only results in unnecessary vision loss but also deepens poverty by restricting access to education and employment, further isolating affected individuals and diminishing their quality of life.

Overall, armed conflict leads not only to the loss of life but to the destruction of healthcare facilities and resources. War-related eye injuries require a sophisticated, multidisciplinary approach that is heavily dependent on nearby eyecare services able to handle complex cases effectively [12]. In most instances of active armed conflict, such eyecare facilities are non-existent or inaccessible.

In 2022, there were at least 2.4 million refugees, 12.6 million internally displaced individuals, 251,800 asylum seekers, and 370,300 stateless persons in the Middle East and North Africa regions. In addition to the eyecare challenges, they face substantial disruptions in accessing consistent and quality eyecare due to challenges in documentation, constant mobility, and / or clinical care. This further exacerbates the existing health disparities and complicates the provision of eyecare services for vulnerable populations. Moreover, the conflict impacts the brain drain of professionals, where many educated and highly experienced health professionals emigrate to more stable countries, leaving behind a fractured healthcare system and increasing challenges for the patients [13]. As a result, sustainable healthcare interventions in areas with active conflict are challenging due to the workforce mobility out of and within the system.

Actionable recommendations

Based on our findings, we have identified several key recommendations for addressing eyecare challenges in the Middle East:

- Improve data collection: Comprehensive data on the ophthalmic workforce is lacking in many countries. This information would help countries to establish clear job descriptions and roles for eye health professionals and conduct better workforce planning.
- Promote research and innovation: Conducting research on eyecare services and outcomes will provide valuable insights for policy development and the implementation of best practices. Innovation in surgical techniques, diagnostic tools and service delivery models should be prioritised.
- Foster cross-border collaboration: Strengthening partnerships between countries in the region and with international organisations will facilitate knowledge exchange, resource sharing, and coordinated efforts to address common challenges.

Ongoing action

On 20 February 2024, professionals from 11 countries, both within the region and globally, from academic institutions, public hospitals, non-profit organisations, and governmental bodies, gathered online for the first time to share their hopes for advancing global ophthalmology in the Middle East (Figure 1).

The Task Force discussed the unique barriers to eyecare across the region due to political instability, lack of accurate data, and challenges in policy implementation. It was concluded that conventional direct intervention strategies used in other regions are insufficient for the Middle East, and that tailored international and regional collaboration is

essential. The importance of adopting sustainable models, enhancing data collection, and forming partnerships with non-governmental organisations (NGOs) and professional bodies were highlighted as key needs. The Task Force objectives included creating a global network of eye health professionals working in this space, promoting research capacity, and acting as healthcare ambassadors. Mirroring models like Aravind Eye Hospitals and Retinoblastoma-NET could be useful, although they should be implemented according to the local context and led by local expertise. Action items included establishing communication channels, identifying priority needs, recruiting members, and scheduling follow-up meetings.

Global Ophthalmology Summit, Portland, Oregon

From 9–11 August 2024, members of the Task Force attended the Global Ophthalmology Summit in Portland, Oregon to further explore areas for collaboration, as well as presented their ideas to a vast group of experts in global eye health [14]. The team hopes that advocating for this Task Force at the Global Ophthalmology Summit will shed much-needed light on the work being done in the region and enable further collaborations with international colleagues.

A call to action

If you are interested in learning more about our initiative or if you want to support our mission, please do not hesitate to reach out to us. Together, we can make a difference in the lives of millions in the region and work towards a future where more people have access to quality eyecare. Join us on this journey and be a part of a movement in global ophthalmology.

References

1. World report on vision. *World Health Organization* (2019). <https://www.who.int/publications/i/item/9789241516570>
2. 2030 IN SIGHT. *The International Agency for the Prevention of Blindness*. <https://www.iapb.org/about/2030-in-sight/>
3. Population, total. *World Bank Group* (25/03/2025). <https://data.worldbank.org/indicator/SP.POP.TOTL?end=>
4. Israel population. *Worldometer* (25/03/2025) <https://www.worldometers.info/world-population/israel-population/>
5. Bahremani E, Alizadeh M, Nejadghaderi SA, et al. The burden of vision loss in the Middle East and North Africa region, 1990–2019. *Arch Public Health* 2023;**81**(1):172.
6. North Africa and Middle East. *IAPB Vision Atlas* (2020). <https://www.iapb.org/learn/vision-atlas/magnitude-and-projections/gbd-regions/north-africa-and-middle-east/>
7. Arazi M, Bal S, Ehrlich JR, et al. Global Ophthalmology in the Middle East: a Task Force proposal. *Eye (Lond)* 2024;**38**(11):1986–7.
8. Wang H, Yazbeck AS. Benchmarking Health Systems in Middle Eastern and North African Countries. *Health Syst Reform* 2017;**3**(1):7–13.
9. *IAPB Vision Atlas* (2020). <https://www.iapb.org/learn/vision-atlas/>
10. *Rapid Assessment of Avoidable Blindness*. <https://www.raab.world/>
11. Katoue MG, Cerda AA, García LY, Jakovljevic M. Healthcare system development in the Middle East and North Africa region: Challenges, endeavors and prospective opportunities. *Front Public Health* 2022;**10**:1045739.
12. Farrahmand MM, Shams N, Sharif MK. War injuries in northern afghanistan. *Community Eye Health* 2000;**13**(35):46–7.
13. Morabia A, Benjamin GC. (2015). The Refugee Crisis in the Middle East and Public Health. *Am J Public Health* 2015;**105**(12):2405–6.
14. *Global Ophthalmology Summit*. <https://www.globalophthalmologysummit.org/>

[All links last accessed March 2025]

AUTHORS



Fatma Shakarchi,

Medical Doctor and Global Health Practitioner; Space Generation Advisory Council, Vienna, Austria; Global Ophthalmology in the Middle East Task Force.



Sila Bal,

Cataract and Cornea Surgeon, Honolulu, HI; Global Ophthalmology in the Middle East Task Force.



Joshua R Ehrlich,

Paul R Lichter Research Professor of Ophthalmology; Associate Director of the Center for Global Health Equity, University of Michigan, Ann Arbor, MI, US; Global Ophthalmology in the Middle East Task Force.



Mattan Arazi,

Ophthalmology Resident, Sheba Medical Center, Israel; Current student at LSHTM, MSC in Public Health for Eyecare.

SECTION EDITOR



Marcia Zondervan,

Programme Manager, VISION 2020 LINKS Programme, International Centre for Eye Health, LSHTM, UK.

marcia.zondervan@lshtm.ac.uk
www.iceh.lshtm.ac.uk

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