

# Investigating the need and structure for a comprehensive eye care competency framework

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## ABSTRACT

**Objective** The objective of this paper is to establish whether existing eye care competency frameworks (ECCF) are fit for purpose, and set out a comprehensive ECCF that better meets the needs of the eye care workforce and broader population.

**Methods and analysis** We carried out a two-stage process. The first was to conduct a desk review of existing frameworks and models relevant to eye care competencies. The second was to conduct a broad stakeholder consultation of global eye care experts to affirm the gaps found in the first stage, and to inform the development of a comprehensive ECCF.

**Results** We reviewed 52 competency frameworks, competency standards and models related to eye care (including 11 from the UK) and found that there were three types of gaps, such as: (1) narrow in focus on specific occupational groups; (2) limitations in the competencies expected from an eye care worker and (3) limitations in regional focus, such that they could not easily be applied in a global context.

Having affirmed these gaps during the stakeholder consultation stage, we developed a more comprehensive ECCF structure, which composed of six domains: practice, professionalism, learning and development, management and leadership, community and advocacy, and evidence. This broader structure seeks to address the gaps found in the desk review.

**Conclusion** The review showed that there was a need to develop a comprehensive ECCF that can be easily contextualised, encapsulate the roles of the diverse eye care workforce, and be a tool for eye care workforce planning and development to meet the needs of a global population.

## INTRODUCTION

The WHO's World Report on Vision highlights that the eye care workforce commonly is 'uncoordinated and unregulated' and recommends that eye care workforce should be planned 'according to population needs'.<sup>1</sup> Aligning competencies, composition and deployment of the eye care workforce with population needs is critical to developing a needs-based workforce.<sup>2</sup>

Competency-based approaches, including competency frameworks, are largely underused in the planning and development

### WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Despite opportunities for use and their demonstrated popularity in other sectors, competency frameworks are substantially underused in the planning and development of the eye care workforce.

### WHAT THIS STUDY ADDS

⇒ By showcasing the advantages of using competency frameworks and reviewing the current models used within eye care to inform its structure, this study lays the foundation for the development of an extensive competency framework for the eye care workforce.

### HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The study will guide policies and practices, by supporting the application of competency frameworks in the development of the eye care workforce, highlighting existing gaps and providing guidance for workforce competencies.

of the eye care workforce, despite widespread opportunities for application. Competencies are the behavioural attributes of the individual that enable performance of activities/tasks and competency frameworks can be a foundational tool that communicate the behaviours and tasks of a workforce and defining the level of expected performance.<sup>3</sup> Countries seeking to increase the eye care workforce would find a comprehensive competency framework a useful tool to ensure they have the competencies necessary to deliver quality care across the scope of eye care needed by the population. They are particularly useful in contexts where the eye care workforce is emerging, and where tasks need to be distributed efficiently and effectively to optimise access to care. Their application has been demonstrated in and beyond the health sector to define competency standards for practice and career progression<sup>4</sup>; defining scopes of practice supporting arrangements between countries for immigrating workers<sup>5</sup> and developing competency-based education to bridge the gap between education institutions and future workplaces.<sup>6</sup>



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Within the health sector, there has been widespread acknowledgement that the health workers of today and the future require a much broader range of competencies than traditionally expected.<sup>2</sup> National health systems in high-income countries, such as the National Health Service England, have implemented competency frameworks within the health system, to offer a transparent and coordinated approach to staff and leadership development.<sup>7</sup> Specific competency frameworks have been created for the various streams within the health system using the overarching competency framework as a model.<sup>8</sup> As an example, orthoptists were recently included in a digital version designed for Allied Health Professionals in the UK.<sup>9</sup>

By investing to develop the eye care workforce through implementing tools such as a competency framework, countries can work towards increasing the overall productivity of the health sector and produce better health outcomes, which are a cornerstone for building strong health systems and stronger economies.<sup>10 11</sup> Acknowledging the potential of competency-based approaches in the planning and development of an eye care workforce, this paper serves to lay the foundation for the development the new eye care competency framework (ECCF).

## METHODS

A two-stage process was carried out including a desk review and stakeholder consultation. The desk review was conducted to gather current frameworks and models that were relevant to eye care competencies ('documentation'). Data on structural arrangement and key terminology from the gathered documentation were extracted and analysed. A baseline assessment was made of the existing approach to competency frameworks within eye care globally, which informed the stakeholder consultation.

### Stage 1: desk review

A desk search was conducted to review existing competency frameworks, models, scopes of practice being currently used within health, specifically eye care practice. Other competency frameworks that the WHO had recently developed were also investigated, some of which were not specific to eye care.

The following three questions were being explored through the first stage to make a baseline assessment of the existing approach to competency frameworks within eye care globally:

1. Geographically, where are the current competency frameworks in eye care being used and are there any competency frameworks that are global or international? This will help determine their utilisation and reach.
2. How specific are the current competency frameworks for each occupational-group in eye care? This will help determine how inclusive they are.
3. What is the structure and key terminology used in the current competency frameworks relevant to eye care?

This will help determine how comprehensive they are, and be used to guide the new framework structure, including the domains and key components.

The three strategies used to identify competency-related materials (in English language) included:

- ▶ Electronic database searches (PubMed) and grey literature databases (Global Index Medicus – WHO) and web search engines, for the following fixed terms “eye care/ ocular/ ophthal\*/ optometr\*” AND “competenc\*” AND/OR “framework/ model” OR “clinical” AND/OR “scope”. For each term, the search was carried out for the first 10 pages of results, over the period between 1 December 2020 and 15 December 2020.
- ▶ Open call for competency-related documents was raised to eye care associations, training institutions and development partners globally including WHO and the International Agency for the Prevention of Blindness (IAPB) representatives in each region; chair and members of IAPB’s Human Resources in Eye Health group; Contacts at International Ophthalmology Council and World Council of Optometry (WCO).
- ▶ Competency frameworks developed by WHO were identified and selected as they covered other health sectors while remaining relevant to eye care due to their transferable terminology and content.

The documents relevant to eye care that were found were reviewed and analysed using the qualitative statistical software tool, Mendeley. Data were extracted and entered in a pivot table created in Microsoft Excel that included what WHO region and country they were from; what occupational group they covered and if the documentation covered a particular occupational group or covered multiple occupational groups within their eye care workforce. Occupational groups were categorised into ophthalmology, optometry and allied ophthalmic personnel (AOP), based on the three key categories identified in the WHO Core Competencies for the Eye Health Workforce (WHO AFROCF).<sup>12</sup>

A desk analysis reviewed the identified competency frameworks for their structure and key terminology. Depending on their format, a header domain and subdomains were identified and run through a word frequency query to identify the occurrence of each label.

Selected competency frameworks developed by WHO were further examined for their terminology. Key terms were extracted, and the structural arrangement and competencies were analysed for their applicability to eye care. The various structural arrangements of the existing frameworks that were analysed were used to develop a proposed structure for an ECCF.

### Stage 2: stakeholder consultation

A Technical Working Group (TWG) was established and composed of 13 individuals from diverse occupational groups in eye care and represented the 6 WHO regions. The TWG was engaged to review the findings from stage

1 and inform the development of a comprehensive ECCF. The proposed ECCF structure was presented to the TWG, during a virtual meeting where input and feedback were gathered. The TWG was given a further fourteen days to submit feedback through emails and comments directly on draft ECCF proposed structure.

Patients or the public were not involved in the design, or conduct, or reporting, or dissemination plans of our research.

## RESULTS

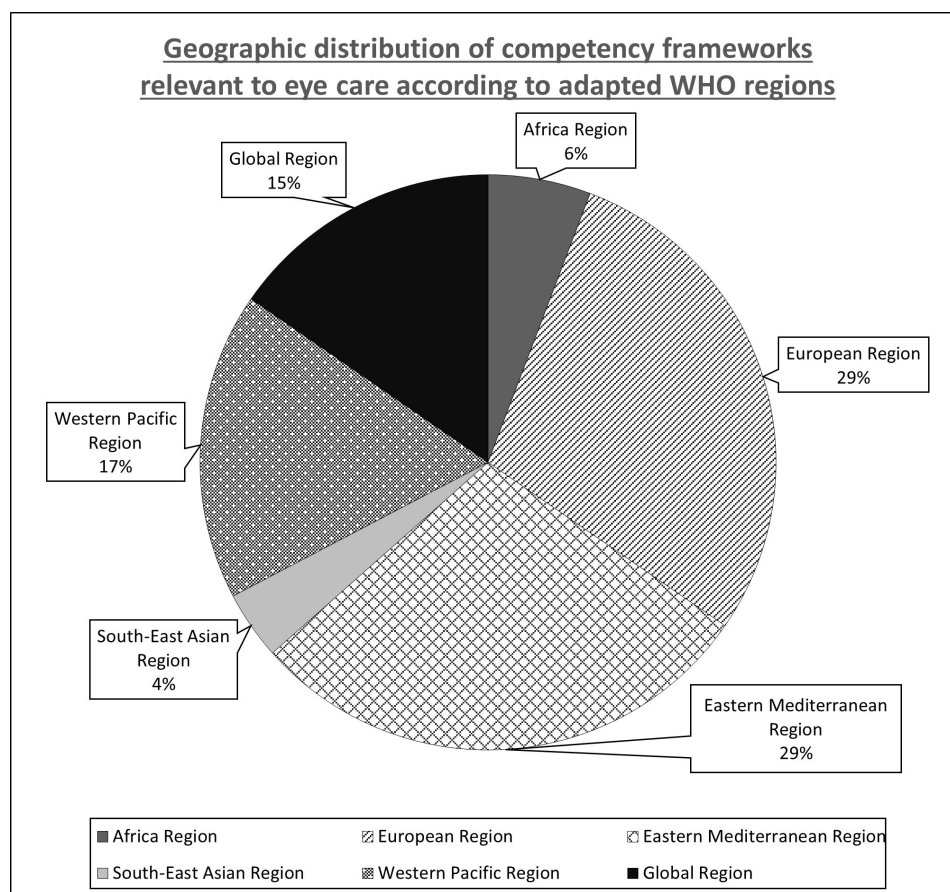
A total of 52 competency frameworks and equivalent documents (such as competency standards or models) related to eye care were found through desk search. The electronic search yielded a majority of the documentation found (96%). Through the open call, 26 individuals that were involved with development of the eye care workforce within their countries and regions, were contacted. Fifteen out of the 26 (58%) individuals responded, and none provided additional competency frameworks. Through the review of existing WHO frameworks, three frameworks were reviewed and analysed in depth: the WHO AFROCF, the Rehabilitation Competency Framework (RCF), the Global Competency and Outcomes Framework for Universal Health Coverage (GCOFUHC) Framework.

## Geographical distribution of the competency frameworks relevant to eye care

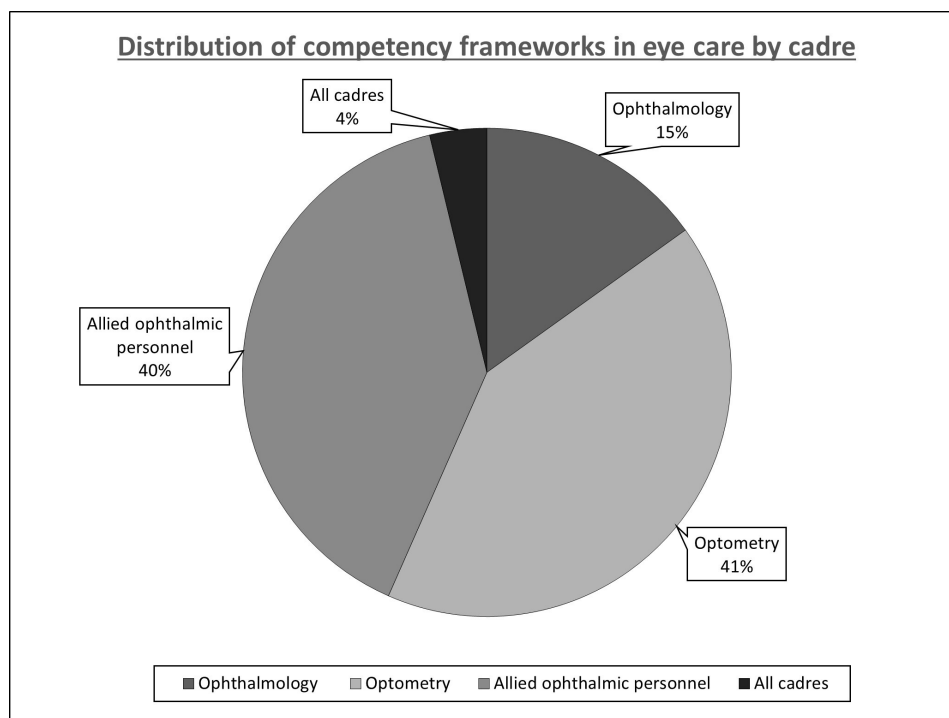
Figure 1 presents the geographical distribution of the identified competency frameworks, according to WHO regional locations (Africa Region, European Region, Eastern Mediterranean Region, South-East Asian Region and Western Pacific Region) with the addition of Global region, which covers all regions. A majority of the competency frameworks were from the USA, Canada, UK and Australia. The Rehabilitation Competency Framework (RCF) and Global Competency and Outcomes Framework for Universal Health Coverage (GCOFUHC) were grouped in the Global region. No competency frameworks were found from countries in South-East Asian Region.

## Occupational group-specificness of the competency frameworks in eye care

There were only two frameworks that covered all occupational groups within the eye care workforce. These were from the Africa Region,<sup>12</sup> and Western Pacific Region.<sup>13</sup> The latter was disease specific, focusing on cataract clinical care. Several frameworks included more than one occupational group. In several instances, optometry and AOP were covered together (figure 2). Note: AOPs include opticians, orthoptists, ophthalmic nurses and



**Figure 1** Geographical origin of competency frameworks or similar documentation found in eye care.



**Figure 2** Occupational groups in eye care competency frameworks.

ophthalmic technicians. The large proportion of the AOP frameworks can be predominately attributed to the recently published framework series from the European region.

Competency frameworks from outside the eye care sector, such as the RCF and GCFUHC, were excluded from this analysis.

#### Domains and subdomain labels of the competency frameworks relevant to eye care

Examining the frequency of the domain labels used showed the three most frequent domain labels to be manager, patient and professional (table 1). The result of manager being the most frequent domain was expected,

as the frameworks described competencies for occupational groups predominantly found in secondary and tertiary healthcare settings.

Examining the frequency of the subdomain labels used showed that the three most frequent subdomain labels to be level, component and element (table 2).

Based on our review, there are no existing global comprehensive workforce competency frameworks for eye care as part of the health system. The only existing overarching eye care competency framework is for the Africa Region (AFROCF), which does not include all competencies found in eye care globally and is occupational group specific. Most current ECCF used are for specific occupational groups only. In UK specifically,

**Table 1** Frequency of domain labels used in existing competency frameworks for eye care

Top 10 domain labels	
Label	Frequency
Manager	33
Patient	31
Professional	29
Practice	27
Community	26
Care	18
Clinical	18
Skill	15
Examination	14
Ophthalmic	14

**Table 2** Frequency of subdomain labels used in existing competency frameworks for eye care

Top 10 subdomain labels	
Label	Frequency
Level	28
Component	21
Element	14
Performance	11
Criteria	11
Practice	10
Service	9
Indicators	8
Prescribe	8
Ocular	7



**Table 3** Proposed domains to capture the competencies and activities of an eye care worker

Domain	Details
Practice	Relates to the practitioner's interaction with people where care is delivered through people-centred practice.
Professionalism	Relates to ethical, safe, high quality, efficient and effective best practice care.
Learning and development	Relates to the professional development of oneself and others.
Management and leadership	Relates to service development, resource management, organisation skills and team leadership.
Community and advocacy	Relates to advocating the needs of the community, supporting members to be empowered to access available resources and contributing to long-term beneficial change.
Evidence	Relates to the use, generation of, contribution to and dissemination of research and evidence for eye care interventions, services and systems.

11 competency frameworks were found. Of note, is the Common Clinical Competency Framework for non-medical ophthalmic healthcare professionals in secondary care covering four clinical areas.<sup>14</sup> The Royal College of Ophthalmologists created the framework in 2019, and their extensive emphasis on non-medical competences is novel for the eye care sector. In addition to the AFROCF, review of existing WHO competency frameworks found two relevant frameworks, the RCF<sup>15</sup> and GCOFUHC,<sup>16</sup> both of which demonstrate a competency framework appropriately structured for global application.

Following the review of the 52 competency frameworks, competency standards and models related to eye care (including 11 from the UK) 3 types of gaps of gaps were found: (1) narrow in focus on specific occupational groups; (2) limitations in the competencies expected from an eye care worker and (3) limitations in regional focus, such that they could not easily be applied in a global context.

### Proposed framework structural arrangements to capture competencies in the eye care workforce

The TWG affirmed the gaps found through the desk review, which informed and guided the creation of the six domains for an eye care worker, and other key components as part of the proposed structure for a more comprehensive ECCF. The TWG collectively agreed on the following final ECCF structure:

- ▶ Six top domains (table 3).
- ▶ Competencies and activities to be described within each domain that are linked to knowledge and skills, and are specific to eye care.
- ▶ Four levels of proficiencies as subdomains across each competency under each top domain.

## DISCUSSION

The results found there to be no existing comprehensive global workforce competencies that encompasses all competencies and activities found in eye care.

### The need for a comprehensive competency framework in eye care

There is a need for a comprehensive framework that encapsulates the competencies found across the diverse eye care workforce. Current competency frameworks tend to segregate the overall view of the eye care workforce. Although they serve a purpose of allowing for a deep dive into the tasks required from each occupational group, they hinder demonstration of how different occupational groups can interact with each other making it difficult for groups to easily collaborate and coordinate to deliver comprehensive eye care in a team setting. Thus, the gaps in the current tools and methods pose a challenge for effective workforce planning and development, particularly when looking at the overarching eye care workforce within a country.

A comprehensive competency framework can be a useful tool to assist planners in identifying gaps between the services required and the overarching workforce development, specifically in areas of education curricula and competencies by regulatory bodies and policy makers. A comprehensive framework also provides a valuable advocacy tool for those carrying out health workforce development and planning to consider the diverse range of competencies and activities required to provide the eye care services needed for their population. This includes the consideration of non-medical-related competencies and activities, which often get overlooked, yet still expected from eye care workers. Aspects from existing frameworks that include non-medical-related competencies and activities, such as the Common Clinical Competency Framework from UK,<sup>14</sup> should be used to in the content development of the ECCF.

### Recommendations on the structural arrangement

The structural arrangement of the ECCF will influence the utilisation of the framework by education institutions, regulation authorities, policy makers, employers and other non-government agencies. Based on the findings of the existing frameworks being too narrow for the need, the structural arrangement for the ECCF should be broader and not segregated by occupational groups, particularly for national or regional workforce planning and development purposes. Using a comprehensive competency model that is overarching of the workforce, supports a team approach and allows role optimisation in order to make more efficient use of the available human resources for health. Often eye care workers that should be practising at a secondary or tertiary level, for example, ophthalmologists, end up conducting refractions, vision screening activities and practising at a primary level, thus resulting in an inefficient and ineffective use of resources.<sup>17</sup> A comprehensive ECCF would be particularly



beneficial to address this and develop the workforce in settings where resources at the primary care level are often limited, unregulated and overlooked during workforce planning and development.<sup>1</sup>

For eye care services and related frameworks to be comprehensive, it must possess four attributes—availability, competency, productivity and responsiveness.<sup>18</sup> The ECCF should allow for these attributes to come through its design by using the following approach:

- ▶ Encapsulate the roles of the diverse eye care workforce and encourage role optimisation,<sup>19</sup>
- ▶ Be adaptable to accommodate various contexts, particularly low-middle-income countries, where tools for workforce planning and development are limited,
- ▶ Reflect different areas of practice and levels of expertise,
- ▶ Be used to develop competency-based education programmes, whereby it can be used to build a curriculum.

There is much to be learnt from the development of competency frameworks that go beyond eye care. First, according to Mills *et al's* scoping review of 623 competency frameworks in the health field, competency frameworks should be reconceptualised using the key words of competency, behaviours, activities and tasks.<sup>20</sup> This recommendation was used in addition to the results of desk review, to guide the development of the ECCF structure. Second, a systematic review of literature related to competency framework development methodology in health showed that it is essential that framework developers engage a variety of relevant stakeholders such as external health professions and the community, to match education to health service demands. Thus, it is critical that a wide range of stakeholders are not only consulted as part of the TWG, but also in the continued development of the ECCF.<sup>21</sup>

### Limitations of the study

Almost all the frameworks found through the desk analysis, were found through the internet search. As such, this may have limited the frameworks to countries that operate predominantly in the English language. On many occasions, this represented middle-high-income countries, thus, there is a gap in understanding of what models and frameworks are being used in the low-income countries.

### CONCLUSIONS

A desk review of existing competency frameworks relevant to eye care showed that there were no existing comprehensive global competency frameworks that could be aligned within an eye care team and to function as an integrated part of the health system. The review showed that there was a need to develop a comprehensive competency framework that will be a critical tool for eye care workforce planning and development. Through stakeholder consultation, it was agreed that the proposed ECCF structures comprise six domains of

practice, professionalism, learning and development, management and leadership, community and advocacy and evidence, as they encompass the competencies and activities performed by an eye care worker.

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