



BLUE 2020 BOOK

Trends in optics and optometry - comparative European data

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FOREWORD



Data from the World Health Organization suggests there are at least 2.2 billion people around the world who have a vision impairment, of whom at least 1 billion have a vision impairment that could have been prevented or treated. While the burden is considered to be higher in lowand middle-income countries. there is significant pressure on health systems in higher-income countries as well. With growing and ageing populations, lifestyle factors such as obesity on the rise and the increase in the prevalence of myopia, global demand for eyecare will expand.

The building blocks for a sustainable solution lie in investing in a strong and well-trained workforce that can ensure timely diagnosis of eye conditions and access to care.

In Europe, the European Council of Optometry and Optics (ECOO) has worked towards the harmonisation of clinical and educational standards of optometric and optical practice, promoting a gold standard through the European Diploma in Optometry and establishing the entry standard for optics at a European level through the European Qualification in Optics. We are encouraged to see four universities fully accredited and two partially accredited with the European Diploma in

Optometry as well as a first school that achieved accreditation with the European Qualification in Optics in 2020. Several more are currently in the process of being accredited. Over 400 professionals already hold the European Diploma in Optometry, promoting the standard of practice, a figure that increases by at least 50-60 people every year.

Despite significant progress achieved, there is still some way to go to ensure the roles of opticians and optometrists are firmly established as primary care givers across all of Europe. The varied scope of practice of opticians and optometrists is a challenge for professionals in some countries who could contribute even more to reducing the burden of vision impairment on health systems.

The ECOO Blue Book provides a unique snapshot of the state of the professions across Europe. It is a valuable set of data that has been previously used and referenced by stakeholders including the European Commission. This resource is directed at ministries of health, education, economy and industry, civil society organisations, researchers and practitioners. By providing information on the status of optometry and optics across Europe, we hope to assist policymakers in the eye care sector in their efforts to reduce the burden of eye disease and vision loss.

Dr Cindy Tromans ECOO President Trends in optics and optometry - comparative European data



THE ECOO BLUE BOOK IS AN AGGREGATION
OF DATA ON THE PROFESSIONS OF OPTICS
AND OPTOMETRY IN COUNTRIES ACROSS EUROPE.
THE AIM IS TO PROVIDE COMPARABLE AND
COMPREHENSIVE DATA ON THESE PROFESSIONS
TO FOSTER A BETTER UNDERSTANDING OF THE
SIMILARITIES AND DIFFERENCES BETWEEN COUNTRIES.

THE BLUE BOOK IS FREELY ACCESSIBLE ON THE ECOO WEBSITE AND IS DESIGNED TO INFORM A VARIETY OF STAKEHOLDERS SUCH AS PROFESSIONALS, POLICY-MAKERS, JOURNALISTS AND ACADEMICS.

The European Council of Optometry and Optics (ECOO) is the European umbrella association which represents the interests of optometrists and opticians in Europe. It aims to promote eye health to the public across borders and to harmonise clinical and educational standards of optometric and optical practice throughout Europe.

OUR VISION

To improve vision and eye health by providing high-quality, costeffective optometric and optical services across Europe.

OUR MISSION

To improve eye health and vision for all and eliminate avoidable blindness and visual impairment in Europe.

To create a harmonised professional and educational system for optometry and optics based on the European Diploma in Optometry and the Qualification in Optics.

To develop the scope of practice for optometrists and opticians to the degree that the same high standards apply and are mutually recognised in all European countries.

LEARN MORE ABOUT ECOO: www.ecoo.info ▶

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KEY FINDINGS AND TRENDS

The ECOO Blue Book illustrates the optometric and optical landscape in Europe. While there are a number of differences between countries, the scope of practice is developing in several countries. In some countries, professionals can use diagnostic drugs and others have gained or are in the process of gaining recognition of their optometric professions, which in most instances is considered a health profession. On the upper end, we also see countries moving towards developing a therapeutic scope of practice.

Despite these differences, a standard eye examination is very similar across Europe and is regulated mainly through professional guidelines. We also see consistency over the years in the number of professionals in Europe and a steady number of students graduating every year in the various qualifications. It is interesting to note that the educational recognition is often more advanced than the legislative recognition.

METHODOLOGY

The data has been gathered by means of an extensive questionnaire filled in by ECOO's members and by professional associations and individuals from non-member countries who agreed to cooperate on this project. The questionnaire was open from October 2019 until

the end of January 2020. The data was then analysed, reviewed and verified where possible before it was compiled into this final version. The geographic scope extends beyond the EU Member States and covers countries across the European continent.

COUNTRIES SURVEYED

The Blue Book questionnaire has been completed for a total of 31 countries, of which 22 countries are a member of ECOO. Some countries have more than one professional association. Please refer to **Annex I** for a full list of associations who provided the data.

WCO SCOPE OF PRACTICE CATEGORIES

To learn more about the four categories, please consult the WCO "A Global Competency-Based Model of Scope of Practice in Optometry":



The way the professions are organised varies across Europe due to historic reasons. In some countries the professions are combined into one profession and in others there are several subdivisions and specialisations. To enable a comparison in such a varied landscape, the World Council of Optometry (WCO) Global Competency-Based Model of Scope of Practice in Optometry has been chosen as a mechanism to classify the varying scope of practices. ECOO is the regional member of the WCO and bases its work on this model.

The WCO competency model consists of four categories. Generally speaking, Category 1 would be called "Optician" or equivalent in most countries and practitioners in Categories 2, 3 and 4 are considered "Optometrists" or equivalent.

The scope of practice increases with each level, with Category 4 being the highest level. Any category includes the competences of the level(s) below it.

OPTICAL TECHNOLOGY SERVICES

This Category contains competencies relating to ophthalmic devices that correct defects of the visual system. It includes management and dispensing of ophthalmic lenses and ophthalmic frames as well as other devices such as those for eye protection in the workplace or recreational settings and low vision devices.

VISUAL FUNCTION SERVICES

Optical Technology Services plus

This Category contains competencies relating to investigation, examination, measurement, recognition and correction/management of defects of the visual system. It encompasses assessing the ocular adnexa and assessing the eyes for their structure, health and functional ability, measuring vision and other aspects of visual function such as visual fields, assessing refractive status and binocular vision and prescribing the appropriate ophthalmic device i.e. spectacles or contact lens.

OCULAR DIAGNOSTIC SERVICES

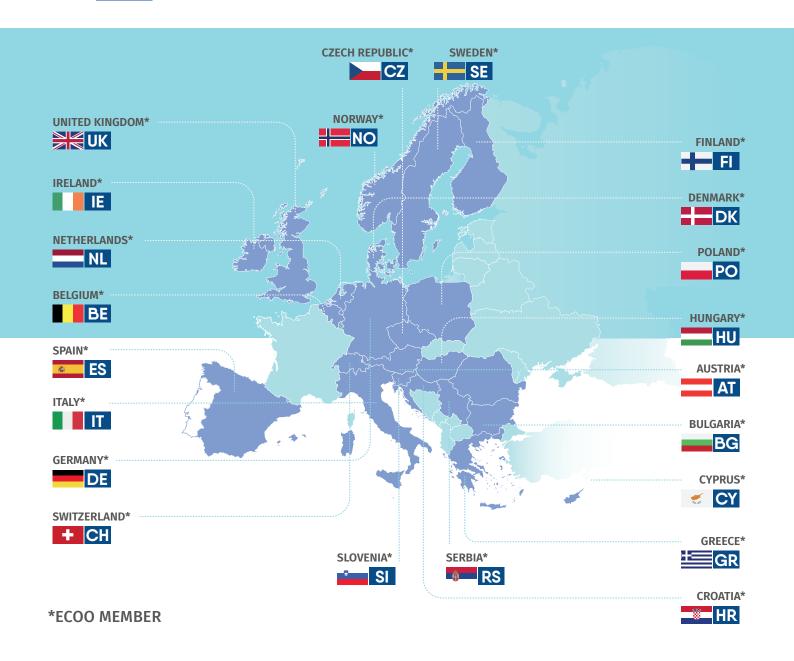
Optical Technology Services plus Visual Function Services plus

This Category contains competencies relating to investigation, examination and evaluation of the eye and adnexa, and associated systemic factors, to detect, diagnose and manage disease. In this category there are competencies for additional clinical tests and the use of diagnostic drugs.

OCULAR THERAPEUTIC SERVICES

Optical Technology Services plus Visual Function Services plus Ocular Diagnostic Services plus

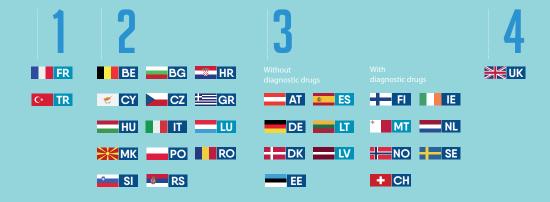
This Category contains competencies relating to the use of pharmaceutical agents and other procedures to manage ocular conditions and diseases. It encompasses prescribing pharmaceutical agents and other regimens to treat ocular disease and injury as well as monitoring response to treatment.



NON MEMBERS



CATEGORIES OF COUNTRIES BASED ON ADAPTED WCO COMPETENCY MODEL



THE PROFESSIONAL LANDSCAPE IN EUROPE

The above categorisation of countries is based on the WCO Competency model and represents the highest competence level in a given country.

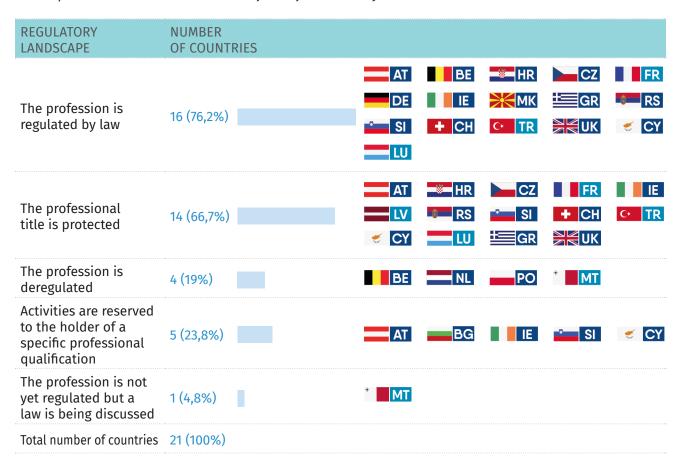
ECOO has adapted the model slightly by subdividing category 3 into two sections: category 3 without diagnostic drugs and category 3 with diagnostic drugs. The reason is that a number of countries fulfill the vast majority of competencies of Category 3 with the exception of the use of diagnostic drugs. This adaptation allows for a more accurate representation of reality.

It is however important to refer to this overview as a conceptual framework and to consider the detailed competencies in the chapter "Scope of Practice" for the full picture.

The four categories are therefore presented in detail in the next section.

CATEGORY 1 IN DETAIL

Optical Technology Services: Management and dispensing of ophthalmic lenses, ophthalmic frames and other ophthalmic devices that correct defects of the visual system.



Comments

Belgium: The profession is regulated in Wallonia and Brussels and deregulated in Flanders.

Bulgaria: The practice of opticians is regulated by a Special Ordinance, under the Health Act.

Switzerland: Education is a national competence but the execution of the profession is regulated by cantonal law. The cantons tend to deregulate this professional level. The competences of the optometrist BSc FHNW (Fachhochschule Nordwestschweiz) are regulated in the national Health Professions Act GesBG.

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AUTHORITY IN CHARGE	NUMBER OF COUNTRIES					
Ministry of Health (or equivalent)	9 (42,8%)	BG C• TR	FR		###GR	RS
Ministry of the Economy/Commerce (or equivalent)	10 (47,6%)	AT DE	BE MK	HR PO	CZ SI	FR
Local/regional health authority	3 (14,3%)	──HR	+ CH	C∗ TR		
Other	3 (14,3%)	LV	* MT	NL		
Total number of countries	21 (100%)					

Comments

Latvia: Ministry of Education and Science.

Malta: As the profession of Optics is not yet regulated, no ministry is officially in charge.

Netherlands: As opticians and contact lens specialists are deregulated, no ministry is officially in charge.



Comments

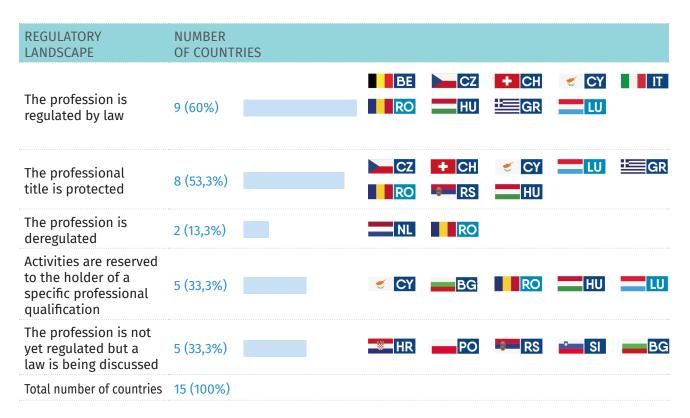
Belgium: There are no licences to receive a social security number («INAMI» number) but a Diploma in Optics is required, also in Flanders, where the profession is deregulated.

United Kingdom: Licences need to be renewed every year and a minimum of CET points need to be achieved every three years.

Cyprus: Licences are renewed every two years.

CATEGORY 2 IN DETAIL

Visual Function Services: Optical Technology Services, plus Investigation, examination, measurement, recognition and correction/management of defects of the visual system.



Comments

Belgium: The profession is a para-medical profession. The professional title «Orthoptiste-Optometriste» has been protected since 22 April 2019 and can only be obtained via the corresponding Bachelor degree. The professionals who do not hold a bachelors degree can continue to practise optometry on condition that they received approval by the «Commission d'Agreement»; but they will not have the title «Orthoptiste-Optometriste». All professionals need to be regulated by 21 April 2023.

Bulgaria: In January 2016 the profession of Optometrist with a Bachelor degree required as a minimum, was added to the National Register of Professions. The scope of the practice is not yet fully described.

Greece: Category 2 professionals in Greece operate under the supervision of ophthalmologists.

Italy: The profession of Optometrist is not yet regulated. Nevertheless optometry can be practised under general laws. The Italian optician scope of practice extends beyond dispensing as it includes refraction and contact lens fitting.

Netherlands: In practice to become a contact lens specialist, there is a two year education one day a week after the 4 year optics education. The rest of the week the student is working in an optical store and learn in practice under supervision.

Romania: There are 3 levels of practice.

Serbia: The profession is recognised and as of 2020, it will be included in the list of Ocupation codes of the Government. The law does not yet regulate what education is needed nor the practical requirements.

Slovenia: Next to the bachelor and master level optometrists, there are "Optikermeister", which are based on the German model. Education for this level is however no longer in place anymore.

Switzerland: Education is a national competence. The execution of the profession is regulated by cantonal law. As of 2020 a new national regulation concerning optometry comes into force.

Trends in optics and optometry - comparative European data

AUTHORITY IN CHARGE	NUMBER OF COUNTRIES			
Ministry of Health (or equivalent)	12 (80%) BE BG 12 (80%) PO HU LU	RO	IT € CY	RS EGR
Ministry of the Economy/Commerce (or equivalent)	3 (20%) RS =	LU		
Local/regional health authority	2 (13,3%) TIT + CH			
Other	1 (7,7%) NL			
Total number of countries	15 (100%)			

Comments

Netherlands: No institute is in charge of the contact lens specialist.



Comments

Croatia: The profession is not yet regulated.

Netherlands: Although there are no licences, many professionals engage in continuous development training programmes.

Slovenia: There are no licences to practise.

CATEGORY 3 IN DETAIL

Ocular Diagnostic Services: Optical Technology Services plus Visual Function Services, plus investigation, examination and evaluation of the eye and adnexa, and associated systemic factors, to detect, diagnose and manage disease

REGULATORY LANDSCAPE		NUMBER OF COUNTRIES
	without diagnostic drugs	6 (85,7%) AT DE DK ES LV LT
The profession is regulated by law	with diagnostic drugs	8 (100%) SE + CH UK
The professional title is protected	without diagnostic drugs	6 (85,7%) AT DE DK ES LV LT
	with diagnostic drugs	6 (75%) NL SE + CH
The profession is deregulated		0
Activities are reserved to the holder of a	without diagnostic drugs	5 (71,4%) EE LT
specific professional qualification	with diagnostic drugs	3 (37,5%) *** MT *** SE *** FI
The profession is not yet regulated but a law is being discussed	without diagnostic drugs	1 (14,2%) EE
Total number of countries	without diagnostic drugs	7 (100%)
lotal number of countries	with diagnostic drugs	8 (100%)

Comments

Austria: A person who has the licence of «Augenoptikermeister» and «Kontaktlinsenoptiker» and are self-employed have the right to use the title «Optometrist» in Austria.

Norway: The function itself is protected by a general healthcare regulation/ health care act. Testing/examination of eyes is a healthcare service and therefore needs to be carried out by an authorised and qualified healthcare professional.

AUTHORITY IN CHARGE		NUMBER OF COUNTRIES								
Ministry of Health (or equivalent)	without diagnostic drugs	5 (71,4%) ES EE LV LT								
	with diagnostic drugs	8 (100%)								
Ministry of the Economy/Commerce (or equivalent)	without diagnostic drugs	2 (28,6%)ATDE								
Local/regional health authority	without diagnostic drugs	1 (14,3%) ES								
Total number of countries	without diagnostic drugs	7 (100%)								
	with diagnostic drugs	8 (100%)								

Comments

Spain: The Ministry of Health establishes common requirements and regional governments can expand on them.

DO LICENCES TO PRACTISE NEED TO BE RENEWED AT REGULAR INTERVALS		NUMBER OF COUNT	RIES			
Navar	without diagnostic drugs	4 (57,1%)		AT EE	DE	H DK
Never	with diagnostic drugs	5 (62,5%)		+ CH	FI SE	MT
_	without diagnostic drugs	1 (14,3%)		LV		
Every 5 years	with diagnostic drugs	1 (12,5%)		NL		
Othor	without diagnostic drugs	2 (28,6%)		ES	LT	
Other	with diagnostic drugs	2 (25%)		IE	UK	
Total number of countries	without diagnostic drugs	7 (100%)				
	with diagnostic drugs	8 (100%)				

Comments

Ireland: Licences need to be renewed every year.

Lithuania: The law for renewal of licences is not yet issued, and currently it is being discussed at the Ministry of Health.

Netherlands: Only a quality registered optometrist has to renew his/her licence every 5 years.

Spain: Although the right and obligation of continuing education for the renewal of the licence for professional practice is regulated by law, the competent authority has never developed or implemented it. For this reason, the Spanish General Council of Optometry has created a voluntary system for the periodic validation of the professional licence (every 5 years).

United Kingdom: Licences need to be renewed every year and a minimum of CET points need to be achieved every three years.

CATEGORY 4 IN DETAIL

Ocular Therapeutic Services: Optical Technology Services plus Visual Function Services plus Ocular Diagnostic Services plus, use of pharmaceutical agents and other procedures to manage ocular conditions/disease.

REGULATORY LANDSCAPE	NUMBER OF COUNTRIES
The profession is regulated by law	1 (100%) UK
The professional title is protected	0
The profession is deregulated	0
Activities are reserved to the holder of a specific professional qualification	0
The profession is not yet regulated but a law is being discussed	0
Total number of countries	1 (100%)

Trends in optics and optometry - comparative European data

AUTHORITY IN CHARGE	NUMBER OF COUNTRIES	
Ministry of Health (or equivalent)	1 (100%)	UK
Ministry of the Economy/Commerce (or equivalent)	0	
Local/regional health authority	0	
Other	0	
Total number of countries	1 (100%)	

DO LICENCES TO PRACTISE NEED TO BE RENEWED AT REGULAR INTERVALS



Specialists who register for independent prescribing have to apply for re-registration every year.

PROFESSIONAL TITLES

The below table is designed to be a glossary of terminology used for the various professions and professional levels in each country. The professional title is given in the respective national language(s), followed by a translation into English.

CATEGORY 1 CATEGORY 2 CATEGORY 3

	Native	English	Native	English	Native	English
AT	Augenoptiker	Dispensing Optician			Augenoptiker- meister, Kontaktlinsenoptiker	Ophthalmic optician, Contact lens specialist
BE	Opticien	Optician	Orthoptiste- Optometriste	Orthoptist- Optometrist		
BG	Optik	Optician	Optometrist	Optometrist		
−®− HR	Očni optičar	Dispensing Optician	Optometrist	Optometrist		
€ CY	Οπτικός / Οπτομέτρης / Τεχνικός Οπτικός	Optician / Optometrist / Dispensing Optician	Οπτικός / Οπτομέτρης / Τεχνικός Οπτικός	Optician / Optometrist / Dispensing Optician		
CZ	Oční optik	Optician	Optometrista	Optometrist		
H DK					Optometrist	Optometrist
EE EE					Optometrist	Optometrist
FI FI					Optikko/Optiker	Optometrist
FR	Opticien-Lunetier	Dispensing Optician				
DE	Augenoptikergeselle	Dispensing Optician		Ophthalmic Optician	Optometrist BSc, Optometrist (HWK)	Optometrist BSc, Optometrist (HWK)
## GR	Οπτικός	Optician	Οπτομέτρης	Optician Optometrist		
HU			Optikus	Optician		
IE	Dispensing Optician	Dispensing Optician			Radhar-cmhaistoiri	Optometrist
IT			Ottico Optometrista	Optician Optometrist		
LV	Optometrista asistents	Dispensing Optician			Optometrists	Optometrist
LT					Optometrininkas	Optometrist
LU	Opticien	Optician	Maitre Opticien	Optician		
₩ MK	Dispensing Optician	Dispensing Optician			Opto-metrista	Optometrist
* MT	Opticien	Optician	Contact lens specialist	Contact lens specialist	Optometrist	Optometrist
NL NL	Opticien'	Optician	Contactlensspecialist	Contact lens specialist	Optometrist	Optometrist
H NO					Optiker	Optometrist
PO	Optyk okularowy	Dispensing Optician	Optometrysta	Optometrist		



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CATEGORY 1 CATEGORY 2 CATEGORY 3

	Native	English	Native	English	Native	English
RO			Optician - Tehnician Optometrist - Optometrist	Optician - Refracting Optician - Optometrist		
* RS	Optičar	Optician	Optometričar	Optometrist		
SI	Optik	Optician	Optometrist	Optometrist		
* ES					Optico- Optometrista	Optician- Optometrist
SE					Optiker	Optician/ Optometrist
+ CH	Augenoptiker EFZ	Optician, certificate of proficiency	Dipl. Augenoptiker	Graduate Optician	Optometrist BSc	Optometrist BSc
C* TR	Optisyen	Dispensing Optician				•
∌ ₩UK	Dispensing Optician	Dispensing Optician			Optometrist	Optometrist

CATEGORY 4



Independent Prescribing Optometrist

SCOPE OF PRACTICE

Permitted
Practised
Prohibited
No answer provided

The below table provides an overview of the scope of practice across Europe.

Activity/Country	AT	BE	BG	당	∑	CZ	DE	T DK	H	ES	□ ↓	표	¥ M	GR	₩ H	로 T
01. Objective refraction						<u> </u>									•	
02. Subjective refraction																
03. Dispensing prescription spectacles																
04. Selling optical appliances																
05. Writing prescriptions for spectacles																
06. Fitting contact lenses																
07. Supply of contact lenses																
08. Writing prescriptions for contact lenses																
09. Examining the anterior eye																
10. Examining the posterior eye																
11. Ophthalmoscopy																
12. Detecting ocular pathology																
13. Using diagnostic drugs																
14. Using therapeutic drugs																
15. Referring to an ophthalmologists																
16. Referring directly to eye hospital																
17. Informing medical doctors of patients pathology																
18. Non-contact tonometry																
19. Contact tonometry																
20. Checking binocular vision																
21. Orthoptics																
22. Perimetry																
23. Myopia management									•	•						
24. Testing drivers sight																
25. Testing VDU (Visual Display Units) users																
26. Fitting optical appliances for VDU (Visual Display Units) users																
27. Testing sight of low vision patients																
28. Prescribing low vision aids for the partially sighted																
29. Testing the vision of and prescribing spectacles to children under the age of 6 years																
30. Testing the vision of and prescribing spectacles to children under the age of 12 years																
31. Fitting and supplying spectacles to children (0-18 years)																

Activity/Country	= =	5	2	<u> </u>	WW WK	₩ *	Z	<u>N</u>	<u>8</u>	8	RS	S	S	Ç TR
01. Objective refraction														
02. Subjective refraction	0 0													
03. Dispensing prescription spectacles	0 0													
04. Selling optical appliances	• •													
05. Writing prescriptions for spectacles	0 0													
06. Fitting contact lenses														
07. Supply of contact lenses														
08. Writing prescriptions for contact lenses														
09. Examining the anterior eye	• •							•						
10. Examining the posterior eye												<u> </u>		
11. Ophthalmoscopy														
12. Detecting ocular pathology														
13. Using diagnostic drugs														
14. Using therapeutic drugs														
15. Referring to an ophthalmologists														
16. Referring directly to eye hospital														
17. Informing medical doctors of patients pathology														
18. Non-contact tonometry														•
19. Contact tonometry														
20. Checking binocular vision														
21. Orthoptics														
22. Perimetry														
23. Myopia management														
24. Testing drivers sight														
25. Testing VDU (Visual Display Units) users														
 Fitting optical appliances for VDU (Visual Display Units) users 	• •													
27. Testing sight of low vision patients														
28. Prescribing low vision aids for the partially sighted														
29. Testing the vision of and prescribing spectacles to children under the age of 6 years	• •													
30. Testing the vision of and prescribing spectacles to children under the age of 12 years														
31. Fitting and supplying spectacles to children (0-18 years)	• •													

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TESTING VISION AND PRESCRIBING SPECTACLES TO CHILDREN

The following overview provides information on whether professionals can test the vision and prescribe spectacles to children including various clarifications on certain age thresholds or other prerequisites.

Is a special qualification needed to test vision and prescribe spectacles to children?



Comments

Belgium: A medical prescription is needed for under 16 year old.

United Kingdom: Dispensing for children must be carried out by a dispensing optician or optometrist.

Czech Republic: Optometrists can only test vision and prescribe spectacles to children under the age of 15 under the supervision of an ophthalmologist.

Latvia: Only qualified and certified optometrists.

Estonia: Children under the age of 8 years visit paediatric ophthalmologists.

Luxembourg: Under the age of 14 years, optometrists cannot test vision or prescribe spectacles to children.

North Macedonia: Optometrists cannot test the vision or prescribe to children under the age of 14.

Netherlands: Under the age of 8 years children will be sent to an orthoptist.

Denmark: The child has to be examined by an opthalmologist before first prescription of glasses/lenses.

Switzerland: Depends on cantonal law. Some cantons have age limits (12, 14 or 16 years) for optometry.

Bulgaria: Only an ophthalmologist can test vision and prescribe spectacles to children.

Greece: Only paediatric ophthalmologists can test vision and prescribe spectacles to children.

Serbia: This is not specified as the profession of optometry is not yet regulated.

Slovenia: This is not explicitly defined.

Spain: The only requirement is to be a legal practising optician-optometrist, which includes registration.

Germany: There are no age restrictions.

DIRECT REFERRALS TO AN OPHTHALMOLOGIST OR MEDICAL PRACTITIONER

Although direct referrals to an ophthalmologist or medical practitioner are common practice in the majority of countries, it is a requirement by law only in some countries.

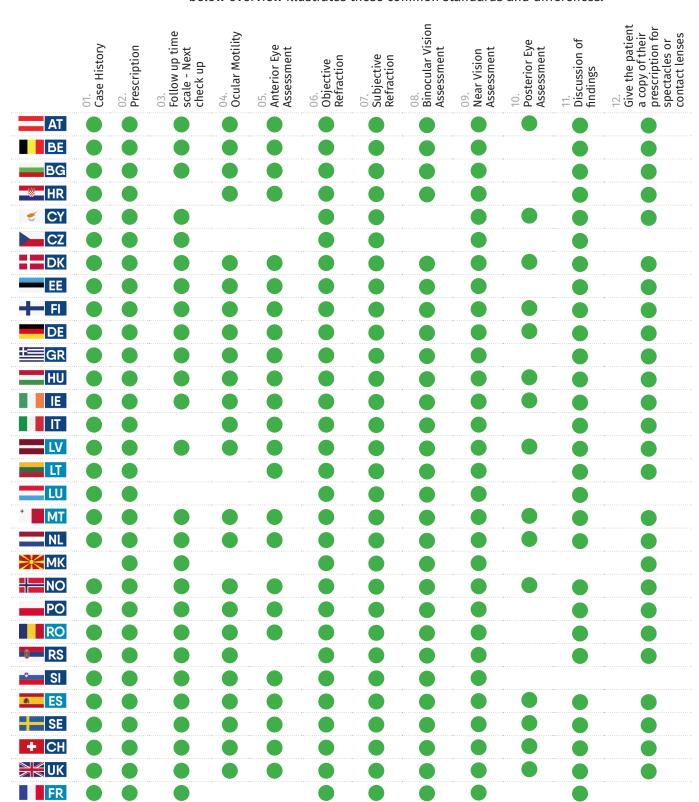
Are professionals required by law to make referrals directly to an ophthalmologist or medical practitioner?





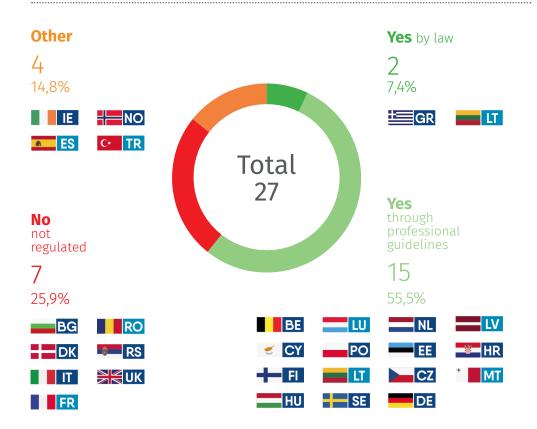
STANDARD EYE EXAMINATIONS

A standard eye examination includes a variety of aspects, which are similar in many countries but also showcase some variations from country to country. The below overview illustrates these common standards and differences.



The content of the eye examinations is regulated by law only in a few countries and is most often regulated through professional guidelines.

Is the content of the eye examination regulated?



Comments

Greece: It is regulated by law and only allowed under the supervision of an ophthalmologist.

Germany: There are professional guidelines for optometry services including a full eye eyamination.

Ireland: Code of Conduct & Ethics (for both optometrists and dispensing opticians) are framed in legislation which govern how professionals practise. However, the exact content of an examination is not set out.

Spain: The competent authorities establish standardised protocols or work processes in the diferent regions.

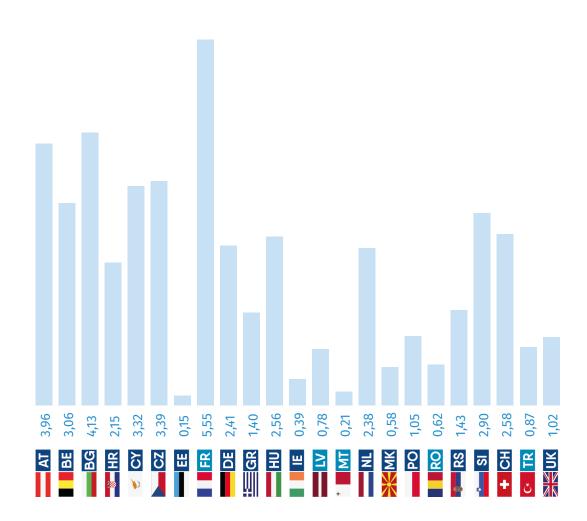
Norway: Some of the issues (information from the patient, information given to the patient, safe care etc) is generally regulated by different laws, on top of this through professional guidelines.

Turkey: Not permitted and not performed by opticians.

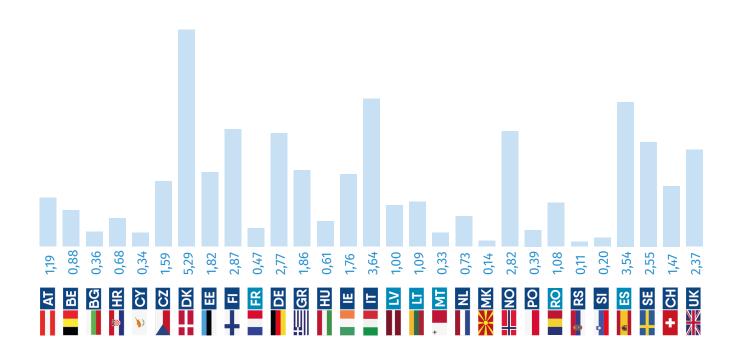
PROFESSIONS IN NUMBERS

The figures are represented in "per 10.000" population so as to allow for a comparison of the data. The population figures are based on the latest available data from the World Bank. The reference to the population figures used is included in Annex II. The data provided in the graphs are collected data or estimates from the associations who have filled in the questionnaire.

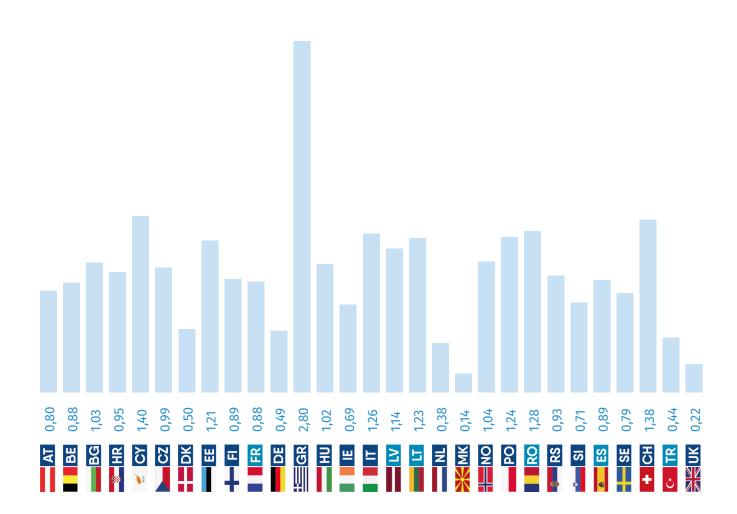
Number of all Opticians / per 10.000 population (Category 1)



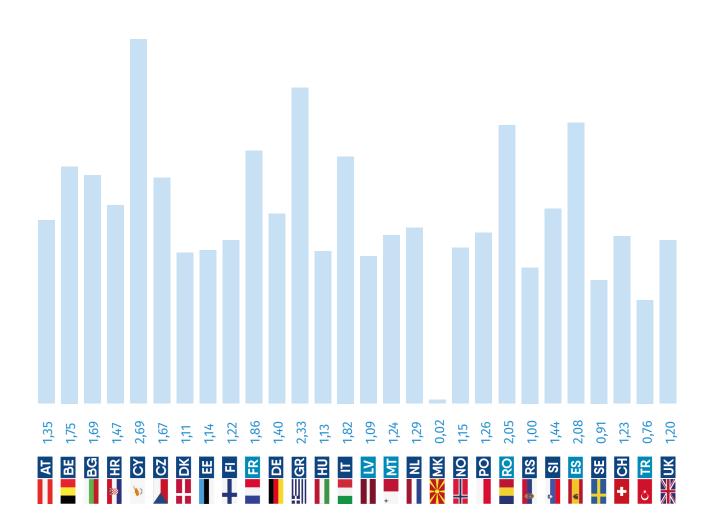
Number of all Optometrists / per 10.000 population (Categories 2, 3 and 4)



Number of all Ophthalmologists - per 10.000 population

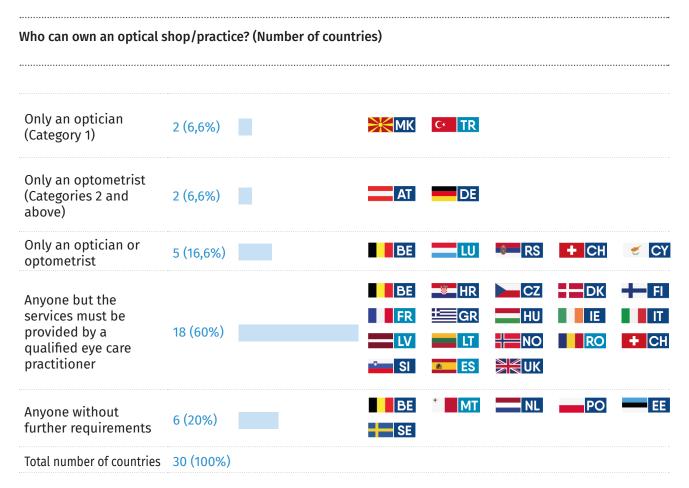


Number of retail outlets/practices - per 10.000 population



OPTICAL SHOP / PRACTICE OWNERSHIP

Requirements for owners of an optical shop or practice vary across Europe. The below provides an overview of the requirements in each country.



Comments

Belgium: The answer has been provided in two categories because in Flanders anyone can open an optical shop/practice, in Wallonia and in Brussels only an optician or optometrist can open an optical shop/practice.

Sweden: Anyone can own a store and it is not a requirement to be an optometrist to do an eye exam. This however needs to be communicated to the customer and the shop cannot be called "optician" as the title is protected by law.

Switzerland: The provisions vary by canton but it is mostly liberal.

EDUCATIONAL LANDSCAPE

Education represents the basis for professional development. This section provides an overview of the different educational qualifications that exist in each country.

Diploma title (Number of countries)



Graduate-level (Number of countries)

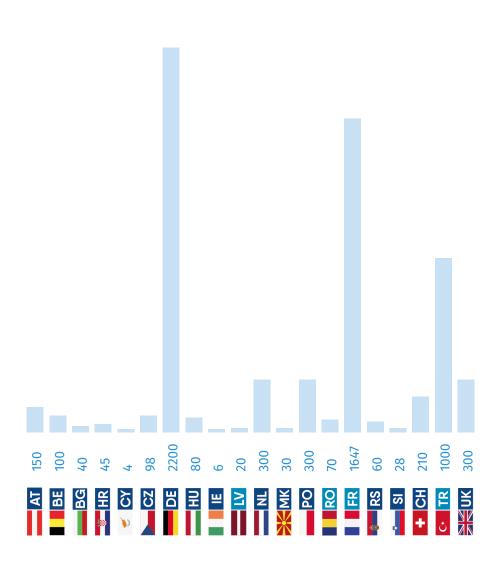


Trends in optics and optometry - comparative European data



OPTICIANS (CATEGORY 1)

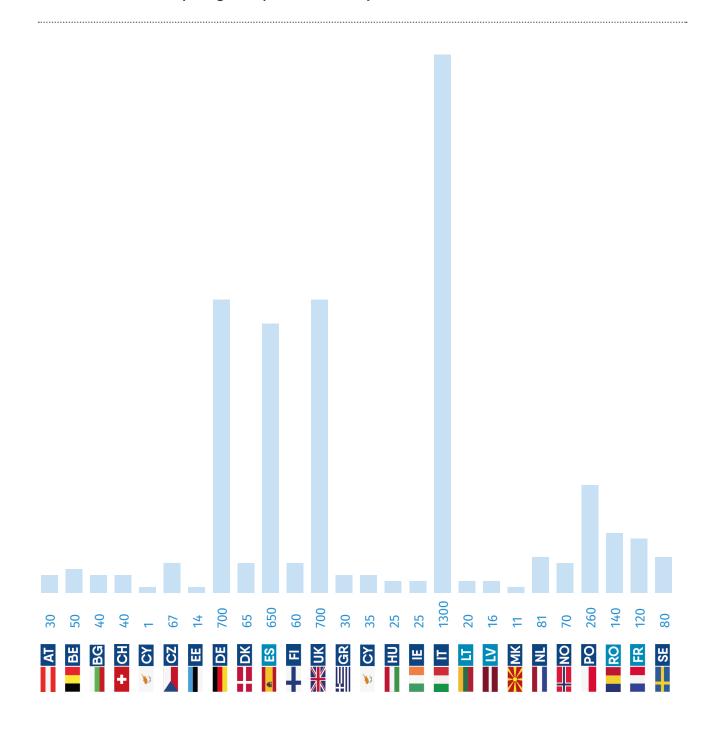
Number of students completing their qualification each year



A combination of both 13 (65%) Other: 1 (5%) Total number of countries 20 (100%) Comments Germany: Education is funded by the practices and the state. Is continuing education compulsory? (Number of countries) Yes 4 (18,2%) Other: 1 (5%) Is continuing education compulsory? (Number of countries) Yes 4 (18,2%) Is all BE BG BG BIR BG BIR BG BG BIR BG BG BIR BG BIR BG BG BIR BIR BIR BG BIR					•••••	•••••		•••••
By student 2 (10%) A combination of both 13 (65%) DE BE BEG HU ITT MINE Other: 1 (5%) Total number of countries 20 (100%) Comments Germany: Education is funded by the practices and the state. Secontinuing education compulsory? (Number of countries) Yes 4 (18,2%) Yes 4 (18,8%) Total number of countries 22 (100%) Total number of countries 22 (100%) Set there a voluntary continuing education scheme? (Number of countries) Yes 10 (52,6%) No 9 (47,4%) DE BEG HU ITT NU SE GR HU No DE GR THU SE GR THU	How is education funded	? (Number of	countries)					
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A combination of both 13 (65%) Other: 1 (5%) Total number of countries 20 (100%) Comments Germany: Education is funded by the practices and the state. Secontinuing education compulsory? (Number of countries) Yes 4 (18,2%) No 18 (81,8%) DE GR III IV NI Total number of countries 22 (100%) Statere a voluntary continuing education scheme? (Number of countries) Yes 10 (52,6%) No 9 (47,4%) No 9 (47,4%)	By student	2 (10%)		€ CY	LV	NL NL		
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Total number of countries 20 (100%) Comments Germany: Education is funded by the practices and the state. Secontinuing education compulsory? (Number of countries) Yes 4 (18,2%) O				C* TR	UK	NL NL		
Comments Germany: Education is funded by the practices and the state. Is continuing education compulsory? (Number of countries) Yes 4 (18,2%)	Other:	1 (5%)		DE				
Secontinuing education compulsory? (Number of countries) Yes 4 (18,2%) No 18 (81,8%) Total number of countries 22 (100%) Yes 10 (52,6%) Yes 10 (52,6%) No 9 (47,4%)	Total number of countries	20 (100%)						
Yes 4 (18,2%) AI BE BG HR OE GR IT LV NI MK PO RO HU RS Sthere a voluntary continuing education scheme? (Number of countries) Yes 10 (52,6%) No 9 (47,4%) No 9 (47,4%)		by the practices	s and the state.					
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No 18 (81,8%) Total number of countries 22 (100%) Is there a voluntary continuing education scheme? (Number of countries) Yes 10 (52,6%) No 9 (47,4%) BE BG CZ MK PC						IT DG		
Total number of countries 22 (100%) Is there a voluntary continuing education scheme? (Number of countries) Yes 10 (52,6%) No 9 (47,4%) BE BG CZ MK PC NO PC	No	18 (81,8%)		₩К	РО			
Yes 10 (52,6%)	Total number of countries	22 (100%)		- 101				
Yes 10 (52,6%) II	Is there a voluntary conti	nuing educat	ion scheme? (I	Number of coun	tries)			
No 9 (47,4%) RO LV SI + CH	Yes	10 (52,6%)		→ HR	DK AT			HU C+ TR
Total number of countries 19 (100%)	No	9 (47,4%)			BG LV			PO
	Total number of countries	19 (100%)						······································

OPTOMETRISTS (CATEGORY 2, 3, 4)

Number of students completing their qualification each year

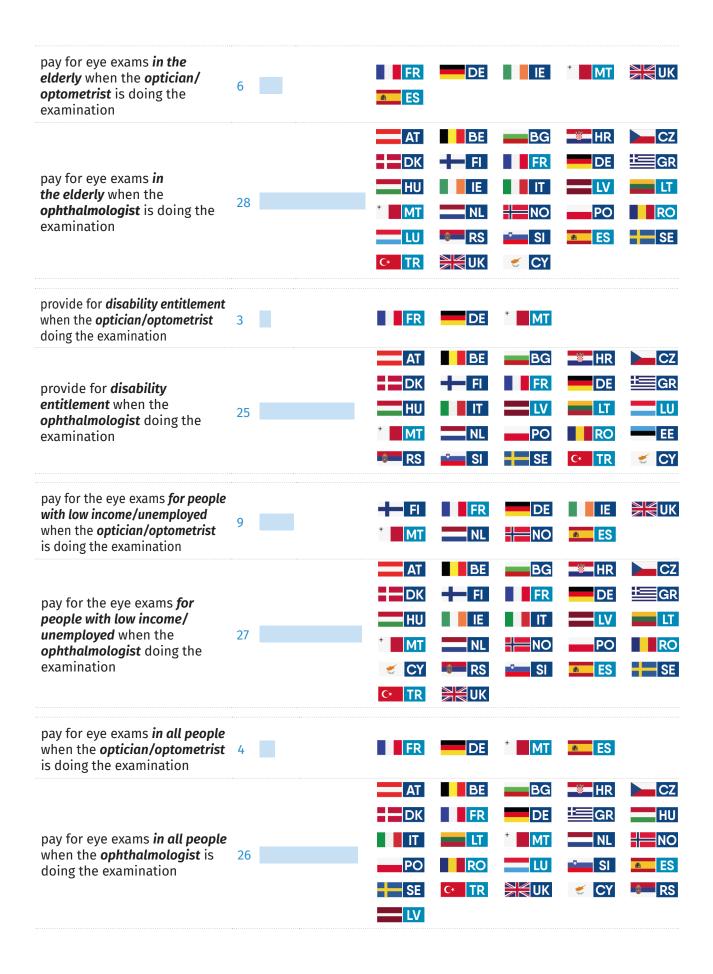


ow is education funded	? (Number of	countries)				
By state	8 (29,6%)		► CZ	DK SE	+- FI	≝■GR
By student	4 (14,8%)		€ CY	HR	LT	RS
	()		AT	BE	BG	+ CH
A combination of both	15 (55,6%)		ES LV	UK NL	PO PO	RO
Total number of countries	27 (100%)					
continuing education c	ompulsory?((Number of co	untries)			
			BE	+ CH	€ CY	
⁄es	11 (40,7%)		HU EE	IE	LT	LV
			AT	BG	CZ	DE
No	16 (59,3%)		ES NO	###GR PO	HR RO	IT RS
Fotal number of countries	27 (100%)		FR			
there a voluntary conti	nuing educat	tion scheme? (I	Number of coun	tries)		
⁄es	13 (56,5%)		AT HR	DE HU	DK IE	ES IT
			NL NL	NO	SE SE	
No	10 (43,5%)		BE MK	BG PO	+ CH	CZ LV
Total number of countries	23 (100%)					

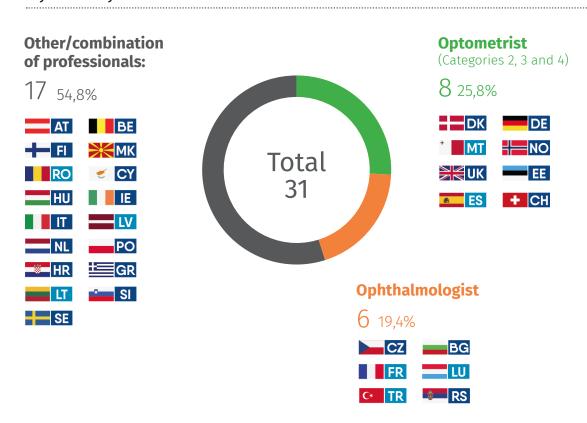
PROFESSIONS' ROLE IN PUBLIC HEALTH

The professions' role in public health provides an overview on how well the professional services are integrated in the national health/care system and what key differences we can observe across Europe.





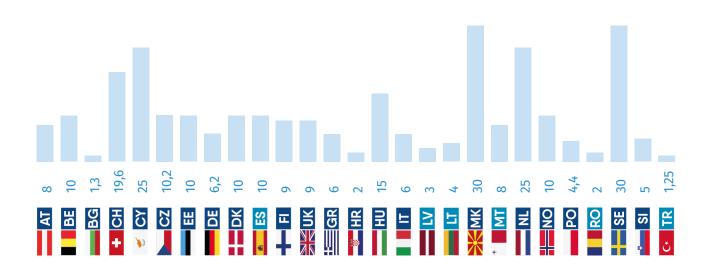
In practice, which profession normally provides eye examinations in your country?



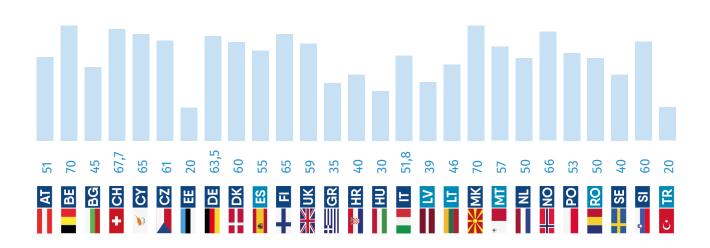
PRIMARY EYE CARE NEED IN EUROPE

This last section provides an overview of what the primary eye care demand is in Europe as it has a direct link to the relevance of the professions in the market place.

People wear contact lenses (in percentage %)



How many people wear spectacles (in percentage %)



ANNEX I: PROFESSIONAL ASSOCIATIONS

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ECOO MEMBER CONTRIBUTORS:

- » AUSTRIA: Wirtschaftskammer Österreich, Bundesinnung Gesundheitsberufe (WKÖ)
- » BELGIUM: Association Professionelle des Opticiens et Optometristes de Belgique (APOOB)
- » BULGARIA: Bulgarian Association of Optometrists (BAO) and National Association of Bulgarian Optometrists and Opticians (NABOO)
- » CROATIA: Hrvatsko Drustvo Opticara i Optometrista (HDOO)
- » CYPRUS: Cyprus Association of Optometrists and Cyprus Optical Association
- » CZECH REPUBLIC: Spolecenstvo Ceskych Optiku a Optometristu (SCOO)
- » **DENMARK:** Optikerforeningen and Serviceforbundet Urmagerne og Optikerne
- » FINLAND: Näkeminen ja silmäterveys NÄE ry
- » GERMANY: Vereinigung Deutscher Contactlinsen-Spezialisten und Optometristen e. V. (VDCO e. V.), Wissenschaftliche Vereinigung für Augenoptik und Optometrie (WVAO) and Zentralverband der Augenoptiker und Optometristen (ZVA)
- » GREECE: Panhellenic Association of Opticians and Optometrists (PAOO)
- » HUNGARY: Magyar Látszerész Szövetség (MLSZ)
- » IRELAND: Association of Optometrists Ireland (AOI) and Federation of (Ophthalmic and Dispensing) Opticians Ireland (FODO Ireland), Irish Association of Dispensing Opticians (IADO)
- » ITALY: Associazione Laureati Ottica e Optometria (ALOeO), Federottica, Società Optometrica Italiana (SOPTI)
- » NORWAY: Norges Optikerforbund (NOF)
- » POLAND: Krajowa Rzemieslnicza Izba Optyczna (KRIO) and Polskie Towarzystwo Optometrii i Optyki (PTOO)
- » SERBIA: Udruzenje Opticara I Optometrista Srbije (UOOS)
- » SLOVENIA: Društvo očesnih optikov Slovenije (DOOS)
- » SPAIN: Consejo General de Colegios de Ópticos-Optometristas (C.G.C.O.O.)
- » **SWEDEN**: Optikerförbundet
- » SWITZERLAND: Der Verband für Optometrie und Optik L'association d'optométrie et d'optique (OPTIKSCHWEIZ - OPTIQUESUISSE) and Schweizerischer Berufsverband für Augenoptik und Optometrie - Société Suisse pour l'Optique et l'Optometrie (SBAO - SSOO)
- THE NETHERLANDS: Algemene Nederlandse Vereniging van Contactlensspecialisten (ANVC), Nederlandse Unie Van Optiekbedrijven (NUVO) and Optometristen Vereniging Nederland (OVN)
- » UNITED KINGDOM: Association of British Dispensing Opticians (ABDO), Association of Optometrists (AOP), Federation of Opticians (FODO), The General Optical Council (GOC) and The College of Optometrists

NON-ECOO MEMBERS CONTRIBUTORS:

- » **ESTONIA**: Tallinn Health Care College and Estonian Optometrists`Association
- » FRANCE: Association des Optométristes de France (AOF)
- » LATVIA: Association of Latvian Optometrists and Opticians (Latvijas Optometristu un optiķu asociācija)
- » LITHUANIA: Lithuanian Association of Optometrists
- » LUXEMBOURG: Optique Tom Peeters Sarl, Guido and David Faber
- » MALTA: Malta Association of Optometrists (MAO)
- » NORTH MACEDONIA: Zdruzenie Na Makedonski Opticari Z.M.O.O. skopje
- » ROMANIA: Federatia Optica Romanian Optical Federation
- >> TURKEY: Turkish professional association of opticians and optometrists (TOOMAD)

ANNEX II: REFERENCE POPULATION DATABASE

https://data.worldbank.org/ indicator/SP.POP.TOTL?most_ recent_year_desc=false (retrieved February 2020)



COUNTRY POPULUATI	ON:	2018
Austria	-	8,847,037
Belgium		11,422,068
Bulgaria		7,024,216
Croatia		4,089,400
Cyprus	1	1,189,265
Czech Republic		10,625,695
Denmark		5,797,446
Estonia	ı	1,320,884
Finland		5,518,050
France		66,987,244
Germany		82,927,922
Greece		10,727,668
Hungary		9,768,785
Ireland		4,853,506
Italy		60,431,283
Latvia		1,926,542
Lithuania		2,789,533
Luxembourg	I	607,728
Malta	1	483,530
Netherlands		17,231,017
North Macedonia		2,082,958
Norway		5,314,336
Poland		37,978,548
Romania		19,473,936
Serbia		6,982,084
Slovenia	1	2,067,372
Spain		46,723,749
Sweden		10,183,175
Switzerland		8,516,543
Turkey		82,319,724
Ukraine		44,622,516
United Kingdom		66,488,991

ACKNOWLEDGEMENTS

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About ECOO:

The European Council of Optometry and Optics (ECOO) is the European organisation which represents the interests of optometrists and opticians from 24 countries. It aims to promote eye health to the public across borders and to harmonise clinical and educational standards of optometric and optical practice throughout Europe.

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