

1 **Current challenges of Ophthalmology in France**

2

3 Corresponding author:

4

5 Isabelle Audo, MD PHD

6 isabelle.audo@inserm.fr

7

8

9 ¹ Centre Hospitalier National d'Ophtalmologie des Quinze-Vingts, INSERM-DHOS CIC 503,
10 Centre de Référence Maladies Rares « dystrophies rétiniennes d'origine génétique », Paris, F-
11 75012, France.

12 ² INSERM, U968, Paris, F-75012, France;

13 ³ UPMC Univ Paris 06, UMR_S 968, Institut de la Vision, Paris, F-75012, France;

14 ⁴ CNRS, UMR_7210, Paris, F-75012, France;

15

16

17 Word count for the manuscript: 1403

18 Word count for the reference section: 202

19

20 To comprehend the current challenges that French ophthalmic care is facing, one has first to
21 appreciate the system and the changes that have occurred over the years leading to the current
22 situation. French ophthalmic care is organized differently from its British and American
23 counterparts and resembles its European neighbors. It follows a basic principle of the French
24 medical practice which should guarantee a strict separation of medical care and prescription
25 from commercial sales. Ophthalmologists and orthoptists, provide care to a patient, on one
26 hand. Pharmacists and opticians on the other hand, enter commercial transactions with a
27 client. The ophthalmologist is the center of the ophthalmic care, performing regular
28 ophthalmic examination, prescribing glasses, contact lenses and supervising their tolerance, as
29 well as performing ophthalmic surgery. The French ophthalmologist works closely in relation
30 with orthoptists who can provide additional examinations, such as visual field tests,
31 strabismus or low vision aid rehabilitation and opticians who provide glasses and contact
32 lenses upon medical prescription. French patients are free to choose their practitioner and the
33 National Health Insurance, *la Sécurité Sociale*, covers about 70 to 80% of the
34 ophthalmologists and orthoptists fees whereas fees for optics and even more for low vision
35 aid devices have never been well reimbursed and would be covered by optional private
36 insurances. During recent years, optometrists have been trained through schools of optics and
37 masters delivered by 2 scientific universities. However, their status is not well defined by the
38 Health authorities, their potential fees for private consultations resulting in glasses
39 prescription and delivery would not be covered by the National Health Insurance and their
40 role in the scheme of French eye care is a recurrent and often passionate matter of debate.

41 The number of practicing ophthalmologists in France is currently estimated at about 5300
42 (5354 from the last census reported in 2009 by the French national medical council¹). This
43 number has been stable over the past 15 years. Thus, for a general population reaching nearly
44 63 million, there are fewer than 9 ophthalmologists for 100 000 inhabitants, similar to

45 Germany but lower than other European countries such as Belgium and Czech Republic (10
46 per 100 000), Italy and Spain (12 per 100 000) or Greece (14 per 100 000).³

47 Among practicing ophthalmologists, 43.5% are women. In comparison, 38.8% of all medical
48 doctors are female. This percentage is even higher for the age range below 55, corresponding
49 to the feminization of the medical profession.³

50 About 61% of practicing ophthalmologists are working only in private practice which is
51 usually organized between a private office for ophthalmic examinations and a private clinic
52 for surgical sessions.¹ The distribution of these private practitioners across France is not
53 uniform with a higher concentration in metropolitan areas, the Parisian region and the South
54 of France and a real scarcity in rural areas and in Northern France.

55 For the past 15 years, especially in metropolitan areas, the traditional model of a single-
56 ophthalmologist private setting has largely been replaced by practices of 3 or more
57 ophthalmologists, with often complementary expertise, who can appoint a secretary, an
58 accountant, orthoptists and nurses. Some of these offices are equipped with the state-of-the art
59 imaging techniques, visual field testing and even with visual electrophysiology. Group
60 practices create a more favorable financial environment for purchase of modern and
61 expensive equipment. Private offices seldom provide space for outpatient surgery. However,
62 some practices can provide laser treatment, as well as, suitable facilities for photodynamic
63 therapy or intravitreal injections. Such settings provide efficient care competing with public
64 services with often dynamic medical discussions within and around the group similar to
65 teaching hospitals, with the only additional pressure of productivity to repay loans contracted
66 for equipment purchase.

67 Aside from the 61% in private practice, an additional 13% are employed either by small
68 private health centers or public hospitals, including academic centers.¹ Moreover, 26% of

69 practicing ophthalmologists work both in private and public practice, often keeping one or 2
70 clinical or surgical sessions in the hospital where they have been trained.¹

71 The average age of practicing ophthalmologists is 49, with fewer ophthalmologists below 45
72 than above 55, reflecting the progressive aging of the ophthalmic population and rising
73 concerns for the next 10 to 20 years.³ As the current group of practicing ophthalmologist
74 retires, the number of graduating ophthalmologists each year, which is currently around 80,
75 will not be sufficient to replace retirement and will increased disparity in care coverage,
76 especially in the more sparsely populated areas of France. In fact, the number of
77 ophthalmologist would decrease by 35% during the next 15 years.⁴ This projection applies not
78 only to ophthalmologists but also to other specialists such as dermatologists and even to
79 general practitioners. Reasons given for this situation include the selective access established
80 in the 1970s to enter medical school and subsequently to enroll in a residency program in the
81 1980s, resulting in a 50% decrease of ophthalmologists trained per year. On the other hand,
82 ophthalmology faces challenges generated by the increase of the French population, its aging
83 and also the need to implement novel techniques and treatments as well as to establish a
84 workable plan of preventive medicine. Many professionals have rung the alarm for more than
85 20 years including the National Union of French Ophthalmologists which has been very
86 active in surveying practitioners, promoting debate and proposing solutions to avoid a critical
87 situation.^{5,6}

88 Solutions are currently implemented to face the shortage in ophthalmologists and maintain an
89 up-to-date standard of care, with free access to all. The obvious measure has been to gradually
90 increase the number of trained ophthalmologist per year. Ideally, doubling this number within
91 5 years would ensure an appropriate replacement for retirement and this would only represent
92 an additional 1.5 residents trained per year for each university center.⁵ Emphasis is also given
93 on improving surgical training with a plan to add a year to ophthalmology residency, passing

94 it from 4 to 5 years. This measure would ensure a sufficient number of well-trained
95 ophthalmic surgeons to serve the additional load of cataract surgery generated by aging of the
96 population. In addition, despite the absence of postgraduate recertification in France, the
97 health ministry has implemented a mandatory requirement for post-university training in
98 2001.^{7,8} Furthermore, the French Ophthalmology Society with the National Union of French
99 Ophthalmologists have produced guidelines on good ophthalmological practice, procedures
100 and example of informed consent forms for special ophthalmic procedures.^{9,10} Although these
101 documents have no legal standing, they are valuable in informing and helping
102 ophthalmologists to keep an up-to-date practice.

103 To ensure better geographical distribution of care, local initiatives have been proposed and
104 encouraged. Some local authorities are providing free office space, surgical facilities as well
105 as facilitating housing and support for young ophthalmologists. In addition, a new status of
106 replacing practitioner, *médecin remplaçant*, is created to encourage mobility for
107 ophthalmologists unwilling to establish a permanent practice and flexible enough to adapt
108 their activities toward available locum work. Furthermore, well-qualified ophthalmologists
109 from other European countries with no shortage of ophthalmologists have been encouraged to
110 come and practice in France.

111 Along with increasing the number of ophthalmologists, the other efforts has been to increase
112 the training and recruitment of orthoptists, the “historical partners” of French
113 ophthalmologists and increase the number of tasks that could be delegated to them under
114 medical supervision.¹¹ For the vast majority of French ophthalmologists, this would be the
115 best solution and more logical than introducing a new partner, the optometrist, within the
116 French ophthalmic landscape.

117 In addition, further efforts have been made to reinforce cooperation between the public and
118 private sector and encourage the creation of health networks oriented toward preventive

119 medicine with the help of telemedicine and mobile ophthalmic units. In collaboration with
120 local ophthalmologists and often at their initiative, campaigns have been organized to
121 improve early diagnosis of glaucoma, diabetic retinopathy, AMD and child amblyopia. Such
122 campaigns are particularly relevant in regions with low ophthalmic coverage. With the aging
123 of the population and the increase of AMD prevalence, efforts are also given to low vision aid
124 rehabilitation. Orthoptists and opticians would be major players in these efforts.

125 The future will reveal if these measures will be sufficient to fulfill the overall objectives of
126 eye care in France: to ensure an available and transparent system for the patient, to provide
127 ethical care free from conflict of interest, to create an efficient prevention strategy within a
128 coherent public health system, and to moderate the economic cost for the best coverage of
129 entire population.

130

131 Acknowledgment:

132 The author wants to thank professor Sahel for his support and Louise Elbaum for the critical

133 revision of the manuscript.

134

135 References:

- 136 1. Ordre National des Médecine, Conseil National de l'Ordre (*French National Medical*
137 *Council*). Atlas de la démographie médicale française, Situation au 1^{er} janvier 2009.
- 138 2. 1. Ordre National des Médecine, Conseil National de l'Ordre (*French National Medical*
139 *Council*). Démographie médicale française, Situation au 1^{er} janvier 2005. Juin 2005 étude
140 n°38
- 141 3. Ordre National des Médecine, Conseil National de l'Ordre. Démographie médicale
142 française. Les spécialités en crise. Situation au 1^{er} janvier 2005. Décembre 2005 étude n°38-2.
- 143 4. Direction de la recherche, des études, de l'évaluation et des statistiques (*Direction of*
144 *Research, Studies, Evaluation and Statistics*), DRESS. Etude et résultats. N°679. Février
145 2009.
- 146 5. Syndicat National des Ophtalmologistes de France (SNOF). Communiqué du 2 avril 2004.
- 147 6. Syndicat National des Ophtalmologistes de France (SNOF). L'ophtalmologie et la filière
148 visuelle en France. Perspective et solutions à l'horizon 2025-2030. Mai 2006.
- 149 7. Code de la Santé Publique. Articles L. 4133-1 to L. 4133-8.
- 150 8. Décret no 2006-650 du 2 juin 2006 relatif à la formation médicale continue
151 et modifiant la quatrième partie du code de la santé publique (dispositions réglementaires)
- 152 9. Société Française d'Ophtalmologie (SFO). www.sfo.asso.fr
- 153 10. Syndicat National des Ophtalmologistes de France (SNOF). www.snof.org
- 154 11. Décret no 2007-1671 du 27 novembre 2007 fixant la liste des actes pouvant être
155 accomplis par des orthoptistes et modifiant le code de la santé publique (dispositions
156 réglementaires).