PART 2

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THE FUTURE DEMAND FOR SIGHT TESTING

IN PART ONE I outlined the background to the present study, refined the assumptions of French and Loran's 1983 computer model for manpower and workloads, and presented predicted sight test loads per week for the average full-time optometrist (Table 4). In Part two I look in detail at the question of the potential for sight testing. There is a limit to the number of sight tests that the UK population can support, a limit which will take on greater significance in the coming years.

The biggest change in the UK since 1983 has been the introduction of advertising and the virtual 'de-registration' of dispensing, developments foreshadowed by the Office of Fair Trading's 1982 report. It is too early to say whether these changes in themselves will stimulate a sustained increase in demand for sight testing as the report suggested. At present we are well within the ceiling or potential suggested by the Economist Intelligence Units (EIU) 1974 formula for sight testing. This suggested there was scope for a 50 per cent increase in the annual figures to over 15 million per year, an increase which French and Loran (1983) thought would not be fully realised before the next century (between 2000 and 2017). Advertising may enable this potential to be reached earlier.

Source off concern

However, a source of concern with projecting future demand is that when one looks closely at the potential for sight testing one finds that very little consideration has been given to the question of how often in an ideal world patients should consult optometrists (see French, 1984). It would be useful to survey ophthalmic opticians' opinions on this issue as well as establish in more detail the present pattern of sight testing according to a patient's age and sex. At present we are obliged to fall back on the EIU formula.

I carried out a small pilot study to see how patient activity might compare with the suggestions of the EIU by examining the age and sex of a random sample of 635 patients who visited a Northwest practice between January and December 1983. One would not claim this to be a completely representative sample, but the practice itself was thought to be not atypical.

Figure 2 shows the 1983 UK population by age and sex as predicted from official government statistics in 1978. The histogram shows the familiar peak for people in their late teens and early twenties with fewer children of age 10 to 14 and 5 to 9. (This, of course, is one reason why the government has begun its cutback on funding for higher education with the resultant overall reduction in places for home students at university.)

Figure 3 represents a diagrammatic approximation of the Economist Intelligence Unit's suggested average sight test frequency for patients under ideal circumstances. It is important to note that the EIU assumed that children under the age of 16 should be examined three times, at 5, 10 and 14 years of age while at school.

If we use the EIU formula and apply it to the 1983 population we obtain the histogram showing the expected frequency of sight-tests for five-year age groups shown as a dotted line in Figure 4. We can superimpose on this the actual relative frequency for the patients in our practice sample—the solid line. In some ways, there is a striking similarity between the two histograms. It would be difficult to make much of some of the small differences. For example, one would guess that the discrepancy amongst the over 50s might easily be accounted for by sampling error or perhaps even the population characteristics of the catchment area. But, the apparent excess of

Predicted sight test loads per week as a function of division of labour between OOs and OMPs **Table 4**

year	partition 1	partition 2	partition 3
1990	42.0 to 44.8	41.4 to 43.8	40.7 to 43.1
1995	43.2 to 48.0	42.5 to 46.8	42.0 to 46.2
2000	43.8 to 51.0	43.1 to 49.5	42.7 to 49.0
2005	44.0 to 49.8	43.4 to 48.6	43.1 to 48.3
2010	44.3 to 47.5	43.7 to 46.5	43.5 to 46.3
2015	45.0 to 45.8	44.3 to 45.1	44.1 to 44.9
2020	44.9	44.3	44.1
2025	44.7	44.1	43.8
2030	44.9	44.3	44.0
2035	45.4	44.7	44.5
2040	46.0	45.2	45.0
2045	46.7	45.8	45.6
2050	47.4	46.5	46.2

UK sight tests have been divided up between OOs and OMPs according to three of the many possible partitions. Partition 1 assumes that OMPs will continue to carry out 1.4 million tests per year. Partition 2 (favoured in the postscript to French and Loran, 1983b) divides up the tests between OOs and OMPs in the ratio of 92 per cent of those on the GOC register to 950 (FPC OMP predictions). Partition 3 (used in Table 3) divides up the tests in the ratio of number of under-65 OOs 'available' to 950. In each of the three columns the first number assumes a linear increase in test load while the second assumes an exponential. When both reach the theoretical EIU ceiling they give the same prediction. This particular set of calculations assume an annual Home BSc admissions rate of 270 p.a. with 57.5 per cent women and an overall 5 per cent loss rate.

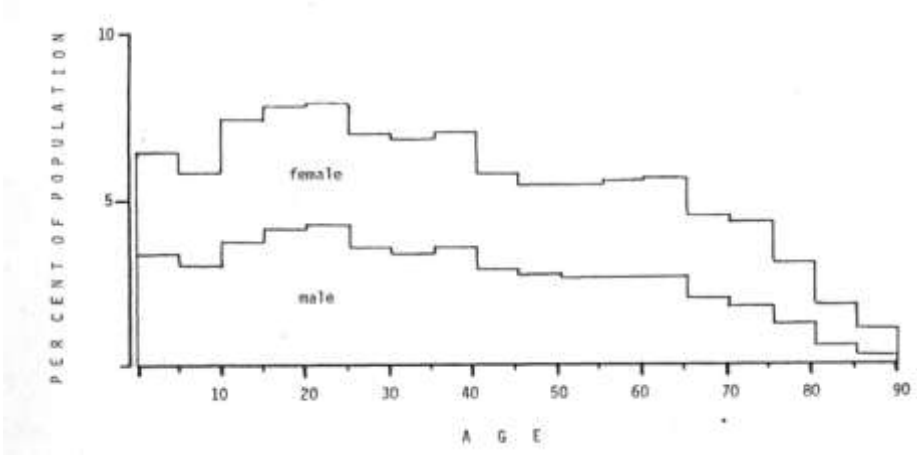

Figure 2—United Kingdom 1983 population by age and sex. This histogram gives the relative numbers of people according to their age, predicted from 1978 government statistics. Each 5-year age band is divided up into females (above) and males (below).

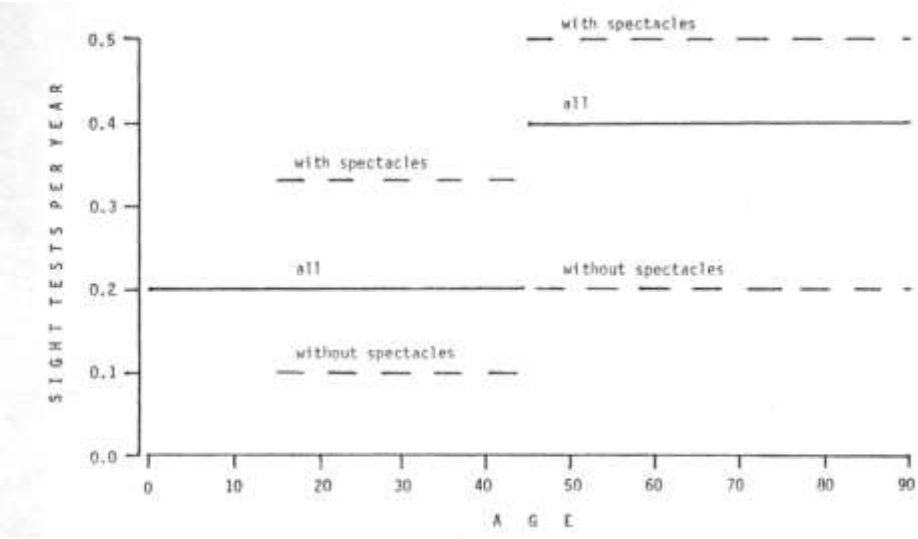

Figure 3—Potential frequency of sight test visits per year according to the EIU (1974). The graph gives the overall ceiling predictions (solid lines) for people as a function of age, and the predictions broken down according to whether or not spectacles are worn (dashed lines). The model assumes a division of people into spectacle and non-spectacle wearers—50:50 for those between 15 and 45 and 67:33 for those over 45 years of age.

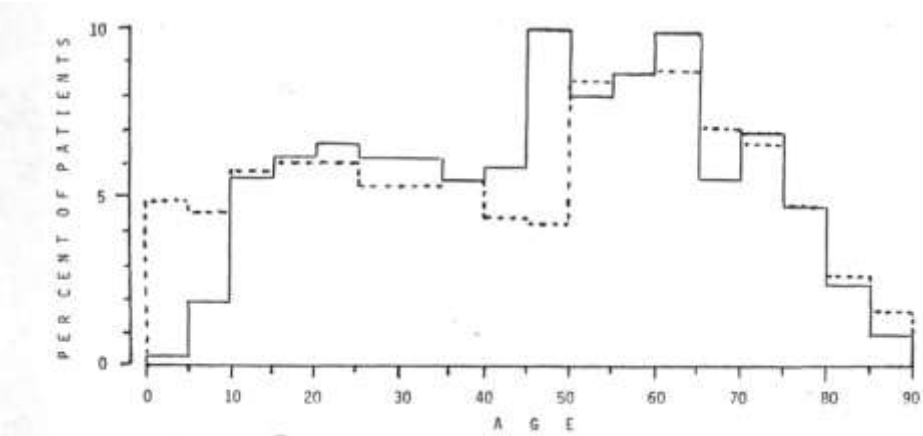

Figure 4—Relative number of sight test visits according to age. The solid line gives the relative frequency for 5-year age bands at a Northwest practice in 1983 (sample size n = 635), while the dashed line indicates what would be expected from the EIU model using the Figure 2 data.

visits over EIU prediction for the 40s age group is of interest and worthy of further scrutiny. My main interest here, however, lies in the shortfall in the 0 to 9 age group.

Lack off children

The clear suggestion is that very few children under ten are seeing ophthalmic opticians in private practice. Certainly nowhere near the two visits that the EIU might lead us to hope for ideally, or even the 1.3 visits that one would expect if the frequency was in step with the older age groups. If the practice in question was situated in a retirement Mecca of the Northwest then one would expect to see relatively few children, but this was not the case.

The lack of children in the under-five age group is not surprising. Gruber (1984), for example, in relating her own American experiences has commented upon the relative neglect of children in the 1970s. In 1970 a survey showed that only 2 per cent of children under six received eye care, and in the mid-70s while 4 per cent of ophthalmology patients were aged under four, only 0.7 per cent of optometric patients were in that age group. It is of particular concern to me that the numbers in the NW sample are low for the five to nines as well as the nought to fours, although this does not take into account children who may be seeing OOs in child clinics and hospitals.

It would appear that today a child's visual check up often means 'screening' by a nurse, health visitor, medical practitioner, paediatrician or orthoptist (Bardinger, 1979), or even an observant teacher (Weale, 1984). The shortfall at this Northwest practice appears to represent 7 per cent of the practice's load. It is encouraging that there are signs that the profession has at last become interested in the problem. For example, recently an advertisement has appeared urging parents to take their children along to see the optician. One might wonder how well optometrists are equipped to deal

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with young children, and whether or not more emphasis should be placed upon paediatric optometry in degree and post registration courses. Gruber talking of her own education refers to paediatric optometry as 'a big gaping hole'. And while children may not go in for contact lenses or expensive frames, they are the patients of the future. Even the High Street banks seem very keen to compete for their custom with piggy banks and the like. Uncorrected, this deficit represents a potential of four tests per week to the full-time 00, and would mean that the sight-test potential indicated using the French and Loran model (Tables 3 and 4) would not be realised.

Spectacle wearers

Unfortunately, it was not possible to record further information on the patients in the sample such as their socio-economic status or their prescriptions, although it was noted whether or not they wore spectacles immediately prior to their 1983 eye examination. Figure 5 shows the relative frequency of sight tests according to age in 1983 divided up in this way. This shows clearly the dearth of elderly patients without spectacles.

If we plot the proportion of patients without spectacles for each age group we obtain the solid line in Figure 6. This can be compared with what we would expect from the EIU formula—the dotted line. Despite the apparent similarities between the EIU predictions and practice experience revealed in Figure 4, there appear to be substantial differences here with apparently proportionately fewer than expected sight tests for non-spectacle wearers amongst the over 50s and proportionately fewer than expected sight tests for spectacle wearers amongst the under 50s. Whether this is due to imperfections in the EIU formula or whether it suggests that certain sections of the population are neglecting their eyes more than other, or whether it is both, one cannot say.

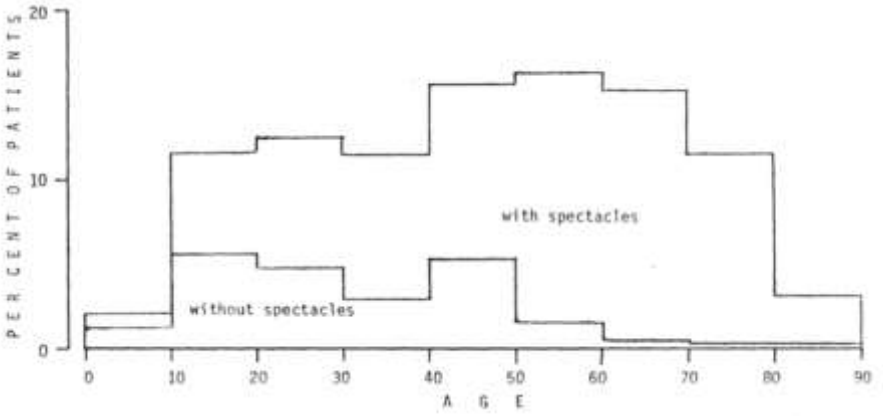

Figure 5—Relative number of sight test visits as a function of age group at NW practice in 1983. The proportions for each 10-year age bands have been sub-divided into spectacle and non-spectacle wearers.

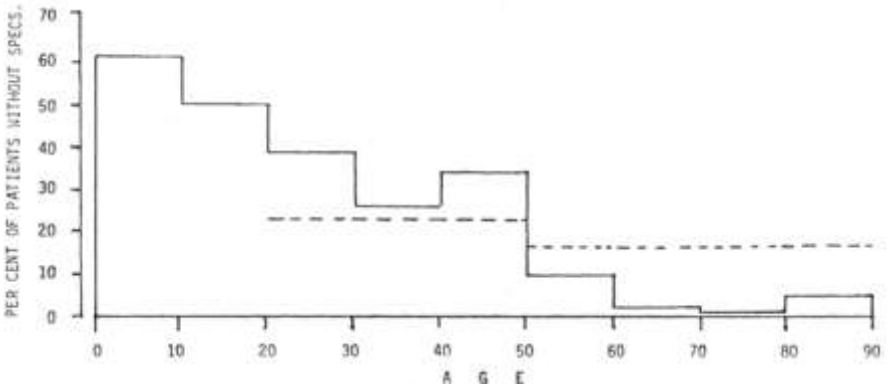

Figure 6—Non-spectacle wearers as a percentage of patients for each 10-year age band in 1983. The solid line represents the NW practice sample and the dashed line what would be predicted from the EIU model.

I would not want to make too much of what is after all only a modest sample of a single practice's experience. But I do feel there is more than enough evidence here to support the notion (French, 1984) that not enough is being done by the profession to investigate the present and potential demand for conventional sight testing. If the limits for sight testing are not known it is unlikely that they will be realised.

Reminders may prompt those who already have their eyes tested, but you will need to educate/advertise in order to reach the rest. And to advertise you need to know who should have the habit, who does have the habit and who does not. Of course, measures like statutory tests for drivers could be useful.

Next week, I will present my conclusions after considering possible future developments concerning optometry.

The future?

Dr Chris French will take the chair for the Recruitment Seminar at Quadrant House on August 1 10.30am to 3.30pm.

Speakers will be:

Jack Davey, The City University
Ian Hunter, Association of Optical Practitioners
Michael Rawling, Spectacle Makers Company
Susan Blakeney, Pre-Registration Student
Richard Harsant, Association of Dispensing Opticians
Paul Walker, Austin Knight Advertising
Jim Elwes, Business Press International.

Attendance is by invitation.
See inside back cover for details and application form.