

# An Update on Orthodontic Manpower in Ireland

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**Abstract.** *There has been considerable debate in Europe over the past few years on manpower requirements in orthodontics. In some countries today the need for orthodontic care cannot be accommodated due to lack of professional manpower whereas in others a surplus of orthodontic treatment facilities exists. The aim of the present study was to establish a baseline for orthodontic demographics in the Republic of Ireland.*

*The number of orthodontists currently practising in Ireland was identified together with the number of Irish graduates currently on training programmes. Population figures were obtained from the Central Statistics Office.*

*The orthodontic manpower situation has altered dramatically in the Republic of Ireland over the past 20 years. The number of 12-year-olds per orthodontist has reduced over the past 18 years from 2773 in 1980 to 890 in 1998. The age profile of the orthodontists presently practising in Ireland is low with an expected retirement over the next 20 years of only 28 of the 69 orthodontists identified.*

*This study provides baseline information on orthodontic manpower in Ireland, and will facilitate Ireland's participation in similar or comparative studies in the future.*

**Index words:** Orthodontic Manpower, Orthodontist: 12 Year-old Ratio, Ireland.

## Introduction

As we embark on the new Millennium it is appropriate that we evaluate the current manpower issues in orthodontics. In some countries today, the need for orthodontic care cannot be accommodated due to lack of professional manpower, whereas in others a surplus of orthodontic treatment facilities exists (Prahl-Andersen and van't Hof, 1981; Van der Linden, 1981; Joint Response of the British Orthodontic Societies to the Nuffield Enquiry into Personnel Auxiliary to Dentistry, 1992). There has been considerable debate in Ireland in recent years regarding manpower requirements in orthodontics. Manpower planning should be an integral part of comprehensive health planning, rather than an independent activity. Manpower studies or reports of commissions, however sophisticated, do not necessarily lead to an integrated process of health manpower development unless the necessary social, economic, and political conditions, and a definite national policy are present (Mejia and Fulop, 1978).

In recent years manpower migration has become an additional factor to consider. Overseas students currently account for 5 per cent of the UK undergraduate dental student intake (Chaudhry and Scully, 1998). Under European law, member states are obliged to have reciprocal arrangements to accommodate doctors and dentists, whether general dental practitioners or specialists (Task Group for Orthodontics Report, 1998). This has permitted

the migration of dental professionals among member states of the European Union. It is no longer appropriate, therefore, for European Union members to look at manpower issues in isolation; they should now be evaluated in a European context. Internationally, there is little consensus within the profession regarding the future need for dental health services.

Forecasting manpower requirements is complicated. There is no recognized population:orthodontist ratio to work towards. Several issues such as the need for orthodontic treatment, the number of personnel available to provide the treatment, geographic factors, financial considerations, deployment of auxiliaries, and the changing practice and delivery of care must be taken into consideration. The difficulties involved in forecasting manpower levels, based on unknown variables, have at times resulted in conflicting reports in the literature. In 1985, an overproduction of orthodontic specialists to accommodate future needs in the UK was predicted (Stephens *et al.*, 1985). Seven years later, however, reports of insufficient orthodontic manpower to meet the population's needs were reported (Joint Response of the British Orthodontic Societies to the Nuffield Enquiry into Personnel Auxiliary to Dentistry, 1992).

A system of on-going monitoring of the supply and utilization of dental manpower is required. No manpower study is definitive and planning needs to be a continuous and dynamic process.

This report sets out the information related to orthodontic manpower in Ireland in October 1998. The overall objective of the report is to provide, as far as possible, a comprehensive and accurate reflection of the manpower position in 1998. This study has not dealt with the ortho-

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dontic treatment need or the manpower required to service that need.

### Aims

The aims of the present study were to:

- (1) investigate the growth and development of the orthodontic population from 1985 to 1998 and compare this with the general population statistics;
- (2) determine the number of dentists presently undergoing orthodontic training pathways;
- (3) establish a baseline for orthodontic demographics in the Republic of Ireland, so future comparisons can be made regarding the availability of specialists and the need for graduate orthodontic students.

### Materials and Methods

#### Identification of the Number of Orthodontists Available

Personnel with orthodontic qualifications were identified from the Register of Dentists of the Dental Council of Ireland and the membership list of the Orthodontic Society of Ireland.

The number of Irish graduates on recognized orthodontic training pathways was identified by directly contacting the 13 UK and 68 US schools with accredited orthodontic programmes. Each school was contacted requesting the number of Irish graduates on the postgraduate training programme. A second letter was sent to those who did not reply. Direct telephone contact was made with the schools who failed to respond to the second letter. This method resulted in a 100 per cent response rate.

The data was assimilated to determine the number of orthodontists in academic and teaching schools, private practice, the public health service, or a combination. Academic and consultant orthodontists were also included, although their clinical contribution was difficult to gauge because of their additional research, teaching, and administrative responsibilities (Shaw, 1983).

The year of first registration with The Dental Council of Ireland was identified in an attempt to calculate the age profile of the present orthodontic population. Assuming a 40-year career span from the time of first registration estimates can be made regarding future retirement.

#### Identification of Population Statistics

The population figures were obtained from the Central Statistics Office (<http://www.cso.ie>). To enable comparisons with other studies, 12 years was taken as the average orthodontic age (Stephens *et al.*, 1985). The 1998 12-year-old population was extrapolated from live births in 1986. The proportion of child deaths up to age 12 was identified, but the numbers involved were not deemed sufficiently large to warrant inclusion in the population data.

### Results

The Register of the Dental Council of Ireland and the membership list of the Orthodontic Society of Ireland were

used to determine the number of dentists with orthodontic qualifications in Ireland. The demographics of the 69 orthodontists identified in October 1998 is shown in Table 1.

The 13 UK and 68 US schools with accredited orthodontic programmes were contacted. A total of 15 Irish graduates were enrolled on accredited training programmes for the 1998–99 academic year. These included 11 at registrar level and four at senior registrar level (Table 2).

Figure 1 shows the population trend over the past 20 years. There was a peak of 74,338 births in 1980 decreasing gradually to 47,929 in 1994. Since that time there has been a slight yearly increase to the current value of 53,354.

The 12 year-old population was extrapolated from the live birth information. The ratio of orthodontists to the 12-year-old population has reduced dramatically from 1:2773 in 1980 to 1:890 in 1998 (Figure 2). The 1980 and 1985 orthodontic figures were obtained from previous unpublished data from the Orthodontic Society of Ireland. During this period the orthodontist:dentist ratio had also reduced from 1:47 in 1980 to 1:25 in 1998 (Table 3). It is anticipated that the orthodontist:12-year-old ratio may decrease even further up to the year 2006 as a result of the low 1994 birth rate.

Of the 69 orthodontists identified 18 (26 per cent) were female. It is interesting to note that the female orthodontists identified do not necessarily work fewer hours than their male counterparts as suggested in previous studies (Waldman, 1996).

The year of first registration with the Irish Dental Council was identified in an attempt to calculate the age

TABLE 1 Manpower available to treat patients

Source	No.
Private orthodontic practice	
Full time	39
Part time	6
Consultant	
No private practice	5
With private practice	7
Community	
Full time	10
Part time with practice	1
Senior Registrar	
Full time	1
Total	69

TABLE 2 Irish personnel on accredited orthodontic training pathways

	Ireland	UK	N. America	
Registrar level	6	4	1	
Senior Registrar	1	3		
Total	7	7	1	15

Note these figures do not include graduates from the UK or Northern Ireland.

TABLE 3 Orthodontist: dentist ratios

Year	No. of orthodontists	No. of dentists	Ratio
1980	22	1033	1:47
1985	42	1168	1:28
1998	69	1713	1:25

profile of the present orthodontic population (Figure 3). Forty-one of the 69 orthodontists identified (59.4 per cent), registered their primary dental qualification in the past 22 years. Assuming a 40-year career span, it could be anti-

ipated that these 41 orthodontists have at least 20 years to retirement. Conversely, the retirement over the next 20 years of only 40.5 per cent (28) of the orthodontists currently practising in Ireland, could be anticipated.

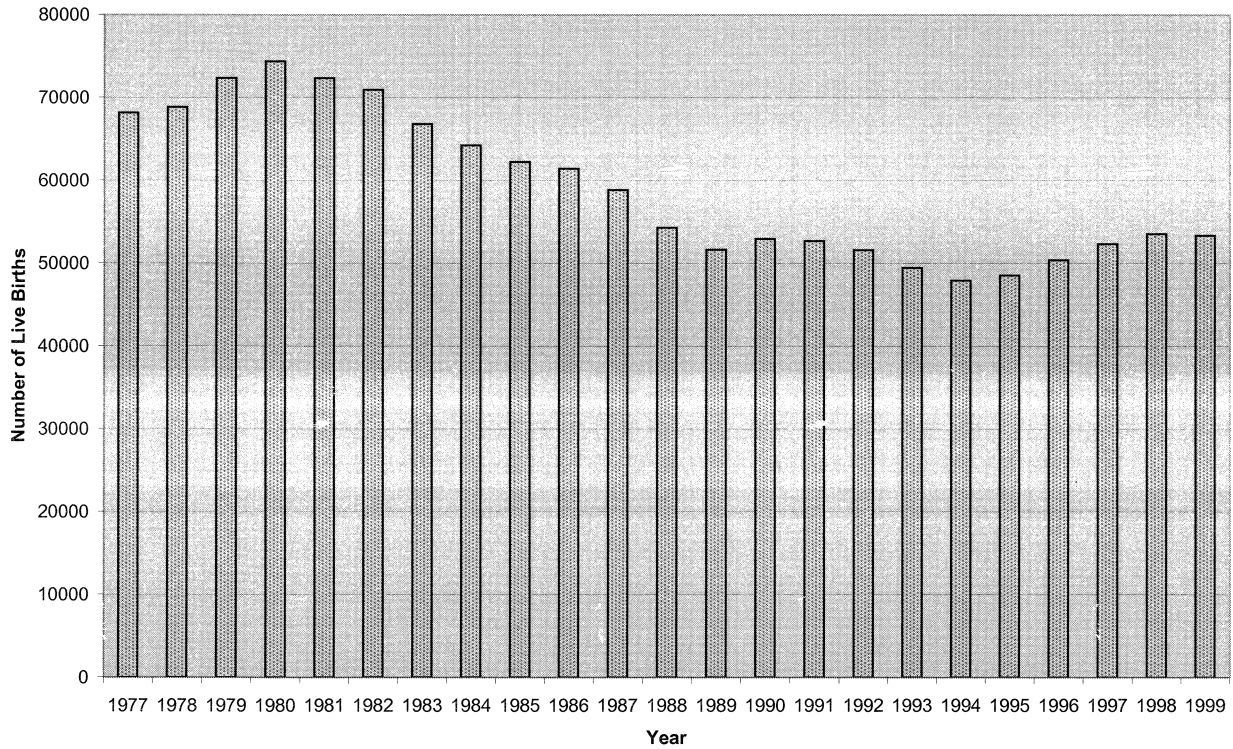


FIG. 1 Number of live births per year.

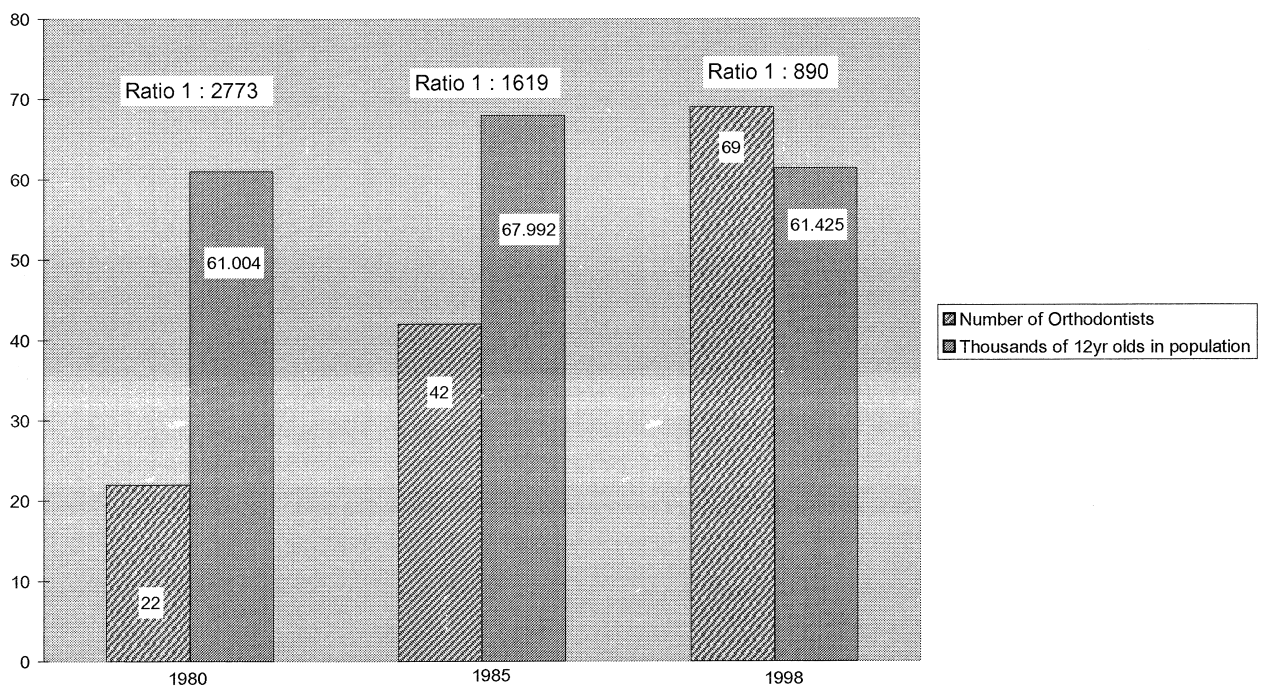


FIG. 2 Orthodontist:12-year-old population ratios.

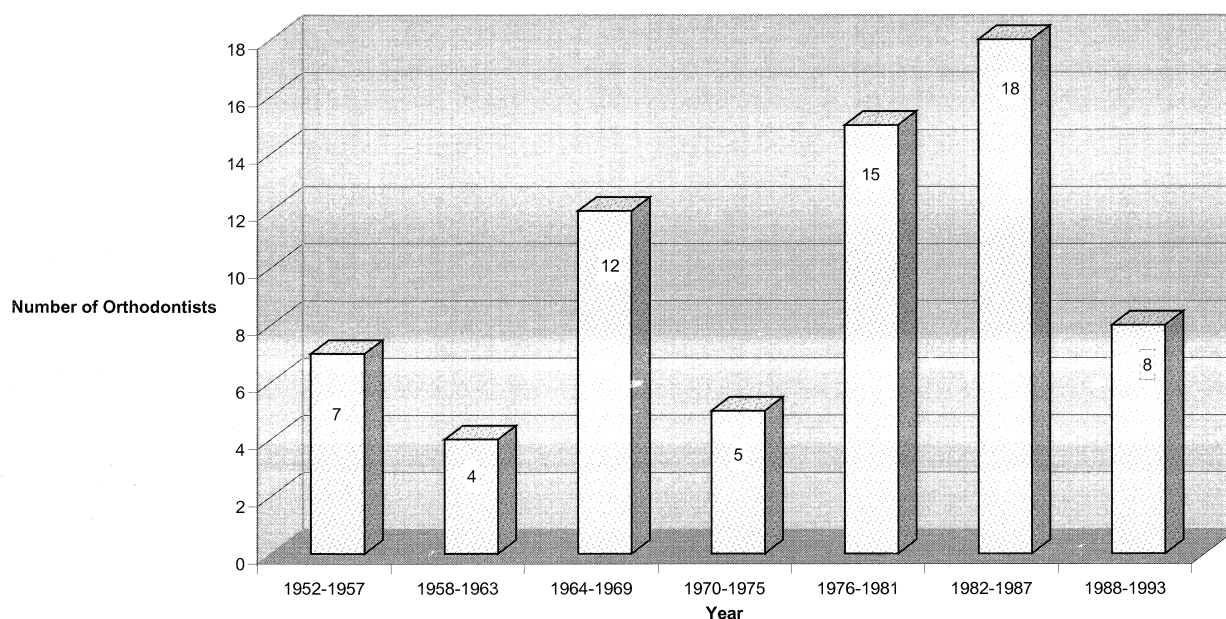


FIG. 3 Year of first registration with Irish Dental Council.

## Discussion

This study was carried out to establish the current demographics of orthodontists in Ireland. The orthodontic manpower situation has altered dramatically in the past 20 years. In the UK the ideal manpower level has been identified as 480 specialist practitioners (Task Group for Orthodontics Report, 1998). To date in Ireland, the appropriate manpower level has yet to be established.

Population projections are difficult to predict and rely on assumptions pertaining to trends in fertility, mortality, and migration. Interpretation of these trends, however, must be approached with caution. The 1998 12-year-old population of 61,425 will decrease in the short term to 47,828 in 2006. This figure is set to rise gradually over the following years. Assuming that the 12-year-old population will not have surpassed the 1998 level of 61,000 by 2018, only 29 newly-qualified orthodontists will be required over this time to maintain the present orthodontist:12-year-old ratio. It is interesting to note that half of this future requirement of new orthodontists is expected to commence orthodontic practice in the next 3 years (Table 2). It would appear from these predictions that we may be approaching an excess of orthodontic manpower in Ireland. The risks of excess manpower production have been clearly highlighted and note should be taken of these warnings (Van der Linden, 1981; Waldman, 1996).

This study involved personnel with orthodontic qualifications only. It has not taken into account the reality of orthodontic treatment being provided by paediatric and general dentists together with the possible introduction of orthodontic auxiliaries. To facilitate comparisons with other studies we have focused on the orthodontist: 12-year-old population ratios and have not taken into account the increasing demand for adult orthodontics. This study provides baseline information on orthodontic manpower in

Ireland and will facilitate Ireland's participation in similar or comparative studies elsewhere.

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