

# The Education and Training of Medical and Health Professionals in Higher Education Institutions

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## Introduction

1. This report<sup>1</sup> uses data collected from Higher Education Institutions to investigate the education and training of medical and health professionals, and the relationship between the NHS and the higher education system.

## Section A: Funding systems – inequalities, the role of planning and markets<sup>2</sup>

2. Funding mechanisms and their consequences

### *Nursing*

3. Since the mid 1990s, pre-registration nurse training<sup>3</sup> and the training of members of the allied health professionals (AHPs) has been commissioned directly from higher education institutions (HEIs) by NHS organisations, through competitive bidding processes.

4. In their relations with commissioning bodies, some HEIs appear to have been in a stronger position than others. Figure 1 shows NHS fees as a proportion of total income and as a proportion of total NHS fee expenditure in the relevant government office region. The first (shown in the lighter bars) is a measure of the institution's dependence upon the NHS and the second (in the darker bars) of the NHS' dependence upon the institution.

5. Over time, the stronger institutions (those whose dependence on the NHS was much less than the NHS' dependence upon them) would be expected to be in a position to negotiate more favourable terms than others. In the absence of any surplus capacity in the system, unregulated competition for training contracts is likely in the longer term to lead to a redistribution of resources in their favour through higher prices.

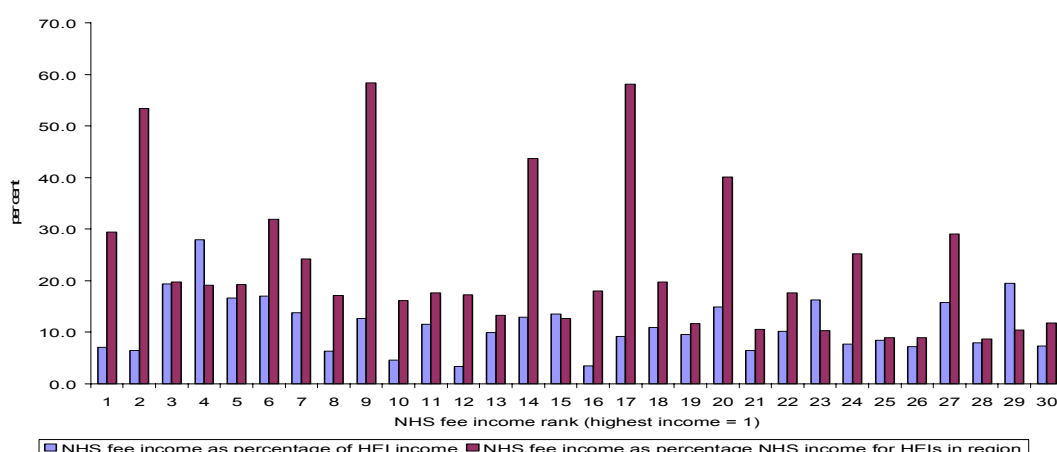
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<sup>1</sup> In order to save space technical footnotes and acknowledgements of source data are omitted from this summary. These, and other references, can be found in the full reports published on the HEPI web site [www.hepi.ac.uk](http://www.hepi.ac.uk).

<sup>2</sup> Professor Sir David Watson has generously shared the evidence gathered by himself and Professor Brian Ramsden to inform the Universities UK joint Longer-Term Strategy Group and Health Committee seminar *Partners in care* held in April 2004.

<sup>3</sup> The term training is used in a broad sense to refer to all forms of professional education and training. The philosophical distinction sometimes made between 'education' and 'training' is beyond the scope of this report.

**Figure 1: NHS fee income as percentage of total income and as a percentage of NHS income for the region 2002-03**



6. Nevertheless, the operation of the system hitherto suggests that it has been managed in such a way as to produce continuity as Table 2 demonstrates.

**Table 2: 30 institutions receiving most DH/NHS fee funding in 2002-03**

Institution also in top 30 in 2001-02	29
Institution also in top 30 in 1998-99	27
Median change in rank 1998-9 to 2002-03	3

7. The relatively low risks for providers are even more apparent when examining the 30 institutions receiving the greatest fee income in 1998-99. Of these, 27 saw substantial real terms increases in DH/NHS fee income.

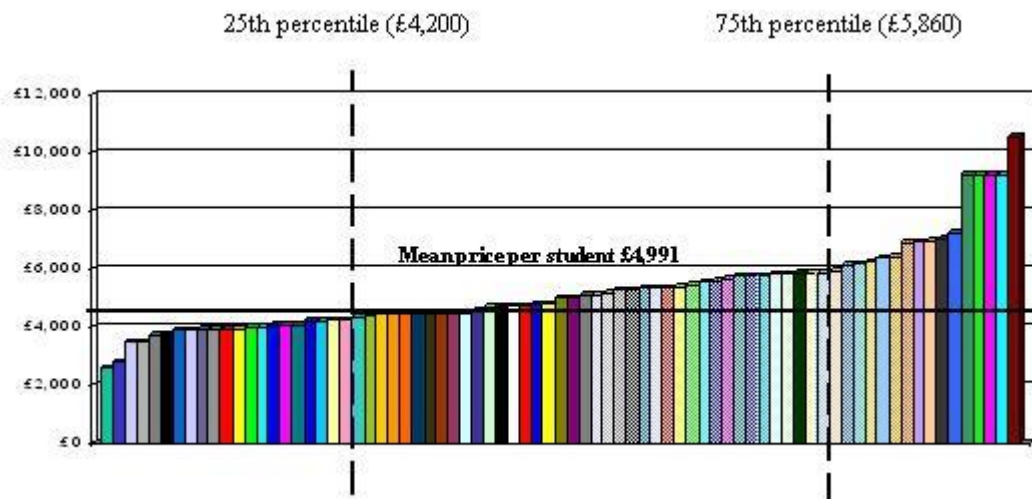
8. Even year on year drops in income are rare: only twice between 1998-99 and 2002-03 did an institution suffer a drop in its NHS fee income equivalent to more than 1.5 per cent of total revenue. This illustrates that, in an environment characterised by a limited number of suppliers, little excess capacity and a monopsonistic purchaser both sides behave in a way designed to ensure stability. This may be for the best, but it suggests that, whilst the commissioning of research is contractual (giving the NHS as the client real control over what is provided) the market for training does not effectively set prices or create competition.

#### Variation between nursing departments

9. There may be continuity but there is also evidence that some HEIs have more price-setting power than others (as one might expect given the analysis set out in figure 1 above). In 2001 the National Audit Office (NAO) undertook an enquiry into

the training of nurses and AHPs<sup>4</sup> in the course of which it surveyed HEIs and identified large disparities in the funding per student they received<sup>5</sup>. The extent of the disparities is shown in Figure 3 below.

**Figure 3: Pre-registration nursing and midwifery contracts 1998-99: price per student<sup>6</sup>**



Source: NAO survey of HEIs (2000)

10. Moreover, the NHS itself did not have the power to review and compare the costs and prices of different providers, each of whom had a confidential contractual relationship with one of thirty-nine commissioning bodies. NHS bodies frequently underestimated staffing needs, leading to under-recruitment and under-investment. With neither buyers nor sellers having information about prices elsewhere, and with no co-ordinated workforce planning, this seems to have been a perfect example of a pseudo-market engineered to lack any of the benefits normally expected either from planning or from competition.

11. In response, the NHS is planning to move towards benchmark pricing and rolling contracts, to provide HEIs with the confidence to invest. However, if as a result some strongly placed providers see their incomes fall (because they will previously have been able to charge higher rates) they may withdraw from nursing education.

12. This presents the NHS with a tricky situation. The need for new UK trained nurses is likely to increase. The profession is ageing and increasingly dependent

<sup>4</sup> "Educating and training the future health professional workforce for England" (National Audit Office 2001)

<sup>5</sup> The analysis is shown in table 8b of the NAO Report "Educating and training the future health professional workforce for England" (National Audit Office 2001)

upon staff recruited from overseas whose propensity to remain in the UK is unknown and whose recruitment has already peaked. Given the lack of alternative providers it is important to the NHS not to drive suppliers out of the market, nor to impose such volatility as to deter investment in additional capacity. At the same time, the NHS would not wish to design competitive pressure out of the system. Squaring the circle will require an intelligent, strategic and co-ordinated response from commissioning bodies.

### *Medicine & dentistry*

13. In medicine and dentistry the situation is very different. Institutions can depend upon strong demand for places, but the costs of training (and the rates of funding provided by the HE Funding Councils) mean that it is impossible for the number of places to be increased unless the government underwrites the additional costs: it is implausible that students could meet more than a fraction of the costs of their training (see table 4). This means that, in practice, any expansion of places will have to be centrally planned and financed with an eye to the needs of the NHS.

14. The UK has fewer physicians than other countries and is highly dependent upon overseas trained doctors with 31 per cent born overseas<sup>7</sup>. It seems unlikely that this will change without either a fall in costs of training or the dedication of substantial additional earmarked funds. This has implications for the source countries and, potentially, for the sustainability of UK health services if the supply of overseas professionals weakens.

15. In medicine and dentistry, the state has effectively underwritten high costs for a long period. Competition for students is unnecessary because demand always exceeds the supply of places. Substantial research funding is available from a variety of sources. This contrasts with nursing where universities and colleges are funded directly by NHS commissioning bodies on a contractual basis, providing less freedom and security.

### Resources devoted to training: variation between professions

16. In order to establish the difference between investment in the training of nurses on the one hand and doctors and dentists on the other, Table 4 shows the funding per student provided to universities.

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<sup>7</sup> Eastwood et al, *Loss of Health Professionals from Sub-Saharan Africa: the pivotal role of the UK*, The Lancet Vol 365 no. 9474.

**Table 4: Comparison of resources available to departments of nursing, medicine and dentistry**

	Estimated financial resources available to departments providing training 2002-03 (£m)	Cohort size (first year undergraduates 2003-04)	Expenditure per student <sup>8</sup>
Clinical medicine and dentistry	2,152	9,280	£231,897
Nursing and paramedical studies	1,005	35,138	£28,602

17. These figures need careful interpretation. Much post-registration training in medicine and dentistry is provided by non-HE organisations and is therefore not included here. These figures, therefore, represent a substantial underestimate of the difference provided to those delivering the training of doctors and dentists on the one hand and nurses on the other. Furthermore, under the arrangement known as ‘knock for knock’ NHS organisations and medical and dental schools make use of one another’s facilities and staff without attempting to place a value on the contribution of each to the work of the other. The net value to each medical school of knock for knock arrangements is entirely opaque<sup>9</sup>.

18. The gap between nursing and medicine/dentistry reflects the greater intensity of staff in medicine and dentistry, as well as the more expensive facilities and higher academic salaries. The cost of training is relevant to the Government’s strategy in sourcing trained professionals: the option of recruiting heavily from abroad will be harder to forego in medicine than in nursing (though it is to be hoped that the UK Government will accept a responsibility to recompense those developing countries whose trained professionals are recruited).

#### Variation between medical and dental schools

19. There are large variations in the resources available to English medical and dental schools. For example, even discounting staff on research-only contracts, Oxford has two and a half times more staff than Liverpool (and three other medical schools). UCL spends nearly three times as much pro rata as St. George’s Medical

<sup>8</sup> This is not necessarily what is spent on each student. It is a ratio of the amount spent by the university in the subject area concerned to the number of students present in that subject.

<sup>9</sup> These figures assume that ‘knock for knock’ has a neutral effect on each medical school.

School and two and a half times more than Nottingham<sup>10</sup>. Similar variations in resourcing are evident between dental schools.

20. To some extent these figures reflect differences in levels of research funding but not all of the differences can be explained this way. The figures exclude expenditure related to research grants and contracts, and Funding Council research grant (QR) cannot alone account for these inequalities. If the eighteen largest English medical schools are divided into two – the half with the highest expenditure per student and half with the lowest - then the first would, collectively, have had to have spent £241m less to reduce their expenditure per student to the level of the second. The difference in QR funding between the members of the two groups is in fact only £76m.

21. In 2002-03 the new medical schools created in the recent expansion had only just opened, and meaningful comparisons between new and established schools cannot yet be made. However, these schools believe strongly that the level of funding per student they receive – fixed in part by negotiation – is considerably less than the established schools. It appears that it is possible to provide medical education for very much less than is available to the best provided institutions.

22. Such inequalities as are not explicable in terms of research funding could have many explanations<sup>11</sup>: differential input from the NHS or simply inconsistent practice in the completion of data returns. Two things however are clear – first that the available data suggest that different providers may be doing the same job with very different resources and second that, given the shortcomings of the available information, the Government simply cannot know if it obtains value for the very substantial resources expended on medical education.

## **Section B: Characteristics of nursing as a discipline in UK universities and colleges**

23. It is striking how little the study of nursing appears to have been ‘academicised’ by its move into the Higher Education sector.

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<sup>10</sup> These figures are included to illustrate the degree of variability in departmental expenditures and staffing. This in turn is significant because it suggests that the opacity and complexity of existing funding arrangements is creating outcomes that would be hard to justify in a rational system (though this is hard to demonstrate precisely because of that opacity and complexity); and this in turn supports the case for reforming the funding of medical, dental and health professional education. These figures should not be used to draw conclusions about individual medical and dental schools - in the absence of detailed information on the contribution of NHS staff and facilities to the teaching activities of each school, such comparisons are unsafe.

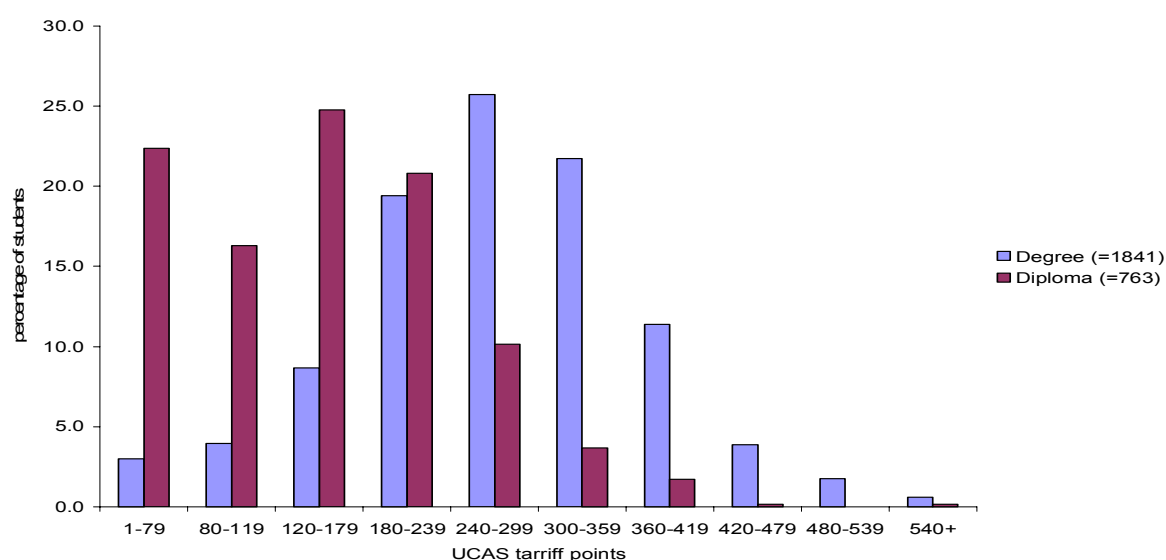
<sup>11</sup> The disparities, in England, at least, are not caused by differing proportions of clinical and non-clinical students. The nine lower spending English HEIs have a higher proportion of clinical students (who attract more HEFCE funding) than the higher spending HEIs.

## Qualifications

24. Full-time degree students whose highest entry qualification was A level represented only 4 per cent of nursing undergraduates in 2003-04. The diploma is likely to remain the standard entry qualification for the nursing profession.

25. The comparison in Figure 5 of degree and diploma nurses *whose highest previous qualifications were A levels or equivalent* suggests that degree and diploma routes attract different kinds of student. There is no guarantee that current rates of entry to nursing could be sustained if degrees became the standard entry qualification.

**Figure 5: UCAS tariff points of nursing degree and diploma students whose highest entry qualifications are A levels or Scottish Highers**



26. Moreover, Table 6 suggests that student demand may be falling.

**Table 6: Applications to the Nursing and Midwifery Application Service (NMAS<sup>12</sup>)**

Entry Cycle	Forms received <sup>13</sup>	Successful (%)	Unsuccessful (%)
1999-00	39034	14819 (38)	19507 (50)
2000-01	45677	15734 (34)	24496 (54)
2001-02	37314	15560 (42)	17719 (47)
2002-03	32585	15810 (49)	13324 (41)

27. The need for new UK trained nurses is likely to increase. In 2004, 27 per cent of registered nurses were aged 50+ and 10 per cent under 30. In contrast, in 1994 the number of registered nurses under 30 was higher than the number aged 50+.

<sup>13</sup> Includes forms cancelled before being sent to institutions and forms withdrawn before any decision taken. For this reason the totals amount to less than 100 per cent.

This suggests that any moves which would restrict access to nursing such as more demanding entry qualifications are unlikely.

#### Continuing professional development

28. Much of the teaching activity of UK nursing departments is not associated with degree or diploma level qualifications. Whilst there were only 2,401 first year part-time diploma students in nursing in 2003-04 there were 44,960 first year part-time students studying for non- first degree qualifications. A large majority of these (85 per cent) held HE or professional qualifications<sup>14</sup>. Most of these were probably employed nurses undertaking further professional training<sup>15</sup>.

#### Research

29. Levels of research funding in nursing remain low relative to other subjects. Table 7 compares HEFCE QR funding allocations in nursing with the total expenditure of nursing departments and compares this with the sector as a whole. Research is much less prominent in nursing departments than in academic departments generally.

**Table 7: Expenditure and research funding of English HEIs 2002-03 (£m)**

	Departments of nursing	All academic departments	Nursing as a percentage of total
Total Expenditure	401	5703	7.0
HEFCE research funding	6.2	940.0	0.7

#### Staff grades

30. Staff in nursing departments are much less likely than others to be in 'researcher' posts – indicating that there is insufficient funded research activity to support large numbers of postdoctoral researchers. Moreover, staff on 'academic grades' are much less likely to be on senior grades than those in HE generally.

<sup>14</sup> Interestingly, 78 per cent of part-time *first degree* students whose entry qualifications are known also held higher or professional qualifications (8440 out of 10360). It seems likely that many are diploma-qualified nurses attempting to obtain degree qualifications.

<sup>15</sup> In later years foundation degrees might be expected to make an impact. Foundation degrees in nursing are *sub-diploma* qualifications.



**Table 8: Staff grades in nursing and all academic departments in UK HEIs**

	Departments of nursing 2002-03 (per cent)	All academic departments 2003-04 (per cent)
Senior lecturers and researchers/Professors	1658 (19)	38270 (25)
Lecturers	5370 (60)	54045 (36)
Researchers	645 (7)	33190 (22)
Other	1240 (14)	24725 (16)

31. Nurse training has become embedded in HE without acquiring the profile of a typical subject. The profession it serves continues to admit most entrants on the basis of sub-degree qualifications, nursing schools are organised in such a way as to provide enormous amounts of CPD and research is a marginal activity.

32. It was therefore always going to be difficult for the NHS University to flourish unless its establishment coincided with a large expansion in funds allocated to CPD. HEIs already operate like in-house training organisations, providing a flexibility not always associated with providers of higher learning. The movement of nursing into HEIs has not apparently resulted in credentialism, nor in research replacing teaching as the central preoccupation of staff. Academic values are not apparently conflicting with the needs of the service.

33. This may reflect the funding arrangements. Nurse training in universities has been funded by the NHS on the basis of confidential contracts negotiated by local and regional NHS bodies and autonomous HEIs. This model gives the purchaser much greater control over the nature of provision than the 'block grant' which underpins other subjects. To the extent that universities and colleges may increasingly become the "training academies" for other public services, the experience of direct commissioning in the health sector will be relevant: such direct commissioning may, for good or ill, prevent university departments from following a typical academic model – and focus them on providing training relevant to service needs.

### **Section C: Conclusions**

34. The state has an inescapable planning function with regard to the education of health professionals. It is the customer of nursing departments, and provides the bursaries which enable students to study. As for medical and dental students, top-up fees will raise only a fraction of the costs of clinical education: with demand strong

the key factor limiting medical student numbers will continue to be the willingness of the state to invest in training.

35. In medicine and dentistry, therefore, as in nursing, the responsibility to oversee the investment of public funds cannot be evaded on the grounds that the student, rather than the Government, is the customer and that student demand will create a market solution: the Government is, in effect, a monopsony purchaser and cannot depend on others to ensure appropriate price and quality or that adequate capacity is sustained. The question, therefore, is not whether planning or market solutions should be employed but how the state can best safeguard public investment in health professional training.

*Restructuring the funding of medical and dental training to ensure greater accountability for public funds*

36. Minimally a national accounting exercise is needed, establishing what public monies go into medical and dental education, who receives them and relating the quality and quantity of outputs to inputs. Best practice should be identified together with the reasons for the high cost of the most expensive. The exercise should not be one sided: if it discovers that some providers are under-resourced, this too should be addressed. It must consider the distribution and use of SIFT monies and the contribution made by NHS employed staff and NHS facilities as well as funding council support. Ideally, those responsible for this accounting exercise would report to a national body with the power to restructure funding mechanisms.

*Location of responsibility for commissioning and funding the training of nurses and allied health professions*

37. The rationale for commissioning health professional training at local rather than national level is open to question. It is hard to see how patients or taxpayers benefit if no-one is responsible for ensuring the best use of national training capacity and of the pool of prospective students or to ensure that nationally the commissioning of training places reflects the need for qualified staff. It would be particularly dangerous to create a situation in which the performance of the NHS is monitored nationally with no corresponding attention to each Strategic Health Authority (StHA)'s contribution to replenishing the professions. This would amplify the tendency to sacrifice training to more immediate service needs.

38. Theoretically, an advantage of local commissioning is that it enables StHAs to ensure that service contracts oblige trusts to provide in-service support for training,

but the record here is patchy: there is a chronic shortage of trainers and poor quality support appears to contribute to poor retention rates.

39. Although the funding of some Continuing Professional Development should continue to be responsive to service priorities (so long as major nationally dictated programmes of CPD are funded, organised and rolled out nationally), the public interest is not best served by making pre-registration training compete for funds with service delivery. This leads to a 'boom and bust' pattern of training activity which is wasteful and disruptive.

*A single body to manage public investment in the education and training of health professions (including medical and dental staff)*

40. The fact that the resources available to medical and dental schools appear to differ so much, and that there is no straightforward means of establishing the extent of and the reasons for this, indicates a lack of control. This is partly because medical schools share facilities with NHS organisations which are provided with a separate funding stream (SIFT) to cover the costs of the use of clinical facilities in teaching medical and dental students. There is currently no body able to review the national investment in the education of health professionals and determine whether these disparities are appropriate, nor to take an overview that relates inputs with outputs - the resources provided for the training of doctors and nurses with the numbers required.

41. The case for such a body could become persuasive if greater transparency reveals shortcomings and unexplained anomalies currently. Devolution means that such a body could not operate UK-wide but in England there is a strong case for a government body to oversee the total government investment in the training of health professionals (including funding provided to NHS Trusts and other non-HE bodies), to consider how that investment should be prioritised and to ensure both that the public gets appropriate outputs in return for a vast investment and that adequate capacity is sustained. No such body exists at present and this role is not at present carried out.

42. Any such body would need to be independent of the NHS. Just as it is arguable that the trust-based funding regime of the HE funding councils suits the producer interest, it is equally arguable that funding within the NHS suits the short-term interests of NHS administrators with service delivery targets to meet rather better than the long-term public interest in replenishing health professions.

43. Whether or not it should sit under the Department of Health is something to be considered. Given that the primary concern of such a body would be to ensure adequacy of output of trained medical professionals and value for the resources devoted to this, it should be remembered that at present the support for medical and dental education channeled through the HE funding councils is much more transparent, has a more rational basis and is no less accountable than that channeled through the NHS through SIFT and knock for knock arrangements. The HE funding bodies are less subject to other pressures on funds and in that respect are better equipped to manage a long-term investment. Before assuming the functions of the HE funding bodies in funding medical and dental education, the Department of Health would need to make very significant reforms - in the absence of which there would be a strong case for a transfer of funding responsibility in the opposite direction.