Why tomorrow's doctors need primary care today

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DECLARATIONS

Competing interests
The authors are both academic general practitioners and are employed by their respective universities to develop high quality teaching within the primary medical care setting

Funding
None

Ethical approval
Not applicable

Guarantor
DJP

Contributorship
Both authors contributed equally

Acknowledgements
The authors would like to acknowledge John Benson and Robbie Foy of the Universities of Cambridge and Leeds for their comments on successive drafts of this paper

Introduction

Tomorrow's Doctors, the General Medical Council's core curriculum guidance to United Kingdom medical schools, has provided a powerful steer for undergraduate medical education in the United Kingdom and internationally since its first publication in 1991. Its emphasis on a holistic approach to medical education, where graduates 'understand the social and cultural environment in which medicine is practised' and gain clinical experience in a variety of healthcare settings has been a powerful catalyst for moving medical education from hospitals towards the community.[1] Now the latest *Tomorrow's Doctors* is out for consultation, it is timely to acknowledge the contribution of primary medical care in delivering a modern medical curriculum, and the dangers of not taking the tough decisions which will allow this contribution to be maximized.[2]

Background

There has been a sustained shift towards community and primary care teaching within the curriculum of most UK medical schools with on average 13% of teaching occurring within primary care and general practice (range 2–30%).[3] A similar shift has occurred in many other countries, often in a desire to develop the strong primary care workforce thought to be central to an effective and equitable healthcare system.[4]

There have been multiple stimuli for this shift, but too often the reasons have been pragmatic, including increased student numbers, reconfiguration of hospital services and shortened hospital stays.[5] We argue that the educational reasons for increasing primary medical care placements within the curriculum are compelling.

The arguments we make are not new, but they are timely and need re-stating. Julian Tudor Hart argued over 20 years ago that the 3%:97% split in the time medical students (then) spent in primary and secondary care during medical training should be reversed.[6] Much has changed, but fundamentally medicine remains a hospital-based apprenticeship, at a time where healthcare policy is to shift towards a primary care and community focus,[7,8] and where government targets are that 50% of medical graduates will be based in the community.[9]

This article lays out our rationale for placing primary medical care at the centre of medical school curricula, identifies potential barriers to developing primary care's contribution and poses a challenge to policy-makers. While we concentrate on the UK, these are global issues important to everyone concerned about undergraduate medical education.

We emphasize *primary medical care* not primary care in its widest sense. Community and non-medical primary care placements make important contributions to producing doctors with a holistic view of health and healthcare. We are however educating doctors. Medical students must learn the science and art of medicine. They must be able to gather information, share understanding, make diagnoses, develop management plans, care for patients as individuals, support carers, work in teams and integrate all this in a holistic approach. We argue they can only learn these skills if a large proportion of their learning is with medical practitioners within their future workplace.

Train doctors where people live, work, stay healthy and become unwell

Our premise is simple. We should educate doctors about the common conditions people experience and the management they require, in the settings where most seek healthcare and most doctors will practise.

Tomorrow's Doctors emphasizes the importance of understanding the social and psychological determinants of ill-health.[1] This understanding is the core of being a general practitioner,[10] and we argue best learnt in primary medical care (though others have argued that the evidence that GPs consistently apply these skills is scarce).[11] For general practitioners (GPs) the impact of social and psychological determinants of health on their patients are directly observable, and also seen within the increasingly comprehensive shared primary medical care records. Patients presenting to primary care practitioners (whether GPs, nurse practitioners or practice nurses) are more 'in context' than in hospital. For example the impact of employment or housing on health is more apparent when the patient presents to general practice than remotely in hospital should the patient's journey progress that far.

Whether being patient-centred and aware of these social and psychological factors in health is good for the patient is arguable. Some evidence suggests patient-centred doctors are less good at achieving objective measures of health,[12] though a recent systematic review is more optimistic.[13]

Primary health care practitioners manage the interface between public health interventions and personal health. Interventions such as smoking and alcohol policy or immunization and screening programmes can be introduced in the classroom, and their failures seen within emergency departments, outpatient clinics and hospital wards, but their impact on individuals is best understood in the GP surgery. This is where population health meets individual health, and where misunderstandings, cultural barriers, fears and prejudices that all future doctors must appreciate are best observed.

Educate doctors about the conditions most patients suffer and the management most patients' experience

Internationally 90% of patient encounters are in primary care.[14] In the UK most of these are in general practice, provided by an increasing range of healthcare practitioners. They cover the spectrum of illness from initial presentation through continuing care to the end of life.

Medical students have always needed to know how illnesses, including early illness, present; about epidemiology; about the management of common conditions; and about chronic disease management.

The skill of early diagnosis, and of helping patients (and colleagues) manage uncertainty is becoming ever more needed. As healthcare improves we are losing the dramatic presentations of yesteryear – though they still appear on medical TV soaps. People still present with bleeding ulcers, diabetic ketoacidosis, myocardial infarctions and cyanosed with asthma – but much less often than a generation ago. Tomorrow's doctors will increasingly care for patients with complex co-morbidities, and the resulting poly-pharmacy, and most care will be within the community. The vast majority of chronic illness in the UK is based in general practice within the context of the increasingly evidence-based 'Quality and Outcomes Framework' (QoF). The QoF risks making general practitioners less patient-centred and less focused on the social and psychological aspects of health,[11] but does offer a robust framework for teaching chronic disease to a new generation of doctors.

As we diagnose illness earlier and the range of available interventions and investigations expands, so does the possibility of harming patients through anxiety or iatrogenic illness. Understanding when not to investigate or intervene becomes crucial. These are the attributes of the true generalist. They are the heart of the primary medical care practitioner's role. They are skills best taught by these professionals in their own workplace.

Primary medical care is also best suited to coordinate learning about care at the end of life. Many die in the community or in community hospices often with coordinated care from their general practitioners and specialist palliative care nurses. The integration of the care of the dying patient and their carers (or the newly bereaved) can most acutely be observed in primary care close to the patients' home, family and friends.

Train doctors where most doctors will practise

UK government policy is that half of UK graduates will train as GPs.[9] Medicine at heart remains an

apprenticeship albeit enhanced with sophisticated educational interventions like small-group teaching, self-directed learning, simulation, reflection and mentorship. Apprenticeship learning needs to be situated in settings which closely resemble where the apprentice will ultimately practise. To maximize the quality and relevance of medical education, primary medical care must be central to the undergraduate curriculum. It can no longer be viewed as an adjunct to learning in hospitals.

The demands of the changing face of primary care

Tomorrow's doctors must understand the roles of all healthcare professionals and how they work and communicate with each other. There has been a huge change in the delivery of UK healthcare in the last decade. General medical practitioners work with practice nurses, nurse practitioners, community matrons, community pharmacists, NHSdirect, and a range of out-of-hours, unscheduled and intermediate care providers. They communicate though a sophisticated shared electronic patient record. Tomorrow's doctors need a proper understanding of these roles and structures, and how they support the vast majority of patient care in the NHS. Medical students need time to follow patient journeys across the increasingly complex map of healthcare. These journeys are largely within primary care settings.

What should primary medical care practitioners teach?

Primary medical care practitioners are uniquely placed to deliver excellent broad-based undergraduate education to tomorrow's doctors. They are the last true medical generalists. They see a wide range of health problems from obstetric and paediatric to orthopaedic and psychiatric. They have expertise in acute and chronic medical care. They care for people with undifferentiated, early illnesses and with established and often multiple pathologies. General hospital physicians, increasingly rare even within paediatrics or geriatrics, do some of this very well, but their case load is inevitably filtered and medicalized by the time patients present to outpatients or hospital wards.

Primary medical care is an ideal setting to teach early patient contact, learning of clinical method (including consultation skills), diagnosis and management of early presentations of illness, and of chronic medical conditions including complex multiple pathologies and associated poly pharmacy. It is also an ideal setting to teach much acute medicine and a wide range of 'specialties' including dermatology, ENT, ophthalmology, musculoskeletal medicine, women and child health, and mental health.

We do not advocate an exclusively primary care curriculum. Hospitals continue to have an important role in medical education. Dramatic presentations are more common in hospital and capture the imagination. Hospital placements help develop understanding of diagnostic techniques, curative and palliative interventions, and the complications of chronic illness. Intermediate, secondary and tertiary care centres, and their associated ambulatory care facilities, will continue to be vital for teaching end-points of disease, the rare and the truly specialized. These placements should, however, be integrated with teaching in primary care, not overwhelm it.

Primary care can provide excellent teaching acceptable to students, patients, practices and tutors alike.[15–24] It should be entrusted with a more central role in teaching across the medical curriculum.

Barriers

There are three barriers to achieving these objectives: capacity, change and political will. If the argument to shift medical education into primary care is so compelling, why has it not happened before?

The contribution of primary care to the UK medical curriculum has increased by 50% in recent years (9% in 2002 to 13% in 2007).[3,25] One-third of UK practices are involved with undergraduate teaching.[25] The quality of teaching has remained high,[3,25] even where teaching has moved to final year and group placements.[17] Further increase can only occur if significant changes are made to the UK's funding of undergraduate clinical teaching especially the disparity between the overall funding of teaching between primary and secondary care. In the UK secondary care providers enjoy substantial 'facilities' funding in support of teaching infrastructure. This funding has largely been denied to primary care. As teaching moves into primary and intermediate care settings it is hard to

argue against these facilities' funds being redistributed. The principle of investing in the educational estate of general practice premises has already been established.[26]

Primary care itself is changing, creating both opportunities for teaching but also potential barriers. The barriers come from the diversification of providers, with newer or private providers perhaps less likely to embrace an NHS ethos of education. Iliffe refers to the 'industrialization of family medicine' and raises concerns that the very strengths of the arguments we raise (that GPs are generalists best placed to teach about risk, complexity and uncertainty) will be undermined by a shift to increasingly impersonal and managed care.[11] This is a real danger, but one faced across medicine (and arguably the real world that medical graduates need to be exposed to).

Is there a political will to overcome what Sen Gupta and Spencer suggest is an institutional and specialist inertia which help maintain established models of medical education?[27] The new draft edition of *Tomorrow's Doctors*, currently under consultation, allocates clear responsibilities to all stakeholders in medical education.[2] The first responsibility of the NHS is to make 'available the facilities … necessary for delivering the clinical … curriculum'.[2] If it is accepted that primary medical care must make an increased contribution to undergraduate medical education, a shift of funding is necessary. It is the responsibility of the NHS to work with medical schools to achieve it. Do strategic health authorities have the will to enact this change at a rate which would allow primary medical care practitioners to make the substantial contribution to medical education that we argue for, and that the *Tomorrow's Doctors* requires?

Summary

Generations of medical students have received the majority of their clinical education in hospitals. This fosters an impression that healthcare happens in hospitals which rescue patients from primary care and surrender them back when their care is complete. In reality, the majority of healthcare has always been delivered in primary care and the community. For most people this continuing care from general medical practitioners and their colleagues is only rarely interrupted by hospital contacts. The current emphasis on providing care close to patients' homes recognizes this reality and is driving huge change in healthcare and the medical profession. Medical education must change quickly to respond to these challenges.

As we look again at the education of tomorrow's doctors we ask whether the profession, its executive bodies and those who hold the purse-strings have the will to challenge current mindsets and shift funding to allow primary care to achieve its potential in integrated medical curricula in equal partnership with secondary care.

References

1 General Medical Council. *Tomorrow's Doctors: Recommendations on Undergraduate Medical Education*. London: GMC; 2003
2 General Medical Council. *Tomorrow's Doctors 2009: a draft for consultation*. London: GMC; 2009. See https://gmc.econsultation.net/econsult/uploads/TD%20Final.pdf (last checked 19/02/2009)
3 Jones R, Stephenson A. Quality assurance of community based undergraduate medical curricula: a cross sectional survey. *Educ Prim Care* 2008;**19**:135–42
4 Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q* 2005;**83**:457–502
5 El-Bagir M, Ahmed K. What is happening to bedside teaching? *Med Educ* 2002;**36**:1185–8
6 Hart JT. George Swift lecture. The world turned upside down: proposals for community-based undergraduate medical education. *J R Coll Gen Pract* 1985;**35**:63–8
7 Department of Health. *The NHS Plan*. London: Department of Health; 2000
8 Department of Health. *Our health, Our care, Our say: a new direction for community services*. London: The Stationery Office; 2006
9 Department of Health. *NHS Next Stage Review: A High Quality Workforce*. London: Department of Health; 2008
10 Royal College of General Practitioners. *The future of general practice. A statement by the Royal College of General Practitioners*. London: RCGP; 2004
11 Iliffe S. *From General Practice to Primary Care: the industrialisation of family medicine*. Oxford: Oxford University Press; 2008
12 Kinmonth AL, Woodcock A, Griffin S, Spiegal N, Campbell MJ. Randomised controlled trial of patient centred care of diabetes in general practice: impact on current wellbeing and future disease risk. The Diabetes Care From Diagnosis Research Team. *BMJ* 1998;**317**:202–8
13 Griffin S, Kinmonth AL, Veltman MW, Gillard S, Grant J, Stewart M. Effect on health related outcomes of interventions to alter the interaction between patients an practitioners: a systematic review of trials *Ann Fam Med* 2004;**2**:595–608
14 Green LA, Fryer GE Jr, Yawn BP, Lanier D, Dovey SM. The ecology of medical care revisited. *N Engl J Med* 2001;**344**:2021–5
15 Benson J, Quince T, Hibble A, Fanshawe T, Emery J. Impact on patients of expanded, general practice based, student teaching: observational and qualitative study. *BMJ* 2005;**331**:406
16 Coleman K, Murray E. Patients' views and feelings on the community based teaching of undergraduate medical students: a qualitative study. *Fam Pract* 2002;**19**:183–8

17 Lucas BJ, Pearson DJ. Learning medicine in primary care: medical student perceptions of final year clinical placements. *Educ Prim Care* 2005;**16**:440–9
18 O'Sullivan M, Martin J, Murray E. Student's perceptions of the relative advantages and disadvantages of community-based and hospital-based teaching: a qualitative study. *Med Educ* 2000;**34**:648–55
19 Peters M, Jones R. *The Future Teaching Environment. Undergraduate primary care education in London. A report from the Heads of Departments of General Practice and Primary Care*. London: King's College; 2008
20 Power D, Harris I, Swentko W, Halaas G, Benson B. Comparing ruraltrained medical students with their peers: performance in a primary care OSCE. *Teach Learn Med* 2006;**18**:196–202
21 Schauer R, Scheive D. Performance of medical students in a nontraditional rural clinical program, 1998–99 through 2003–04. *Acad Med* 2006;**81**:603–7
22 Quince T, Benson J, Hibble A, Emery J. The impact of expanded general practice based student teaching : the practices' story. *Educ Prim Care* 2007;**18**:593–601
23 Worley P, Esterman A, Prideaux D. Cohort study of examination performance of undergraduate medical students learning in community settings. *BMJ* 2004;**328**:207–10
24 Worley P, Prideaux D, Strasser R, Magarey A, March R. Empirical evidence for symbiotic medical education: a comparative analysis of community and tertiary-based programmes. *Med Educ* 2006;**40**:109–16
25 Society for Academic Primary Care. *New Century, New Challenges. A Report from the Heads of Departments of General Practice and Primary Care in the Medical Schools of the United Kingdom*. London: SAPC; 2002
26 Department of Health. See http://www.dh.dov.uk/en/Publicationsandstatistics/Lettersandcirculars/Dearcolleagueletters/DH_098860 (last checked 05/08/2009)
27 Sen Gupta T, Spencer J. Why not teach where the patients are? *Med Educ* 2001;**35**:714–15