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Background

- NHS England's "Five Year Forward View" (1) and the Royal College of General Practitioners' "Vision for General Practice" (2) both predict increased volume and complexity of population health needs in the future, with care continuing to move from hospitals into the community. National reviews of medical training and workforce requirements report a critical need for an increase in the NHS General Practitioner (GP) workforce (3) and the RCGP has been working to promote GP as a
- career, yet this need has not so far been met. Only 17.4% of F2 doctors were appointed to GP training in the UK in 2015 (4) and about 1 in 10 GP trainee posts

remained unfilled after three rounds of recruitment in 2015.

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- Many questions must be asked. Why are there such wide variations across medical schools in graduates' choice of general practice as a career (range 7.3% to 30.0%) (4). Is there a cultural bias against primary care in medical schools? How important is
- 64 the quantity and quality of undergraduate GP exposure? Are we taking the wrong
- approach to selection processes in order to meet the needs of contemporary
- 66 society?
- 67 Choice of career for medical graduates is a complex process, with individual interests
- 68 and aptitudes playing alongside broader social and media influences and political
- 69 and economic factors (5). One thing however seems crystal clear: Undergraduate
- 70 experience has a major influence on career choice and therefore a comprehensive
- 71 and evidence-based strategy is required if medical schools are to succeed in
- 72 providing a medical workforce to meet our society's evolving needs.

73 Adequate funding and support of student placements in General Practice

- 74 Evidence from the UK and abroad shows that undergraduate exposure to general
- practice has a positive influence on students considering GP as a career (6,7). Yet
- 76 following a steady increase over the past 20 years, the percentage of teaching in
- 77 general practice in UK medical schools has plateaued (mean 13%) since 2008 and the
- average amount of clinical contact in GP settings has decreased overall (8).
- 79 Capacity for undergraduate GP placements is now a serious challenge for many
- 80 medical schools with practices facing competing demands from service and
- 81 expansion of postgraduate training activity. Postgraduate trainees are often viewed
- 82 as "better value" in terms of service, causing some practices to choose postgraduate
- training over undergraduate teaching. One way of balancing this conflict is to
- 84 encourage greater involvement of GP trainees in undergraduate practice based
- 85 teaching and there is evidence that this can have benefits for both trainees and
- students (9).
- 87 Medical students' perception of their GP teachers' job satisfaction positively affects
- their wish to become GPs (10). Whilst many aspects of GP job satisfaction are
- 89 beyond the remit of medical schools, they can at least ensure that GP teachers are

90 91 92 93 94 95	properly supported. Community GP teachers are a large group who need high quality and accessible training and updates that are targeted at their needs. An optional teaching qualification could open up a career path into academia for experienced GPs. This could be based in part on on-line modules with practice-based assessment. As we move possibly towards a national qualification for students, we could consider the same for GP teachers.
96 97 98 99 100	Funding is crucial. Undergraduate teaching payments no longer reflect the cost of reproviding service lost from teaching. The payments to practices providing such placements vary, but they are consistently lower than those made to secondary care providers of undergraduate placements (11). Yet general practice teaching has been shown to be as effective, if not better, than hospital teaching when it is adequately resourced (12).
102 103 104 105 106 107	Medical schools need to recognise both the educational value, and the value for money that is available in primary care teaching, moving students and resources from the hospital setting whenever learning could take place equally or more appropriately in the community. Such a paradigm shift is required to promote general practice as the cornerstone of the undergraduate experience, building upon pioneering work done previously (13).
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109	General Practice needs to be championed within the undergraduate curriculum.
110 111 112 113	Medical school curricula must do more to adapt in response to changing health patterns and the need for expert generalists in the modern medical workforce. Greater emphasis must be placed on the management of long-term conditions and the challenges arising from an ageing population with multiple morbidities.
114 115 116 117 118	Academic GPs must be seen and heard in prominent and senior roles within medical schools, both in teaching and research. Despite GPs comprising 27.5% of the total medical workforce, the UK's 221 academic GPs account for only 6.5% of all clinical academics (14). Students need to know the extent and importance of primary care research and how this informs teaching and practice.
119 120 121 122 123 124	There should be increased input from general practice at all stages of medical school activities, including selection panels, community placements, campus based teaching, student support services and crucially, assessment. Examinations at all stages should reflect more closely medical needs encountered in community care settings. Recruitment materials need to reflect the full range of graduate opportunities rather than depicting images predominantly of high-tech specialities.
125 126 127 128 129 130	Growing evidence from the UK and from international studies on Longitudinal Integrated Clerkships (LICs) suggests that longer, more immersive community placements make students more likely to choose General Practice as a career (15), as well as producing more empathic, "work ready" students. It may be time to replace frequent specialty rotations with more immersive placements. A logical approach would be to offer a lengthy (e.g. 12 month) placement in general practice and emergency medicine at the start of clinical training, allowing students to see

132 133 134 135	undifferentiated patients and giving them the opportunity to practise their clinical reasoning. This could be followed by a further long placement in primary care towards the end of the medical school curriculum, with a focus on patient management and General Practice apprenticeship.
136 137 138 139 140 141 142 143	Research suggests that some students opt for hospital careers believing they offer greater intellectual challenge than general practice (16). If we wish to counter this view we must provide undergraduate primary care exposure which challenges students, testing not only their communication skills but also their clinical reasoning, diagnostic, ethical and management competences. General practice is an ideal setting in which to learn about clinical leadership and quality improvement and innovative community modules such as managing complexity, community prescribing and medication monitoring can allow students to experience this breadth.
145 146 147 148 149	Widening participation projects may indirectly help GP recruitment as UK GP trainees are more likely to have state education than other specialties (17). Creative options such as part time training in early years combined with paid work as a receptionist or health care assistant in a GP practice could widen participation while incorporating elements of LICs, especially if students returned to the same practice for attachments.
151 152 153 154 155	A 2015 RCGP survey of medical students found that only 35% described their medical school as supportive of general practice as a career, with many comments on negative attitudes to general practice. Research suggests that negative comments about general practice as a career choice (by both GPs and specialists) are prevalent and have an influence on student career choice (18).
156 157 158 159 160 161	Medical schools could and should do more to expose students to GP teachers as important role models and valued members of faculty. They should also provide greater encouragement and support for student GP societies providing opportunities for students to meet GPs with a variety of experience, interests and portfolio careers. Such societies can also help students consider work/life balance questions which have been shown to be an important determinant in choice of career for "Generation Y" doctors (5,16).
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164 165	Further evidence needed.
166 167 168 169 170	Considering the anticipated crisis in GP recruitment and its serious implications for the NHS, the relative lack of emphasis on research in this area is a cause for concern. Further evidence is urgently needed to help us understand how primary care can best contribute to undergraduate education and how this affects students' career choice and approach to practising medicine in the broadest sense.
172 173 174	Further questions remain: How do negative attitudes towards General Practice as a career affect career intention? Is this in fact a discriminatory issue and does ethical behaviour by medical teachers need to be addressed? The Athena Swan initiative is

175 currently supporting and advancing women's careers in medical education and research - do we need a similar programme for GPs? 176 177 178 179 Conclusion 180 181 The choice of specialist career is a complex phenomenon combining personal and 182 social influences. Preferences may change at different stages of life and of training, 183 but there is no doubt that the undergraduate experience has a strong influence on 184 eventual career choice. 185 186 Considering the evidence currently available and described above, we make some 187 initial recommendations (see Table 1). We strongly suggest that UK governments 188 and medical schools urgently and carefully consider strategic changes needed at 189 undergraduate level if the NHS is to continue to have a strong GP workforce within a 190 vibrant and internationally-renowned primary care service.

Increase

Quantity of undergraduate teaching in General Practice

The proportion of exam questions that are set in primary and community settings

The proportion of academic GPs and students' exposure to them

SIFT funding to General Practice

Research into career influences of medical students

Review

The extent that General Practice is denigrated in medical school culture, and if necessary confront the phenomenon as a discriminatory issue

How medical students are recruited and selected

The career structure and pathways for GPs interested in undergraduate medical education or clinical research

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Table 1: Key initial recommendations to increase uptake of GP as a career

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