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# Factors Influencing UK Medical Students' Choice of General Practice: A Systematic Review

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**Background:**

There are currently concerns about recruitment to UK general practice. There have been various efforts and approaches to increase recruitment to general practice, and we lack contemporary insights and knowledge about the factors that shape medical students' career intentions.

**Aim:**

To identify and analyse the key factors influencing UK medical students' choice of general practice as a career pathway.

**Design and Setting:**

A systematic review of empirical literature about factors influencing career choice in UK undergraduate medical education synthesising both quantitative and qualitative evidence across UK medical education contexts.

**Method:**

We conducted a systematic review following the PRISMA guidelines. Systematic searches of seven electronic databases (MEDLINE, EMBASE, PsycINFO, ERIC, Web of Science, British Education Index, and EconLit) were conducted to identify primary research published from 1990-2024. The Bland-Meurer theoretical framework structured the analysis.

**Results:**

The systematic review identified 29 studies. Three critical factors emerged: (1) An educational disconnect between GP recruitment needs and medical curricula; (2) The persistent negative hidden curriculum experienced by students in various settings; and (3) The important role of authentic clinical placements and positive role models in challenging negative stereotypes.

**Conclusion:**

The findings from this review suggest that medical education structures and institutional cultures influence medical students' decisions about general practice careers. Medical schools and policymakers can improve recruitment by addressing the educational factors that shape career choice. Increasing high-quality general practice exposure in the curriculum, actively countering negative perceptions of GP, and promoting positive GP role models are all crucial.

*How this fits in*

*The UK faces a projected shortage of approximately 15,000 GPs by 2036/37, with a declining proportion of UK medical graduates pursuing general practice. Previous research has identified various contributing factors but lacked a contemporary synthesis within a coherent theoretical framework. This systematic review examines factors influencing UK medical students' career decisions, finding three critical influences: curricula that inadequately represents general practice, a persistent negative hidden curriculum, and the impact of clinical placement quality. Our revised Bland-Meurer model incorporates these findings, providing a comprehensive framework to improve GP recruitment.*

This systematic review identifies the factors that shape UK medical students' intentions toward general practice.

## Introduction

The UK faces a projected shortage of approximately 15,000 GPs by 2036/37 (1). The near future looks potentially more concerning: a 2024 RCGP survey indicated that over 40% of GPs are likely to leave the profession within five years (2). This exists against a backdrop of increasing healthcare demands in primary care driven by an aging population with complex multimorbidity and a growing emphasis on community-based care (3-5).

In response, Health Education England (HEE) has mandated that 50% of all new medical graduates enter general practice (6). However, the number of UK medical graduates pursuing general practice has declined in recent years; annual intakes are becoming increasingly dependent on international medical graduates (IMGs) (7). The percentage of IMGs in GP training rose from 34% in 2019 to 52% in 2023 (7).

The proportion of UK Foundation Year 2 doctors appointed to GP training programmes decreased from 36.1% in 2012 to 31.6% in 2019 (8). Subsequent data indicate a further decline (9). With current recruitment levels well below the target of 50%, understanding what drives these career choices becomes crucial (6). As the Wass report notes, “students do not choose general practice by chance” (10).

This raises the questions: What factors influence UK medical students' decisions about pursuing careers in general practice? And what theoretical frameworks best explain the complex interplay between individual, institutional, and systemic factors in medical career decision-making? To answer these questions, we conducted a systematic literature review to synthesise the evidence on which factors influence UK medical students' decisions about pursuing careers in general practice.

# Method

## Search Strategy

Working in close consultation with a specialist medical librarian, we developed and iteratively refined a search strategy across seven electronic databases: MEDLINE via OvidSP, EMBASE, PsycINFO, ERIC, Web of Science Core Collection, British Education Index, and EconLit. The search strategy incorporated both controlled vocabulary (MeSH terms and EMBASE subject headings) and free-text keywords, structured around four conceptual domains: medical education, general practice, career choice, and the British healthcare context. The systematic review protocol was prospectively registered with OSF (DOI: 10.17605/OSF.IO/KZC5A) prior to data extraction (11).

## Selection criteria

Studies were included based on pre-specified criteria developed through consensus. Eligible studies examined career decision-making processes amongst UK medical students, with particular emphasis on general practice as a specialty choice. We included primary empirical research published from 1990 to October 2024, corresponding with the implementation of the NHS and Community Care Act 1990. Included study designs encompassed quantitative methods, qualitative methods, and mixed methods.

Studies were excluded if they: (1) focused exclusively on postgraduate trainees or fully qualified doctors, (2) examined exclusively non-UK contexts, (3) lacked empirical data or (4) investigated specialty choice without consideration of general practice. While our primary focus was on factors influencing career choice, we also included studies that evaluated teaching interventions if they reported outcomes related to general practice career intentions.

## Data Extraction and Quality Assessment

Two reviewers independently extracted the data. Recognising the limitations of the PICO framework for qualitative research synthesis, we used the SPIDER framework (Setting, Population, Intervention, Design, Evaluation, Research type) to inform data extraction tables and categories through a customised Excel extraction form (12-14). This approach better accommodated the heterogeneous nature of our evidence base, particularly for capturing qualitative findings about students' career decision-making processes. Quality assessment employed validated tools appropriate to study design: the JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies for quantitative studies, and the CASP checklist for qualitative research (15-16).

## Synthesis framework

The Bland-Meurer model of determinants of primary care specialty choice (1995) provided the theoretical framework for systematically categorising the findings. The model identifies three principal domains: student characteristics (personality traits, socioeconomic background, and personal values), specialty characteristics (perceived prestige, work-life balance, and professional opportunities), and medical school influences (curriculum design, clinical exposure, and institutional culture) (17).

## Results

The initial electronic database searches yielded 2,103 citations. After removing 618 duplicates, we screened 1,494 unique papers. Title and abstract screening excluded 1,335 citations that failed to meet the inclusion criteria. The remaining 140 papers underwent full-text review, resulting in 29 studies that met all eligibility criteria (Figure 1). Quality assessment indicated most studies had a low risk of bias and appeared in peer reviewed journals. Quantitative studies generally demonstrated strong sampling representativeness, particularly in large-scale surveys and longitudinal cohorts. Qualitative studies scored well on the CASP checklist. A full summary of quality appraisal results is presented in the supplementary material.

Table 1 summarises the factors the review identified as influencing medical students' decisions toward GP careers. These are categorised by student characteristics, specialty characteristics, medical school influences, and external influences. Detailed information on the methodology and key findings for each of the 29 included studies is provided in the supplementary material.

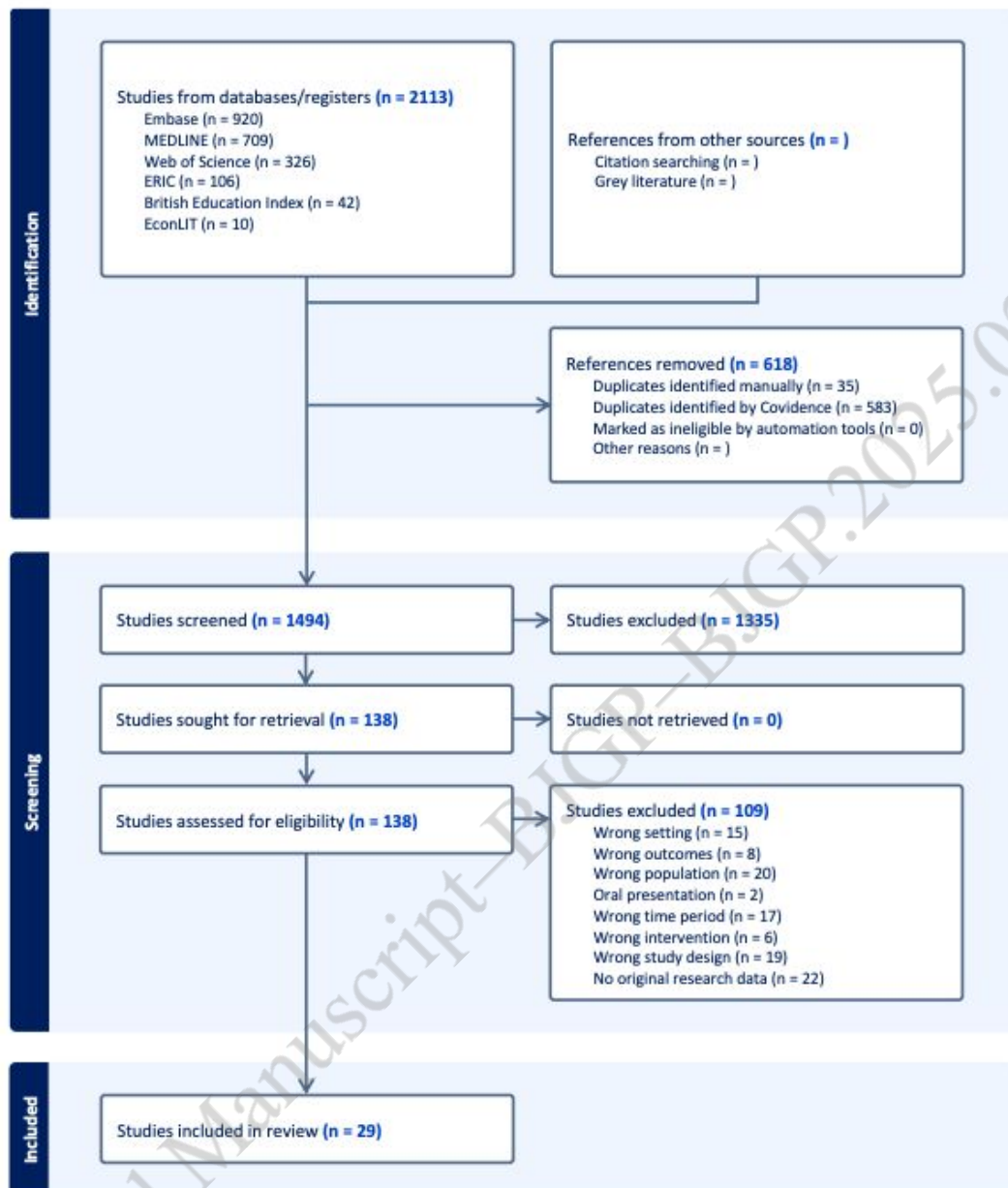


Figure 1. PRISMA flow diagram



*Table 1. Factors influencing medical students' decisions toward general practice careers: evidence synthesis through the bland-Meurer theoretical framework*

| Domain                    | Factor   | Evidence from Systematic Review  |
|---------------------------|--|--|
| Student Characteristics   | <b>Personal Values &amp; Priorities</b>                  |  |
|                           | <i>Preferences for part-time options</i>                 | Lambert et al., 2012; Gami & Howe, 2020; Sinclair et al., 2006                         |
|                           | <i>Preference for long-term patient relationships</i>    | Cleland et al., 2012; Hogg et al., 2008  |
|                           | <i>Preference for holistic care</i>                      | Howe & Ives, 2001  |
|                           | <b>Demographic Factors</b>                               |  |
|                           | <i>Gender (female students more likely to choose GP)</i> | Goldacre et al., 2007; Cleland et al., 2012; Gami & Howe, 2020; Henderson et al., 2002 |
|                           | <i>Graduate-entry status</i>                             | Goldacre et al., 2007  |
|                           | <i>Age and maturity</i>                                  | Carlin et al., 2021  |
|                           | <b>Personality Traits</b>                                |  |
|                           | <i>Preference for variety vs. specialization</i>         | Edgcumbe et al., 2008; Turner et al., 2021   |
| Specialty Characteristics | <b>Professional Attributes</b>                           |  |
|                           | <i>Misconceptions about prestige</i>                     | Barber et al., 2018; Reid & Alberti, 2018; Mattsson et al., 1991                       |
|                           | <i>Misconceptions about intellectual challenge</i>       | Chellappah & Garnham, 2014; Hogg et al., 2008  |
|                           | <i>Variety of work</i>                                   | Gami & Howe, 2020; Edgcumbe et al., 2008   |
|                           | <b>Career Structure</b>                                  |  |
|                           | <i>Training pathway (shorter, more structured)</i>       | Edgcumbe et al., 2008  |
|                           | <i>Flexibility and part-time options</i>                 | Lambert et al., 2012; Hogg et al., 2008  |
|                           | <i>Career progression opportunities</i>                  | Nicholson et al., 2016   |
|                           | <i>Research opportunities</i>                            | Darnton et al., 2021; Misky et al., 2022   |
|                           | <b>Work Conditions</b>                                   |  |
|                           | <i>Perceived work-life balance</i>                       | Hogg et al., 2008; Cleland et al., 2012;; Lambert et al., 2012                         |
|                           | <i>Workload and administrative burden</i>                | Parekh et al., 2021; Hook et al., 2024   |
|                           | <i>Professional isolation</i>                            | Edgcumbe et al., 2008; Parekh et al., 2021   |
|                           | <i>Remuneration</i>                                      | Edgcumbe et al., 2008  |
| Medical School Influences | <b>Curriculum Factors</b>                                |  |
|                           | <i>Exposure to GP placements</i>                         | Alberti et al., 2017; Amin et al., 2018  |

|   |   |   |
|---|---|---|
| <i>Placement quality</i>  | Allsopp & Taggar, 2018; Nicholson et al., 2016  |   |
| <i>Placement timing (early and longitudinal better)</i>                             | Amin et al., 2018; Howe & Ives, 2001  |   |
| <i>Curricular representation (underrepresented)</i>                                 | Vaidya et al., 2019   |   |
| <b>Role Models &amp; Mentorship</b>   |   |   |
| <i>GP tutors</i>  | Nicholson et al., 2016; Parekh et al., 2021Mattsson et al., 1991  |   |
| <i>Role model impact (positive and negative)</i>                                    | Edgcumbe et al., 2008; Henderson et al., 2002   |   |
| <b>Institutional Culture &amp; Hidden Curriculum</b>                                |   |   |
| <i>"GP bashing" / Institutional attitudes toward GP / The "They Say" phenomenon</i> | Carlin et al., 2021; Firth & Wass, 2007; Banner et al., 2023<br>Nicholson et al., 2016; Reid & Alberti, 2018<br>Rodriguez et al., 2015; Darnton et al., 2021<br>Banner et al., 2023 |   |
| <b>Teaching Interventions</b>   |   |   |
| <i>Structured career tutorials</i>  | Allsopp & Taggar, 2018  |   |
| <i>Specialty-specific approaches</i>  | Allsopp & Taggar, 2018; Gami & Howe, 2020   |   |
| <i>Clinical independence during placements</i>                                      | Nicholson et al., 2016  |   |
| <b>Interacting Factors</b>  | <i>Changing perceptions over time</i>   | Sinclair et al., 2006; Gami & Howe, 2020<br>Morrison & Murray, 1996 |
|   | <i>External context (e.g., COVID-19 impact)</i>   | Hook et al., 2024   |

## Student Characteristics

### *Personal Values and Priorities*

Students who value continuity of care were twice as likely to prefer general practice (21). Two studies found that many students were attracted to the holistic nature of GP consultations (19, 22). Across various studies, students who valued a good work-life balance and part-time opportunities, had a preference for general practice. (18-20).

### *Demographic Factors*

Gender emerged as a significant predictor of interest in general practice careers. Multiple studies found that female students were significantly more likely to express a preference for GP careers (19, 21, 23, 24). Age (graduate-entry status) also influenced career preference because more graduate entrants chose general practice than non-graduates (24). Another study suggested that maturity and prior life experiences shaped students' career interests. Participants noted that students who entered medical schools at a younger age and those in the early years of medical school were "quite impressionable" and therefore more susceptible to the impact of negative comments, whereas graduate-entry students and those in later years were more confident in their career aspirations and

less influenced by such views (25). In contrast, one study found that students with previous degrees or intercalated degrees were less likely to choose general practice (26).

### *Personality Traits*

Students' orientation towards clinical variety or specialisation appeared closely aligned with underlying personality dispositions (27). Those who enjoy breadth and unpredictability were more inclined towards careers in general practice (27-28).

## Specialty Characteristics

### *Professional Attributes*

The variety of work in general practice and the continuity of care were identified as a positive influence on GP career intention (19, 27). However, perceptions and attitudes misrepresenting the professional attributes (intellectual challenge and societal importance) of general practice remain a negative influence on GP career intention (10, 30-32).

### *Career Structure*

The findings from the included studies suggest that students were attracted to the shorter, more structured training pathway into general practice (27). Flexibility and part-time options were often noted here, particularly for those considering family responsibilities (16, 20). However, three studies found that the misconception that there are less research opportunities in general practice negatively influences GP career intention (33-35).

### *Work Conditions*

Work conditions in general practice have changed substantially (10). Older studies included in this review identified work-life balance as a major factor attracting medical students to general practice (18, 21, 22). More recent studies identified that concerns about workload and administrative burden have a negative influence on GP intention (36-37). Professional isolation was another concern, two studies reported that some students feared being professionally isolated in general practice settings compared to hospital teams (27, 36).

## Medical School Influences

### *Curriculum Factors*

Exposure to GP placements significantly influenced career choices. One study identified a significant correlation between the amount of exposure to general practice and GP career intention (38). Another found that longitudinal GP placements were more effective than traditional block placements in increasing GP career intention (39). High-quality placements, characterised by authentic clinical exposure, meaningful responsibility, and positive role modelling, increased interest in general practice (33, 40, 42).

The timing of placements matters; two studies included found that early and longitudinal exposure to primary care had greater impact on career intentions than late, brief placements (39, 41). One study demonstrated the systemic underrepresentation of general practice in many medical curricula; with

students spending a median of just 8 weeks (9%) on GP placements, despite over 40% of CT1/ST1 training posts being in general practice (42).

### *Role Models & Mentorship*

The experience with GP tutors was an important influence on career decisions in the included studies. Studies reported that positive placements with engaging GP tutors significantly increased interest in primary care (27, 33, 36). Across these studies, positive or high-quality GP placements were characterised by good supervision from GP tutors who were approachable and enthusiastic role models. The importance of such conditions is highlighted by one study that identified personal experience with GPs tutors as the strongest influence on attitudes toward primary care (23).

### *Institutional Culture & Hidden Curriculum*

The prevalence of a hidden curriculum in medical schools can be a barrier to choosing general practice as a career. Multiple studies have documented that students frequently heard negative comments about general practice from clinical teachers (26, 30, 33, 44, 45). Such denigration may take the form of “overtly derogatory comments” or through the “absence of primary care perspectives in teaching” and the implicit “positioning of hospital specialties as more prestigious” within the medical school. One study identified this as the “They Say” phenomenon defined as “*a passive and pervasive perception, without a known source, whereby usually negative perceptions circulate around the undergraduate community*” (45).

### *Teaching Interventions*

While a systematic assessment of all teaching interventions was beyond the scope of this review, the evidence we identified suggests that structured educational interventions increase interest in general practice. For instance, paired careers tutorials increased the likelihood of choosing general practice (40).

### *Temporal and external Influences*

Several studies identified changing perceptions over time (19, 20). Crises have been shown to shape GP career intentions; one study finds that the COVID-19 pandemic fundamentally altered students' views of general practice by associating it with increased remote consulting, reduced patient contact, greater professional isolation, and heightened workload pressures, compounded by negative media portrayals, which together reduced its appeal as a career choice (37).

## **Discussion**

### **Summary**

Our systematic analysis that applied the Bland-Meurer theoretical framework found evidence for many factors influencing UK medical students' choice of general practice as a career. Three dominant themes were constructed from our evidence synthesis.

First, student characteristics play a key role in predisposing individuals toward or away from general practice. Gender remains a significant predictor with female students showing stronger preference for

careers in general practice (21, 23, 25). Individual factors interact with personality traits, with students preferring variety and person-centered care more likely to consider general practice (27-28).

Second, specialty characteristics significantly impact medical students' career decisions, with professional attributes and career structure influencing perceptions of general practice.

Misconceptions around the relative prestige between general practice and hospital specialties have been cited as a factor negatively influencing career choice (29-31). Many students value the variety and intellectual challenge of the general practice (19, 27). While earlier studies identified perceived flexibility and work-life balance as incentives for choosing general practice (18, 22), concerns about workload and administrative burden have been reported as negative influences (27, 36, 37).

Third, medical schools have an important and varying effect on career decisions, with the (hidden) curriculum and role models shaping students' perceptions of general practice. The quantity and quality of GP placements directly correlate with career interest (38, 39, 40), while positive role models can significantly increase attraction to primary care (23, 27, 33). However, the persistent denigration of general practice within medical education, the "They Say" phenomenon, continues to undermine recruitment efforts (26, 30, 33, 44, 45).

## Strengths and Limitations

The primary strength of this review is the use of systematic methods to identify and synthesise evidence from diverse study designs to capture the multifaceted nature of career decision-making.

A limitation of this review was the broad temporal scope of the included studies. While our 1990 cutoff date corresponds with the implementation of the NHS and Community Care Act, the 35-year timespan limited the contemporary relevance of some findings. For instance, some of the included studies emphasised work-life balance as a major attraction of general practice (18-20). However, these findings were based on older evidence, and their contemporary relevance is limited given the substantial rise in workload reported in recent years (1).

Another older study reported that students with previous or intercalated degrees were less likely to choose general practice (26). However, as this study was conducted nearly three decades ago, its findings may have limited relevance to the current context of medical education.

We are also limited in the causal inferences we can draw from our data. The cross-sectional designs and self-reported intentions inherent within many of the included studies introduce temporal ambiguity and reporting biases. Few studies employed multivariate analyses to control for confounding variables. Those that did often showed attenuated effect sizes after adjustment (21, 29). Correlational statistics (38), low response rates (19), and institutional selection effects further limit causal interpretations. The absence of quasi-experimental designs or propensity score matching represents a notable methodological gap. This necessitates cautious interpretation.

## Comparison with Existing Literature

Our study is the first UK-focused systematic review that aggregates evidence on how student, speciality, medical school and other characteristics shape medical students' intention to pursue a career in general practice. One scoping review synthesised international and Irish literature and identified curriculum exposure, positive clinical rotations, role models, personal attributes, and

community influences as key factors influencing GP career intention (47). Its scope did not fully reflect the specific factors influencing GP career intention with the context of UK medical education (e.g., differences between medical schools) and NHS context (e.g., increased GP workload and the projected shortages). By focusing exclusively on UK evidence, our findings are directly relevant and applicable to informing workforce policy, changes recruitment and medical educational education.

Furthermore, policy-focused work, most prominently the Medical Schools Council report *By choice—not by chance* and subsequent commentaries, has long called for: substantial expansion of GP teaching, longitudinal placements, and active anti-denigration policies (10). Our findings substantiate each recommendation and add precision: (1) align curriculum time with workforce needs and ensure placements are authentic (continuity, responsibility, supervision); (2) monitor and address the hidden-curriculum; and (3) support GP role models to counter misconceptions about intellectual challenge and research careers in GP.

## A Revised Theoretical Model

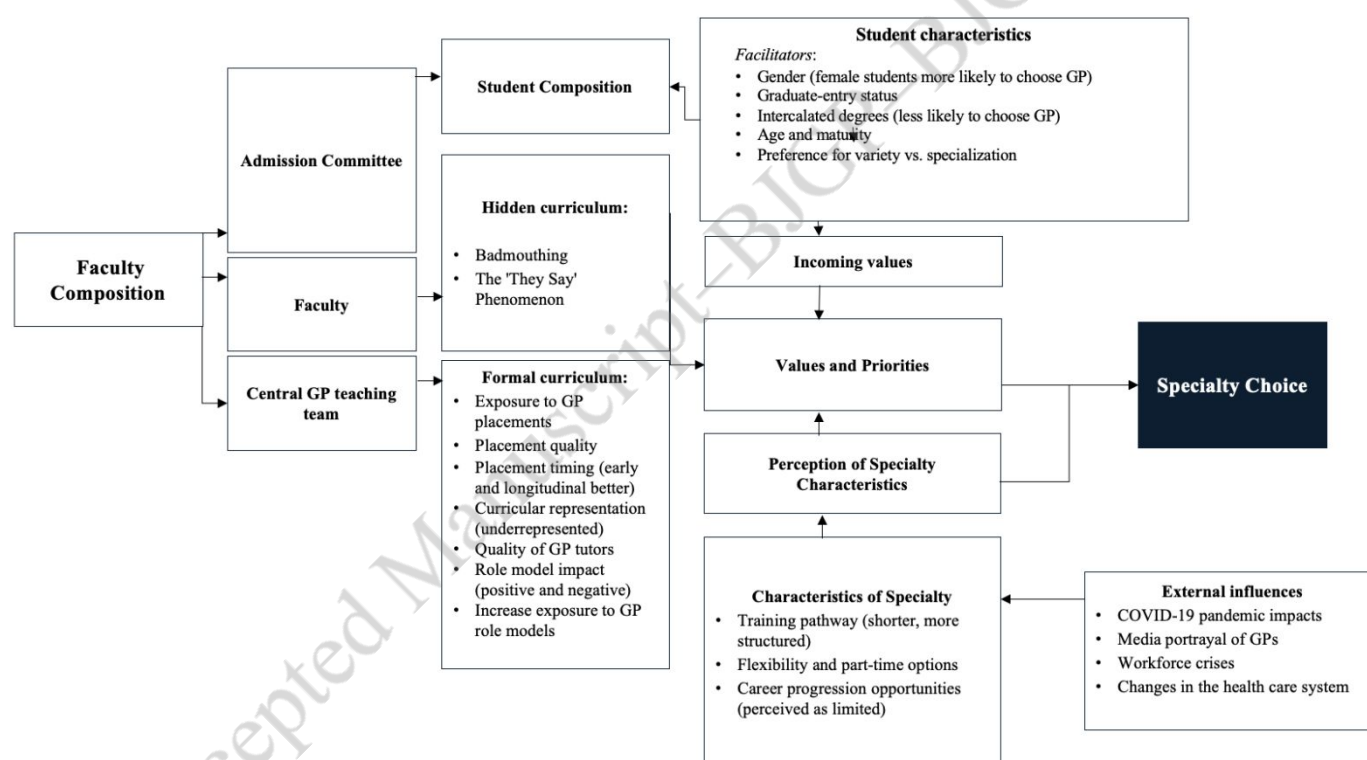


Figure 2. An updated model of factors influencing general practice career choice

## Implications for Research and Practice

Our evidence synthesis has implications for changes in medical education. First, medical schools should increase the proportion of curriculum time devoted to general practice, aiming to align this

more closely with hospital specialties and, where possible, use longitudinal placements (10, 39, 42). The introduction of the harmonised undergraduate medical education and training tariff in 2022, which now provides equitable funding across all clinical settings, including general practice, may make expanding GP placements more feasible (48). This new funding arrangement may also facilitate improvements in quality such as better role modelling by GP tutors through improved remuneration (33, 49).

The evidence that medical students' career intentions are shaped by the attitudes of those who teach and mentor them, and that denigration of general practice can discourage students from pursuing the specialty, demonstrates the importance of implementing the anti-denigration policies recommended in the Wass report (10). In parallel, widening participation initiatives, by attracting students more likely to work in underserved areas, might offer an additional strategy to increase recruitment into general practice (10, 50).

Finally, to address the limitations in causal inference arising from reliance on cross-sectional and self-reported designs, and the limited use of controls for confounders in the quantitative studies, future quantitative research should consider longitudinal, quasi-experimental methodologies. The UK Medical Education Database (UKMED) presents an opportunity for this (51).

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### **Ethical approval**

The University of Oxford Medical Sciences Interdivisional Research Ethics Committee determined this study to be a service evaluation, not requiring formal ethics approval.

### **Competing interests**

The authors declare no competing interests.

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## References

1. NHS England. NHS Long Term Workforce Plan. Version 1.2 [Internet]. London: NHS England; 2023 [cited 2025 Aug 14]. Available from: <https://www.england.nhs.uk/wp-content/uploads/2023/06/nhs-long-term-workforce-plan-v1.2.pdf>
2. Royal College of General Practitioners. GP Voice Survey 2024 [Internet]. London: RCGP; 2024 Sep 22 [cited 2025 Aug 14]. Available from: <https://www.rcgp.org.uk/News/mass-exodus-retention-gps-prioritised>
3. Royal College of General Practitioners. Retention: looking after the GPs of today to safeguard the workforce of tomorrow [Internet]. London: RCGP; 2024 Oct [cited 2025 Aug 14]. Available from: <https://www.rcgp.org.uk/getmedia/69abda19-657f-4df0-be51-6881337896e7/retention-gps-today-safeguard-workforce-tomorrow-2024.pdf>
4. General Medical Council. The state of medical education and practice in the UK: workplace experiences report 2023 [Internet]. London: GMC; 2023 [cited 2025 Aug 14]. Available from: [https://www.gmc-uk.org/-/media/documents/somep-workplace-report-2024-full-report\\_pdf-107930713.pdf](https://www.gmc-uk.org/-/media/documents/somep-workplace-report-2024-full-report_pdf-107930713.pdf)
5. Barnett K, Mercer SW, Norbury M, et al. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *Lancet*. 2012 Jul 7;380(9836):37-43.
6. Health Education England. Investing in people for health and healthcare: workforce plan for England proposed education and training commissions for 2016/17. London: HEE; 2014.
7. General Medical Council. The state of medical education and practice in the UK: workforce report 2024 [Internet]. London: GMC; 2024 [cited 2025 Aug 14]. Available from: [https://www.gmc-uk.org/-/media/documents/somep-workforce-report-2024-full-report\\_pdf-109169408.pdf](https://www.gmc-uk.org/-/media/documents/somep-workforce-report-2024-full-report_pdf-109169408.pdf)
8. UK Foundation Programme Office. UK Foundation Programme 2019 F2 Career Destinations Survey [Internet]. London: UK Foundation Programme Office; 2020 [cited 2025 Aug 14]. Available from: [https://foundationprogramme.nhs.uk/wp-content/uploads/sites/2/2024/04/F2%20CDS\\_2019.pdf](https://foundationprogramme.nhs.uk/wp-content/uploads/sites/2/2024/04/F2%20CDS_2019.pdf)
9. General Medical Council. Postgraduate trainees summary data [Internet]. London: GMC; date unknown [cited 2025 Aug 14]. Available from: <https://gde.gmc-uk.org/postgraduate-training/postgraduate-trainees/postgraduate-trainees-summary-data>
10. Wass V, Gregory S, Petty-Saphon K. By choice-not by chance: supporting medical students towards future careers in general practice. London: Health Education England and the Medical Schools Council. 2016 Mar 16.
11. OSF. Open Science Framework. DOI: 10.17605/OSF.IO/KZC5A
12. Cooke A, Smith D, Booth A. Beyond PICO: the SPIDER tool for qualitative evidence synthesis. *Qual Health Res*. 2012 Oct;22(10):1435-43.
13. Methley AM, Campbell S, Chew-Graham C, McNally R, Cheraghi-Sohi S. PICO, PICOS and SPIDER: a comparison study of specificity and sensitivity in three search tools for qualitative systematic reviews. *BMC Health Serv Res*. 2014 Dec;14(1):1-0.
14. Popay J, Roberts H, Sowden A, et al. Guidance on the conduct of narrative synthesis in systematic reviews. A product from the ESRC methods programme Version. 2006 Apr 1;1(1):b92.
15. Moola S, Munn Z, Tufanaru C, et al. Systematic review protocols. In: Joanna Briggs Institute Reviewer's Manual [Internet]. Adelaide: Joanna Briggs Institute; 2020 [cited 2025 Apr 10]. Available from: [https://jbi.global/sites/default/files/2020-08/Checklist\\_for\\_Analytical\\_Cross\\_Sectional\\_Studies.pdf](https://jbi.global/sites/default/files/2020-08/Checklist_for_Analytical_Cross_Sectional_Studies.pdf)
16. Critical Appraisal Skills Programme (CASP). CASP Qualitative Checklist [Internet]. Oxford: CASP UK; 2018 [cited 2025 Apr 10]. Available from: <https://casp-uk.net/casp-tools-checklists/>
17. Bland CJ, Meurer LN, Macchia R. Determinants of primary care specialty choice: a non-statistical meta-analysis of the literature. *Acad Med*. 1995;70(7):620-41.
18. Lambert T, Goldacre R, Smith F, Goldacre MJ. Reasons why doctors choose or reject careers in general practice: national surveys. *Br J Gen Pract*. 2012 Nov 26;62(605):e851.

19. Gami M, Howe A. Experience adds up! Questionnaire study: attitudes of medical students towards a career in general practice. *Educ Prim Care*. 2020 Mar 3;31(2):89-97.
20. Sinclair HK, Ritchie LD, Lee AJ. A future career in general practice? A longitudinal study of medical students and pre-registration house officers. *Eur J Gen Pract*. 2006 Jan 1;12(3):120-7.
21. Cleland J, Johnston PW, French FH, Needham G. Associations between medical school and career preferences in Year 1 medical students in Scotland. *Med Educ*. 2012 May;46(5):473-84.
22. Hogg R, Spriggs B, Cook V. Do medical students want a career in general practice? A rich mix of influences!. *Educ Prim Care*. 2008 Jan 1;19(1):54-64.
23. Henderson E, Berlin A, Fuller J. Attitude of medical students towards general practice and general practitioners. *Br J Gen Pract*. 2002 May;52(478):359.
24. Goldacre MJ, Davidson JM, Lambert TW. Career preferences of graduate and non-graduate entrants to medical schools in the UK. *Med Educ*. 2007 Apr;41(4):349-61.
25. Carlin E, Alberti H, Davies K. Denigration of general practice as a career choice: The students' perspective. A qualitative study. *BJGP Open*. 2021 Jan 1;5(1).
26. Morrison JM, Murray TS. Career preferences of medical students: influence of a new four-week attachment in general practice. *Br J Gen Pract*. 1996;46(413):721-5.
27. Edgcumbe DP, Lillicrap MS, Benson JA. A qualitative study of medical students' attitudes to careers in general practice. *Educ Prim Care*. 2008 Jan 1;19(1):65-73.
28. Turner E, Aitken E, Richards G. Autistic traits, STEM, and medicine: Autism Spectrum Quotient scores predict medical students' career specialty preferences. *SAGE Open*. 2021 Oct;11(4):21582440211050389.
29. Barber S, Brettell R, Perera-Salazar R, et al. UK medical students' attitudes towards their future careers and general practice: a cross-sectional survey and qualitative analysis of an Oxford cohort. *BMC Med Educ*. 2018 Jul 4;18(1):160.
30. Reid K, Alberti H. Medical students' perceptions of general practice as a career; a phenomenological study using socialisation theory. *Educ Prim Care*. 2018 Jul 4;29(4):208-14.
31. Mattsson B, Freeman GK, Coles CR, Schmedlin J. General practice in the undergraduate curriculum: 20 interviews with Southampton final-year students. *Med Educ*. 1991 Mar;25(2):144-50.
32. Chellappah M, Garnham L. Medical students' attitudes towards general practice and factors affecting career choice: a questionnaire study. *Lond J Prim Care (Abingdon)*. 2014 Jan 1;6(6):117-23.
33. Nicholson S, Hastings AM, McKinley RK. Influences on students' career decisions concerning general practice: a focus group study. *Br J Gen Pract*. 2016 Aug 31;bjgpoct-2016.
34. Darnton R, Massou E, Brimicombe J, et al. Career intentions and perceptions of general practice on entry to medical school: baseline findings of a longitudinal survey at three UK universities. *BJGP Open*. 2021 Jan 1;5(6).
35. Misky AT, Shah RJ, Fung CY, et al. Understanding concepts of generalism and specialism amongst medical students at a research-intensive London medical school. *BMC Med Educ*. 2022 Apr 18;22(1):291.
36. Parekh R, Jones MM, Singh S, et al. Medical students' experience of the hidden curriculum around primary care careers: a qualitative exploration of reflective diaries. *BMJ Open*. 2021 Jul 1;11(7):e049825.
37. Hook Z, Jackson B, Alberti H, et al. The impact of the COVID-19 pandemic on students' views of a career in general practice: a focus group study. *BJGP Open*. 2024 Dec 1;8(4).
38. Alberti H, Randles HL, Harding A, McKinley RK. Exposure of undergraduates to authentic GP teaching and subsequent entry to GP training: a quantitative study of UK medical schools. *Br J Gen Pract*. 2017 Feb 28.
39. Amin M, Chande S, Park S, Rosenthal J, Jones M. Do primary care placements influence career choice: what is the evidence?. *Educ Prim Care*. 2018 Mar 4;29(2):64-7.
40. Allsopp G, Taggar J. Innovative, paired careers tutorials: increasing the number of medical students choosing general practice as a career. *Educ Prim Care*. 2018 Sep 3;29(5):301-6.

41. Howe A, Ives G. Does community-based experience alter career preference? New evidence from a prospective longitudinal cohort study of undergraduate medical students. *Med Educ*. 2001 Apr 22;35(4):391-7.
42. Vaidya HJ, Emery AW, Alexander EC, et al. Clinical specialty training in UK undergraduate medical schools: a retrospective observational study. *BMJ Open*. 2019 Jul 1;9(7):e025403.
43. Mattsson B, Freeman GK, Coles CR, Schmedlin J. General practice in the undergraduate curriculum: 20 interviews with Southampton final-year students. *Med Educ*. 1991 Mar;25(2):144-50.
44. Firth A, Wass V. Medical students' perceptions of primary care: the influence of tutors, peers and the curriculum. *Educ Prim Care*. 2007;18(3):364-72.
45. Banner K, Alberti H, Khan SA, et al. 'They say': medical students' perceptions of General Practice, experiences informing these perceptions, and their impact on career intention—a qualitative study among medical students in England. *BMJ Open*. 2023 Nov 1;13(11):e073429.
46. Rodríguez C, López-Roig S, Pawlikowska T, et al. The influence of academic discourses on medical students' identification with the discipline of family medicine. *Acad Med*. 2015 May 1;90(5):660-70.
47. Arshad S, McCombe G, Carberry C, et al. What factors influence medical students to enter a career in general practice? A scoping review. *Ir J Med Sci*. 2021 May;190(2):657-65.
48. Rosenthal J, Darnton R, Harding A. Parity at last: a new funding model for undergraduate primary care education in England. *Br J Gen Pract*. 2022 Jun 1;72(719):257-8.
49. Lawson E, Kumar S. The Wass report: moving forward 3 years on. *Br J Gen Pract*. 2020 Mar 25;70(693):164.
50. Lowe C. GP recruitment crisis: the importance of widening participation. *Br J Gen Pract*. 2019 Oct;69(687):518–9. doi:10.3399/bjgp19X705953.
51. General Medical Council. UKMED: a rich resource for understanding the medical profession [Internet]. London: GMC; 2023 Jul 17 [cited 2025 Aug 14]. Available from: <https://gmcuk.wordpress.com/2023/07/17/ukmed-a-rich-resource-for-understanding-the-medical-professi>