Why choose paediatrics? A systematic review of factors affecting choice of paediatrics as a career

Mia Kahvo (✉ Mia.Kahvo@gmail.com)

University Hospitals Bristol and Weston NHS Foundation Trust <https://orcid.org/0000-0001-8363-2799>

Pramodh Vallabhaneni

Swansea Bay University Health Board

Research Article

Keywords: paediatrics, undergraduate, career choice

Posted Date: January 27th, 2022

DOI: <https://doi.org/10.21203/rs.3.rs-1127943/v1>

License: This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background

Despite being a popular specialty at the undergraduate level, paediatrics lags behind most other medical and surgical specialties for postgraduate recruitment. As many individuals decide on their future career choice while still in medical school, it is important to identify the factors that attract individuals to a career in paediatrics.

Objective

To determine the positive influencing factors determining paediatrics as a career choice.

Methods

A systematic review of primary research articles was conducted searching Medline, Embase, ERIC and Google Scholar, in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analyses recommendations. Studies exploring medical student, junior doctor and current paediatricians' perceptions of paediatrics were included. Factors affecting career choice were identified.

Results

Eight studies out of a possible 705 met the inclusion criteria and were included in this review. Five key influencing themes were identified. These were: early undergraduate and clinical exposure to paediatrics; the presence of role models and mentors; an enjoyable working atmosphere and varied clinical work; a personal commitment to paediatrics; and working with children.

Conclusion

Medical students are drawn by the wide clinical variety in paediatrics, enjoyable ward atmosphere and enthusiastic colleagues. Given the importance of early clinical exposure in determining student motivation, paediatrics needs to do more to advertise the wide variety of clinical and research work available, starting early in medical school. Medical students need to be offered more opportunities to experience the specialty through student selected components, summer schools, or workshops, requiring coordination between medical schools and regional paediatric departments.

Introduction

Paediatrics is a popular subject among medical students in the United Kingdom (UK). However, this enthusiasm does not translate to an equally high number of specialty training applications(1). Since 2016, paediatrics has had one of the lowest 'competition ratios' at ST1 level entry(2) with 'fill rates' below those for general medical and surgical training, and in decline(3).

There remain significant training rota vacancies across the UK(4), with concerns that these difficulties in recruitment threaten child health(1). The Royal College of Paediatrics and Child Health (RCPCH) reported significant increases in service demand of 60-80% over the past decade, with forecasts of further increases of up to 145% in disease burden up to the year 2040(5). Given this ongoing strain on the health service, recruitment of paediatricians must keep up with growing service demand.

Published literature suggests most students will choose their future career during medical school and that these early choices highly correlate with actual specialty destinations(6, 7). Policymakers must therefore understand the factors influencing career choice and how to attract students to undersubscribed specialties.

Efforts have been made to identify factors influencing choice of specialty, with broad explorations(8) or focus on general practice(9–12), surgical specialities(13–16) and internal medicine(17). To date, no such review exists for paediatrics. Therefore, this study aims to identify factors influencing choice of paediatrics as a career through a systematic review of available literature, specifically from the UK. Findings from this study can help inform strategies to best engage medical students and enhance the paediatric workforce.

Methods

Search strategy

A literature search of Medline, Embase, ERIC and Google Scholar was performed using the terms: 'career choice', 'career', 'paediatrics*' and 'paediatrician*'. References of selected articles were also searched. Articles were screened by title and abstract to identify relevant literature and full-text articles then reviewed against inclusion and exclusion criteria. There was no date range limit.

Inclusion criteria

Eligible participants were defined as individuals in medical school or doctors who had not already begun specialty training. Consideration was given to studies including currently practising paediatricians. Studies were limited to those performed in the UK due to differences in medical school course content and structure of medical training. Studies investigating career choice in general but not including information specific to paediatrics were excluded. No restrictions were applied to study methodology.

Data extraction

This review followed the 2020 guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)(18). The PRISMA flow diagram is displayed in Figure 1.

Data was collated using a standardised form including information on the author, date of publication, study design, study population, methodology and key findings (Table 1). The vast heterogeneity of studies precluded a quantitative analysis of the data.

Table 1
Summary of characteristics and key findings from identified studies

Author	Year	Study population	Participants	Methodology	Key findings
Roberts, CE <i>et al.</i> (25) [Conference abstract]	2020	Medical students	<i>Standard group</i> (n= 93 before, n=74 after) <i>Intervention group</i> (n=20 before, n=13 after)	A survey was distributed to students before and after their Child Health block and before and after a careers workshop.	Paediatrics was a popular careers option for students. Positive perceptions included working with children, clinical variety and being rewarding. In both groups studied, students were more likely to consider paediatric training after the intervention.
Knott, C <i>et al.</i> (24) [Conference abstract]	2019	Medical students and foundation doctors	28/55 (50.9%) completed the survey	A survey was distributed after a three-day summer school	Following the summer school, the self-reported likelihood to pursue paediatrics increased. Key influencing factors were sessions focussed on subspecialties and careers talks.
Mungai, S <i>et al.</i> (27) [Conference poster]	2018	Paediatric trainees and consultants in Wales	N= 66	Questionnaire	Key influencing factors for choosing paediatrics: a holistic approach, teamwork, role model/mentor. Most respondents (approx. 28%) made their career decision in foundation training, while approximately 27% decided in medical school.
Goodyear, HM <i>et al.</i> (21)	2014	Year one paediatric trainees in West Midlands Deanery	29/38 (76%) completed the questionnaire 15/38 (39%) attended a focus group	Questionnaire and focus groups	Key influencing factors for choosing paediatrics were enjoying working with children and positive undergraduate experiences. Taster sessions, careers fairs and student-selected components were vital in determining career choice. Respondents were positive about teaching provided by paediatricians, consultants' enthusiasm and the good working atmosphere.

Author	Year	Study population	Participants	Methodology	Key findings
Shortland, D <i>et al.</i> (20)	2014	Paediatric specialist trainees at the end of year one and year three of training	352/440 (80%) at the end of ST1 completed questionnaire 354/440 (80.5%) at the end of ST3 completed questionnaire	Questionnaire	Reasons for choosing paediatrics as a career choice: personal attributes suited to the speciality, a rewarding career, enjoyment as an undergraduate or in foundation training. Positive comments related to role models and completing an elective in paediatrics.
Bindal, T <i>et al.</i> (22)	2011	Final year medical students at Birmingham University	127/131 (96.9%) completed the questionnaire	Questionnaire distributed during the penultimate week of a paediatric clerkship	31% of respondents (39/127) had changed their mind about considering a career in paediatrics after the clinical attachment. The most influential factors were a personal desire to work in paediatrics and previous work with children. Respondents remarked that paediatricians were enthusiastic about their work, we're keen on teaching, and a good working atmosphere on wards.
Turner, G <i>et al.</i> (23)	2006	Medical graduates at 1 and 3 years after graduation (cohort years 1974, 1977, 1980, 1983, 1993, 1996, 1999, 2000 and 2002)	24,621/33,412 (74%) at 1 year after graduation completed questionnaire 20,720/28,459 (73%) at 3 years after graduation completed questionnaire	Postal questionnaires	44% of respondents who chose paediatrics one year after graduation worked in the speciality ten years later. Influential factors for choosing paediatrics were the subject's experience as a student, enthusiasm and commitment (' <i>what I really want to do</i> '). Post-graduation experience was a stronger influencing factor for those choosing paediatrics versus other specialities.
Moorkamp, M.(26)	2005	Female paediatric consultants	N= 8	Semi-structured interviews	Key reasons for choosing paediatrics: good team atmosphere, supportive colleagues and multi-disciplinary team working.

Quality assessment

All studies were assessed against quality review criteria developed by *Buckley et al*(19). This tool assesses studies against 11 quality indicators, based on: (a) clarity of the research question/hypothesis; (b) appropriateness of data collection methods; (c) clear research methodology with reliable and valid data collection methods and analysis; (d) an acceptable response rate; (e) addressing confounding factors and biases; and (f) clear conclusions. For each criterion, any item rated 'yes' received +1 point, while any item rated 'no' or 'information not available' received +0 points. A cut-off mark of 7 was deemed to represent a 'high-quality' study.

Results

705 papers were identified of which eight met inclusion criteria and were relevant to the research question. Two were conference abstracts and one a conference poster. All papers were reviewed, and several themes identified.

Exposure to paediatrics

Undergraduate exposure was the most commonly stated reason for choosing paediatrics(20–23). In a national survey of nearly 25,000 UK medical graduates from 1974-2002, undergraduate experience affected long-term career choice for paediatrics more so than for any other specialty(23). In an additional study, following clinical exposure, an additional 19% of students considered a career in paediatrics compared to prior undertaking the clinical attachment(22), while a separate study found involvement in a summer school increased self-reported likelihood of selecting paediatrics(24).

Furthermore, a dedicated careers workshop positively impacted medical student perceptions, with interest increasing from 70–77%(25). Additionally, experience of paediatrics in foundation years was found to be a positive contributing factor. Interestingly, in one study, working in the specialty as a junior doctor was found to be more influential for career choice than experience as a student(23).

Role models

The importance of positive role models was identified in several papers. One study comprising eight semi-structured interviews with female consultant paediatricians found that role models or mentors were a significant influence in choosing paediatrics(26).

For current medical students, the presence of role models, particularly those who were enthusiastic about their work and keen to teach, was vital. In one study, the mean Likert scores for paediatrician enthusiasm and being keen on teaching were the highest of all available motivating statements(22).

Working life

The holistic approach employed by paediatricians was identified as one factor encouraging individuals to pursue the specialty(27). An enjoyable working atmosphere and feeling a part of the team were further influential factors(21, 22). In addition, opportunities for multi-disciplinary and general team working were highlighted as other influencers(26, 27).

A perceived informal and flexible way of working on paediatric wards was identified as a positive factor(26), in addition to a clinically varied and rewarding workload(25). However, it cannot be ignored that paediatrics is viewed as a challenging speciality, particularly regarding work-life balance and out-of-hours working commitments. A significant proportion of medical students participating in a summer school identified long working hours as the most significant factor discouraging them from a career in paediatrics(24). Similarly, 60% of medical graduates surveyed identified poor quality of life, mainly due to long hours and arduous training, as a reason to 'reject' paediatrics(28).

Personal attributes

The concept of paediatrics being 'what I want to do' featured in several papers. In a survey of 127 final year medical students investigating factors influencing choice of paediatrics as a career, a personal desire to work in paediatrics was the most highly rated reason(22).

In a separate study of first-year paediatric trainees, the most cited reason for choosing paediatrics was having personal attributes suitable to the speciality(20). Similarly, a survey of UK graduates found that paediatricians were strongly influenced by their perceived enthusiasm and desire to do the speciality(23).

Working with children

Finally, enjoyment of working with children was a key influencing factor(21, 22). Semi-structured interviews performed by *Moorkamp* identified working with children as one of the main themes for why participants choose paediatrics(26).

Negative perceptions of paediatrics

Several studies also explored possible negative perceptions of paediatrics. The most frequently cited were the perceived long working hours with frequent on-call commitments(21, 24) and a poor work-life balance(20, 21, 27). A separate study exploring reasons for junior doctor rejection of specialities found the most commonly given reason for not pursuing paediatrics was the poor quality of life, which is not alleviated with seniority(28).

Discussion

This review has identified several factors positively influencing paediatrics as a career choice (Table 2). In particular, enjoyable clinical attachments and role models were positively associated with medical student and junior doctor motivation to consider the speciality as their future career.

Table 2
Summary of key findings

Influencing Factors
- Early preclinical exposure
- Early clinical exposure
- Role models and mentors
- Enjoyable working atmosphere
- Personal commitment
- Working with children

However, there are several limitations to this review. The primary aim of this review was to investigate reasons why individuals choose to enter the speciality. The literature search has highlighted a lack of focussed studies addressing the relatively poor paediatric recruitment among medical students, with only three studies focussing on this cohort(22, 24, 25). Three of these studies were presented as conference abstracts or posters, making it difficult to fully appraise the methodology. One study investigated the effect of a paediatric summer school while the remaining two focussed on medical student perceptions of paediatrics before and after their paediatric clinical placement through surveys. While they were all able to identify positive indicators, drawing any firm conclusions is difficult. By the nature of the interventions employed, those studied are likely to already hold a positive view of paediatrics and an underlying motivation to pursue the speciality. In addition, surveying students immediately after their clinical placement is likely to result in more positive views of the specialty. Longitudinal studies exploring if those students who were positively influenced by a clinical placement actually went on to apply for a training post would be very informative and provide much valued information aiding policy planning.

Given the lack of large-scale peer-reviewed studies exploring medical student perceptions of paediatrics, consideration was given to studies of working paediatricians. All the remaining five studies explored current paediatricians' views of their speciality and reasons for their choice. One study employed semi-structured interviews with eight female paediatric consultants in Yorkshire(26). While there was a range of seniority and primary place of work, all had qualified before the introduction of Modernising Medical Careers and were currently working in one geographical area, thereby limiting generalisability to today's undergraduates. In addition, as well as being a retrospective study and so prone to recall bias, there was little exploration of how their medical school experiences may have influenced their final career choice. All the remaining four studies employed questionnaires to explore their research aims, limiting the information or opinions respondents can give.

Furthermore, none of the questionnaire-based studies provided information on pilot trials or validated survey tools and did not provide copies of the questionnaires used, making it difficult to appraise their reliability and validity. In particular, there is a risk of introducing acquiescence bias depending on question phrasing. While many of the questionnaire-based studies employed Likert scales, there was a difference

in scales used making comparisons difficult. In addition, some studies did not provide information on the exact rating scale used, making it difficult to determine whether central tendency bias was avoided.

There was wide heterogeneity in the eight identified studies. None of the eight identified studies reviewed against a quality assessment tool were given a mark >7, the determined cut-off for a 'high-quality' study(19). Finally, many were single-centre trials and performed at a single point in time with no follow-up of participants.

Relevance to clinical practice

The RCPCH has recognised the difficulty of recruitment into paediatrics, in particular the challenge of translating early medical school interest to speciality training applications(29). What is clear from this systematic review is that early and positive experiences of paediatrics are essential in forming medical student perceptions and interest. This was most evident in a national survey of graduates, which revealed that undergraduate exposure to paediatrics was more important for future career choice than in any other specialty(23).

A study in the United States explored the impact of a pilot project, 'Education in Pediatrics Across the Continuum (EPAC)')(30). Students were allowed to engage with a supplemental paediatric curriculum before clinical exposure to other medical or surgical specialities. As a result, all students in the intervention group described the benefit of increased exposure to paediatrics early in medical school to help shape their perceptions of the speciality.

This aligns with the results of several studies included in this review, highlighting the importance of early exposure to paediatrics. Most medical school curricula teach paediatrics towards the end of undergraduate training. Efforts therefore need to be made to incentivise medical student involvement in paediatrics much earlier(1). Medical student societies, such as 'Teddy Bear Hospital', are examples of such strategies(31). Local paediatric departmental engagement with medical schools and a variety of 'special study modules' can increase student engagement early on(29), while paediatric-focussed simulation-based courses have also been shown to increase foundation doctor interest in the specialty(32).

Several studies have also highlighted role models or mentors as critical determining factors for speciality choice(22, 26). Both are essential in helping guide students through their professional development and career choices(33, 34). While there are examples of established mentorship programmes for paediatric trainees(35), there is a lack of such programmes for medical students. *Mallet et al.* have proposed a paediatric training mentorship model aimed at building meaningful relationships throughout training(1). Similarly, local departments should be encouraged to 'showcase' the variety of clinical work available, emphasising the rewarding multi-disciplinary team working and enjoyable clinical atmosphere on offer.

In addition to highlighting the many attractive aspects of paediatrics, it is also essential to be aware of and address any reservations students may have. One noteworthy observation from this review was that

many individuals commented on the supposed difficult work-life balance and heavy out-of-hours commitment. Paediatrics has the highest proportion of trainees working less-than-full-time (LTFT), with the specialty being one of the first to make LTFT applications easier for trainees(29). More should be done to highlight changes to postgraduate paediatric curriculums, providing more flexible and fulfilling training(1).

Career decision making is a complex and dynamic process, with many different factors influencing individual choice resulting in matching of personal career needs to student perceptions of specialty characteristics(8). Experiences during medical school, in particular extra-curricular experiences, can powerfully shape student perceptions and subsequent career choices, as evidenced by studies exploring differences in career choices for students from different medical schools(7, 36). This suggests that creating and implementing a uniform undergraduate paediatric curriculum is required to ensure students are offered equal exposure and opportunities to experience paediatrics. The RCPCH has created an undergraduate curriculum for child health(37), but it is unclear how medical schools have adopted this nationwide.

Implications for research

This systematic review has identified the need for more detailed research into medical student perceptions of paediatrics. Further exploration of the views of those not considering a career in paediatrics is warranted. Longitudinal studies would provide crucial information on why individuals are deterred from pursuing the speciality and better inform student and junior doctor engagement policies nationwide. Furthermore, this should be coupled with further research into the appropriate evidence-based strategies to employ to best achieve these goals, given the paucity of appropriate data currently available(38).

Conclusion

Paediatrics is a popular speciality among undergraduates, though this has not translated to a correspondingly high application rate for postgraduate training(1). Medical students are drawn by the enjoyable working atmosphere and wide clinical variety available, with clinical placements and extracurricular activities being meaningful in attracting and solidifying a student's desire to pursue the specialty. Given the importance of early clinical exposure in determining student motivation, paediatrics needs to do more to advertise this wide variety of clinical and research work available, starting early in medical school and continuing through to foundation training. Medical students need to be offered more opportunities to experience the specialty through student selected components, summer schools, or workshops. This requires coordination between medical schools and regional paediatric departments. The creation of local mentorship programmes can guide students through their medical school journey and application for postgraduate training, ensuring early enthusiasm is not lost. As suggested by *Fromme and Fagan*, the paediatric workforce needs to promote the profession and brand paediatrics as a specialty where the '*most innovative, intellectually rigorous, and altruistic leaders practice*' (39). More,

high-quality and large-scale studies using standardised assessment tools are needed to fully appreciate medical student perceptions of paediatrics and thus aid policy planning at an undergraduate and postgraduate level.

Declarations

Funding: The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests: None declared.

Availability of data: Articles as referenced.

Code availability: Not applicable.

Ethic approval: Not applicable.

Consent to participate: Not applicable.

Consent for publication: Not applicable

Contributors: Conception and design of the study was carried out by MK and PV. Design of the data collection instrument, selection and analysis of papers and draft of the initial manuscript was performed by MK. Both authors contributed to the discussion and edited the manuscript.

Acknowledgments: The authors would like to thank Rhys Whelan at Swansea Bay University Health Board for performing the initial literature search.

References

1. Mallett P, Thompson A, Bourke T (2021) Addressing recruitment and retention in paediatrics: a pipeline to a brighter future. Arch Dis Child Educ Pract Ed
2. Competition Ratios Health Education England 2021 [Available from: <https://specialtytraining.hee.nhs.uk/Competition-Ratios>]
3. Medical speciality training- fill rates, September 2017 to 2020: Nuffield Trust; 2020 [Available from: <https://www.nuffieldtrust.org.uk/chart/specialty-training-by-speciality-in-april-2017-to-2019>]
4. RCPCH- supporting evidence for paediatric doctors to be included on the Shortage Occupation list: Royal College of Paediatrics and Child Health; 2019 [Available from: https://www.rcpch.ac.uk/sites/default/files/2019-01/RCPCH%20supporting%20evidence_final%2014-1-19.pdf]
5. Paediatrics (2040) : Forecasting the Future Royal College of Paediatrics and Child Health 2021 [Available from: <https://paediatrics2040.rcpch.ac.uk/our-evidence/data-and-evidence/summary/>]

6. Ibrahim M, Fanshawe A, Patel V, Goswami K, Chilvers G, Ting M et al (2014) What factors influence British medical students' career intentions? *Med Teach* 36(12):1064–1072
7. Cleland JA, Johnston PW, Anthony M, Khan N, Scott NW (2014) A survey of factors influencing career preference in new-entrant and exiting medical students from four UK medical schools. *BMC Med Educ* 14:151
8. Querido SJ, Vergouw D, Wigersma L, Batenburg RS, De Rond ME, Ten Cate OT (2016) Dynamics of career choice among students in undergraduate medical courses. A BEME systematic review: BEME Guide No. 33. *Med Teach* 38(1):18–29
9. Le Floch B, Bastiaens H, Le Reste J, Lingner H, Hoffman R, Assenova R et al (2020) Which positive view of general practice do medical students and trainees have? A systematic literature review. *Educ Prim Care* 31(2):104–111
10. Senf JH, Campos-Outcalt D, Kutob R (2003) Factors related to the choice of family medicine: a reassessment and literature review. *J Am Board Fam Pract* 16(6):502–512
11. Bland CJ, Meurer LN, Maldonado G (1995) Determinants of primary care specialty choice: a non-statistical meta-analysis of the literature. *Acad Med* 70(7):620–641
12. Arshad S, McCombe G, Carberry C, Harrold A, Cullen W (2021) What factors influence medical students to enter a career in general practice? A scoping review. *Ir J Med Sci* 190(2):657–665
13. Marshall DC, Saliccioli JD, Walton SJ, Pitkin J, Shalhoub J, Malietzis G (2015) Medical student experience in surgery influences their career choices: a systematic review of the literature. *J Surg Educ* 72(3):438–445
14. Schmidt L, Cooper C, Guo W (2016) Factors influencing US medical students' decision to pursue surgery. *J Surg Res* 203(1):64–74
15. Trinh L, O'Rourke E, Mulcahey M (2021) Factors influencing female medical students' decision to pursue surgical specialties: a systematic review. *J Surg Educ* 78(3):836–849
16. Mayer AW, Smith KA, Carrie S (2019) A systematic review of factors affecting choice of otolaryngology as a career in medical students and junior doctors. *J Laryngol Otol.* :1–7
17. Karikari G, Lohrmann D, Huber L (2020) Stimulators of medical students' interest in geriatric medicine- a systematic review. *Australas J Ageing* 39:e226–e38
18. PRISMA (2020) Checklist Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020
19. Buckley S, Coleman J, Davison I, Khan KS, Zamora J, Malick S et al (2009) The educational effects of portfolios on undergraduate student learning: a Best Evidence Medical Education (BEME) systematic review. BEME Guide No 11 *Med Teach* 31(4):282–298
20. Shortland D, Roland D, Lumsden DE, Ewing C, L'Esperance V, McColgan M et al (2015) Career intentions and choices of paediatricians entering training in the UK. *Arch Dis Child* 100(6):537–541
21. Goodyear HM, Lakshminarayana I, Wall D, Bindal T (2014) Choosing a career in paediatrics: do trainees' views change over the first year of specialty training? *JRSM Open* 5(9):2054270414536552

22. Bindal T, Wall D, Goodyear HM (2011) Medical students' views on selecting paediatrics as a career choice. *Eur J Pediatr* 170(9):1193–1199
23. Turner G, Lambert TW, Goldacre MJ, Turner S (2007) Career choices for paediatrics: national surveys of graduates of 1974-2002 from UK medical schools. *Child Care Health Dev* 33(3):340–346
24. Knott C, King J, Smith J, Boyf H, Poisson J, Sharma S et al (2019) How a tertiary children's hospital summer school influences attitudes to careers in paediatrics among medical student and foundation doctors. *Arch Dis Child* 104:A256
25. Roberts C, Vick D, Oakley J (2020) Students' perceptions of paediatrics and the impact of a careers workshop. *Arch Dis Child* 105:A70–A1
26. Moorkamp M (2005) Women paediatricians: what made them choose their career? *J Health Organ Manag* 19(6):478–493
27. Mungai S, Edwards D, Vallabhaneni P (2016) ; Geneva, Switzerland 2016
28. Lambert TW, Davidson JM, Evans J, Goldacre MJ (2003) Doctors' reasons for rejecting initial choices of specialties as long-term careers. *Med Educ* 37(4):312–318
29. Goodyear HM (2009) Career guidance: how do we inspire students and young doctors to careers in paediatrics and child health? *Arch Dis Child Educ Pract Ed* 94(3):87–91
30. Balmer DF, Gottlieb-Smith RJ, Hobday PM, Long M, Carraccio C, Bale JF et al (2020) Pediatric Career Choice: Insights From a Novel, Medical School Pathway Program. *Acad Pediatr* 20(1):97–103
31. Zhu H, Teo AQ, Allan ME, Hallett K, Kelsall W (2011) Paediatric societies: increasing student engagement in paediatrics. *Arch Dis Child* 96(12):1206–1207
32. Molloy S, Mallett P, Junk C, Flannigan C, Fitzsimons A, Thompson A et al (2019) An innovative simulation-based course to incentivise and attract interest and recruitment to paediatrics. *BMJ Simulation & Technology Enhanced Learning* 19(5):A27
33. Sarraf-Yazdi S, Teo YN, How AEH, Teo YH, Goh S, Kow CS et al (2021) A Scoping Review of Professional Identity Formation in Undergraduate Medical Education. *J Gen Intern Med*.
34. Wright S, Wong A, Newill C (1997) The impact of role models on medical students. *J Gen Intern Med* 12(1):53–56
35. Mentoring Support Royal College of Paediatrics and Child Health [Available from: <https://www.rcpch.ac.uk/resources/mentoring-support>]
36. Svirko E, Goldacre MJ, Lambert T (2013) Career choices of the United Kingdom medical graduates of 2005, 2008 and 2009: questionnaire surveys. *Med Teach* 35(5):365–375
37. Undergraduate curriculum for child health: Royal College of Paediatrics and Child Health (2015) ; [Available from: https://www.rcpch.ac.uk/sites/default/files/2018-05/undergraduate_curriculum_for_child_health_nov._2015_0.pdf]
38. Mallett P, Thompson A, Bourke T (2020) Strategies employed to enhance recruitment and retention in paediatrics: a scoping review. *Arch Dis Child* 105:A179

39. Fromme HB, Fagan H (2011) Taking a cue from big business: strategies for optimizing pediatric recruitment. *J Pediatr* 159(2):173–4e1

Figures

Figure 1

PRISMA flow diagram