

Original Article

Effects of hospital rotation on general practitioner trainee learning

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ABSTRACT

INTRODUCTION. Denmark is experiencing a shortage of general practitioners (GPs), with rural regions like Region Zealand being particularly affected. Despite efforts to attract GP trainees to these positions, many remain vacant, raising concerns about future access to primary care. A possible barrier to recruitment in underserved regions is the hospital-based portion of GP training, which may shape trainees' perceptions of rural practice. Understanding how hospital rotations shape learning, supervision and well-being is essential for informing strategies to improve recruitment and retention.

METHODS. A cross-sectional survey was conducted among all 55 GP trainees in hospital rotations in Region Zealand. An anonymised questionnaire assessed supervision, learning opportunities and work environment. Quantitative data were analysed statistically, and qualitative responses underwent thematic analysis.

RESULTS. Among 55 trainees, 33 (60%) responded. Most respondents valued supervision and relevant learning experiences, though the quality and consistency of these experiences varied. Only 21% reported GP-specific educational activities. High-value learning formats included outpatient clinics and peer sparring.

CONCLUSIONS. Hospital rotations are vital to GP training but face structural and educational challenges. Enhancing supervision, relevance of learning, and support may improve training and retention in rural areas.

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TRIAL REGISTRATION. Not relevant.

The shortage of general practitioners (GPs) in Denmark, particularly in rural areas such as Region Zealand, has become an increasingly pressing issue [1]. In 2023, a national news article reported that only one in three advertised GP positions in the region were successfully filled, raising concerns about the accessibility and continuity of primary healthcare services [2]. In addition, some rural hospitals experience understaffing and heavy workloads, which may deter prospective trainees concerned about the potential impact on their learning and well-being. To address this issue, the Danish government has introduced strategies to increase the number of GP training positions and implement targeted initiatives to encourage junior doctors to pursue general practice, particularly outside the Capital Region [3].

While educational quality alone is unlikely to solve recruitment challenges, previous research indicates that educational experiences can influence doctors' career choices and their preferred practice locations [4]. Accordingly, examining and improving training environments may contribute to enhancing the attractiveness of general practice in rural regions. As a substantial proportion of Danish postgraduate GP training is conducted in hospital settings, this study aims to explore GP trainees' experiences and perceptions of their hospital rotations

in Region Zealand to identify potential areas for educational improvement.

Methods

This study was conducted in 2024 as part of a wider initiative investigating GP training in Denmark. A survey was designed to explore aspects of learning and the work environment that GP trainees deemed important during hospital rotations. The study population included all 55 GP trainees currently undergoing their hospital rotations within the Region. No exclusion criteria were applied.

Data collection

Data were collected using an anonymised questionnaire comprising 29 closed and three open questions, developed by the research team based on existing literature and validated instruments, and adapted to the local context [5, 6]. The questionnaire covered the respondents' background characteristics, experiences of hospital rotations, clinical/educational supervision, learning opportunities and work environment. Items adapted from international questionnaires were translated into Danish by a native speaker with experience in medical education. A formal pilot test was not conducted; however, the questionnaire was reviewed by a work group of medical education specialists to ensure clarity and content validity. Furthermore, to maintain data security and confidentiality, all data collection and storage were handled within the REDCap system [7, 8].

Data analysis

Quantitative data analysis involved basic descriptive statistics to summarise responses and explore simple relationships between variables. Likert scale responses were numerically converted for statistical analysis. Statistical analyses were conducted using Excel [9].

Free-text data were analysed using an approach inspired by Braun and Clarke's thematic analysis while incorporating a descriptive framework [10, 11]. The data were analysed by two authors, with a third author involved in discussions regarding theme development. Given the nature of the survey data, which consisted of concise responses rather than in-depth qualitative narratives, the analysis focused on identifying and describing key themes while maintaining a structured and systematic overview of the data.

Ethics

The Danish Research Ethics Committee reviewed the project and concluded that no further ethical approval was required (ref. no. EMN-2024-01069). Participation was voluntary, and all responses were fully anonymous.

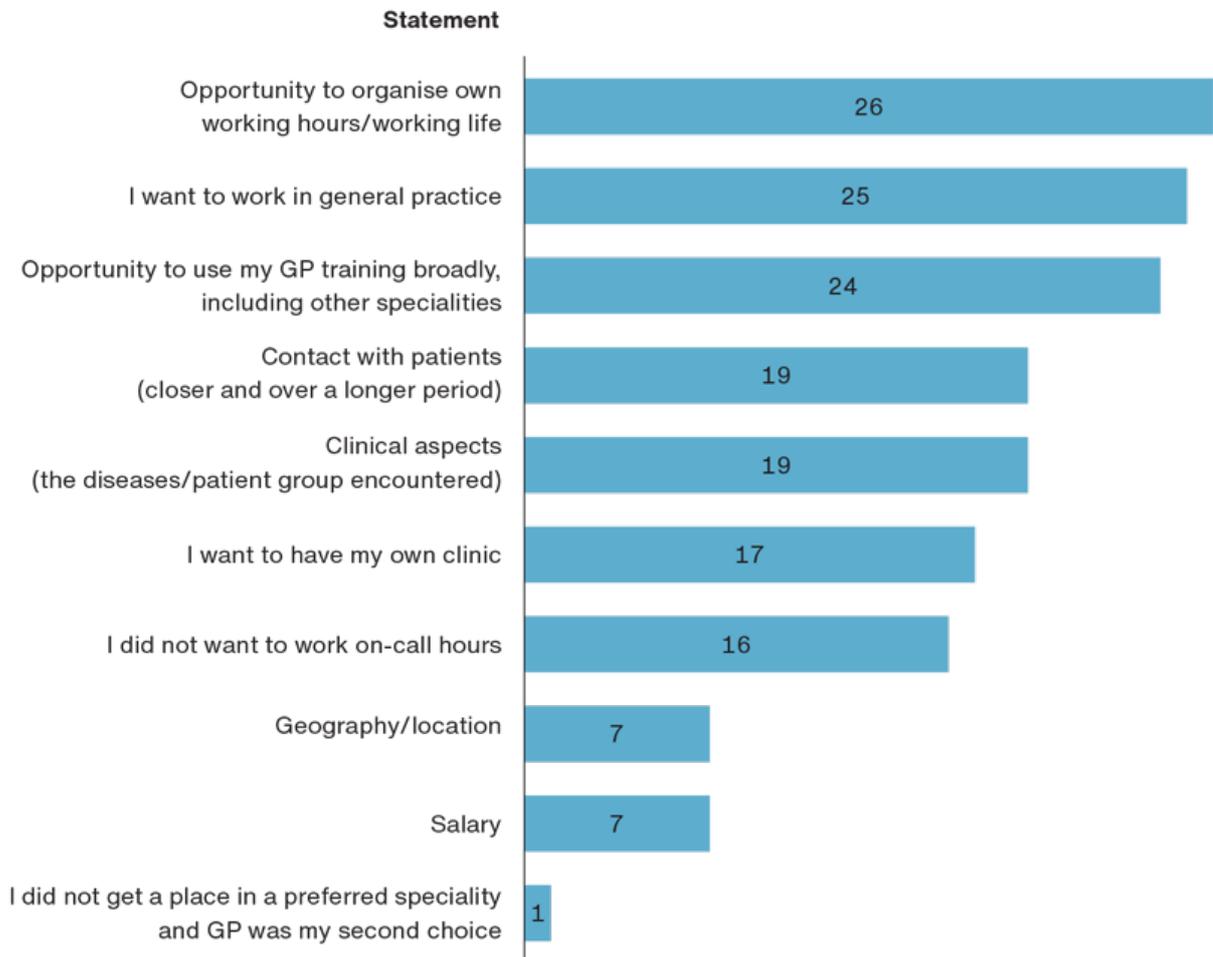
Trial registration: not relevant.

Results

Quantitative results

The survey was distributed to all 55 GP trainees in Region Zealand; 34 responded. One response was excluded due to missing consent, leaving 33 valid participants (60% response rate). The sample included 21 women (64%) and 12 men (36%), with an overall mean age of 35.3 years, closely reflecting the regional trainee demographics (58% female, 42% male, mean age 34.8 years). Responses were received from trainees across all hospitals in the Region. Most respondents (76%) had prioritised Region Zealand for training. Before GP training, 39.4% had completed only mandatory foundational training, 36.4% had one additional clinical role and 24.2% had more than two years of clinical experience. **Figure 1** presents the reasons why participants chose GP training.

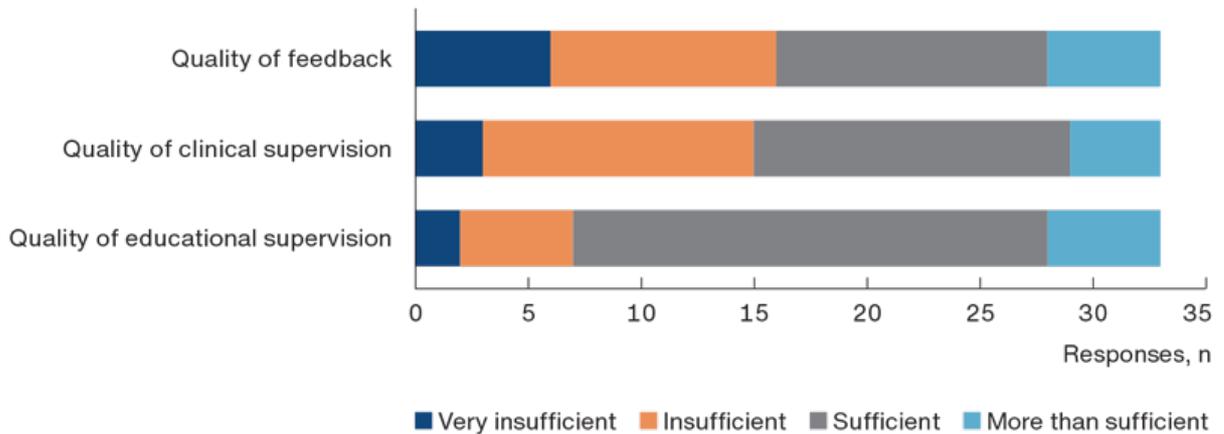
FIGURE 1 Reasons for choosing general practitioner (GP) training.



Supervision

Slightly more than half of the respondents reported that their main educational supervisor was a senior consultant, and 88% reported having the same supervisor throughout their rotation. The results show that 64% of participants felt that their supervisors were aware of their educational requirements, and 30% felt that their supervisors were partially aware of their requirements. Participants were asked to rate the quality of their educational supervision, clinical supervision and feedback (**Figure 2**). Overall, educational supervision received the highest ranking for perceived quality, whereas feedback was deemed the least sufficient.

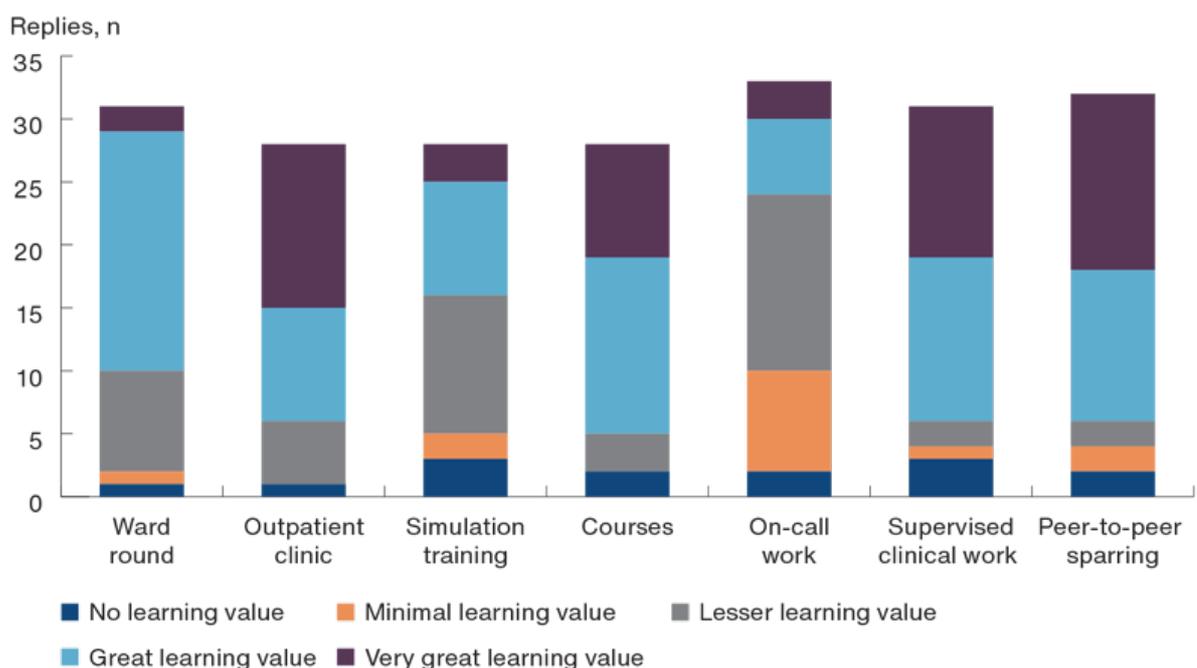
FIGURE 2 Evaluation of quality of feedback, clinical and educational supervision.



Learning

All respondents answered that they felt that hospital rotation is “to some degree relevant” or “highly relevant” to their future role as GPs. A fifth of the participants (21%) responded that there were specific educational activities aimed at GP trainees at their department/hospital. These activities included ten educational days, a presentation about referrals, a focus on GP relevance in the emergency department, outpatient clinics and no on-call shifts. When asked if they had been given opportunities to meet their designated learning outcomes, 81% replied that they felt they had sufficient or more than sufficient opportunities to do so. Additionally, participants were asked to evaluate the learning value of seven learning opportunities, ranging from “no learning value” to “very great learning value” (Figure 3).

FIGURE 3 Learning value of different functions and learning opportunities for general practitioner trainees.



Work environment

Among the 33 respondents, 15% reported currently working part-time, citing reasons including work-life balance and stress. Furthermore, 6% reported taking time off sick due to work-related stress, and 15% of participants had made special arrangements for their employment during their hospital rotation. Overall, 54.5% respondents reported a change in their overall well-being during their hospital rotation compared with primary care settings.

Qualitative results

Analysis of responses led to the identification of five overarching categories: "contents," "learner experience," "framework," "supervisor characteristics" and "working conditions".

The contents category reflected the quality of the rotations and their relevance to primary care. Some respondents emphasised the need for training that focuses on the most common acute conditions within the hospital department, ensuring alignment with the learning objectives relevant to general practice. Some also expressed that certain on-call duties were not always relevant to their future roles as GPs.

Learner experience emerged as another significant category, with several participants highlighting the importance of overall well-being. Some respondents described experiences in which delays in supervision contributed to a sense of insecurity and hindered their learning. Several participants described their experience as isolating, with a lack of psychological safety and insufficient support.

The framework category encompassed references to the structure and frequency of supervision. Many participants emphasised the importance of regular and structured supervision. Some also highlighted the need to ensure continuity of supervision and to provide adequate time for it. Others emphasised the value of peer-to-peer sparring, viewing it as an additional support resource, supplementing formal clinical and educational supervision.

Supervisor characteristics were frequently cited as a key factor in educational supervision. Many respondents emphasised the importance of supervisors being accessible and proactive. Additionally, some participants expressed that an effective supervisor should demonstrate enthusiasm for teaching and a commitment to developing a supportive learning environment. Responses also highlighted variations in the quality and frequency of clinical supervision. Finally, some respondents suggested that improved introductory courses and scheduled supervision sessions would be beneficial.

Regarding working conditions, respondents highlighted challenges, including workload intensity and inconsistencies in departmental approaches to training. Respondents repeatedly mentioned feeling used as a service provider rather than receiving training. This was further exacerbated by general understaffing on the wards. On-call work was also highlighted by several respondents as interesting, though challenging and extensive.

Regarding suggested changes to the hospital rotation, responses varied widely. Some participants proposed modifications to the specialities included in the rotations. Others recommended more focused training periods, typically lasting two weeks, in fields such as ear, nose and throat, dermatology or neurology. Additionally, some respondents emphasised the need for more outpatient clinic work, as this was considered more relevant to GP training. Some respondents suggested that part-time work arrangements could improve work-life balance and overall job satisfaction. Additionally, some participants noted that feedback and suggestions for improvement were often overlooked, leading to recurrent issues affecting subsequent trainees. However, no clear pattern within the suggestions emerged, implying that GP trainees have distinct learning needs and preferences.

Discussion

The findings of this study suggest that hospital rotations play a crucial role in shaping GP trainees' professional development. Consistent with existing research, key themes emerging from the data included the importance of structured supervision, relevant learning opportunities and a supportive work environment [12-15]. These factors interact in complex ways, influencing both educational outcomes and trainees' overall experience of the hospital rotations. Variation in the quality and consistency of supervision across hospital departments emerged as a key finding. Supervision is widely recognised as fundamental to professional learning during GP training [13]. However, differences in supervisors' engagement and familiarity with GP-specific learning objectives appeared to affect the overall perceived educational value of hospital rotations. Another key finding was the trainees' varied perceptions of their hospital learning experiences. Some participants valued broad clinical exposure, whereas others found certain aspects less applicable to their GP role. This suggests that the perceived educational value of hospital rotations may also depend on the extent to which activities align with GP-specific competencies. This is consistent with previous research, which highlights the importance of contextually relevant hospital learning experiences to maximise transferability to general practice [15]. Work environment also emerged as critical in shaping trainees' overall satisfaction and well-being during hospital rotations. Participants highlighted that workload intensity, psychological safety and the ability to balance training demands with personal commitments all affected how they experienced their placements. These findings suggest that supportive working conditions are essential for learning, for sustaining motivation and for preventing stress-related challenges. This aligns with other findings in the literature, which highlight that during hospital rotations, the educational needs of GP trainees are often overshadowed by service demands, and that access to supportive mechanisms and a positive learning culture are key in overall training satisfaction [16, 17].

Strengths, limitations and recommendations for practice

This study offers new insights into GP trainees' perceptions of hospital rotations within Region Zealand. The use of both quantitative and qualitative data strengthened the understanding of trainees' experiences. However, the study was limited by its single-region design, small sample size and lack of a formal pilot test. While expert review supported content validity, response bias cannot be excluded.

The findings indicate a need to strengthen supervision quality and continuity, ensure that supervisors are acquainted with GP training goals and expand GP-oriented learning opportunities such as outpatient work and short specialty placements. Trainees also emphasised the importance of psychological safety, manageable workloads and responsiveness to feedback. While this study did not assess recruitment outcomes, the results indicate that hospital training environments may influence how GP trainees experience a substantial component of their postgraduate training. Improving supervision, learning relevance and working conditions may therefore strengthen educational quality and trainee satisfaction and may, indirectly, contribute to the attractiveness of GP training in these settings.

Conclusions

Hospital rotations play a vital role in GP education but continue to face structural and educational challenges that may influence trainees' perceptions of the training environment. Aligning hospital rotations more closely with GP competencies and developing supportive learning environments may strengthen the educational value of hospital-based training and enhance trainees' overall experience. While educational improvements alone are unlikely to outweigh broader recruitment challenges, optimising hospital training environments may represent one contributory factor in strengthening GP training in rural regions such as Region Zealand.

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