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Family medicine in rural and depopulating recommendations in the light of the professional preferences of young physicians

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Abstract

An important factor in the effective use of basic healthcare services is spatial accessibility, the lack of which contributes to health inequalities and social exclusion. The phenomenon of medical 'deserts' illustrates the complex processes resulting from the overlap of socio-demographic and epidemiological conditions. The subject of the study was expert opinions on the development of targeted solutions aimed at reducing the phenomenon of medical deserts and work in depopulated areas in Poland. To reverse the trends in the career preferences of young medical professionals, action is required at various levels. A key factor, according to experts, is completing a postgraduate internship. Through various types of short- and long-term placements, internships, and rotations, medical students come into contact with a wide range of mentors and professional role models. Multifaceted cooperation is important in implementing health policy tasks to help reduce the phenomenon of medical deserts.

Key words

physicians, rural areas, family medicine, medical deserts, depopulating areas, system recommendations

INTRODUCTION

The right to access of healthcare services is constitutionally guaranteed to every individual. Public authorities bear the responsibility of identifying and implementing an optimal model for addressing the healthcare needs of all citizens, irrespective of their social status or origin. In practice, however, this goal is difficult to achieve and is further constrained by organisational and systemic limitations. One of the most pressing organisational challenges currently facing the Polish healthcare system is the phenomenon of double demography: the simultaneous ageing of the population and of the medical workforce. In Poland, a systematic advancement of the population ageing process is observed, manifested by an increase in the percentage of persons at senior age from 17.2% in 2005 up to 25.9% in 2022 (9.8 mln people), with a simultaneous decrease in the total population down to 37.8 mln. This phenomenon to a relatively greater extent concerns rural areas, especially peripheral regions (among others, the Provinces of Białystok and Lublin), where the dynamics of ageing is higher than in urban areas [1]. Similar tendencies are noted in the age structure of medical staff, where within the last decade the percentage of physicians aged over 65 has increased by 5 percentage points, nurses by 15 points, while that of midwives by 11 points [2]. Population ageing generates a steadily increasing demand for long-term care, requiring not only professional medical support and continuity of treatment, but also initiatives aimed at enhancing the quality of life of a growing elderly population [3–6].

Spatial accessibility constitutes a crucial determinant of the effective use of primary healthcare services. Its absence contributes significantly to health inequalities and social exclusion [7, 8]. Data by the National Institute of Public Health of the National Institute of Hygiene – National Research Institute (NIZP PZH-PIB) concerning hospitalization indicate that due to the majority of the analyzed groups of diseases, urban inhabitants were hospitalized by 15% more frequently than rural inhabitants. The tendency was most clearly observed in the case of cancer (20%) and endocrine disorders (18%). This result may evidence an improvement in the state of health of rural inhabitants, although it may also be the effect of poorer access to hospital treatment for rural inhabitants [9, 10].

In this context, the phenomenon of medical 'deserts' illustrates the complex interdependence of socio-demographic and epidemiological factors, which exert a profound effect on the functioning of the healthcare

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system, both in the area of health needs of the population and the real possibilities of satisfying these needs. Medical deserts are defined both geographically and systemically. Geographically, they encompass areas in which residents experience limited access to qualified healthcare professionals due to shortages of providers, long waiting times for specialist consultations, or the need to travel considerable distances to healthcare facilities, often compounded by transportation difficulties. Systemically, the concept extends beyond spatial factors, reflecting a structural mismatch between healthcare resources and the needs of the population. In this broader sense, the notion of 'deserts' highlights gaps in the availability of specific specialisations or services – such as surgical deserts, obstetric deserts, or pharmaceutical deserts. The term also applies to medically underserved populations where the limited number of healthcare professionals is insufficient to meet existing demand [11]. In this context, primary healthcare plays a crucial role as it serves as the first point of contact within the healthcare system. According to the World Health Organization (WHO), systems built on strong primary healthcare foundations achieve better health outcomes and greater cost-effectiveness, while also reducing the risk of the emergence of medical deserts [7, 12, 13].

In Poland, primary healthcare (PHC) is centred around family medicine [14], which provides preventive, diagnostic, therapeutic, rehabilitative, and nursing services in the fields of general medicine, family medicine, and paediatrics. By law, PHC services are delivered within the framework of outpatient care [15]. Under the Primary Health Care Act, a primary care physician is typically a specialist in family medicine or a physician in training for that specialisation. Physicians holding a second-degree specialisation in general medicine may also serve as primary care providers without additional training. Furthermore, internists and paediatricians may work as primary care physicians with full rights if they complete the supplementary family medicine course specified in the Act [16].

According to data by the Central Statistical Office of Poland (GUS), the number of outpatient consultations in 2024 increased by 3.2% compared to the previous year, reaching 187 million [17]. As in the previous year, the largest professional group comprised internal medicine specialists (approximately 18,200), followed by family medicine specialists (approximately 10,800, down by 100 compared to 2023), and paediatricians (around 7,400, also 100 fewer than in 2023) [18]. Analysis of the Health Needs Map 2027–2031 revealed that in 12 counties (3.16%), at least one-quarter of patients sought primary care outside their place of residence. In 2023, there were 56 municipalities (2.26%) without primary care facilities, seven more than in 2019. Overall, PHC employed around 41,600 physicians, 37,900 nurses, and 6,700 midwives. However, the availability of doctors varied considerably, ranging from 83.3 per 100,000 inhabitants in the Olsztyn Province to 136.7 in the Łódź Province. On average, each physician was responsible for 1,149 patients, but the ratio ranged from 267 in Grudziądz to over 10,000 in Łomża County. Workforce ageing further compounds the challenge: in 2023, 26% of primary care physicians (10,833) were of retirement age, with the highest concentrations in Warsaw (538), Łódź (280), and Kraków (259). In some counties, such as Łomża, Sławno, and Bieszczady, retired physicians accounted for more than half of the primary care workforce. Coupled with high patient loads, this trend signals a risk of sudden shortages of doctors and further restrictions on access to primary care services [12]. Poland continues to face a substantial shortage of healthcare personnel, ranking among the lowest in the European Union in terms of workforce density. The country reports only 3.5 doctors and 5.7 nurses per 1,000 inhabitants, compared to the EU-27 averages of 4.2 and 8.4, respectively [19, 20].

The contemporary crisis in human resources within the healthcare sector is marked by a wide range of challenges, including staffing shortages, gaps in training, gender inequality, and financial constraints. In response, the United Nations (UN) and the World Health Organization (WHO) have highlighted the central role of the health workforce in their 2030 strategy, underscoring its importance for achieving policy priorities, such as universal health coverage [21–23].

The above-presented challenges have become an inspiration for the research team to develop and implement the conceptual research model in the context of the phenomenon of medical deserts. The primary aim of this qualitative study was the development of the conceptual model explaining the relationships between factors affecting the phenomenon of medical deserts, and designing solutions favouring an increased interest in niche specialisations and areas with staff shortages among future students of medicine. The findings of this study are expected to inform recommendations for optimising the medical education system and workforce management, including the development of targeted incentives for future physicians.

MATERIALS AND METHOD

For the purposes of this study, we developed a conceptual research model that incorporated procedures of analysis and inference. The model consisted of three modules:

1) *Preparations* – literature review concerning the phenomenon of medical deserts and attitudes of future physicians in the context of undertaking target professional career.
2) *Quantitative study* – using a questionnaire designed for studying career plans of future medical staff.
3) *Qualitative study* – interpretation of the relationships observed by experts.

The results obtained in this concern the third stage, which assumed the implementation of in-depth interviews with experts (IDI). The aim of carrying out the interviews was to explain the phenomena identified as a result of conducting survey studies among students of medical specialities. The survey was performed in June and July 2024. A part of the study was carried out by the instant messenger, the interviews were recorded, and subsequently notes were made from each interview which constituted the material for further analyses.

Eight experts in the field of human resources management in healthcare were invited to participate in the study. Figure 1 presents detailed information concerning the experts' profiles.

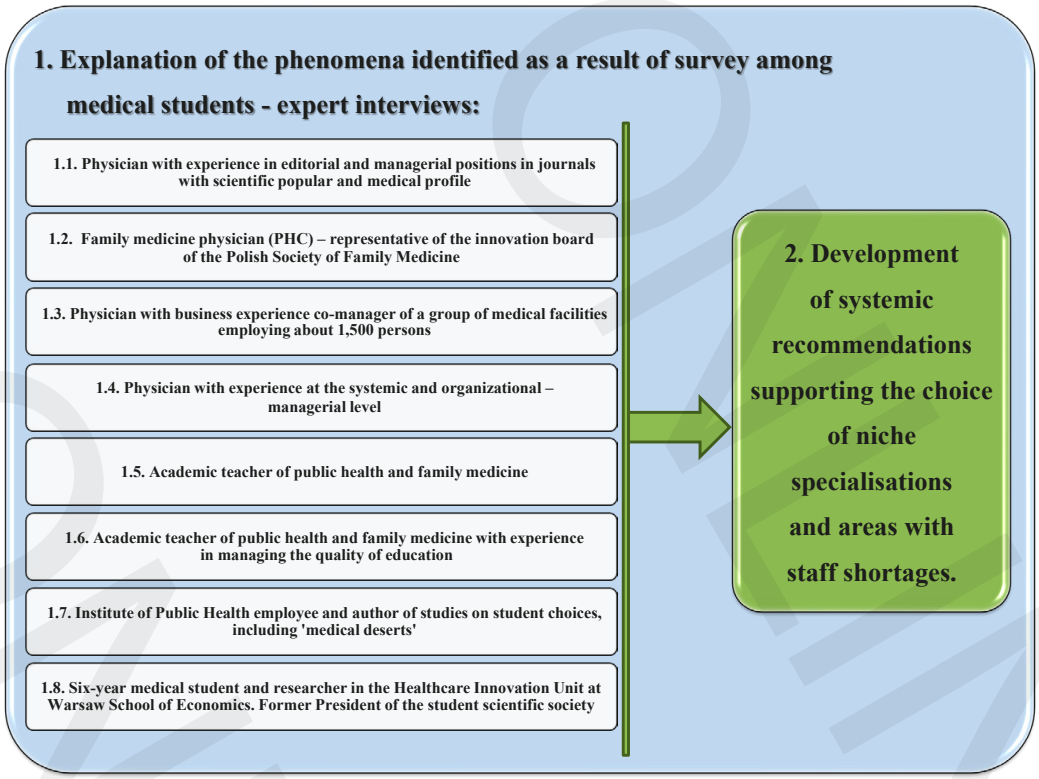

Figure 1. The role of experts participating in the study

RESULTS

Expert interviews. Qualitative analysis of experts' statements allowed identification and interpretation of the key factors determining students' educational and professional decisions which, from the point of view of medical deserts, are important for shaping the distribution of medical staff. According to the experts, the results of the survey conducted among students represent the mean perception of the profession of a physician, reflecting cultural perceptions of the profession rather than actual choices of the students in the study. They do not result from work experience and real professional predispositions; nevertheless, they form the basis for the development of systemic recommendations aimed at increasing an interest of medical students in niche specialisations and areas with a shortage of staff. The key factors which in experts' opinion determine educational and professional decisions of students, are included in Figure 2 and discussed below.

Factors for choosing medical study. The experts indicated that at the secondary school stage, decisions concerning the choice of the field of study are rarely of the character of clearly defined plans. They are more often the effect of following the dominant educational pattern than the manifestation of a strong intrinsic motivation. Experiences of the experts show that only sporadically there occur persons who, already at the stage of secondary school, declare the choice of medical study which, in the further course of education, manifests itself by a greater initiative and undertaking of organizational roles, such as e.g. the function of the year representative. Socio-financial prestige was also an important factor which, in the opinion of experts, refers to the choice of medical study by persons aware of their high cognitive abilities. According to

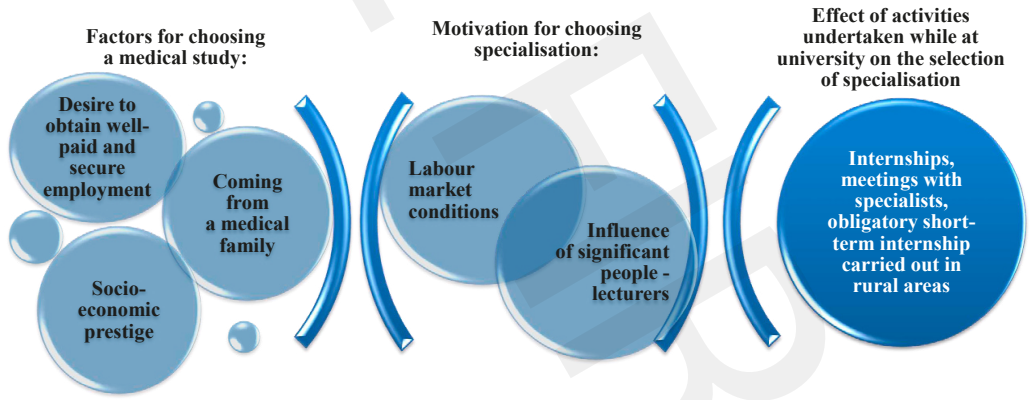

Figure 2. Key factors determing students' educational and professional decisions. Expert opinion

the experts, these persons are not always guided by the sense of mission or motivations for helping others. The elitism of this field of study attracts ambitious people who achieve high academic results. As a consequence of this elitism they perceive the profession of a physician as enjoying respect and recognition in society. The subsequent factor indicated by the experts was motivation of the financial character. In the opinion of experts motivations of these persons are associated neither with the sense of mission nor striving for a high social position. In this case, the profession of a physician is perceived primarily as the source of stable and attractive income, and not as a role requiring a specific professional ethos.

Motivations for choosing specialisation. According to the experts, the results obtained at the second stage of the study demonstrate that facilitation of access to a given specialisation by increasing the number of places and introduction of its funding, is not the factor determining an increase in interest in a given specialisation. The differences in the choice of specialisation are due to the dominant motivations, such as empathy, which favours the choice of specialities oriented towards work with a patient, and financial motivation or preference of work without a direct contact with a patient, which are associated with choosing more technical or more profitable specialities. Thus, the choice of a given specialisation, to a great extent, is determined by personal preferences and the dominant motivations of an individual, including those related with labour market conditions. This means that their choices may be influenced by changing benefits resulting from work in a given specialisation, or by changing its image. The experts participating in the study agreed that the most important persons exerting an effect on the choice of specialisation by students are their family members. However, the effect of the family environment does not have to be of a positive character or come exclusively from parents. These experiences, both positive and negative, may significantly shape their decisions – observation of job satisfaction favours the choice of a given specialisation, whereas negative experiences encourage the search for alternative paths. On the other hand, the experts were surprised by the scale of the declared impact of lecturers on the choice of specialisation, which may result from both their didactic competences, and students' reluctance to reveal family influence. This influence is sometimes linked to the personal charisma of lecturers which, as a largely innate trait, is difficult to use systemically in mechanisms supporting students' decisions. Therefore, it seems justifiable to undertake actions oriented towards the training of lecturers in the area of mentorship that they develop competences in the area of identification of students' attitudes, and supporting them in the process of making educational-career decisions.

Effect of activities undertaken in the course of study on the choice of specialisation. According to the experts, a too general approach to education during the first year of study may negatively affect the image of the whole specialisation. Therefore, the experts have some hopes for the reform of activities undertaken in the university system. Among indicated ideas is the implementation of studying communication together by students of medicine and nursing and other medical professions to learn respect and acceptance of working together. A reform in the area of the implementation of internships is also necessary, in order that each physician (mentor) has a maximum of 2–3 students under their individual care. The selection of charismatic internship mentors who are able to build relationships is also important – who like to show their work and share their passion. Students accompanying such a physician will have an opportunity to observe the daily work of their mentor, which might interest them enough to undertake an internship in a given specialisation. Due to this, already at the stage of the study, the students would become familiar with the way the team works and specific roles.

The experts also paid attention to the fact that the healthcare system is very strongly based on hospitals. In their opinion, hospitals are heavily subsidized and seem to be prestigious, therefore, places where the students generally want to work. They count on both earnings and opportunities for the development of a professional career. However, it should be emphasized that according to the experts this changes together with the duration of employment – later students prefer to work in the ambulatory care sector.

Meanwhile, demographic changes and the growing feminization of the medical profession imply the necessity for adjusting the structure of the healthcare system to new staffing conditions. As indicated by the experts, approximately 60% of graduates of medical studies are women who at an early stage of their professional career often combine professional development with the implementation of family plans. Simultaneously, the experts emphasized that possible decisions to undertake work in rural areas are more often made immediately after graduation than at a later stage of their professional career. This requires a systemic focus on actions and resources for the development of long-term environmental care provided at the place of a patient's residence

In the quantitative study, students indicated concerns about worse earnings in rural areas. According to the experts, relocation to peripheral areas is associated with many barriers of a social and professional character. Among those most frequently indicated were: potential loss of current social environment, limited access to infrastructure and services, as well as concerns concerning possibilities of career development and the quality of family life. Thus, a good mechanism could be scholarships for students who will then commit to working-off the debt in a given region. The experts mentioned the example of Germany, where student loans are offered for students living in the areas of medical deserts, together with obliging them to work-off the loan in these areas in the future. The experts highlighted the rationale for implementing the solutions applied, among others, in Greece, where mandatory internships in rural areas are an element of undergraduate education, thereby increasing students' exposure to the specific nature of work outside urban centres. It is therefore worth considering the mandatory nature of even a short-term internship carried out in rural areas. Simultaneously, it seems justifiable to provide an access to specialist courses and trainings for physicians employed in smaller facilities, in order to limit the perceived barriers in professional development and the sense of educational marginalization.

Work in primary health care is of special importance for the reduction of the phenomenon of medical deserts. According to the experts consulted in this study, the work of a primary healthcare physician in Poland is generally perceived

as unattractive and routine. In practice, this work consists in referring patients to medical specialists and writing prescriptions. This does not provide interesting challenges and is therefore discouraging the majority of students for whom professional development and the possibility of a real impact on the health and lives of patients are important. This specialisation is also not very attractive for students for whom financial issues are of key importance. In the opinion of experts, it is worth considering the implementation of changes in the Regulation by the Minister of Health of 27 November 2019 regarding the scope of tasks of primary healthcare physician, primary healthcare nurse and primary healthcare midwife. The changes should cover: (1) granting authorization to perform an extended range of diagnostic tests, such as USG or ECG, (2) possibility to perform more advanced medical procedures within PHC, which are currently reserved for specialists, (3) financial and organizational support for implementation of educational and prophylactic programmes carried out by PHC physicians, (4) introduction of the possibility to cooperate with psychologists and therapists within PHC enabling complex approach to patient's health, including psychological and emotional aspects, (5) expanding the possibilities to use telemedicine in order to diagnose and monitor patients remotely. Although a part of the solutions recommended by the experts have already been implemented, their scope and degree of implementation remain diverse and require further strengthening.

The effectiveness of the proposed reforms depends on their integration with the system of medical education. It is necessary to adjust educational programmes to the expanded scope of competences of PHC physician, including the strengthening of the content concerning public health, population-based prevention, and local community care management.

System recommendations. As a result of the multi-stage study, the important elements of which were expert opinions concerning general recommendations were also developed, aimed at the reduction of the number of areas deprived of access to medical care, and encouraging physicians to undertake practice in the regions with insufficient access to medical services. In order to counteract the present trends in the field of preferences of young physicians pertaining specialities, it is necessary to undertake actions in several areas (Fig. 3).

Internships – reform and mentoring. The general conclusion from the study is that the decision about choosing a given specialisation is made during the student's internship. Therefore, the key recommendation of a systemic character is the reform of the internship organization system. The internship environment itself – and the mentors one can meet there – also play a decisive role. The broader literature further highlights that effective mentoring significantly supports the decision-making process, particularly among students considering family medicine or surgical fields at an early stage of their education. By offering both practical insights and emotional support, mentoring shapes expectations and facilitates more informed career planning [24–26]. Given the declining number of applications for non-surgical specialisations, early exposure to primary healthcare is particularly valuable. Evidence from other studies indicates that undertaking a primary care placement in the first year of medical training positively correlates with subsequent choices of primary specialisations. In the present study, most students (60%) reported deciding on their specialisation by their third year of study, with more than one-third (34%) stating that the order of internships directly influenced their decision [24]. Research conducted in Poland indicates that extracurricular activities can influence students' professional decisions. The attitudes, enthusiasm, and professionalism of mentors and

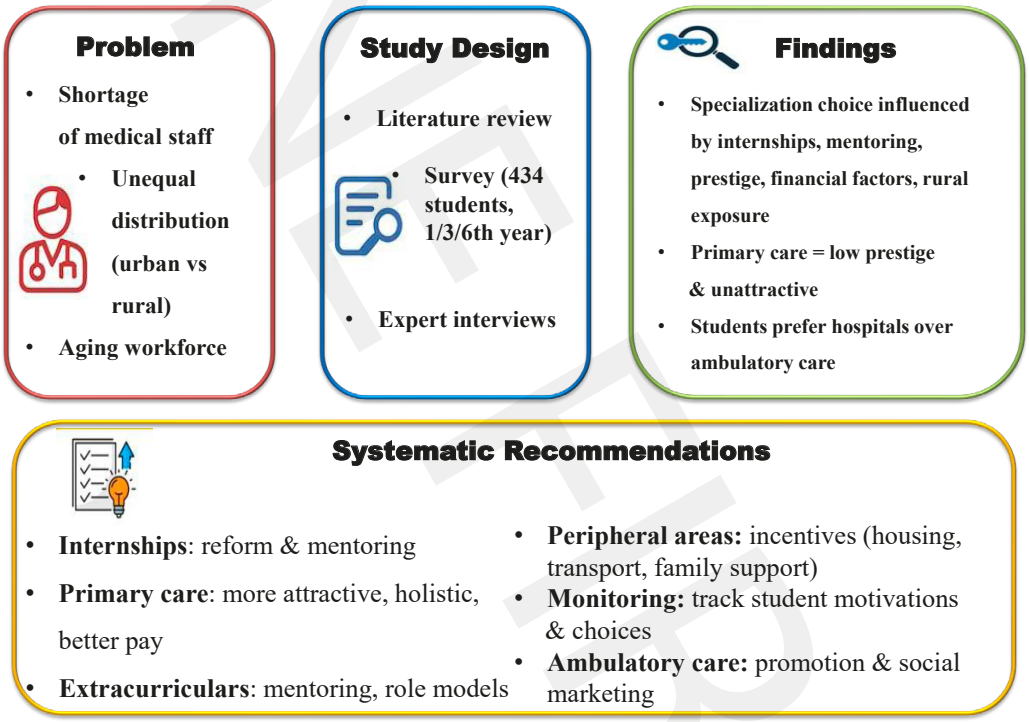

Figure 3. Reform of postgraduate training, with particular emphasis on family medicine

lecturers have been shown to exert a significant impact [27, 28]. Clinical exposure to respected and admired physicians may even inspire students to choose a specialisation they had not previously considered. These findings suggest that programme directors aiming to prepare the next generation of residents should intentionally facilitate contact between students and clinical role models. This underscores the critical role of academic staff – particularly those overseeing curricula, internships, and residency programmes – as role models shaping professional aspirations.

Moreover, the educational process should promote authentic interprofessional cooperation. Rather than relying solely on simulations or role-playing, training should prioritise practical collaboration, supported by modern technologies, to prepare students for effective work in interdisciplinary teams [19]. Although such actions as internships and mentoring might not have as great an effect as full clinical practices, they may play an important role in arousing students' interest in given specialisations and encouraging them to undertake post-graduate education. Experts consistently emphasised that the professional internship constitutes a key factor influencing both the choice of specialisation and the eventual place of work. Similar findings have been reported in Germany, where research demonstrated that specialisation choices are closely linked to participation in clinical placements and to positive experiences within specific fields [20]. Equally influential are clearly structured training pathways, systematic feedback, and the collaborative value of teamwork [29]. Clinical placements provide students with a more concrete vision of their future careers, help them to understand the realities of professional life, and reduce the uncertainty and stress associated with career decision-making [30].

According to experts, it is essential to look beyond the formal university framework and counteract negative perceptions of certain specialisations – particularly when such discouragement originates from within academic settings. By understanding the progression of students' interests and the factors influencing their choice of specialty, medical schools can more effectively engage students in exploring areas where the need for future physicians is greatest [24]. In view of the above the following is necessary:

1) Active involvement of interns in the daily work of the medical team at the facility.
2) Demonstration of a positive work environment, including collaboration and mutual support among different members of the healthcare team.
3) Presentation of tangible outcomes of medical team activities in improving the health of the populations under their care.
4) Engagement of management and staff in the co-design of internship conditions.

Primary care – more attractive, holistic, better pay. Improvement of the situation of primary health care physicians. At the international level, the Almaty Conference on Primary Health Care developed a strategy emphasising the central role of primary care in building inclusive community health systems, with a strong focus on health promotion and prevention. Within the WHO European Region, the key objective remains the implementation of family medicine as a cornerstone of primary healthcare. Nevertheless, the widespread perception of primary care as a form of 'inferior' medical care, sometimes described as 'pro-poor clinics' – undermines the implementation of this strategy, first articulated in 1978, and reduces the attractiveness of specialisation in this area [8, 31, 32]. Thomas Inui's concept of the 'hidden curriculum' in medical education further illustrates this problem. It describes how the lived experiences of students, shaped by daily clinical practice and professional interactions, often diverge from formally declared teaching content. This 'hidden curriculum' exerts cultural pressure within the educational environment, steering students toward specialisations viewed as more prestigious and discouraging them from pursuing careers in primary care [28]. Medical students' preference for hospital-based specialties is also driven by traditional perceptions of such fields as more ambitious and socially esteemed. Consistent with this, research shows that family medicine is consistently less popular than general medicine, surgery, or paediatrics among medical students [19, 33–37].

The practical implementation of recommendations formulated during subsequent conferences on primary healthcare requires decisive legislative action. At the national level, this includes measures aimed at improving the remuneration of primary care physicians and introducing a coordinated healthcare strategy [38, 39]. Equally important are communication and marketing initiatives designed to raise public awareness, strengthen the professional prestige of family doctors, and increase acceptance of the holistic model of care. The implementation of this recommendation should form part of government policy, developed in collaboration with healthcare institutions and the Medical Chamber. Decision-makers are responsible for creating a model, conducting public consultations, and putting the framework into practice, with particular attention to:

1) Organising meetings with inspiring, charismatic doctors and mentors who specialise in high – demand fields.
2) Making student internships more practice-oriented.
3) Inclusion of facilities in peripheral areas, with emphasis on the financial and prestige benefits of providing care to small communities – requiring close collaboration with local authorities and non-governmental organisations.
4) Strengthening initiatives such as 'career days', with a focus on promoting specialisations as well as employers.

Promotion of employment in peripheral areas. Experts participating in the third stage of the study indicated many social and professional inconveniences related with relocating to rural areas or those affected by depopulation processes. Nevertheless, working in peripheral areas can also offer distinct advantages. Sesiuk points to opportunities for professional development and private practice, as well as the possibility of achieving a better balance between professional and family life [28]. Pawelczyk further argues that a student's place of origin plays an important role: those from smaller towns may be more inclined to pursue specialisations that allow them to practise in local communities, such as family medicine [27]. This finding is consistent with systematic reviews by Godwin et al. and Asghari et al., which identified prior exposure to rural settings as the most frequently cited motivator for both recruitment and retention [40, 41]. Indeed, rural background and rural training were found to correlate most strongly and positively with willingness to work in rural environments. However, such attitudes were relatively rare among the students surveyed in this project.

The responsibility for implementing this recommendation rests primarily with local governments, working in close partnership with local communities. Key measures include:

1) Organising internships and placements in peripheral areas that integrate trainees into local community life, highlighting the gratitude, prestige, financial benefits, and social impact associated with providing healthcare to underserved populations. This is particularly relevant given that Polish studies indicate altruism and a desire to help others are strong motivators for students, alongside the prestige of the medical profession [28, 42].
2) Mentoring students who express an interest in practising in peripheral areas.
3) Improving living conditions for prospective doctors by providing housing, modernised and well-equipped workplaces, financial and organisational support for professional development, preferential access to local infrastructure (e.g., cultural, sports, and recreational facilities), assistance in finding employment for partners, and guaranteed places in nurseries, kindergartens, and schools.
4) Supporting doctors' mobility by subsidising travel costs, providing access to vehicles, improving local transport networks, expanding cycling infrastructure, and arranging flexible working hours to reduce commuting burdens.
5) Expanding medical curricula and internships to cover organisational and management aspects, including the practical requirements of establishing and operating a medical practice – particularly relevant for physicians who may wish to set up their own facilities in depopulated areas.

Another, more complex proposal involves the organisation of a rotational work system to provide care in medical deserts. This model requires effective coordination between municipal and county authorities, and would involve physicians working in different municipalities within the same county on separate days. Although the system presents limitations – particularly in responding to emergencies – it could nevertheless improve access by ensuring that residents have access to a doctor at least once a week. However, such a system is only suitable for physicians with specific personality traits, such as a preference for variety and flexibility in their work environment. Determining whether a physician is suited to such conditions could be addressed during the monitoring stage described in subsequent recommendations.

Ambulatory care – promotion of work in ambulatory care. Finally, experts emphasised the need for systemic measures that shift part of the healthcare burden from hospitals to ambulatory care. This transition should be supported by well-designed communication, marketing, and promotional activities, focusing in particular on:

1) Communicating clear data to the public that demonstrate the inevitability of moving towards a continuous care model. Hospitals alone will not be able to accommodate the growing demand, and it is therefore essential to ensure that inpatient care remains available for those who truly need it.
2) Highlighting the benefits of continuous care for both physicians and patients, including improved accessibility, efficiency, and continuity of treatment.
3) Promoting employment in ambulatory care units, as study results indicate that work in outpatient settings is generally less appealing to students than hospital practice, especially at the beginning of their careers.
4) Implementing social marketing initiatives that promote work in rural and depopulated areas.

Monitoring and evaluation. The proposed solutions, especially those concerning reorganization of internships are a complete novelty and therefore will be of an experimental nature. It will be especially useful at the initial stage to undertake actions aimed at:

1) Evaluation of the effectiveness of changes in implementation of assumed goals.
2) Evaluation of the remaining effects of changes.
3) Improvement of the system functioning.

For this reason it is recommended to conduct monitoring and evaluate the introduced solutions. According to the experts consulted in this study, monitoring and evaluation mechanisms are essential for assessing changes in students' attitudes towards both their choice of specialisation and their intended place of work. Evidence from a cross-sectional study of value changes among medical students demonstrated a downward trend in kindness and conformity between the first and fourth years of medical education. This shift was interpreted as reflecting an increase in problem orientation and a decrease in social orientation. The findings also suggest that the values of medical interns may evolve during training, likely influenced by shifts in the educational process, such as the transition from theoretical to practical learning or from preclinical to clinical training. Research conducted at Polish universities further demonstrates that the dominant motives for undertaking medical studies include altruistic aspirations, the assurance of future employment, the high prestige of the profession, and the fulfilment of personal ambitions [28, 43, 44]. However, motivation is not static. It transforms over time, shaped by a range of factors, including academic pressure, exposure to the clinical environment, and changes in personal circumstances [45]. This dynamic underscores the importance of systematic monitoring to ensure that evolving motivations do not divert students away from areas of greatest need, such as primary care or peripheral practice.

The responsibility for implementing this recommendation rests with organisations supporting healthcare, such as universities and professional medical associations. In practice, the monitoring and evaluation process should include the following elements:

1) Conducting regular analyses and publishing data on the healthcare labour market, covering both specialisations and geographic distribution, as well as forecasting demand and recruitment needs at least five years in advance.
2) Identifying students' attitudes and motivations, with particular attention to the factors guiding their choice of specialisation and place of work.
3) Tracking students' choices at different stages of their studies (e.g., prior to internship, during internship, and upon completion).
4) Evaluating the individual components of the internship process.
5) Assessing the impact of interventions and activities on subsequent career decisions.
6) Implementing corrective measures if irregularities or unintended consequences are detected.

Such a systematic approach would make it possible to identify trends at an early stage, provide timely policy responses, and adapt educational strategies to support both student aspirations and broader healthcare system needs.

SUMMARY

Results obtained during the expert discussion are interpretative and exploratory in nature and thus do not allow their statistical generalization. However, they constitute a significant deepening and explanation of the dependencies identified at the quantitative stage of the study. The experts' statements were framed within specific problem areas, identified based on the findings of the earlier stage of the survey carried out in the group of students. They reflect the conditioning of the healthcare system at a given time, and may change with subsequent systemic reforms. Simultaneously, the results obtained show that the decisions concerning the career paths undertaken by medical students are shaped by many factors, some of which are dynamic and change over time. Recognising and addressing these factors proved crucial in formulating systemic recommendations to reduce the phenomenon of medical deserts in Poland, and to encourage employment in depopulated areas.

The efforts of the World Health Organization (WHO), the Global Health Workforce Alliance (GHWA), and partner organisations to advance a global human resources for health (HRH) strategy for 2016–2030 underscore the growing recognition of the importance of HRH planning. Countries are urged to strengthen their capacity to forecast, plan, and manage health workforce needs in line with anticipated demand and supply under different development scenarios [43].

In Poland, reversing current trends in the career preferences of young medical professionals requires coordinated action at multiple levels. According to experts, postgraduate internships play a decisive role in shaping both specialisation and workplace choices. Short- and long-term placements, rotations, and apprenticeships give students exposure to mentors and professional role models [46]. The positive influence of these relationships is most pronounced when they are continuous and supported by extended, structured internship opportunities. Evidence also suggests that longer placements during the early stages of training strengthen mentoring bonds which, in turn, exert a lasting influence on future career decisions.

Finally, the study highlights the importance of broad-based cooperation in implementing health policy. Encouraging young professionals to work in rural and depopulated regions can mitigate the emergence of medical deserts. Achieving this goal requires consistent and targeted collaboration among central government, local authorities, professional associations, and local communities. Only through such multifaceted engagement can sustainable improvements in healthcare access and equity be realised.

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