# Tackling Medical Deserts: Unearthing Factors that Influence Medical Students' Attitudes and the Path Forward

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‘Medical deserts’, areas characterized by limited access to healthcare services, are a growing global concern. These areas often face a shortage of healthcare professionals, which significantly contributes to poor healthcare access, reduced health outcomes, and health inequalities.[1] As future healthcare providers, medical students have the potential to address this issue by considering work opportunities in these underserved regions. However, despite various policy interventions in the European Union, there remains a need to understand which measures are most effective in motivating, recruiting, and retaining (young) healthcare workers in medical desert areas.

In Croatia, as in most other EU countries, medical deserts have emerged by regional disparities in age structures, economic resources, travel time to healthcare facilities, and healthcare provider ratios. These disparities often exist between urban and rural areas, with rural regions typically facing a higher degree of healthcare provider shortage. Addressing these disparities is essential to achieve equitable healthcare access for all populations, especially for those residing in remote and underserved regions. Studies have shown that medical students' attitudes towards working in medical deserts are influenced by various factors, such as personal characteristics, socioeconomic status, education, and training[2,3,4].

A recent study conducted at the Zagreb Medical School sought to investigate medical students' attitudes towards working in medical deserts in Croatia and identify factors that influence their willingness to work in these areas. The research is part of the ROUTE-HWF consortium project, co-funded by the European Union's Health Programme, which aims to support EU Member States in designing and implementing health workforce policies related to medical deserts.[5] By exploring medical students' perspectives, the study aimed to gain insights that inform healthcare workforce planning and the development of targeted interventions to improve the recruitment and retention of healthcare providers in medical deserts.

Through an anonymous online questionnaire developed on insights from previous research, the study surveyed final year medical students regarding their attitudes towards working in medical deserts.[6,7] Data analysis was conducted using R programming language, with statistical significance set at a p-value of less than 0.05. The results revealed that the majority of both male and female students were willing to work in medical deserts for a limited period, while a smaller percentage preferred to avoid or never work in these areas. Factors such as gender, parental occupation and the area in which students grew up, influenced their attitudes towards working in medical deserts. Male students were more likely to work on an island, and students whose parents were not healthcare workers demonstrated a higher willingness to work in remote areas. Students from remote areas or islands were also more willing to work in medical deserts compared to those from small cities.

Although the study's small sample size and single-center design may limit the generalizability of its findings, the research provides crucial insights into the factors that influence medical students' willingness to work in medical deserts. The study's results suggest that a combination of incentives that take the background of students into account, improved working conditions, and good career prospects could potentially improve the recruitment and retention of physicians in medical deserts. This information can be invaluable in informing healthcare workforce planning and developing

targeted interventions to address and mitigate the healthcare professional shortage in underserved areas.

Addressing the issue of medical deserts requires a multifaceted approach that considers the diverse factors influencing medical students' attitudes towards working in these areas. Healthcare workforce planning should prioritize understanding the unique challenges and opportunities associated with practicing in medical deserts and develop policies and strategies that incentivize healthcare providers to serve in these regions.[8] Future research should explore the attitudes of medical students from other and additional institutions and countries to gain a more comprehensive understanding of the factors that influence their willingness to work in medical deserts. Additionally, it would be beneficial to investigate the long-term effects of various policy interventions on the recruitment and retention of healthcare providers in medically underserved areas.

Efforts to alleviate the challenges associated with medical deserts should not only focus on financial incentives but also consider improving working conditions, career development opportunities, and support systems for healthcare professionals working in these areas.[9] This could include the provision of adequate resources, improved infrastructure, telemedicine support, professional networks, and mentorship programs. Additionally, collaboration between governments, academic institutions, and healthcare organizations will be crucial in developing and implementing these strategies.

Moreover, medical education programs can play a vital role in addressing the healthcare workforce shortage in medical deserts. By incorporating rural health exposure and training into the curriculum, schools can help students develop an understanding of and appreciation for the unique challenges and rewards of practicing in underserved areas.[8] Exposure to rural health issues can also help foster a sense of social responsibility among medical students, encouraging them to consider working in medically underserved areas as part of their professional commitment to equitable healthcare access.

In a rapidly changing world, the importance of addressing the specific and accumulating problems of medical deserts cannot be overstated. As we strive to ensure equitable access to healthcare for all individuals, regardless of their geographical location or socioeconomic background, understanding the factors that influence medical students' willingness to work in underserved areas is essential. By developing targeted (i.e. tailor made) interventions and policy measures that address these factors, we can begin to close the gap in healthcare access – and to finally improve overall health outcomes for vulnerable populations in medical deserts.

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