



# INTERPROFESSIONAL EDUCATION WITH SIMULATIONS IN PRIMARY CARE MEDPOKLICNO IZOBRAŽEVANJE S SIMULACIJAMI V PRIMARNEM ZDRAVSTVENEM VARSTVU

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## ABSTRACT

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The introduction of interprofessional primary care (IPC) as a model of collaborative patient care is increasingly vital in the context of complex healthcare systems and the growing needs of patients. Its benefits include improved patient outcomes, enhanced efficiency, and reduced costs. However, the successful implementation of IPC faces challenges due to the differences in training and backgrounds among healthcare professionals, emphasising the importance of effective teamwork and collaborative education.

Educational approaches utilising simulations have gained prominence, particularly in addressing the challenges of interprofessional primary care. Notably, simulations facilitate team learning, enhancing team management and confidence, which ultimately leads to improved performance in real-life scenarios. They also contribute to patient safety by providing comprehensive training and creating a safe environment for professionals to practice and refine their skills without risking real patient harm.

Moreover, simulations promote psychological safety, allowing healthcare workers to manage stress effectively and prepare for critical situations. Ethical considerations are met through simulation-based education, ensuring patient confidentiality, and creating a standardised and just learning environment for all students. Simulations contribute to promoting equity in medical education by providing equal access to high-quality training opportunities for all healthcare professionals.

In conclusion, successful IPC implementation requires a comprehensive approach that includes interprofessional education and the integration of simulations as an essential component of the curriculum at all levels of healthcare education. This approach fosters effective communication, teamwork, and confidence among primary care teams, ultimately leading to improved patient care and outcomes.

## IZVLEČEK

### Ključne besede:

medpoklicno primarno  
zdravstveno varstvo  
simulacije  
timsko delo  
varnost pacientov  
izobraževanje

*Uvajanje medpoklicnega primarnega zdravstvenega varstva (MPZV) kot modela sodelovalne oskrbe bolnikov je vse pomembnejše v kontekstu kompleksnih zdravstvenih sistemov in naraščajočih potreb bolnikov. Njegove prednosti vključujejo boljše izide zdravljenja bolnikov, večjo učinkovitost in manjše stroške. Vendar se uspešno izvajanje MPZV sooča z izzivi zaradi razlik v usposabljanju in izobrazbi zdravstvenih delavcev, kar poudarja pomen učinkovitega timskega dela in sodelovalnega izobraževanja.*

*Izobraževalni pristopi z uporabo simulacij so postali pomembni, zlasti pri obravnavi izzivov medpoklicnega primarnega zdravstvenega varstva. Zlasti simulacije olajšujejo timsko učenje, krepijo timsko vodenje in samozavest, kar na koncu privede do boljšega delovanja v resničnih scenarijih. Prispevajo tudi k varnosti bolnikov, saj zagotavljajo celovito usposabljanje in ustvarjajo varno okolje, v katerem lahko strokovnjaki vadijo in izpopolnjujejo svoje spretnosti, ne da bi tvegali resnično škodo za bolnika.*

*Poleg tega simulacije spodbujajo psihološko varnost, saj zdravstvenim delavcem omogočajo učinkovito obvladovanje stresa in pripravo na kritične situacije. Etični vidiki so izpolnjeni z izobraževanjem na podlagi simulacij, zagotavljanjem zaupnosti bolnikov in ustvarjanjem standardiziranega, pravičnega učnega okolja za vse študente. Simulacije prispevajo k spodbujanju enakosti v medicinskem izobraževanju, saj vsem zdravstvenim delavcem zagotavljajo enak dostop do visokokakovostnih možnosti usposabljanja.*

## 1 INTRODUCTION

Interprofessional primary care (IPC) is a model of care in which healthcare professionals from different disciplines work together to provide coordinated and comprehensive care to patients. IPC is becoming increasingly important as the healthcare system becomes more complex, and patients have increasingly complex needs (1, 2). For example, a systematic review and meta-analysis found that IPC was associated with improved patient outcomes in a range of areas, including chronic disease management, mental healthcare, and preventive care (3). IPC can also improve the efficiency and effectiveness of the healthcare system. Caroon et al. found that those systems which used an IPC model had lower costs per patient and higher rates of patient satisfaction (4).

## 2 INTERPROFESSIONAL EDUCATION IN PRIMARY CARE

Despite the benefits of IPC, there are still several challenges to its implementation. One challenge is that healthcare professionals from different disciplines may have different training and backgrounds. This can make it difficult for them to communicate and collaborate effectively, and thus successful teamwork is an emerging educational topic (5). Each team member has a different set of skills and knowledge, and it is important for all team members to be working together effectively to provide the best possible care to patients (6). Team education can help to improve communication and collaboration among team members. It can also help to ensure that all team members are up to date on the latest best practices in primary care. Additionally, team education can help to create a more positive and supportive work environment for all team members.

The specific benefits of team education in primary care include improved patient care, increased efficiency, reduced costs, and improved staff satisfaction (7).

## 3 EDUCATION WITH SIMULATIONS IN PRIMARY CARE

The use of simulations in medical education has recently been added as a standard to the European Resuscitation Guidelines from 2021 (8). Similarly, the WHO (9) also said that health professionals' education and training institutions should use simulations.

### 3.1 Team development

Teaching with simulations enables team learning, which is essential for working harmoniously in real-life situations. Through learning with simulations, teams gain self-esteem and increased confidence in the team's ability to handle a situation properly. Primary care teams that were involved in team education indicated that their management and

confidence had improved, that they were better able to take a leadership role, give instructions and delegate tasks as required. They also valued the chance to train as a team (10). It appears that team training improves the performance of the resuscitation team in simulated emergency scenarios (11).

### 3.2 Safety

#### 3.2.1 Safety of patient management

The use of new training methods, such as classroom simulations with 3-dimensional highly realistic simulators (12), can provide comprehensive training in handling medical situations and identifying potentially dangerous medical situations that are usually not part of the daily work of primary care physicians and other healthcare workers (13).

Medical professionals can refine their skills through repetitive practice on simulators, which can lead to better patient outcomes when they encounter real medical situations. Medical simulation prevents harm to real patients who might otherwise be subjected to unnecessary procedures, misdiagnoses, or inexperienced practitioners during training.

Healthcare professionals can make mistakes in a safe environment during simulations, providing valuable learning opportunities without causing harm to patients. This fosters a culture of accountability and continuous improvement, aligning with ethical principles.

#### 3.2.2 Psychological safety

Stress is prevalent in the field of medicine, especially in critical and time-sensitive situations. Since stress can hinder the safe execution of tasks and the delivery of high-quality care, it is crucial to impart early education to health workers on stress management. With simulations, we can replicate actual patient scenarios that mirror real-life clinical settings (14), allowing for the assessment of different teams' competencies in a controlled and standardised manner. This approach provides a secure and effective way to acquire the skills necessary to handle challenging, uncommon, or critical clinical situations. The scenarios are designed to be both standardised and adaptable, making it possible to tailor them to the trainees' proficiency levels. This uniform and standardised training process enhances the quality of learning and eliminates the need for extensive on-site exposure over several years. By immersing participants in lifelike and demanding scenarios using highly realistic simulations, we foster experiential learning, enabling primary healthcare teams to engage with virtual patients. During these simulations, participants learn how to effectively manage stress and independently care for the patient. They can explore their emotions and fears in a safe environment, acquiring the tools to confront and conquer them (15).

### 3.3 Ethical aspects

Obtaining informed consent can be challenging when using real patients for training, especially for invasive or risky procedures. Simulations eliminate this ethical concern since they involve consenting individuals who are aware of the simulated nature of the scenario. Simulations also ensure the confidentiality of patients' medical records and personal information, as no real patients are involved. This maintains patient privacy and adheres to ethical standards.

Simulations can replicate rare or complex medical cases that medical students or professionals may not encounter frequently in their clinical practice. This exposure helps them build expertise in handling such cases ethically.

Simulations provide the opportunity to create highly realistic, interactive environments in which students can learn experientially in ways that would not be ethical or appropriate in real life (16).

### 3.4 Equity

Simulations can help ensure that all medical students and professionals have equal access to high-quality training experiences, regardless of their background or location. This promotes equity and fairness in medical education, aligning with ethical principles of justice.

## 4 CONCLUSION

Successful implementation of IPC depends on several factors, one of which is also the need to educate primary care teams to work, despite the diversity of their members' backgrounds and training (17). There is a need to implement interprofessional education, which fosters effective communication and collaboration among team members with varying skill sets and knowledge.

One successful method of interprofessional education in primary care is education with simulations.

Such education not only improves clinical skills but also enhances team dynamics and confidence, translating into better performance in real-life scenarios. Therefore, we suggest implementing interprofessional education with simulations in the form of an obligatory curriculum in the field of healthcare education, including that provided for undergraduates and postgraduates, as well as part of continuous professional development.

## CONFLICTS OF INTEREST

The authors declare that no conflicts of interest exist.

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## ETHICAL APPROVAL

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## AVAILABILITY OF DATA AND MATERIALS

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