

# Diverse Integration of Simulated Patients in Medical Education for Communication, Language, and Clinical Skills in Hungary

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**Abstract:** Medical education and communication training has been undergoing substantial changes recently in our globalized environment. Multidisciplinary simulation-based methods worldwide focus on improving effective clinical skills including history taking, physical examination, diagnostic skills, critical thinking, therapeutic skills, and others via interactions between medical students, trainees, and patients. Recently, Hungary has joined such global trends. The first simulated patient program in Hungary was developed at the University of Pécs Medical School in 2019 to aid effective patient-interviewing skills in language and communication classes. Under the supervision of linguists, communication specialists and medical professionals, the multidisciplinary program uses lay people to perform as simulated patients while using the languages of Hungarian, German, and English. Our simulated patient program plays a specific role in supporting students to learn languages for medical purposes, aiming to prepare them for handling the medical, linguistic, at the same, time emotional and sociocultural difficulties encountered while taking patient histories. Medical and linguistic experts evaluate student performance, provide feedback, and give tailored instruction so that students can advance their communicative and professional skills. This study discusses working formats and the role of constructive feedback exploring potential advantages and disadvantages, sharing ideas, and proposing recommendations on language- and communication-based integration of simulated patients. In our elective communication courses, undergraduate medical students learn to cope with a variety of patient situations through practicing medical emergencies, misunderstandings, and disagreements in a safe atmosphere provided by the MediSkillsLab. Among the benefits, we should emphasize that any course with a growing number of students can be accommodated by carefully designing the program, which allows for interprofessional collaboration. This program contributes to higher-quality medical education, promoting more skilled and compassionate healthcare specialists.

**Keywords:** simulation, interprofessional medical communication, feedback, clinical skills

## Introduction

Historically, medical education has heavily relied on observing doctors as they treat and examine actual patients. With the advent of simulation-based programs, medical students now have the opportunity to engage with simulated patients (SPs) to gain practical experience in a controlled environment, enhancing both their communication and practical skills.<sup>1-4</sup> Simulation technology, long utilized in fields such as aviation and military training, has found a significant place in the education and practice of high-risk professions, including healthcare.<sup>5,6</sup>

In recent years, the use of simulation in medical and healthcare education has seen rapid growth, driven by the need to provide students with realistic clinical experiences and prepare them for the complexities of patient care in the face of advanced treatment and diagnostic methodologies.<sup>7-11</sup> Most of these methods involve creating clinical skill centers, integrating SPs (for practicing patient-centered communication) and anatomical simulators (for practicing basic skills such as urinary catheterization) into experiential learning, and performing clinical tasks through simulating realistic scenarios in clinical settings.<sup>7,12</sup> Simulation exercises with SPs allow for the practice of uncommon and challenging clinical circumstances. On the other hand, there are limitations this type of learning method has, such as the SP's inability

to produce physical signs that can be observed or listened to (eg, abnormal bowel sounds, increased heart rate, distended abdomen, barrel shape chest, asthmatic wheezing and many others). Therefore, working with SPs is not meant to substitute clinical bed-side teaching, but to train students to succeed in real life clinical practice.

As a result, the 21st century simulation technology (anatomical models, new partial-exercise trainers,<sup>6,7,12</sup> and computer-controlled human patient simulator models and virtual reality (VR) labs) in medical education should merge with the involvement of human simulated patients to increase authenticity and clinical competence.<sup>6,7,12</sup> As we see, the question is not whether simulation-based models are incorporated into medical curricula or not but how these are implemented.

## Simulated Patient Programs

The term simulated patient has been used widely and often interchangeably with standardized patient. The latter is a person trained to present symptoms of a medical condition in a standardized way to enable students to learn and/or be assessed in high-stakes examinations (such as in the objective standardized clinical examination, OSCE), as part of their medical training by reviewing medical records, taking a medical history, and completing simple physical tests.<sup>13,14</sup> Beigzadeh et al<sup>15</sup> and Ker<sup>16</sup> argue that a simulated patient is a person who simulates a patient based on a case report allowing improvisations. We use the term simulated patient, focusing on simulation and opportunities given for improvisation (depending on the students' needs), so they portray symptoms related to a disease and act as patients in role-play scenarios to help the learning process.<sup>16</sup>

SPs have been used to improve medical communication skills for more than sixty years.<sup>17–20</sup> Based on the premise that communication skills and empathy are malleable qualities that can be learned and improved, educators are continuously improving their methods in order to enhance medical communication and empathy effectively.<sup>21</sup> University of Toronto has the widest range and highest number of simulated patients (592) and implementation options and focuses on promoting clinical skills with emphasis on communication.<sup>13</sup> French universities are starting to offer training courses on specific issues related to interpersonal skills, which are defined as the presence of verbal and nonverbal behaviours in the context of personal interactions with the patient or the patient's family.<sup>22</sup>

SPs have been employed sporadically in German-speaking countries since the 1980s.<sup>23,24</sup> Since 2000, they have become firmly established as a component in instruction and testing in various fields, and in Germany, Austria, and Switzerland, SP programs have become increasingly widespread. The intended or actual incorporation into the final medical assessments both increase the importance of SPs and the challenges institutions face related to planning, financing, and community engagement as well as practical implementation.<sup>25,26</sup> According to a 2021 article, University of Leipzig has incorporated SP-based communication skills trainings as an integral part of the education offered by German medical schools. Almost every degree program includes communication skills training featuring SPs and feedback during students' second and third years of study.<sup>27</sup>

Grand'Maison et al<sup>28</sup> and Brailovsky & Grand'Maison<sup>29,30</sup> both noted that the approach's broad licensure for testing purposes was due to the fact that these simulation programs gave students standardized education in real-world settings. Despite growing technology advancements, unfavorable doctor–patient interactions continue to cause many difficulties that should be addressed.<sup>31</sup> Clinical staff members take between 100,000 and 200,000 medical histories during the course of their careers, with interpersonal aspects of the doctor-patient connection proving to be crucial.<sup>32,33</sup>

By the time medical students become clinicians, communication competency-based learning with SPs can prepare them for the above challenges without jeopardizing patient safety.<sup>34–36</sup> Students are immersed beyond their textbook knowledge in human encounters with a guest, which is an invaluable experience and contributes to better communication skills.<sup>37</sup> Simulation is a safe environment for learning with progressively rising levels of difficulty and suited for the students' talents.<sup>7,8,10</sup>

Hungary's medical education practices have joined the above only recently. The first medical school to employ professional actors to act as patients for students in communication courses, in family medicine scenarios, was The University of Szeged. The students could practice taking medical histories of the patients and encountered delivering bad news scenes. However, no SP program was established including lay patients, neither collaboration started with clinical specialists in other fields than family medicine. It is interesting to note that almost fifty years ago, Béla Buda, a distinguished Hungarian psychiatrist, psychotherapist, and author of several books on medical communication, has emphasized the importance of

developing medical communication skills, underlining the necessity of cultivating empathy within medical education.<sup>38</sup> The challenges treating “difficult” patients are also discussed in Szili’s work,<sup>39</sup> as well as the necessity of using the appropriate politeness techniques to encourage closer cooperation between the participants, even in online consultations.<sup>40</sup> Our SP program helps to meet the above requirements, and fills the gap in SP literature by the opportunities of diverse integration it provides.

## Objective

This study aims to introduce and discuss the diversity our SP program can offer to national and international medical students in three-language (Hungarian, English, and German) programs as a unique phenomenon in Central Europe. Educational and implementation methods will be discussed. The objectives of implementing the SP program in medical students’ language-and-communication-oriented and clinical skills courses are presented in Table 1.

## Study Context

Our case study outlines the design and implementation of a unique three-language SP program. Due to the geographic and strategic positioning of our university in Central Europe, alongside our goal for internationalization, we offer medical education in Hungarian, English, and German. This approach not only prepares students for real-life doctor-patient conversations but also equips them with essential language skills for their clinical practice. Our medical training spans six years, divided into pre-clinical and clinical phases, with a foundational communication course in the first year and optional language and clinical communication courses available from the early years.

## Case Study: Simulated Patient Program at the University of Pécs Medical School

Three years before establishing our SP program, elective medical history taking pilot courses were launched involving professional actors as simulated patients in all the available language programs. These were multidisciplinary initiatives (involving clinicians, linguists, communication specialists, and psychiatrists) to enable students to improve their clinical skills such as patient interviewing techniques, breaking bad news, physical examination, and critical thinking.<sup>43</sup> Due to the faculty’s difficulties in covering course-related expenses, only a limited number of students could benefit from the experiential, student-centered and simulation-based forms of medical education.

Therefore, to facilitate more students’ learning, in 2019, our university introduced Hungary’s first cost-effective and sustainable SP program with the inclusion of lay simulated patients. Our initial goal was for students to learn how to conduct structured, patient-centered interviews<sup>44</sup> and overcome communication barriers with the help of SPs. The program is established at the Department of Languages for Biomedical Purposes and Communication at the Medical School. The SP program was designed by a linguist and communication specialist colleague (Anikó Hambuch) collaborating with a research associate professor with expertise in acting and psychology (Judit Fekete), who are co-authors of this article. The unique diversity of professional backgrounds of the designers (linguists, psychologists, actors) contributed to the multi-layered training of our SPs and trainers and ensured language and behaviour awareness pertinent to medical settings. SPs are integrated into various language and communication courses, clinical practices, workshops, and postgraduate training. A partnership with the Primary Care and Behavioral Studies departments allows doctors, psychologists, and sociologists to work with simulated patient trainers, expanding the program’s impact. This collaboration improves how SPs are trained by bringing in diverse professional insights.

**Table 1** Objectives of Implementing the SP Program

| To Complement and Enhance Students’ Language and Communication Skills, Using | To Help PhD Trainees and Clinicians to Learn and Practice New Methods to Communicate More Effectively and Clearly with |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Small-group classroom instruction                                            | Colleagues and collaborators in other disciplines                                                                      |
| Improvisational techniques <sup>41</sup>                                     | Students                                                                                                               |
| Practice sessions for real-life simulations <sup>42</sup>                    | Patients and the public                                                                                                |

## Simulated Patient Bank

SPs are recruited continually (Table 2). They are retired school-teachers, engineers, healthcare professionals, managers, manual workers, and university students, who are bilingual or native speakers of Hungarian, German, and English. Minority representations are included with careful planning of deployments to avoid stereotyping and increase sensitization.

## Feedback as a Critical Element of SP Training

Training of SPs follows the method described by Wallace<sup>45</sup> in Coaching Standardized Patients. During the home-office Covid years SP training (as well as communication and language courses in medical education) took place on digital platforms. SPs received specific training on how to behave in front of the computer with focus only on facial expressions; awareness of the role of smile, raising eyebrows and looking into the camera. This experience enabled ongoing inclusion of digital simulated conversations and different forms of telemedicine into our curriculum to aid students to recognize and handle barriers of communication with confidence.

A crucial element of SP training is to learn how to provide constructive feedback. On developing the most effective feedback technique for our SP program, we experimented with six feedback models (Table 3).

**Table 2** Number of Simulated Patients from 2019–2023

| SPs                             | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------------------------|------|------|------|------|------|
| <b>Native Hungarian speaker</b> | 12   | 13   | 25   | 29   | 29   |
| <b>Native English speaker</b>   | 3    | 4    | 7    | 9    | 15   |
| <b>Native German speaker</b>    | 4    | 4    | 5    | 5    | 12   |
| <b>Total</b>                    | 19   | 21   | 37   | 53   | 66   |

**Table 3** Models of Feedback

| Type                                         | Criticism                                                                                                                                                                                                  | Self-Reflection of Students                                                                          | It Promotes                                                                                                                                                            |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Formative feedback <sup>46</sup>             | <ul style="list-style-type: none"> <li>• Right after the scenario</li> <li>• On behaviours</li> <li>• Reflects on emotions</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>• Not included</li> </ul>                                     | <ul style="list-style-type: none"> <li>• Students to achieve their goals</li> </ul>                                                                                    |
| “Feedback sandwich” <sup>47</sup>            | <ul style="list-style-type: none"> <li>• Positive-critique-positive</li> <li>• Confirms positive</li> <li>• Recommends ways of change</li> </ul>                                                           | <ul style="list-style-type: none"> <li>• Not included</li> </ul>                                     | <ul style="list-style-type: none"> <li>• Well-working behaviours</li> <li>• Encourages behavioral change objectively</li> </ul>                                        |
| Pendleton’s model <sup>48</sup>              | <ul style="list-style-type: none"> <li>• After the student’s self-reflection</li> <li>• On behaviours (positive first)</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>• Included</li> <li>• First before other feedbacks</li> </ul> | <ul style="list-style-type: none"> <li>• Recognition of aspects of behaviours to be maintained and developed</li> </ul>                                                |
| Self-reflection based feedback <sup>49</sup> | <ul style="list-style-type: none"> <li>• Influences and enhances clinical performance</li> <li>• helps to reconstruct knowledge</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>• Included</li> <li>• Essential</li> </ul>                    | <ul style="list-style-type: none"> <li>• Students’ assessment of their own performances</li> <li>• Considering ways to improve, and continuing learning</li> </ul>     |
| Constructive feedback <sup>50</sup>          | <ul style="list-style-type: none"> <li>• On communication and behavioral patterns to be confirmed or modified</li> <li>• Instant and sensitive</li> </ul>                                                  | <ul style="list-style-type: none"> <li>• Included</li> </ul>                                         | <ul style="list-style-type: none"> <li>• Quality education</li> </ul>                                                                                                  |
| DESC model <sup>51</sup>                     | <ul style="list-style-type: none"> <li>• D-describe</li> <li>• E-express</li> <li>• S-solution</li> <li>• C-conclusion</li> <li>• the SP outlines the facts while respecting students’ feelings</li> </ul> | <ul style="list-style-type: none"> <li>• May/ may not be included</li> </ul>                         | <ul style="list-style-type: none"> <li>• Emotional detachment of students</li> <li>• Listening without building any barriers</li> <li>• Clear communication</li> </ul> |

Successful feedback requires a mentoring connection between teacher/trainer and student. It is most effective when offered on a regular basis in an appropriate context, is focused on the performance rather than the individual, includes clear, precise feedback based on direct observation, and is delivered in neutral, non-judgmental language.<sup>52</sup> While highlighting the good features, it should be descriptive rather than evaluative, and should begin with the trainee's self-assessment. The feedback instructs the student on how to become a sympathetic and effective communicator, and "it is central to medical education in promoting learning and ensuring standards are met".<sup>52</sup> Based on the experiences we decided to merge the models creating our *formative constructive feedback* that is based on behaviours observed during the simulated encounters and phrased in a non-judgmental way, preceded by the student's reflections of their performance.

During the SP training blended-learning methods (audio-visual presentations, handouts, and videos representing positive examples of feedback) help the new SPs to become equipped with verbal and non-verbal tools of giving constructive feedback, so they can contribute effectively to improving students' communication skills. Video-recorded scenarios are analyzed concerning content, language use, body language, structure and feedback. This feedback is present in all forms of undergraduate and postgraduate training. Once the SPs are trained, they only need briefings before deployments and debriefings after the sessions.

### Preparation of Cases for the Simulation

Prior to the scheduled SP trainings, a linguist and a psychologist build scenarios/patient profiles from an authentic medical case (collected by collaborating clinicians) in the fields of internal medicine, cardiology, gastroenterology, nephrology, endocrinology, dermatology, neurology, surgery, psychiatry, and dentistry. The psychologist determines whether the patient is cooperative or uncooperative, agreeable or aggressive, what associated conditions the patient has (eg, depression, drug or alcohol abuse), and how these traits and issues will affect the patient's attitudes during history taking.<sup>53</sup> The linguist gives the necessary language tools for all of these factors (eg, medical condition, personality qualities), and communication techniques to meet character and situation-based requirements (eg, monotonous speech, verbal hesitancy, nonverbal signs such as avoided eye contact, pulled up shoulders, and so on), then the case is returned to the doctor for approval. The SP receives the finalized case and learns the role throughout training. Clinicians and linguists control, supervise, and narrate the presentation of professionally authentic patient profiles embodied by SPs as a simulation of important clinical cases.

### SP Implementations

There are different settings for simulating the scenarios, one of them is provided by the MediSkillsLab at the University of Pécs, Medical School. A patient's bed, examining table, and other necessary medical tools, from low- to high fidelity simulators are housed in the medical laboratory to provide a realistic environment. There, applying an interdisciplinary approach, students initiate patient interviews in small groups with the simulated patient, all while being observed and assessed by other student peers, a clinician, and a linguist. The practice there is separated into three sections. Students first practice taking patients' histories in small groups or individually during structured patient interviews. Following that, students use the data gathered from the SP to present the patient's case to the clinician within a set deadline. Third, beside self-reflections, students receive *multidimensional formative constructive feedback* from three other sources:

1. **Expert/medical** (provided by a *psychologist/clinician*) – comments on medical/psychological content, path towards diagnosis, symptom/complaint-related questions, clinical presentation styles and medical reasoning, de-escalating emotional turmoil
2. **Linguistic and communicative** (provided by a *linguist*) – comments on interviewing approach, patient-centered language with no medical jargon, structural aspects of history taking, ratio of open/closed questions, concise nominalized case presentation (ie, A 48-year-old man with a history of chronic renal failure, ischemic stroke and insulin-dependent diabetes, presented with complaints of fever, malaise, oliguria, haematuria, nausea, vomiting lasting for 4 days.), and nonverbal, paraverbal, and verbal communication
3. **A patient-centered** viewpoint (provided by the *simulated patient*) – comments on understandable language, building rapport, and emphasizing empathy

This multidimensional feedback follows the technique used for SP training, thus clinicians, linguists, SPs, and student peers are expected to provide formative constructive feedback.

Throughout the practices, medical histories from the simulated patients may be recorded, allowing students and faculty staff to assess personal and teamwork development closely regarding clinical competence focused on professional communication skills. Recording classes from different camera angles provides invaluable opportunities for all participants to observe student progression. The course instructors can also learn from the recorded verbal and non-verbal misbehavior of the participants (students and SPs) and introduce changes accordingly. Many sessions are hybrid, giving participants the option to join online if circumstances prevent them from being present in person (eg, they live in another city, or they are ill or in quarantine), or they can engage in telemedicine, a newly developing area of medicine.<sup>54</sup>

Our SP program uses educational methods that may combine co-teaching, case-based, simulation-based, experience-based, and feedback-based approaches while concentrating on the various requirements of national and international students. Authentic encounters with simulated patients present real-life problems of clinical and family practice, prompting discussion of current complaints, medical history-taking, physical examinations (guided by physicians), and overcoming emotion-related communication barriers by applying politeness and assertiveness strategies. Important implementations include the following:

### Medical Language Courses (Linguists, Communication Specialists)

As international students are assigned to clinical practice from year three in Hungarian hospitals (where elderly patients do not speak languages other than Hungarian), they need to be able to take patient history in Hungarian. Therefore, the Medical School launched Medical Hungarian training in the first two years of education, in 48 classes/semester, leading to a prerequisite oral language exam before internal medical practices. Hungarian student peers facilitate learning with a “co-teaching” approach in the first three semesters, and then Hungarian SPs enhance this in the fourth.

Different age, sex, ethnicity, physical appearance, educational background, and dialect of the SPs motivate international undergraduate students to improve their clinical Hungarian skills, from building rapport through polite greetings and introductions, and basic history-taking skills with open and closed questions, up to essential tools of empathy and expressing thanks. These language classes intend to aid students in working in teams of 3–5 in a similar manner to real-life internal medical practices, where students are divided into small groups and given a task to take patient history in Hungarian (later conducting physical examinations as well) in different wards. Linguists who work with simulated patients spend years observing clinical practice courses; thus, their expertise enables authentic learning processes.

Medical English and German history-taking courses are available to Hungarian and international students. English for medical purposes is important, as this is the language of medical science, and also the most important lingua franca between languages. German medical language needs can be explained by the geopolitical-economic situation of Hungary; many health specialists choose to work in the neighboring Austria or Germany. Small-group interactions followed by the above mentioned feedback on rotation allow three or four SPs to work with 15–20 students during a session. Each student receives feedback on performance from the SP, linguist and teaching assistant students. We offer native English and German-speaking SPs to collaborate with in language courses; thus, upon graduation, many international students back in their home country may feel well prepared to communicate to patients in their mother tongue.

### Elective Interprofessional Medical Communication Courses (Psychiatrists, Psychologists, Sociologists, Physicians, Clinicians, Linguists) in General Medicine, Dentistry and Pharmacy in Undergraduate Years (Mostly Years: 3–5)

What can be aimed at in SP interprofessional activities encourages its frequent implementation (Table 4).

Medical communication courses with students (maximum 12–15) focus on major concepts and several scenes of doctor-patient encounters, including the basic principles of medical communication, breaking bad news, communicating with family members, dealing with patients’ and family members’ emotional reactions (such as angry, anxious, or depressed patients), empathy, ethical questions in medical communication, communication of medical errors, telemedicine, online communication with internet-informed patients, and the management of social and cultural diversity in medical practice. Our SP program follows several working formats reported by Bank et al (Table 5).

**Table 4** The Five Main Working Formats Used in University of Pécs Medical School SP Program, Based on Those Reported by Bank et al (2021)

| Working Format                                                                      | Teaching Objectives                                                                                                                                                                                | Number of Learners | Type of SP (Lay vs Professional Actors) | Feedback Provided by                                                                                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Individual or group SP encounters                                                   | Enhancing communication skills (Taking medical history);<br>Improving patient-centered language use with no medical jargon;<br>Integrating consultation and clinical skills with medical reasoning | 15–20              | Actor SP                                | SP linguist/<br>communication specialist (trainer)<br>learner<br>Peer students<br>In specific multidisciplinary courses: physicians too |
| Demonstration of filmed SP consultations                                            | Improving awareness of the doctor's role concerning effective patient interviewing;<br>Enhancing communication skills and medical reasoning                                                        | 15–20              | Actor SP                                | SP (video-recorded)<br>Linguist (trainer)<br>Peers                                                                                      |
| Remote/digital consultation                                                         | Improving assertive and empathic communication skills;<br>Facing challenges of remote/digital meeting to live encounters                                                                           | 15–20              | Lay SP                                  | SP<br>Communication specialist/linguist (trainer)<br>Psychologist                                                                       |
| Learning by embodiment/Dramatic role-playing (the concept of Three chairs embedded) | Enhancing empathy for the patient;<br>Mastering breaking bad news;<br>Improving perception of signals of emotion                                                                                   | 5–12               | Actor SP                                | SP<br>communication specialist/linguist (trainer)<br>psychologist (trainer)                                                             |
| Clinical SP encounters/clinical performance                                         | Improving medical communication and physical examination skills                                                                                                                                    | 12–15              | Lay SP                                  | SP<br>Clinician<br>Learner<br>Peers                                                                                                     |

**Table 5** Goals of Simulated Patient Interprofessional Activities

| Goals                 | Participants Learn to                                                 | Benefit                                                  |
|-----------------------|-----------------------------------------------------------------------|----------------------------------------------------------|
| Teamwork              | Collaborate effectively with professionals from different disciplines | Mutual respect, understanding of each other's roles      |
| Communication         | Deliver and elicit information clearly and effectively                | Understandable and caring language use                   |
| Role Clarity          | Understand responsibilities of each team member                       | Prevention of misunderstanding and error in patient care |
| Patient-Centered Care | Focus on patients' needs and preferences                              | Comprehensive care plan addressing patients' well-being  |

Simulated scenarios are explored in small groups (2–4 students) working towards the individual work. Their gradually increasing level of difficulty ensures a sense of success; lay simulated patients behave as regular patients in basic scenarios, while the more challenging scenes (such as emotionally depleting scenarios, breaking bad news) require actor simulated patients to empathize with a character who might become discouraged, cry, break down in apathy, yell, or

lose their temper. These extreme emotion-loaded behaviours are meant to trigger professional and empathetic responses from future doctors. There, students can learn from their mistakes without hurting the patients and under minimal stress.

During interprofessional communication courses, students are encouraged to encounter more complex scenarios where not only does one SP act like a patient but another SP may role play a family member, a friend or a colleague. There, interpersonal communication skills with multiple foci may prepare learners for real-life situations. Clinicians are also active in many scenes, especially in emergency, surgery, cardiology, where, in the middle of the scenario, they enter the ward with fresh laboratory findings or X-ray results, raising the difficulty level to activate the student's medical knowledge, and reasoning. Focusing on profession-related interviewing of patients with disorders and disabilities while taking into account different cultural backgrounds, age-specific habits, and diverse learning and behavioral patterns facilitates sensitization and social growth, fosters empathy, and enhances conscious medical communication skills; as a result, these interprofessional communication courses help to empower aspiring medical professionals.

International students from more than 60 nations can interact with one another and the simulated patients (Native American/ British/German/Hungarian). Culture-specific non-verbal and verbal communication tools are discussed, similarly to different guidelines in patient interviews in the Far-East, Middle-East, Europe, Britain, Africa and America. Feedback allowing self-reflection reveals a lot of the culturally embedded incentives to choose an action. The present and future medical team is made up of specialists from a variety of age, gender, and cultural origins; therefore, these courses in the English, German, and Hungarian programs serve as advanced examples of inclusion and diversity. Teams of students are taught how to approach patients while demonstrating team communication dynamics (smooth turn-taking) and identifying with various roles (leader, supporter). Students with reserved personalities are encouraged to enrol in such a course in their junior years to gain more opportunities to improve interpersonal skills through teamwork with more open student peers. Some of the above courses promote case-reporting skills with much reliance on medical terminology, which requires students to extract medically relevant information from the collected patient data and deliver it to the physician. An important learning process, a gradually increasing code-switching awareness, may be observed in students as they switch from everyday English to medical jargon.

### **Elective Empathic and Assertive Communication Courses in Undergraduate Years**

Courses are available for junior and senior students of medicine and dentistry to help develop their empathy and assertive communication skills. They were introduced at a time when online learning was at its height due to Covid regulations. The intended simulated scenarios had to be redesigned to correspond with the online communication. Prior to each session, the SPs were educated to switch their attention from the entire body to facial non-verbal communication. By concurrently looking at the screen and several camera angles, it was difficult to maintain eye contact. However, talking to the camera when preparing for the scene was emphasized to help the participants to maintain life-like conversations.<sup>55</sup> For two years, now, however, this education has allowed in-person live interactions focusing on real verbal and whole body non-verbal communication.

The training is based on a theoretical and practical framework with short presentations and interactive discussions (using blended-learning methods) on literature and followed by simulation sessions. Upon briefing on specific empathic and assertive communication tasks and their management options, students are challenged in encounters focusing on the patient's persuasion, resistance, breaking bad news, and handling criticism and blaming. We find it important to start with pair-work role-plays (two students, one as a doctor and one as a student on practice interacting with the SP) and gradually introduce individual (one student with one SP) scenarios, as feeling support from a colleague and shared challenges enable continuous growth to cope better with demanding emotional situations. Psychological risk – potential mental threat – caused by simulation is significantly lowered by a supervising psychologist-trainer, so participants are provided with safe space for practice.<sup>56</sup>

### **Compulsory Clinical Practices (Clinicians, Linguists, and Communication Specialists)**

Due to the interdisciplinary approach of the courses, where simulated patients were involved, clinicians became interested in expanding the scope of implementation into their clinical practices. They report about the benefit of continuing professional development. Here, the focus is on the most critical clinical skills, patient interviewing, physical examination and medical reasoning. The language and communication courses serve as preparatory simulation-based



encounters for students prior to clinical practices; therefore, clinicians can rely on previously applied educational and implementation methods. The SP trainer team is ready to collaborate with clinicians and introduce options on how a simulated patient can contribute to a practice, providing specific briefings with simulated patients. In that preparatory phase, the physician and the SP trainer collaborate in preparing the patient for physical examination with additional medical information (eg, on palpation of the abdomen where exactly the sharp, stabbing pain can be felt, when to express suffering). This phase is essential in order to make the simulation as authentic as possible.

End-of-term questionnaires answered by students attending these courses confirmed that the invaluable feedback given by the SPs can further enhance clinical skills, especially if supported by the clinician. Therefore, we believe in continuous collaboration between SPs, SP-trainer communication specialists, and healthcare professionals; medical science without professional communication skills may not achieve the desired level of doctor-patient communication, so the linguist and communication specialist SP trainer might bridge the gap between the profession and the patients.

## Discussion

The present paper introduced the diverse integration of SPs in Hungarian, German and English programs in medical education in Hungary. Medical communication, taking medical history in particular, is one of the most important and frequent duties of clinicians. Our program addresses this by facilitating medical language, doctor-to-patient, doctor-to-doctor, and doctor-to-relative interaction skills and politeness strategies. We agree with the advantage of the SP program, highlighted by researchers<sup>7,8,10,13,23,24,28,34-37</sup> who found that it is an invaluable opportunity to simulate real-life scenarios in a safe environment and help students gradually prepare for their medical roles.

We also believe that another significant benefit of SP integration in any form of medical or clinical education is the empowering opportunity for the student to receive feedback<sup>50,52</sup> on their performance. This is not provided for a practicing doctor (unless the well-trained SP or SP trainer becomes a real patient and feels the urgency to help the doctor improve communication skills). The constructive feedback on communication can foster doctor-patient relationships leading to shared decision-making. In the last 4 years, 1460 students benefited from the multidimensional feedback described above. There, feedback from four perspectives – SP, linguist/communication specialist, psychologist/clinician, student peer – and the student's self-reflection contribute to deeper understanding of the scenario and lead to internalization of professional responsibilities and conscious choice of communication strategies and diagnostic, therapeutic options. From the end-of-term discussion sessions, we know that students, exposed to SP- and competency-based courses feel more confident in clinical settings than those peers who did not participate in such programs. Similarly, many clinicians of the UPMS state, they are likely to choose teaching assistant students for clinical practices with SP-based educational background, for their outstanding interpersonal communication skills and high-level of healthcare delivery. Future research needs to gather data to confirm this.

Our program, similarly to other models,<sup>21,22</sup> aims to train students in employing politeness strategies and practice treating “difficult” patients as well; however, it should be emphasized that the SP program does not intend to replace practicum courses at the patient's bedside at the clinic. Instead, we aim to prepare students for the practicum course through simulation before they reach a real medical facility. By introducing students to the medical environment in the earliest stages and providing context, we can better prepare them for their practicum courses, decreasing the burden on clinicians dealing with a growing number of students. We believe that the SP program effectively contributes to high-standard training similar to that available in target language countries as students participate in authentic encounters with English- or German-speaking patients and also learn assertive communication techniques and empathy.

What is unique in our program is partly the diversity it provides; multicultural, trilingual SPs with different professional, socio-economic, and educational backgrounds who can be deployed in scenarios of family medicine, internal medicine, surgery, dermatology, pediatrics, neurology, emergency, psychiatry, dentistry, pharmacy and many others. The other difference is the background of the SP trainers; besides psychologists there are applied linguists and teachers of languages for specific purposes who can prepare SPs and students with specific attention to language and communication. Collaborating with medical specialists and relying on authentic cases for preparation of our SPs, we hope that an important outcome will be a confident future medical specialist with interpersonal clinical skills to interview a patient successfully, potentially leading to better diagnosis.

## Conclusion

The SP program has been a sustainable form of education due to its carefully planned design, ongoing training of SPs (online and offline) and trainers, students' self-reflection, and our multidimensional feedback system (patient, clinician/peer student, linguist).

Although the program has been successful, it still has to be maintained and monitored with the needs of the students in mind. We now know that professional actor SPs are needed to portray more emotionally depleting situations authentically, while lay simulated patients can portray common patients in internal medical scenarios, cardiology, and gastrointestinal scenes. We encourage colleagues to pay attention to the choice of SPs (actors or emotionally strong and experienced lay SPs) when designing a bad news delivering session. Additional trainings, which we have introduced after the first semester and are ongoing, ought to be made available each academic year to further improve the SPs' ability to provide constructive feedback in a sensitive manner. Also, the scenarios need to be regularly edited based on the selected SP for a specific group to match the patient's age, sex, and personality (for expert confirmation of the altered situation, such as the fact that the same illness may manifest differently in old women than in young males, online consultations with the specialists must be scheduled in advance).

With careful planning, the program can be adjusted to any course to accommodate a growing number of students and patients, enabling collaboration at national and international levels. The student-centered approach provides experience-based learning, reproducible situations, and a safe environment for practice. The program's online application and shared understanding of teamwork may facilitate collaboration with universities worldwide, providing more intercultural experiences to empower students to manage and support humane patient care.

## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

## Disclosure

The authors report no conflicts of interest in this work.

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