# I am different not less - Inclusion and diversity in the medical curriculum at ETH

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## Abstract

Every disease is more than the sum of its symptoms and affects all parts of a personality. In reverse all parts of a personality will affect the disease. Therefore, the integration of inclusion and diversity into the medical curriculum is crucial for future medical doctors. Therefore, the foundation for inclusion and diversity in future patient care is introduced.
In this paper, we analyzed our medical curriculum of the bachelor in human medicine with respect to diversity and inclusion. The whole medical curriculum at ETH Zurich is mapped against the Swiss Catalogue of Learning Objectives for Undergraduate Medical Training (PROFILES) using the mapping software LOOOP. We identified learning objectives about diversity and inclusion in the medical curriculum based on the frequency of relevant profile items in the curricular map. The results show that different aspects of diversity and inclusion are covered across the whole curriculum namely in 11 different modules (out of 58). There are modules that concern practical skills (anamnesis), different organ systems (cardiovascular system, pediatrics) or scientific knowledge (translational animal models) as well as aspects of the general role of a physician.
Mapping of the curriculum enabled the longitudinal assessment of all relevant learning events. Although diversity and inclusion topics are already incorporated in the curriculum there is still room for improvement. For example, there is no coverage of transgender related medicine in our bachelor (e.g., hormone therapy) so far. Therefore, further work is needed to include additional aspects of diversity and inclusion in our curriculum.

## Diversity in medicine

“I am different not less.” This phrase from Temple Grandin in the context of autism describes the whole base for individualized diagnostics and treatment. Since the beginning of medicine, it has been clear that we treat humans not symptoms. Every disease is more than the sum of symptoms and disabilities. It may affect all parts of a personality and all parts of a personality will affect the disease. Therefore, medical doctors should consider them all when diagnosing and treating patients.
However, in the past, medical doctors were not enough sensitized for certain aspects of diversity as a variety of examples demonstrate. The effect of gender on disease outcome, e.g., in cardiovascular diseases, the underrepresentation of minorities in drug development trials, and the lack of technologies that specifically target female health care issues (Femtech), all these examples indicate that there is more work to do to anchor aspects of diversity and inclusion in medical education (Corsino & Fuller 2021).

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## Inclusion into the new learning catalogue

The raising of awareness about diversity and inclusion in the medical community resulted in several new learning objectives in the new Swiss Catalogue of Learning Objectives for Undergraduate Medical Training (SCLO). The catalogue includes a common set of learning objectives, which students of all faculties should master by the end of their medical curriculum. In addition, the document defines the contents of the Federal Licensing Examination (FLE) according to the Federal Act on the University Medical Professions (MedBG/LPMéd); it is also a prerequisite for the accreditation of the curricula of the Swiss faculties of medicine (Michaud et al. 2016). The new learning catalogue PROFILES encompasses the common medical situations that a physician should be able to handle on the first day of his or her residency. It is divided into three chapters:

1. A first chapter is listing a series of learning objectives related to the different roles of doctors (general objectives, GO), inspired by the CanMEDs roles used worldwide.
2. A second chapter presents a set of entrustable professional activities (EPAs) reflecting the main medical tasks that a physician must be able to perform autonomously on the first day of his or her residency.
3. A third chapter lists 265 common clinical situations (situations as starting points, SSPs) that a doctor is expected to deal with after passing the Swiss Federal Licensing Examination.

Aspects of diversity and inclusion are part of all three chapters and are listed hereafter (see Table 1).

| PROFILES on diversity and inclusion |
|---|
| GO 1.17. develop a critical awareness toward common stereotypes likely to bias clinical activities, related to, among others, age, gender, ethnical and cultural representations. |
| GO 1.18: identify the impact on health of sex (i.e., biological difference related to sexual determination), and gender (cultural and social differences between men and women in terms of roles and expectations). Address these issues in medical activities |
| GO 1.24: take into account the economic, social and cultural aspects of health maintenance prevention and care, at the individual and community level |
| GO 2.04: deal effectively with diverse groups of patients, such as children, adolescents, senior patients, men, women, and people with other gender identities (e.g., transgender); and patients with different cultural backgrounds and language |
| GO 4.04. identify and address the special needs of vulnerable populations, showing awareness of the importance of equity in the delivery of care. They seek collaboration with social services if appropriate |
| GO 7.04: show awareness of cultural, societal, and spiritual/religious issues that impact on the health and delivery of care of individuals and of the community |
| EPA 1.06: Assess gender, social, cultural, and other factors that may influence the patient's perception and description of symptoms; demonstrate cultural awareness and humility, and be conscious of the potential for bias in interactions with the patient |
| EPA 7.04. Take into account the patient's specific profile and situation such as gender, age, culture, religion, beliefs and health literacy; take into account the vulnerability of specific groups such as migrants, patient from low socio-economic level, adolescents |
| SSP 254: patient with other cultural background, migration |

Table 1: PROFILES concerning inclusion of diversity into the medical curriculum in Switzerland.

## Inclusion in the medical curriculum at ETH

In 2017 ETH Zurich adopted the curriculum mapping tool LOOOP (Learning Opportunities, Objectives and Outcomes Platform) that was designed to comprehensibly structure a medical

curriculum (Goldhahn et al. 2018). LOOOP was developed at Charité Berlin and ensures the alignment of all parts of a curriculum map including competencies, objectives, teaching and assessment methods (Balzer et al. 2016).

We were able to identify, where the profile items on inclusion and diversity are covered in our curriculum due to our curriculum map in LOOOP. The respective profile items are incorporated across the whole curriculum in 11 out of 58 different modules (see Table 2), starting in the first semester (e.g., EPA 1.06 in anamnesis technique) and concluding with the sixth semester (e.g., EPA 1.06 in psychosomatic and psychosocial medicine). Modules like ethics, law and communication are prominent to appear when talking about inclusion. Important basic knowledge in the areas of ethics, forensic medicine and communication theories are taught in this module. This way, students learn that patients do not only have to be assessed on a symptom level, but are always embedded in a social, legal, cultural, and family structure. As a result, the complete personality should be factored into shared decision-making in diagnostics and treatment. Students should learn how to transfer theory into practice via skills straining on communication. Empathic communication at an eye-to-eye level is curial for a successful patient interview.

A different module, which shows how important inclusion and diversity are, is “interprofessional pathways”. The students learn how an ideal patient pathway should look like but also how through the lack of inclusion and diversity this is often does not happen. A successful patient pathway also depends on constructive interprofessional teamwork. Here the same aspects are key for successful interprofessional collaboration. In addition to ethical issues and inclusion of different cultures, anatomical and physiological sex differences are addressed in the different organ system modules. Very important are practical courses (anamnesis technique and from symptoms to diagnosis) where students are prepared for the contact with diverse symptoms. Furthermore, scientific basics (translational animal models) are relevant in order to design drug trials so that divers trial groups are included (e.g., women) to account for different reactions due to sex. In total 105 learning objectives are mapped against profile items listed in Table 1.

| PROFILES | Mapped in the following semester and modules |
|---|---|
| GO 1.17 | 5th semester: geriatrics, ethics, law, and communication, interprofessional patient pathways |
| GO 1.18 | 2nd semester: cardiovascular system, respiratory system<br>4th semester: from symptom to diagnosis<br>6th semester: translational animal models |
| GO 1.24 | 4th semester: sensory organs<br>5th semester: pediatrics, ethics, law and communication |
| GO 2.04: | 5$^{th}$ semester: ethics, law, and communication, pediatrics |
| GO 4.04: | 5$^{th}$ semester: ethics, law, and communication |
| GO 7.04 | 5$^{th}$ semester: ethics, law, and communication |
| EPA 1.06 | 1st semester: anamnesis technique<br>5$^{th}$ semester: ethics, law, and communication, interprofessional patient pathways<br>6th semester: psychosomatic and psychosocial medicine |
| EPA 7.04: | 4th semester: sensory organs, from symptom to diagnosis<br>5$^{th}$ semester: ethics, law and communication, pediatrics |
| SSP 254 | 5$^{th}$ semester: ethics, law and communication |

Table 2: Inclusion of PROFILES across the medical curriculum at ETH Zurich.
Exported from the curriculum mapping tool LOOOP (extracted on 10.06.2021).

To provide a specific example: We extracted one learning objective of the module ethics, law, and communication of the fifth semester including profiles items. All mapped profiles items are in this case relevant concerning diversity and inclusion. Of course, this is not always the case and other profiles can be listed if suitable.

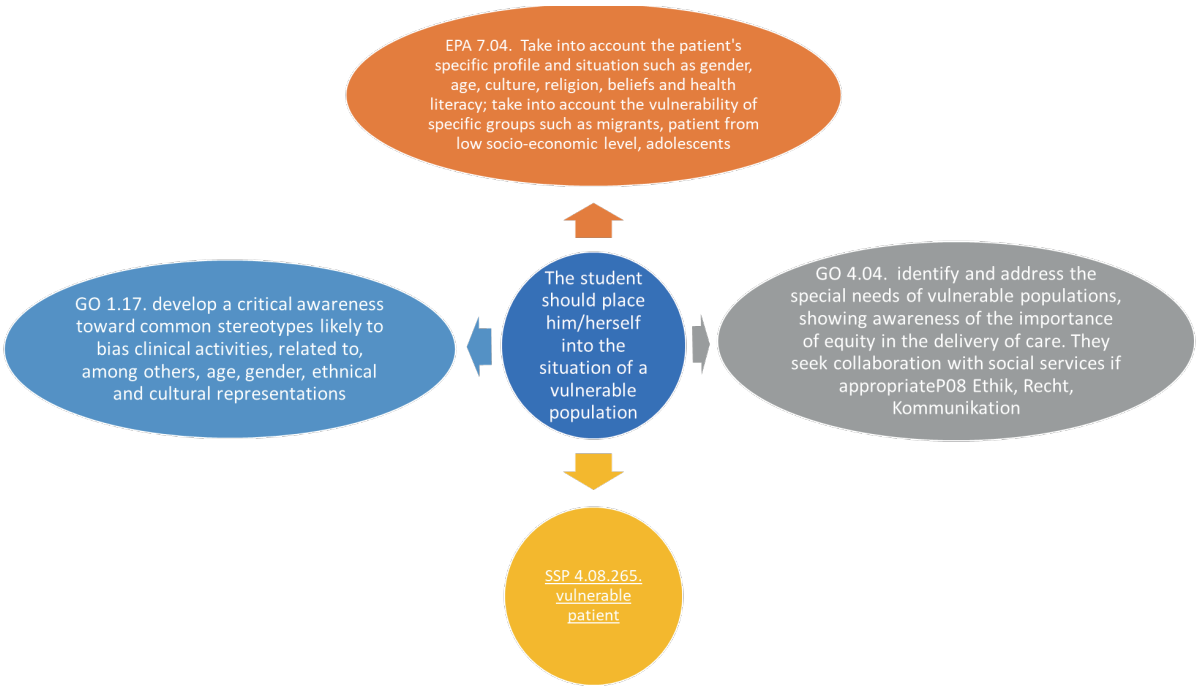


Fig. 1: Example of specific learning objective in the module ethics, law and communication of the fifth semester with the mapped PROFILES in HS2020 (extracted on 15.7.21).

## Towards more inclusion and diversity

The incorporation of inclusion and diversity in a medical curriculum is a necessity that has a profound effect on the human health. We know about the gender inequality in clinical trials; but it is slow to change the processes involved. Considerations of the personality and the social circumstances of a patient are of utmost importance to find the right differential diagnosis, maintain high adherence or to provide adequate palliative care. Additionally, there are specific problems like the lack of access to medical care for transgender people (Safer et al. (2016)).

Gender identity is being discussed more openly and frequently nowadays but is still poorly incorporated in medical curricula (Safer et al., 2016). This is especially disturbing when looking at the evidence: studies have shown that transgender persons have a substantially higher risk of clinical depression, anxiety disorders and suicide attempts compared to their cisgender control (people where the gender identity matches the sex assigned at birth) (Safer et al., 2016 & Reisner et al., 2015). Additionally, Safer et al. (2016) point out that transgender patients report that the lack of physicians with expertise in transgender medicine is the main reason inhibiting access to medical care. This problem can be counteracted as a study by Safer & Pearce (2013) has shown: a simple curriculum content change increased the comfort of medical students with transgender medicine significantly. This topic gives a good example on how already minor changes in the medical curriculum can have a great effect.

This shows that possible improvements in the area of inclusion and diversity are still pending in many institutions, but the team at ETH Zurich is moving into the right direction.

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