

SGBE - SEMINAR 2026

**Towards Health Justice in Precision Medicine:
Exploring Provider's Capacities to Promote Equity
in Care**

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OUTLINE

- Background
- Research Aims/Questions
- Research Design and Methods
- Brief Intro of my PhD research project and its link with this research



BACKGROUND



WHAT IS PRECISION MEDICINE?



Precision medicine (PM) is an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle for each person (American cancer society, 2023)



PM helps doctors and researchers predict which illness treatment and preventative methods will work in different populations



Concept is new but has always existed



BENEFITS OF PM IN HEALTHCARE

- Use of genetic information in routine medical care
- Better understanding of disease causes
- Ability to predict which treatments work best for each patient
- Improved prevention, diagnosis, and treatment strategies

Areas PM is used in Medicine

- Precision oncology.
- Cancer immunotherapy
- Pharmacogenomics
- Rare diseases

Source: Cleveland Clinic Website

KEY ISSUE: DISPARITIES IN PM

- Unequal access persist across population groups
- Structural racism contributes to these gaps
- Limited diversity in genomic datasets reduces accuracy and benefits for underrepresented groups (Liverpool, 2021)
- e.g. An overwhelming majority (88–90%) of genome-wide association studies (GWAS) focus on individuals of white European ancestry, despite this group representing just 16% of the global population (Mills & Rahal 2020)
- Evidence from recent studies (Liverpool 2021; Genevieve et al., 2020) highlights the urgency of addressing these inequities



DISPARITIES IN PM – REASONS FOR NON INCLUSION OF MINORITIES

- A historical lack of inclusion in clinical trials as an expression of structural discrimination
- Minority groups' lack of trust in the healthcare system
- Incomplete health policies promoting equity of access, cultural values, religious beliefs, and the emotional and psychological tolls of genetic diagnosis (Cau et al, 2025, Darr et al, 2016)
- Recent evolutions, such as unrepresentative AI training data
- *These problems tend to exacerbate existing health disparities and bring insufficient healthcare outcomes for marginalized groups in PM (stein et al, 2018)*



RESEARCH QUESTIONS/AIMS



RESEARCH PROBLEM

- Despite increasing awareness of equity gaps in PM within research, little is known about how healthcare providers are aware of and perceive these disparities
- There is no current evidence on how providers respond, adapt, or develop practical strategies to ensure equitable and quality care in everyday clinical practice
- This lack of insight creates a critical knowledge gap between academic awareness of disparities and frontline implementation.



OVERALL RESEARCH AIM/RELEVANCE

To investigate healthcare providers'(clinicians, nurses, and genetic counsellor's) awareness and perceptions of how implicit biases, systemic biases, including racism, gender inequality, and socio-economic disparities, affect the implementation of PM in key clinical areas (oncology, genetic medicine, dermatology, radio-oncology, and neurology) and to identify the strategies they use to promote more equitable care

How do they respond to these challenges to provide equitable care for marginalized groups

By having their perspectives, we seek to uncover both gaps in awareness of these disparities but also examples of promising practices to promote more inclusive and equitable care, strategies that may be mobilized both for future research and for training of medical students in Switzerland



RESEARCH QUESTIONS

What **level of awareness** do healthcare providers **have about structural inequities in PM** (e.g., biased data, underrepresentation in genomics, unequal healthcare outcomes)?

What **practical strategies** have healthcare providers **developed to ensure broader inclusivity in their PM delivery?**

What **institutional or systemic support** do providers believe are needed **to improve equity in PM?**

What are the **training needs for future healthcare providers in PM** to provide more equitable care?



METHODOLOGY



RESEARCH QUESTION/METHODOLOGY

Specific Aims

AIM 1 (*literature review*): define and clarify the key barriers faced by clinicians in providing equitable care in PM to prepare for the empirical phase.

AIM 2 (*empirical*): identify the level awareness of healthcare providers of equity issues in PM and the barriers they face in providing equitable care in oncology, as well as their strategies to overcome these barriers

AIM 3 (*knowledge transfer*): local conference with health experts in PM and specialists in equity issues and development of recommendations

Methodology/activities

Scoping review of literature; *development of interview questionnaire*

Qualitative interviews (semi-structured) with 20-30 *healthcare providers at the CHUV*

Conference on equity in precision medicine; *recommendations for training and healthcare*



METHODOLOGY/SAMPLE INTERVIEW QUESTIONS

What are the structural inequities that may negatively affect PM care in oncology?

Can you share examples of how bias in data or genomics may affect patient care?

Have you encountered any situations where these inequities were evident in your PM practice and its effects on access or treatment outcomes?

What strategies have you developed or seen implemented to promote inclusivity in your delivery of PM?

What types of support from healthcare systems or institutions would help promote equity in PM?

What training or educational support do you think future healthcare providers need to deliver more equitable PM?



LINK OF PROJECT TO MY PHD PROJECT



Thesis Topic: Health Care Professionals' Experiences And Perceptions Regarding Discrimination And The Role Of Bioethics

PhD Research Objectives

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1. Conceptual paper on discrimination in the healthcare sector with a special focus on discrimination faced by healthcare professionals and ethical implications

 2. Qualitative systematic literature review to synthesize and summarise physicians' experiences of discrimination

 3. Quantitative questionnaire survey to gather the perspectives and experiences of Swiss physicians and nurses about the discrimination they encounter during their daily professional obligations

 4. Qualitative interview study to investigate the reactions and coping mechanisms of HCP of foreign descent practicing in Europe who have experienced discrimination



MOTIVATION TO WORK ON THIS TOPIC

- Patient discrimination frequently occurs in healthcare settings and is often the focus of healthcare discrimination research and advocacy (Sim et al. 2021; Nong et al. 2020)
- Scarcity of studies on the topic of discrimination faced by HCP especially in Europe
- Discrimination affecting HCP of all categories is being reported increasingly worldwide (Dyrbye et al. 2022; Zawawi & Al-Rashed 2020, Najjer et al. 2022)
- HCPs who have experienced discrimination face negative consequences such as stress, a lack of motivation and concentration, and even leaving the job (Dyrbye et al. 2022; Johnson et al. 2019)
- Negative patient outcomes



Thanks for your Kind Attention

