AI-backed Advanced Medical Technology; Insights, Value, Innovation

Prof. Dr. László Gulácsi

Óbuda University
Bécsi út 96/b, H-1034 Budapest, Hungary
gulacsi@uni-obuda.hu

Abstract: The innovation, creation, introduction and the widespread adoption of the more and more AI informed advanced medical technologies such as sensors, robots and many more raises new issues of conducting research and reporting quality and novelty of the results, and the impact on decisions (medical, financing) and market entry. This development has accelerated the process of collecting patient data for relevant clinical decisions, which has led, for instance, to the introduction of a new technology known as digital biomarkers. Much of the necessary and very important information cannot be measured directly, such as positive or negative attitudes towards robots, patient reported outcomes, quality of life, care-related quality of life however these are important medical outcome and measuring these outcomes are legally required.

Often, data collection is not possible or not practical, in which case artificial intelligence can help you extract information that you didn't previously think could be produced from the database. Never before has there been such a demand for knowledge in the literature through systematic literature review and never before has it been so difficult as it is today, without which effective innovation is unthinkable. And finally, how much can we rely on AI-backed results, what is the value of it and how can AI is used in medical decision making? These questions are key issues for research and innovation in this area today.

During the presentation, some of the results from our Thematic Excellence Programme (TKP) 2021-2025 named "Innovative and digital health technologies development and evaluation" is presented.

Short CV: László Gulácsi works as a Vice Rector for Research, and a professor at Health Economics Research Centre, University Research and Innovation Center, Óbuda University of Budapest, Hungary. He is the funding head of the Innovation Management Doctoral School Óbuda University. He is a member of the Standing Committee of Pharmacy, Hungarian Academy of Science.

By profession he is a physician (Debrecen Medical University), having university degrees of programming mathematics (Kossuth Lajos University of Arts and Sciences, Debrecen), mathematical economics and sociology (Corvinus University of Budapest) and health economics (University of York).

He received PhD degrees from the Medical University of Amsterdam, Corvinus University of Budapest, Semmelweis Medical University in Budapest and from the Debrecen Medical University. He is qualified in social medicine.

Habilitated and he is a Doctor of the Hungarian Academy of Science.

He is a member of the Editorial Board of the European Journal of Health Economics (EJHE) IF:3,1, the Editorial Board of the Hungarian Medical Journal IF: 0,540.

He worked as vice rector for research Corvinus University of Budapest 2018-2019.

He was a founding head of Department of Health Economics (2013-2020) and founding head of Health Economics and Health Technology Assessment Research Center, Corvinus University of Budapest (2002-2013). The Research Centre was founded in 1998 as the 'successor' to HunHTA (Hungarian Health Technology Assessment), the first HTA research institute in the Central Eastern European region. He is the founding past President of the Health and Health Care Economics Section of the Hungarian Economics Association (2010-2015).

So far, he has been involved in 18 European Commission funded research projects (Framework Programmes, FP6, FP7, H2020), as a research leader, coordinator or participant.

Current projects:

Development and evaluation of innovative and digital health technologies; Thematic Excellence Programme, Research Leader (National Research, Development and Innovation Fund project TKP202 NKTA 36);

Changes in the Socio-economic Burden of Epidermolysis Bullosa in Europe, BUR-EB; researcher (funded by the EU Horizon 2020 Research and Innovation Programme with the support of the European Joint Programme on Rare Diseases COFUND-EJP N825575, with the support of the NKFIH as a national participant, 2019-2.1.7-ERA-NET).

To date he (co)authored 775 scientific articles in peer reviewed journals, published 16 books, 78 book chapters on health economics, public health, health technology assessment, health policy

and quality improvement.

IF: 426,963; MTMT (Hungarian Academy of Sciences) Citations 4938 (independent 3484), Hirsh index 37. GoogleScholar: Citations: 7560; Hirsch index 50.

Google Scholar https://scholar.google.com/citations?user=ek0KaHUAAAAJ&hl=en

In the past 5 years (2018-2022) publications: D1=32; Q1: 13, Q2: 7; Q3=6; Q4=2, in Total: 60.

He has successfully supervised the completion of 8 PhD thesis.

Hungarian Scientific Publications Catalogue, Summary Table (2024.07.14.)

https://m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=10003170&view=pubTable

Hungarian Scientific Publications Catalogue Sectoral Table (Medical) (2024.07.14.)

https://m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=10003170&view=pubTable2

Publication list: https://vm.mtmt.hu//search/slist.php?lang=0&AHuthorID=10003170

Web: http://uni-obuda.hu/hecon

HECON Web: https://hecon.uni-obuda.hu/