Některé teze použité pro přípravu diskusního vstupu na konferenci

DIGITÁLNÍ MEDICÍNA (NEJEN) PRO PACIENTY, 30. listopadu 2023

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Vybrané články:

Clinicum Digitale: Interim Report of an Interprofessional Course to Shape Digital Health Pioneers

Martens, N., Herzog, M., Herold, J., Bendig, J., Günther, L., Vogt, M., ... & Hampe, J. (2023). Clinicum Digitale: Interim Report of an Interprofessional Course to Shape Digital Health Pioneers. In *2023 IEEE 2nd German Education Conference (GECon)* (pp. 1-6). IEEE.

Digital Health is hindered by a lack of interdisciplinary exchange between medicine and technology. To advance the field it is necessary to train a new generation of young scientists that help reduce the backlog in medical technology and bridge the gap between technical innovations and patients. The Clinicum Digitale is pilot course in which ***students of medicine, engineering and computer science*** *are taught together with the aim of acquiring not only transdisciplinary knowledge but also the necessary soft skills for an interdisciplinary exchange. Evaluation of the student cohort of 2023 identified interest in interdisciplinary applications (90 %), new medical technologies (85 %) and interdisciplinary learning (60 %) as main motivators for the participation. Students reported higher self-perceived knowledge in previously non-familiar subjects and high appreciation of interprofessional learning groups. In combination with individual success stories from previous participants, these results indicate that the Clinicum Digitale can help bridge the gap between medicine and technology.*

Perceptions of digital health education among European medical students: mixed methods survey

Machleid, F., Kaczmarczyk, R., Johann, D., Balčiūnas, J., Atienza-Carbonell, B., von Maltzahn, F., & Mosch, L. (2020). Perceptions of digital health education among European medical students: mixed methods survey. *Journal of Medical Internet Research*, *22*(8), e19827.

Background:

Digital health technologies hold promise to enhance patient-related outcomes, to support health care staff by reducing their workload, and to improve the coordination of care. As key users of digital health technologies, health care workers are crucial to enable a meaningful digital transformation of health care. Digital health literacy and digital skills should become prerequisite competencies for health professionals to facilitate the implementation and leverage the potential of digital technologies to improve health.

Objective:

We aimed to assess European medical students' perceived knowledge and opinions toward digital health, the status of digital health implementation in medical education, and the students' most pressing needs.

Methods:

The explanatory design of our mixed methods study was based on an online, anonymous, self-administered survey targeted toward European medical students. A linear regression analysis was used to identify the influence of the year of medical studies on the responses. Additional analysis was performed by grouping the responses by the self-evaluated frequency of eHealth technology use. Written responses to four qualitative questions in the survey were analyzed using an inductive approach.

Results:

The survey received a total of 451 responses from 39 European countries, and there were respondents for every year of medical studies. The majority of respondents saw advantages in the use of digital health. While 40.6% (183/451) felt prepared to work in a digitized health care system, ***more than half (240/451, 53.2%) evaluated their eHealth skills as poor or very poor****. Medical students considered lack of education to be the reason for this, with 84.9% (383/451) agreeing or strongly agreeing that* ***more digital health education should be implemented in the medical curriculum****. Students demanded* ***introductory and specific***

eHealth courses covering data management, ethical aspects, legal frameworks, research and entrepreneurial opportunities, role in public health and health systems, communication skills, and practical training. *The emphasis lay on tailoring learning to future job requirements and interprofessional education.*

Conclusions:

This study shows a lack of digital health-related formats in medical education and a perceived lack of digital health literacy among European medical students. Our findings indicate a gap between the willingness of medical students to take an active role by becoming key players in the digital transformation of health care and the education that they receive through their faculties.

Seven lessons for interdisciplinary research on interactive digital health interventions

Blandford, A., Gibbs, J., Newhouse, N., Perski, O., Singh, A., & Murray, E. (2018). Seven lessons for interdisciplinary research on interactive digital health interventions. *Digital Health*, *4*, 2055207618770325.

Research and development for interactive digital health interventions requires multi-disciplinary expertise in identifying user needs, and developing and evaluating each intervention. Two of the central areas of ***expertise required are Health (broadly defined) and Human–Computer Interaction****. Although these share some research methods and values, they traditionally have deep differences that can catch people unawares, and make interdisciplinary collaborations challenging, resulting in sub-optimal project outcomes. The most widely discussed is the contrast between* ***formative evaluation*** *(emphasised in Human–Computer Interaction) and* ***summative evaluation*** *(emphasised in Health research). However, the differences extend well beyond this, from the nature of accepted evidence to the culture of reporting. In this paper, we present and discuss seven lessons that we have learned about the contrasting cultures, values, assumptions and practices of Health and Human–Computer Interaction. The lessons are structured according to a research lifecycle, from establishing the state of the art for a given digital intervention, moving through the various (iterative) stages of development, evaluation and deployment, through to reporting research results. Although our focus is on enabling people from different disciplinary backgrounds to work together with better mutual understanding, we also highlight ways in which future research in this interdisciplinary space could be better supported.*

How to involve potential users in eHealth innovation: Seven strategies from healthcare and design

van Beest, W., Boon, W. P., Andriessen, D., Zielhuis, M., van der Veen, G., & Moors, E. H. (2023). How to involve potential users in eHealth innovation: seven strategies from healthcare and design. *Design for Health*, 1-19.

To arrive at viable eHealth applications, it is important that future users are involved in research projects. In practice, however, it is difficult to involve potential users and keep them involved. In a multiple-case study, we investigate ten eHealth projects in which design researchers and healthcare researchers worked together. We focus on how they involved potential users and kept them involved. Both domains have a rich tradition of involving potential users and see their involvement of potential (future) users in the early stages of innovation as essential. Therefore it is interesting to investigate projects in which design researchers and healthcare researchers intensively work together. We discovered seven strategies to promote the involvement of potential users in eHealth research projects: (1) use research methods based on building personal relationships; (2) build trust before introducing research methods; (3) facilitate the preconditions around the moments of involvement; ***(4) facilitate by introducing a prototype as a boundary object****; (5) choose the method that fits the research context; (6) integrate the values behind the eHealth tool into the research method; (7) involve proxies instead of the potential users. These strategies may guide future projects where design researchers and healthcare researchers work together with potential users.*

Patient Acceptance of Prescribed and Fully Reimbursed mHealth Apps in Germany: An UTAUT2-based Online Survey Study

Uncovska, M., Freitag, B., Meister, S., & Fehring, L. (2023). Patient acceptance of prescribed and fully reimbursed mHealth Apps in Germany: an UTAUT2-based online survey study. *Journal of Medical Systems*, *47*(1), 14.

The study aims to (1) investigate current levels of patient acceptance of mHealth in Germany; (2) determine the influencing factors of patients' intention to use, and (3) test the influence of prescription and reimbursement status on patient acceptance. Online survey with 1349 participants, of which 1051 were complete and included for statistical analysis, from a broad cross-section of the German population, addressing both users of mobile health (mHealth) applications and people without prior experience. SEM modeling based on a combination of two theoretical frameworks: the extended Unified Theory of Acceptance and Use of Technology and Health Protective Behavior Theories were used to assess acceptance. Users of mHealth in Germany are mostly patients between the ages of 30 – 50 with mental health or endocrine conditions. General ***willingness to use mHealth apps / DiGAs (mHealth apps fully reimbursed by social health insurance) is high at 76%****, especially if they are governmentally certified, however* ***only 27% of respondents were willing to pay out of pocket****. With the exception of a spike in performance expectancy and data security, DiGAs lack a clear differentiation from mHealth apps. Perceived self-efficacy and performance expectancy are significant predictors of willingness to use digital health interventions; with age, attitude, and e-literacy being key demographic predictors. A key takeaway for regulators, providers of mHealth apps/ DiGAs, and other stakeholders involved in mHealth adoption is the importance of addressing negative beliefs early on, targeted communication around effortless usage of mHealth services across age groups and demographics, and focus on highlighting expected benefits of mHealth app/ DiGA usage.*

Reflections Towards the Future of Medical Informatics. *Yearbook of Medical Informatics*

Haux, R. (2023). Reflections Towards the Future of Medical Informatics. *Yearbook of Medical Informatics*. In press.

Objective: To provide guidance on the future development and role of medical informatics, or biomedical and health informatics, in form of reflections.

Method: To report on the author's previous activities as a medical informatician, which spans almost half a century. It began in 1973 when he started to study medical informatics. In 1978, more than four decades ago, his professional work started. He retired at the end of summer semester 2021. This was the occasion to prepare this farewell lecture.

Results: In twenty reflections, thoughts are presented on professional careers (R1 – 'places'), on ***medical informatics as discipline (R2 – 'interdisciplinarity', R3 – 'focuses', R4 – 'affiliations')****, on research (R5 – 'duality', R6 – 'confluences', R7 – 'correlations', R8 – 'collaboration'), on education (R9 – 'community', R10 – 'competencies', R11 – 'approaches'), on academic self-governance (R12 – 'autonomy'), on engagement (R13 – 'Sisyphos', R14 – 'professional societies', R15 – 'respect', R16 – 'tightrope walk'), and on good scientific practice (R17 – 'time invariants', R18 – 'Zeitgeist', R19 – 'knowledge gain', R20 – 'exercising').*

Conclusions: It has been a pleasure for me to participate in medical informatics activities for almost fifty years. During that time, there have been significant advances, including in medicine and in informatics, and also in medical informatics itself. And now it is the turn of others. While keeping in mind that tradition is not preserving the ashes, but passing on the fire, this report with its reflections may be of some help.

Jiné:

Příklad interdisciplinárního magisterského kurzu (dostupného i doktorandům medicínských oborů a informatiky)

Uppsala University, Department of Women's and Children's Health, Participatory eHealth and Health Data Research Group

https://www.uu.se/en/study/course?query=3HI004

About the course:

The course provides in-depth knowledge about digital health innovation based on the needs of patients, family caregivers and healthcare professionals. Interdisciplinary teams of course participants will, in association with stakeholders, identify needs-based problems and in dialogue with target groups (public and patient involvement, PPI) develop solutions for identified problems. Feedback on the process and proposed solutions are given by teachers and mentors, course participants (peer learning) and the potential end-users.

The course is designed for both working professionals and students from all disciplines. The desired mix of students includes people with a ***clinical background, relevant technical backgrounds (e.g. software engineering, health informatics or computer science), as well as people with their own patient and/or family caregiver experiences****.*

Outline for distance course: The course is given in English and completely online, with a high degree of self-guided learning. Large parts of the course will be suited for asynchronous work with approximately one mandatory session (in real-time) per course week. The course runs half-time (20 h/week) 5th June – 2nd July, with a break in the scheduled teaching 3rd July – 30th July (time for self-guided learning and project work), to resume again with half-time asynchronous teaching/learning activities 31st July -13th August.

Interdisciplinární švédské výzkumné konsorcium DOME

(DOME: Development of Online Medical records and E-health services)

https://domeconsortium.org/researchers/