

## Article Abstracts of *Curare* 45 (2022) 1

Computer and Medicine

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### **KLAUS POMMERENING: An Introduction to Medical Informatics. Historical Development, Dreams, Ideas, Successes and Limitations** p. 28–48, written in German

Medical informatics has significantly contributed to the enormous advances in medicine in recent decades. It provides the methods for the digitalization of medicine and is confronted with its bright and dark sides. It paves the way to the transformation of the health care system into a medical apparatus where cost considerations possibly take precedence over the well-being of patients. It helps to build large databases in which disease cases are registered and vast amounts of sensitive data are collected that are formally, but not really effectively, anonymized. However it has also always been overburdened with unrealistic expectations, and faces high obstacles that can only be partially overcome. Medical informatics has always been successful with simple, tangible solutions whose integration into existing pro-

cesses was unobtrusively possible in the background and whose use provided an immediate obvious advantage for users. Sophisticated, but difficult-to-understand or difficult-to-use constructions were not successful. In contrast to the areas in which medical informatics showed solid results and practical successes, artificial intelligence (AI), which receives a lot of public attention, was of rather minor importance in the practice of medical informatics up to now. Having said that, medical informatics also shows ways to control the technological impact associated with the digitalization of medicine and to keep medicine humane, and it helps to empower patients by providing information, by making processes transparent, and by giving them means for participation and control.

**Keywords** medical informatics – digitalization – artificial intelligence – medical research – technological impact

### **GÜNTER STEYER: On the Development of Medical Informatics in the Former German Democratic Republic (GDR)** p. 49–63, written in German

After German reunification, many projects and activities in the field of medical informatics and EDP use in the health care system of the former GDR fell into oblivion. Prior to 1989 considerable projects had been initiated there, primarily through personal initiatives and well-trained employees. They were implemented in cooperation with health facilities and successfully transferred to routine operations despite the need to often use deficient hardware standards compared to the Federal Republic of Germany. Since there was no need to bill for treatment services in the GDR, the activities for EDP/IT application focused primarily on medicine and care, disease-related registers and medical statistical evaluations for management and planning. Organization and use of computers were seen as a necessary unit in all

areas of application and projects, as was the complex relationship between medicine and information technology in general. An example of this was the qualification program of the GDR Academy for Advanced Medical Training for academics working in the sciences, in technological departments and in medicine to acquire the specialist qualification “Biomathematics and Medical Informatics”. The article takes a look at the history of medical informatics in the GDR and highlights the technical developments of the time. It furthermore examines the networking and training between informatics and medicine and the changing working conditions before and after reunification, which can still serve as an interesting and often overlooked teaching example of IT implementation in medicine today.

**Keywords** medical informatics – GDR – Medical Academy Dresden (MAD) – patient-related information processing – lab online

**SYLVIA THUN & CAROLINE STELLMACH: Structure and Challenges of Medical Informatics in Germany. A Commentary** p. 64–76, written in German

For quite some time, medicine and informatics were two subject areas that were not seen as linked. Performing medicine today is unimaginable without the error-free collection and efficient exchange of large amounts of data. Such data are not limited to the basic documentation of a

patient, but also include findings from imaging procedures and form the basis for therapeutic decision-making. The aim of medical informatics is to provide usable data, information and knowledge for healthcare and it is concerned with all activities necessary to achieve this goal.

**Keywords** medical informatics – interoperability – digitization – telematics infrastructure

**CHRISTINE SCHMID, FRAUKE MÖRIKE & MARKUS A. FEUFEL: Doctor, Patient and a Digital Actor. How an Online-Based Information Technology Standardizes and Personalizes Medical Consultations** p. 77–100, written in German

Digital technologies that actively facilitate and steer the design of contents and processes of counselling sessions in the interaction between doctors and patients have received surprisingly little attention of social sciences thus far – despite the generally great research interest in both digitization in the field of healthcare and in doctor-patient interactions. In particular, digital tools providing individually tailored information or structured explanations for patients have only been partially investigated to date. This paper discusses how the traditionally dyadic conversation between doctors and patients is transformed through digital information systems, which are not only used for documentation, but also to support the content and structure of the consultation process. Based on empirical ethnographic material on the use of a counseling tool in family cancer counseling – iKNOW – we describe how different relations between physicians, counselees and the digital counseling tool emerge. We

elaborate on how situationally different forms of knowledge, different actor positions, and different material arrangements become relevant – ultimately co-producing different forms of counseling through iKNOW. Our work illustrates how two seemingly contradictory motives run through the observed consultations: the *standardization* of medical care on the one hand and its *individualization* or *personalization* on the other. The digital counseling tool activates various forms of standardization and personalization and helps to link them in the sense of “situated standardization” (ZUIDERENT-JERAK 2007: 316). The tool thus acts as a “scientific rallying point” (TIMMERMANS & MAUCK 2005: 26) through which the various forms and processes of standardization and personalization – as provided through the moderation performance of the doctors – are brought together and thus can be integrated into the counselling session in a needs-based and patient-centred manner.

**Keywords** digital medical technologies – digital health – physician-patient interaction – human-technology interaction – qualitative health services research

**LINA FRANKEN: Invisible Patients? Patients' Agency within the Discourse on Telemedicine** p. 101–113, written in English

A wide spectrum of telematics applications has emerged within the last few years, ranging from video consultations to health apps and infrastructures of telematics in surgeries. These are due to new possibilities within commercial initiatives as well as the statutory health insurance system. The discourse on challenges, possibilities and the acceptance of these developments formed in health communication in Germany is mainly guided by politics, doctors' associations and health insurance providers. Based on a web crawling corpus compiling statements by these actors and parliamentary transcripts,

I examine patients' agency within the discourse on telemedicine, focusing on discourse/practice-formations. In the arenas of politics and regulation, patients do not have a voice even though their interests are discussed. When patients' organizations make statements, they miss further involvement. Even more, within the discourse arena of infrastructures and data security, patients become invisible. Although there is a lot of information addressing patients, in regard to changing treatment or new possibilities such as apps, their interests are captured by experts only, the agency of patients themselves is missing.

**Keywords** telemedicine – discourse analysis – discourse/practice-formations – power relations – infrastructures

**MARTIN KÄLIN: The Tamed Life. Computer-Based Power Structures of Radiological Demonstrations in Oncological Consultations**

With the help of computer technology, radiological examination results have undergone a drastic change since the 1970s – they evolved from diffuse, difficult-to-interpret X-ray projections to digital representations that people beyond the medical profession can understand in their anatomical meaning. Techniques such as X-ray tomography, magnetic resonance and nuclear medicine, the basics of which had been researched over decades, only became clinically effective with the use of computers. Radiological image material is now also demonstrated to patients in medical consultations thanks to their easy digital availability. In long asymptomatic courses of formally incurable diseases, these images are occasionally the only manifest aspect of the disease. In their pointed graphic effect, which is rooted in digital reconstruction and presentation and seen in historical retrospect, has been optimized solely to facilitate medical interpretation, the images are able to convey an incorporation of

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pathological findings into the physical experience. As a result, digital images as artifacts shape the asymptomatic phases of serious diseases, which are becoming longer and longer due to better therapies. This development is complementary to a picture by Philipp Ariès, who saw an openly communicated socially experienced death eventually turn into an assimilated, tamed death in the beginning of the 18th century. Following his description of death as wild in its medicalization and its associated social taboo of the industrial age, at this point a similar perspective on life should be taken instead. Using clinical examples, the aim is to investigate whether the computer, through the power of perceptive, predictive digital radiological technologies, participates in assimilative processes in formally incurable illness situations in which the everyday physical experience of a (supposed?) health is much closer than a fatal illness, thus in a sense not assimilating illness or death, but downright taming life itself.

**Keywords** history of techniques – corporeality – sociology of the body – incurability – doing illness

## Résumés des articles de *Curare* 45 (2022) 1

L'Ordinateur et la Médecine

SOUS LA DIRECTION DE LAURA NIEBLING, TOBIAS KUSSEL & DAVID FREIS

**KLAUS POMMERENING: Une introduction à l'informatique médicale. Développement historique, rêves, idées, succès et limites** p. 28–48, rédigé en allemand

L'informatique médicale a largement contribué aux énormes progrès de la médecine au cours des dernières décennies. Elle fournit à la médecine des méthodes de numérisation et est confrontée à ses côtés positifs et négatifs. Elle contribue à la transformation du système de santé en un appareil médical, où les contraintes de profit dominant parfois le bien-être des patients. Elle contribue à la formation de grandes bases de données dans lesquelles les cas d'une maladie sont enregistrés et de vastes quantités de données intimes sont collectées, formellement mais pas vraiment efficacement anonymisées. Cependant, elle a toujours été surchargée d'attentes irréalistes et se heurte à des obstacles qui ne peuvent être que partiellement surmontés.

L'informatique médicale a toujours connu le succès avec des solutions simples, tangibles, dont l'intégration dans les processus existants était possible discrètement en arrière-plan et dont l'utilisation apportait un avantage évident immédiat aux utilisateurs. Certaines constructions, théoriquement exigeantes et difficiles à comprendre ou à manipuler, ne pouvaient pas prévaloir. Contrairement aux domaines dans lesquels l'informatique médicale réalisait des résultats solides et des succès pratiques, l'intelligence artificielle (IA), qui fait l'objet d'une grande attention de la part du public, est de moindre d'importance pour la pratique de l'informatique médicale. Cela dit, l'informatique médicale montre également des moyens de maîtriser l'impact technolo-