

AI: Opportunities, Capabilities and Limits

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Henrique Martins et al.
Hospitals-on-FHIR: Preparing Hospitals for
European Health Data Space

Rafael Vidal-Perez
Artificial Intelligence and Echocardiography:
Are We Ready for Automation?

Konstantinos Petsios et al.
Artificial Intelligence in Radiology: Realities,
Challenges and Perspectives from a Tertiary
Cardiac Centre in Greece

Sai Pavan Kumar Veeranki et al.
Learning From Each Other: An Artificial
Intelligence Perspective in Healthcare

Elmar Kotter
Integrating Decision Support and AI in
Radiology

†Werner Leodolter
Clinical Decision Support – Benefits and
Application in Healthcare



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There is no doubt that Artificial Intelligence (AI) can transform how we deliver care. It can increase clinician productivity and improve efficiency and enable existing healthcare systems to provide care to more people than before. AI can also improve data analysis and utilisation, facilitate better decision-making and promote early diagnosis and treatment. In addition, the application of AI in healthcare can assist clinicians with their daily tasks, thus helping them handle their workload better, spend more time with patients and prevent stress and burnout.

In this issue, our contributors discuss the opportunities, capabilities, benefits, application, challenges and limitations associated with implementing **Artificial Intelligence** in healthcare. They explore how the benefits of AI can be realised and some important gaps that technology and digitalisation can address in healthcare.

Henrique Martins and co-authors talk about the Hospitals-on-FHIR initiative that aims to boost interoperability maturity in organisations by fostering a progressive and collaborative approach to gearing up to the European Health Data Space ethos of creating value for patients through data sharing.

Rafael Vidal-Perez talks about the application of AI in cardiac imaging and echocardiography and highlights the need to be prepared for automation in cardiology. Konstantinos Petsios and co-authors provide an overview of digitalisation at Onassis Cardiac Surgery Center in Greece and the application of AI to take advantage of the current realistic opportunities and future perspectives offered by modern technology.

Sai Pavan Kumar Veeranki and co-authors discuss the need to shift to a new paradigm where the focus is on knowledge sharing rather than data sharing and how this exchange of knowledge can advance AI in healthcare. Thomas Kau discusses the current state of AI in diagnostic imaging and how its clinical value can be improved through well-curated data, external validation of algorithms, and user-friendly workflow integration.

Eleonora Barcali and co-authors provide an overview of current research in radiomics and AI at the Department of Radiology of the University of Florence and focus on the need for personalised medicine and the transition from qualitative to quantitative imaging. Ronald Schilling discusses the potential of AI and how it can improve both knowledge and patient outcomes provided we change our mindset to doing things right instead of focusing only on doing the right things.

Simon Wilson talks about network modernisation and how it will be key for healthcare organisations as they continue introducing Internet of Things devices to their operations and work towards digital transformation. Ashley MacNaughton and Deepa Shukla discuss digital twin technologies and the use of AI and data science to revolutionise the provision, delivery and sustainability of healthcare.

In two exclusive interviews with HealthManagement.org, Elmar Kotter and †Werner Leodolter discuss the benefits and application of clinical decision support in healthcare and its implementation and integration in radiology.

David Krahe and co-authors provide an overview of the process of digitisation in the medical device industry and important questions that organisations should ask to best prepare for the digital disruption ahead. Jonathan Lee discusses the rising threat of cyberattacks as healthcare organisations become increasingly connected through technology and the importance of evaluating security practices and stances taken within any third-party organisation involved.

We hope you will enjoy this issue. As always, your feedback is welcome.

Happy Reading!