

AI: Opportunities, Capabilities and Limits

THE JOURNAL 2022

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

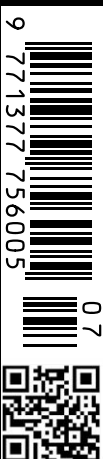
Rafael Vidal-Perez
Artificial Intelligence and Echocardiography:
Are We Ready for Automation?

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





“One Ring to Rule Them All” in AI – Affidea’s Experience

Alessandro Roncacci | Senior Vice-President | Chief Medical Officer | Affidea

An overview of Affidea’s experience on the road to AI implementation and the need to understand the complexity of integrating multiple AI solutions safely, offering clear benefits to patients and radiologists.

Artificial Intelligence in Healthcare

Artificial Intelligence (AI) in radiology is growing at a fast pace. A 2020 study from the American College of Radiology on radiologist uptake of AI shows that clinical adoption of AI has increased dramatically over the last five years, with 30% of radiologists indicating that they use AI in some capacity – up from none five years ago.

This is showing, once more, that it is true that “radiologists who use AI will replace radiologists who don’t”, as Curtis Langlotz, Stanford Hospital and Clinics, said three years ago. At Affidea, we strongly believe in this. The most successful cases we’ve implemented so far prove that AI is augmenting the radiologists’ intelligence and optimising their practices, not just by saving time but by enhancing their precision in diagnosis and potentially preventing what could have been an easy miss, increasing patient safety in some cases and driving operational efficiencies.

Affidea – Driving the AI Disruption With One Ring to Rule Them All

It was key for us to disrupt the utilisation of AI in daily practice, finding a unified and secured platform that can give us access to a catalogue of expert AI applications directly integrated into the workflow and PACS/RIS infrastructure.

Starting in July this year, in Affidea Portugal, we are implementing the Incepto platform that gives our doctors access to a portfolio of AI solutions that we are piloting under one single secured platform, directly integrated with our PACS/RIS infrastructure, without changing any equipment or without having to integrate every AI software separately. The platform is currently piloted in 14 centres, where our radiologists can work daily with the support of five different AI solutions based on local needs and best-in-class available sub-specialties, involving our clinical, operational and IT teams and in collaboration with Incepto specialists from the same fields.

All these solutions that we are implementing in our clinical routine and digital infrastructure come with great benefits for

patients and doctors:

- improved patient care through AI-aided detection, measurement and diagnostics confidence;
- operational optimisation through shorter acquisition times, triage and prioritisation;
- reassurance for the medical staff.

Our goal is to accelerate the process of integration of AI solutions in our workflow, to make all our radiologists familiar with this innovative approach and then to roll it out across other Affidea countries where we are ready thanks to previous experiences.

Affidea’s Journey to Date in AI Implementation

Over the past three years at Affidea, we have started several pilots to assess the clinical, operational use and commercial opportunity associated with AI-enabled technologies in diagnostic imaging. Our objectives were:

- to verify how some AI solutions focused on neuro, lung, breast, prostate, and oncological examinations or on driving operational efficiencies in MRI can qualitatively support the reporting activity of our radiologists in specific disciplinary areas;
- to understand how these can contribute to increasing the safety of our patients who undergo diagnostic tests;
- to verify how AI can optimise the operational processes in our daily workflow.

We have been heavily investing in digital infrastructure and IT capabilities to give our centres the necessary capabilities to test safely different AI solutions. We are currently working with over six AI vendors and piloting 10 AI solutions in 10 countries.

Affidea’s Methodology

At Affidea, we have an ideal environment in terms of geographical presence, multinational clinical expertise, best technology with over 1450 pieces of equipment across 15 different health-care markets and a team of subspecialty experts.



When we pilot an AI solution, we base our decision on a structured nine-stage framework for the evaluation and commercialisation of AI solutions, including:

- selection criteria for AI solutions, countries and centres.
- legal review, including medical device class and data protection impact assessment.
- technical architecture review, including digital infrastructure and AI solution integration.
- clinical and technical assessment.
- training of healthcare professionals.
- identification of key performance indicators.
- workflow redesigning to assess the benefits of the AI

solution.

- commercialisation process.
- preparation of stakeholders' information and communication strategy.

The more we advance on the road to AI implementation, the more we need to think about the complexity of integrating multiple AI solutions in a safe and compliant way, offering clear benefits to our patients and radiologists in every country. Making it simple is not easy, but at Affidea, we have all the competencies, experience and resources to successfully lead this journey, always with clinical excellence, safety and precision at the core. ■