Welcome To The Newest Member Of The Inter-professional Wound Care Team: Artificial Intelligence

By Joel Alleyne BSc (Computer Science) MISt

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I wrote about 'Interprofessional Wound Care Teams' in a previous article for this journal (Wound Care Teams Are Stronger When They Embrace An Interprofessional Approach). This article builds on that and extends the list of team members.

In modern health care and in wound care, inter-professional (IP) teams have become the backbone of high-quality, coordinated and compassionate care. Nurses, physicians, therapists, pharmacists, administrators and technologists collaborate to ensure patient well-being through a holistic approach that values both expertise and empathy. Yet another colleague has quietly joined this team—one who does not sleep, forget, or tire: artificial intelligence (AI). A lightbulb went on when my colleague Nathan, in Amsterdam, brought to my attention that AI Agents are now acting under direction to complete tasks humans would otherwise be responsible for.

AI's entry into the world of inter-professional health-care practice is not simply an upgrade in tools or analytics—it represents the dawn of a new kind of partnership between humans and machines. As the boundary between biological intelligence and artificial cognition begins to blur, professionals are discovering what *Wired* columnist Clive Thompson once described as the 'cyborg advantage'—the extraordinary amplification of human capability through seamless collaboration with technology.[1]

The Cyborg Advantage: From Tools To Teammates

In his 2010 article 'The Cyborg Advantage,' Thompson envisioned a future where humans and machines didn't merely divide labour, but fused strengths to form hybrid intelligences.[1] The vision was bold: instead of relying on technology as a tool, humans could co-evolve with AI systems that think, learn

and adapt in real time. That future has arrived—and health care is among the domains where this integration can transform both practice and patient outcomes.[2,3] The promise of becoming 'cyborgs' lies in moving beyond the old paradigm of task substitution toward one of collaboration. Traditional automation separated human and machine work: AI performed repetitive tasks, humans tackled the rest. The new model—the cyborg model—merges the two. Humans and AI operate in concert, each adapting to the other's strengths in real-time.[4,5]

Unlike the 'centaur model' (see box), often used in early human-machine collaboration (such as in chess), cyborg collaboration integrates AI more fluidly into the human workflow[1,4] The key lies not in substitution, but synthesis. Health-care professionals who learn to operate as cyborgs—adapting their judgment, empathy and expertise with machine efficiency and pattern recognition—gain transformative capabilities.[3,4,5]

Centaur model: A computational model that can predict and simulate human behaviour in any experiment expressible in natural language. *Source: Nature*

Examples abound:

- AI drafts clinical documentation or patient summaries, which clinicians refine using contextual expertise and empathy.[5]
- Predictive algorithms flag potential medication errors or infection risks, prompting human investigation before harm occurs.[2]
- Conversational AI manages routine patient inquiries, freeing clinicians to focus on complex emotional or diagnostic interactions.[2,5,6]
- The cyborg advantage thus emerges not from AI replacing professionals, but from both sides learning to work symbiotically.[3,7]

Beyond Efficiency: The Just-in-Time Knowledge Revolution

Health care has long operated on a 'just-in-case' model—training professionals to memorize extensive knowledge they might someday need. AI shifts the paradigm toward 'just-in-time' knowledge *access*.[3,4,7] Clinical decision support systems embedded within electronic health records can instantly retrieve the most current guidelines or flag contraindicated medications at the moment of care.[3,5,8]

This change redefines what expertise looks like. The health-care professional's value is no longer measured primarily by recall, but by judgment, synthesis and communication.[2,4] They know how to ask the right questions, interpret AI insights and apply them responsibly within the patient's context.[3]

In this new world, expertise becomes relational. AI supplies data and probabilities; the professional supplies ethics, empathy, and understanding.[2,5,7]

As with all paradigm shifts, this one requires rethinking how teams train, communicate and measure success. Health-care leaders must design environments in which clinicians are both learners and mentors to their AI systems.[7,9] As futurist Stan Davis wisely noted, "You cannot run on tracks you have not laid." Teams that invest now in building ethical, transparent and interoperable AI systems are laying the tracks for the next generation of care.[4,9]

Why Embrace The Cyborg Future?

The convergence of human and artificial intelligence promises more than operational efficiency—it redefines human flourishing itself.[2,5]

1. **Cognitive Extension and Decision Support**
   AI can process millions of patient records, identify subtle patterns across populations, and suggest treatment pathways that no human could discern unaided.[3,5] Yet, ultimate decisions rely on the clinician's moral reasoning and contextual understanding: the synergy enhances accuracy and safeguards human judgment.[2,4]
2. **Balanced Progress and Human Values**
   When integrated responsibly, AI amplifies progress without undermining dignity. A cyborg approach emphasizes that technology should not strip care of its humanity but instead allows clinicians to focus on what machines cannot: empathy, reassurance and ethical discernment.[6,9]

3. **Organizational Innovation**
   IP teams that reward members for leveraging AI effectively will see surges in creativity and problem-solving.[2,4] The best organizations value how human and AI together reach an insight.[7]
4. **Healthier and More Capable Humans**
   Cognitive prosthetics, AI that assists with memory, planning, or language, can extend human capabilities beyond biological constraints.[5,6,8] For populations with disabilities or age-related decline, the implications are profound.[5]

However, with every promise comes a challenge. To ensure that AI strengthens rather than diminishes human agency, transparency is essential.[4,9,10] Health-care systems must remain clear about how AI models reach conclusions, who holds ethical accountability and how patients give informed consent when machines participate in care decisions.[4,9,10]

Key Affordances Of AI In Human Collaboration

AI enables new forms of efficiency, insight and creativity within health-care IP teams. Its key affordances reveal why integration has the potential to transform both workplace and care outcomes.[5,7,8]

1. **Automation of Repetitive Tasks**
   AI can automate documentation, scheduling and communications, allowing clinicians to refocus on patient-centered work.[3,5,6]
2. **Data Processing and Insights**
   Diagnostic AI analyzes large datasets, imaging, pathology and genomics to identify patterns and suggest diagnoses.[3,6]
3. **Enhanced Accuracy and Consistency**
   In laboratory reporting, drug interaction checking and translating information, AI reduces variability.[4,7]
4. **Creativity Augmentation**
   AI can suggest hypotheses and generate preliminary treatment pathways, which humans refine and innovate upon.[3,5]
5. **Scalability and Speed**
   Especially during global health crises, AI's ability to process vast data enables fast, evidence-based responses.[5,6]

Empowering Humans And Organizations

Understanding how AI empowers individuals and organizations is central to realizing its potential in IP teams.[3,4,7]

1. **Amplifying Human Strengths**
   AI complements empathy, intuition, and creative reasoning by taking on repetitive tasks.[3,5] This gives professionals space to connect and solve complex problems.[5,6]
2. **Proactive Support**
   AI monitoring systems can predict and prevent failures in IT or medical equipment.[4,6]
3. **Improved Productivity and Job Satisfaction**
   Automation reduces after-hours work and administrative burden, improving morale.[5,7]
4. **Facilitating Innovation**
   AI-driven insights can help teams to find unmet needs and launch new service models.[3,8]
5. **Ethical and Contextual Decision-Making**
   Human oversight is vital for ethics and context; AI calculates while humans interpret and own the outcomes.[4,7,9]

Flourishing Through Integration

The rise of AI in inter-professional teams symbolizes the next evolution of teamwork.[5,7,9] Rather than replacing the human touch, it enables greater focus on what matters: empathy, ethics and innovation.[9]

As health-care systems confront aging populations and rising demands, the question is not whether AI should be on the team, but how to make it the best collaborator possible.[4,7,8,10] Those who master human-AI partnership will redefine care from reactive to proactive and from human-limited to human-extended.[2,3]

In essence, every professional who learns to work in tandem with AI becomes a modern cyborg—more informed, more capable and more human than before.

Joel Alleyne BSc (Computer Science) MISt is Executive Director, Canadian Podiatric Medical Association and President, Alleyne Inc.

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  The authors frame AI as a disruptive but essential force capable of achieving health care's quadruple aim: improving patient experience, enhancing care quality, supporting providers, and reducing costs. They note that global challenges—aging populations, chronic disease, workforce shortages, and inequities in access—demand innovative systems like AI-augmented health care. The authors also highlight cloud computing and digital infrastructure as enablers for large-scale AI adoption.[11]
- **Rajkomar A, Oren E, Chen K, Dai AM, Hajaj N, Hardt M, et al. Scalable and accurate deep learning with electronic health records. NPJ Digit Med. 2018 May 8;1:18.**
  The 2018 study "Scalable and accurate deep learning with electronic health records" by Rajkomar et al. presents a major advance in health-care predictive modeling by demonstrating how deep learning can accurately analyze raw, unharmonized electronic health record (EHR) data at scale.[12]
- **Yu KH, Beam AL, Kohane IS. Artificial intelligence in healthcare. Nat Biomed Eng. 2018 Oct;2(10):719-731.**
  The authors explain that the rapid evolution of digitized data acquisition, machine learning methods, and computing infrastructure has enabled AI to perform tasks once reserved for human experts. The review highlights AI's growing role in medical imaging, genomics, pathology, and clinical decision support, illustrating how algorithms can complement or even surpass clinicians in diagnostic accuracy.[13]
- **Wang F, Casalino LP, Khullar D. Deep learning in medicine-promise, progress, and challenges. JAMA Intern Med. 2019 Mar 1;179(3):293-294.**
  The authors critically evaluate recent advances in deep learning applications across medical imaging, genomics, and disease prediction. While highlighting significant improvements in speed and accuracy, they stress ongoing barriers related to data heterogeneity and integration into multi-disciplinary clinical teams, calling for frameworks that promote ethical AI adoption.[14]
- **Krittanawong C, Johnson KW, Rosenson RS, Wang Z, Aydar M, Baber U, et al. Deep learning for cardiovascular medicine: a practical primer. Eur Heart J. 2019 Jul 1;40(25):2058-2073.**
  This primer addresses cardiovascular applications of deep learning within clinical workflows, including risk prediction, diagnostics, and treatment optimization. The paper illustrates the synergy between AI tools and clinician judgment, noting that human oversight remains integral to ethical and contextual decision-making in high-stakes cardiac care.[15]