2022 LEAD Capstone Poster Session

Formation of a UTSW Multi-Specialty Lung Transplant Working Group on Artificial Intelligence

Adrian C. Lawrence, MD, MACM
Assistant Professor
Internal Medicine

UT Southwestern Medical Center

Abstract

The use Artificial Intelligence (AI) technologies in healthcare is growing exponentially and it has been transformative. However, AI is underutilized in the UTSW lung transplant program in both our clinical and research practice. As a result, we are missing out opportunities to improve care outcomes, to reduce waste, and to improve financial performance. While AI has huge potential, ill-conceived deployments risk imposing significant harms. In order to guide the appropriate implementation of AI within the lung transplant program, I propose formation of Multidisciplinary Lung Transplant Working Group on AI charged with discussing emerging AI strategies and their applications to the field of lung transplantation. The Working Group on AI would carefully consider whether and how to implement AI, how to identify and mitigate potential harms, and discover appropriate strategies to maximize benefits. The goal of the working group would be to be a build a bridge between the biomedical community and the computer science community.

UT Southwestern Medical Center

Aims

A Multi-Disciplinary Lung Transplant Working Group on AI aims **to make data findable, accessible, interoperable, and reusable – FAIR** by:

- Assessing the current data, computing, and software infrastructure
- Promoting best practices for use new, real-world data and existing datasets, such as EHR, omics data, imaging data, and disease-specific data
- Applying AI approaches to lung transplant by addressing clinical operations and determining research priorities
- Implement training opportunities in data science and lung transplant research
- Collaborate with academia on Artificial Intelligence initiatives and events.

Project Plan

- Creation of a multidisciplinary working group will focus on providing guidance to UTSW Lung Transplant Program on appropriate implementation of AI in service provision and address issues related to academic research on AI.
- The members represent diverse disciplines, including medicine, computer science and engineering, law and policy, and the social sciences.
- The Working Group would meet monthly to develop a set of AI Principles to guide the procurement, development, implementation, and monitoring of AI as may be implemented by UTSW.

Application of What You Learned at LEAD

- Coaching sessions which familiarized me with the organization were extremely important. In developing a multidisciplinary team, I had to communicate with people outside of my division. I learned to invite myself to a meeting, to learn who was in charge, who was responsible, why they were responsible, and to find common interests or shared goals
- Understanding and leveraging DISC profiles to effectively communicate with diverse stakeholders

Proposed Budget

- To support my project, I am asking university leadership to advocate for longitudinal participation from Work Group members
- Administrative support in the form of a salary for work group coordinator (about 0.1 FTE), and
- Continued assistance with personal professional and educational development in leadership and AI technologies, so that I can become an even more effective team member.

Innovation and Significance

- A UTSW Multi-Disciplinary Lung Transplant Working Group on AI has the potential to positively impact artificial intelligence beyond the lung transplant program's own uses. Because of UTSW's size and stature as a preeminent public research university, its guidelines for development and implementation of AI could influence standards within the field of lung transplant, academia, business, and government worldwide.

References

- Broadband Commission (2020). Reimagining Global Health through Artificial Intelligence: The Roadmap to AI Maturity
- Davenport T, Kalakota R. The potential for artificial intelligence in healthcare. Future Healthc J 2019; 6:94–98.
- Clement J, Maldonado AQ. Augmenting the Transplant Team With Artificial Intelligence: Toward Meaningful AI Use in Solid Organ Transplant. Front Immunol. 2021 Jun 11;12:694222.
- Briceño J. Artificial intelligence and organ transplantation: challenges and expectations. Curr Opin Organ Transplant. 2020 Aug;25(4):393-398.
- Goswami R. The current state of artificial intelligence in cardiac transplantation. Curr Opin Organ Transplant. 2021 Jun 1;26(3):296-301.