NATIONAL ACADEMY OF MEDICINE

LEADERSHIP CONSORTIUM

for

A VALUE & SCIENCE-DRIVEN HEALTH SYSTEM

Digital Learning Collaborative

January 16, 2019
National Academy of Sciences Building
Lecture Room
2101 Constitution Avenue, NW | Washington, DC

Meeting Focus: *Convening of the NAM Artificial Intelligence (AI) and Machine Learning (ML) in Health Care Working Group and external experts to discuss a draft NAM Special Publication describing the promise, development, and deployment of AI/ML models to improve health*

Motivating questions: For each chapter in the NAM Special Publication, participants will consider the following:
1. *Key Issues:* Does the chapter address the most significant issues facing the development, deployment, or use of AI/ML in health care?
2. *Solutions:* Do the solutions proposed in the chapter adequately balance the key considerations and issues discussed? Do they provide fair and balanced guidance for those interested in developing and deploying AI/ML models in health care settings?
3. *Improvements:* Are there recommendations regarding ways the chapter content could be improved to increase its usefulness to the field?

Outcomes anticipated: Refinement of the draft NAM Special Publication so that it is effective at accelerating the appropriate development, adoption, and use of valid, reliable, and sustainable AI and ML models for transformative progress in health and health care.

8:30 am	**Coffee and light breakfast available**
9:00 am	**Welcome, introductions & meeting overview**

Welcome from the National Academy of Medicine

Michael McGinnis, National Academy of Medicine

Opening remarks and meeting overview by Collaborative Chairs

Jonathan Perlin, Hospital Corporation of America

Reed Tuckson, Tuckson Health Connections

@theNAMedicine

9:15 am	**Description of the publication scope and intended outcomes**

This session will provide an overview of the publication, discuss the genesis of the topics covered, describe the developmental process, and review the intended outcomes.

Michael Matheny, Vanderbilt University

Sonoo Thadaney, Stanford University

9:45 am	**Chapter 2: Current state overview of the AI landscape**

This session will summarize the content in Chapter 2, discussing the ubiquity of AI with examples from other industries and the growth, maturity, and levels of adoption in health care as compared to other industries.

Jim Fackler, Johns Hopkins School of Medicine

Edmund Jackson, Hospital Corporation of America

Q&A and open discussion

10:30 am	**Break**

10:45 am	**Chapter 3: Promise and potential impact of AI**

This session will summarize the content in Chapter 3, discussing the utility of AI for improving clinical decision-making and hospital workflow, including examples of specific clinical and non-clinical applications.

Wendy Chapman, University of Utah

Joachim Roski, Booz Allen Hamilton

Q&A and open discussion

11:30 am	**Chapter 4: Potential unintended consequences of AI**

This session will summarize the content in Chapter 4, discussing the potential unintended consequences of AI/ML on work processes, culture, equity, and the patient-physician relationship.

Eneida Mendonca, University of Wisconsin Madison

Jonathan Chen, Stanford University

Q&A and open discussion

12:15 pm	**Pick up LUNCH**

12:30 pm	Chapter 5: AI development and validation

This session will summarize the content in Chapter 5, discussing the process for developing and validating models, including some of the technical issues related to model development including issues around choice of variables, and model complexity versus parsimony as a way to simplify deployment.

Hongfang Liu, Mayo Clinic

Nigam Shah, Stanford University

Q&A and open discussion

1:15 pm	Break

1:30 pm	Chapter 6: Deploying AI in clinical settings

This session will summarize the content in Chapter 6, discussing the process of deploying AI in clinical settings, including best practices and needs related to model updating and surveillance, issues around explainability/ interpretability, and consideration of downstream actions and modifiable risk factors.

Andy Auerbach, UCSF School of Medicine

Steve Fihn, University of Washington

Q&A and open discussion

2:15 pm	Chapter 7: Regulatory and policy considerations

This session will summarize the content in Chapter 7, focusing on when AI models constitute medical devices, issues around safety and liability of model deployment, concerns about unintentional bias if models are built on biased data, and considerations about reimbursement.

Nicholson Price, University of Michigan

Douglas McNair, Bill & Melinda Gates Foundation

Q&A and open discussion

3:00 pm	Key themes and grand challenges for AI in health care

During this session, participants will discuss themes, grand challenges, and opportunities for advancement of the use of AI models for transformative progress in health and health care.

Moderators:

Michael Matheny, Vanderbilt University

Sonoo Thadaney, Stanford University

3:30 pm	**Remarks from Government Accountability Office**

Representatives from the Government Accountability Office (GAO) will discuss a joint venture with the NAM exploring various applications of AI/ML in health and medicine.

Tim Persons, GAO

3:50 pm	**Closing Remarks**

Jonathan Perlin, Hospital Corporation of America

Reed Tuckson, Tuckson Health Connections

4:00 pm	**Adjourn**