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# Managing Conflict of Interest in Algorithm Development and Implementation

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Vice Speaker & DSI Council Steering

Committee Liaison

# Disclosures

- No conflicts related to this presentation.





# trust

/trəst/

*noun*

1. firm belief in the reliability, truth, ability, or strength of someone or something.  
"relations have to be built on trust"  
*synonyms:* **confidence, belief, faith**, freedom from suspicion/doubt, sureness, **certainty, certitude, assurance, conviction, credence, reliance**  
"a relationship built on mutual trust and respect"



# Memorial Sloan Kettering Curbs Executives' Ties to Industry After Conflict-of-Interest Scandals



## Top news from APA and ADA

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FEATURE

# Medicine grapples with COI reporting

Publish date: February 25, 2019

Internal Medicine News



The Sarah Cannon... companies on behalf of its president for clinical operations, Dr. [Name]... his articles published in prestigious medical journals did not include the required disclosures of those payments... and relationships. (William DeShazer for The New York Times)



# Well

DOCTORS

## When Doctors Have Conflicts of Interest

BY MIKKAEL A. SEKERES, M.D. JUNE 29, 2016 11:45 AM

## Prominent Doctors Aren't Disclosing Their Industry Ties in Studies. And Little to

## Industry Ties in Studies. And Little to

of a prominent cancer group and... cal figures who have not... es.

Dec. 8, 2018, 10 a.m. EST

April 2, 2014

# Academic Medical Center Leadership on Pharmaceutical Company Boards of Directors

Timothy S. Anderson, MD<sup>1</sup>; Shravan Dave, BS<sup>2</sup>; Chester B. Good, MD, MPH<sup>3</sup>; et al

» [Author Affiliations](#) | [Article Information](#)

JAMA. 2014;311(13):1353-1355. doi:10.1001/jama.2013.284925

# Conflict of Interest (COI)

## Conflict of Interest

Edited by Howard Bauchner, MD, and Phil B. Fontanarosa, MD, MBA



JAMA. 2017;317(17):1707-1709. doi:10.1001/jama.2016.13108



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# Scope of COI in Medicine

- ProPublica Dollars for Docs project
  - In 2014-2015, companies allocated \$4.8B in gifts and payments to >800,000 physicians and medical researchers
- § 6002 of the ACA = Physician Sunshine Act
  - Reporting onus on industry
  - Maintained on Open Payments website

Brummel ES. Confronting natural conflicts of interest and artificial intelligence , Journal of Law and the Biosciences, Volume 4, Issue 2, August 2017, Pages 435–444.



# Individual vs. Institutional or Organizational

- Individual
  
  
  
  
  
  
  
  
  
  
- Institutional



# Individual vs. Institutional or Organizational

- Individual or personal
  - When the conflict exists at the individual employee level
- Institutional



# Individual vs. Institutional or Organizational

- Individual
- Institutional
  - COI based on financial interest of the institution or organization itself or of its officials in leadership or supervisory positions
  - This becomes important as institutions or organizations enter into collaborative or co-development agreements with industry



# COI in Artificial Intelligence (AI)

- Implicit in managing COIs is the sustained existence of human decision making in providing care



Brummel ES. Confronting natural conflicts of interest and artificial intelligence , *Journal of Law and the Biosciences*, Volume 4, Issue 2, August 2017, Pages 435–444.



# COI in Artificial Intelligence (AI)

**JAMA**  
Journal of the American Medical Association | www.jama.com

May 2, 2017  
Volume 317, Number 17  
Pages 1705-1812

**Conflict of Interest**

*A conflict of interest exists when professional judgment concerning a primary interest (such as patients' welfare or the validity of research) may be influenced by a secondary interest (such as financial gain). Perceptions of conflict of interest are as important as actual conflicts of interest.*

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B Lo and D Grady
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L Bero
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**Editorial**

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# AI is complex

- AI has numerous potential pitfalls and may be biased to some degree.
- Radiologists and developers of AI products must understand AI to provide the most benefits to patients.



# COI in Artificial Intelligence (AI)

- AI can serve roles in:
  - Diagnosis
  - Clinical decision making
  - Individualized medicine
  - Medical education
- AI has tremendous capability to threaten:
  - Patient preference
  - Safety
  - Privacy
  - Physician's role in patient care

Rigby MJ. *AMA J Ethics*. 2019;21(2):E121-124. doi: 10.1001/amajethics.2019.121.



# Ethics of AI in Radiology

European and North American Multisociety  
Statement



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# Where do we find COIs?

- In the evolving market, physicians involved in patient care may also be part of an AI start up.
- Conflicts of interest could occur where the algorithm is designed to favor or limit its recommendations to desired outcomes either by the creator of the algorithm or others who were involved in its design.
- This underlines the importance of disclosure rules



# Examples of COIs

- Payments (actual or in kind) for services to a company
- Equity interest in an entity
- Management position
- Intellectual property rights – patents, copyrights or royalties



# Examples of COIs

- Physician with their own AI startup
- Radiologist consulting for industry
- Developer of new device or algorithm (intellectual property)
- Physician invested in research or other outcome



# Examples of COIs

- ‘Sabotage’



- Physician duty is to provide care in the best interest of the patient → COI may be anything that runs counter to that



# Risk of COIs in Algorithm Development

- Conflicted individual could compromise data integrity
- Promote/insert bias in the data
- Safety or health risk to patients
- Appearance of conflict and loss of patient trust



# Best practices for managing COIs

- Radiologists or others who have COI related to AI algorithms may be managed through:
  1. Culture of transparency
  2. Public disclosure
  3. Institutional or organizational oversight
  4. Divestment



# Best practices for managing COIs

- Institutions or organizations who have COI related to AI algorithms may be managed through:
  1. Culture of transparency
  2. Public disclosure
  3. Institutional or organizational oversight
  4. Divestment
  5. Establishment of independent oversight boards



# Best practices for managing COIs

Patients or others may ask about conflicts directly prior to or at the time of care.



THE NEEDS OF THE PATIENT COME FIRST

Enhancing Each Patient's Experience

Henry S. Flamm, M.D., M.P.H.

Leadership at the Health Agency



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