Advancing the Use of Artificial Intelligence & Machine Learning in Primary Care:
Roles & Opportunities for DFMs

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THE CENTER FOR PROFESSIONALISM & VALUE IN HEALTH CARE

American Board of Family Medicine Inc.

The Opportunity

PRIMARY CARE is

"the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community"

The Opportunity

AI/ML has

- Revolutionized industries, including medicine, but has yet to transform primary care.
  - Review of primary care & AI/ML concluded…the field remains in "early stages of maturity," despite a 35 yr history*
  - Only 1 out of every 7 of these papers includes a primary care author; therefore, one barrier to greater impact is engagement from the primary care community.
- Infrequently involved PC end-users and researchers in development to date
- Scarcely tapped the wealth of data & technology available from PC practices

*Kueper J, Terry AL, Zwarenstein M, Lizotte DJ. Artificial Intelligence and Primary Care Research: A Scoping Review. *Ann Fam Med*.

The Opportunity

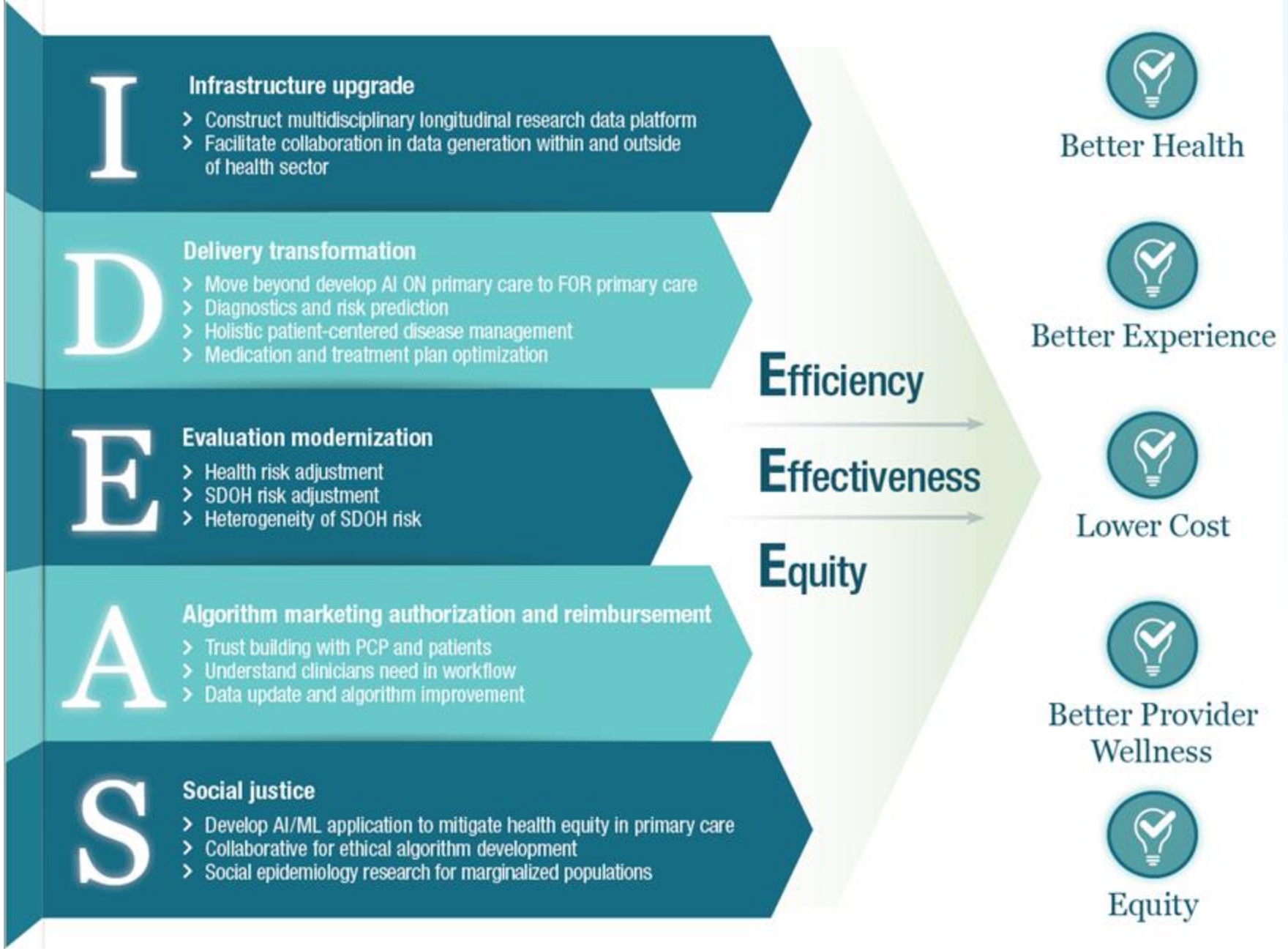
The **Quintuple Aim*** for U.S. Healthcare includes

- Better Health
- Better Patient Experience
- Lower Costs
- Improved Clinician Wellbeing
- Equity in Outcomes

*https://www.ahrq.gov/ncepcr/tools/workforce-financing/white-paper.html

Pathways connecting PC, AI/ML, & the Quintuple Aim?

https://professionalismandvalue.org/setting-a-research-agenda-for-the-use-of-artificial-intelligence-machine-learning-in-primary-care/



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Ongoing ABFM Investment in Advancement of AI/ML in Depts of Family Medicine

- Primary Care Specific Data Laboratories
  - PRIME Registry, Supporting National Labs(AHRQ)
- Convenings
- Presentations in AI/ML Communities
- Human Capital Investment

Enterprise **A**rtificial **I**ntelligence and **B**uilding **L**ong-term **Capacity (EnAIBL-Capacity)** for Family Medicine Program

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Lost in Translation

Charlotte, AI can’t solve every problem




Family Medicine Artificial Intelligence and Machine Learning Research Program

Family Medicine Artificial Intelligence and Machine Learning Faculty Support

Family Medicine Artificial Intelligence and Machine Learning Dyadic Exploration

Family Medicine Artificial Intelligence and Machine Learning Stanford Collaboration

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Faculty Support

- Grants to four Family Medicine Departments
- Support for an embedded AI/ML researcher with goal of putting down roots and securing long-term funding
- Funding covers four years and requires institutional commitment for a fifth
- The purpose is to enhance the capacity for AI/ML methods in Family Medicine to study primary care research questions using real-world, primary care data

Dyadic Exploration

- Form research dyads between AI/ML researchers and family medicine researchers
- Use primary care data to answer questions important to primary care over one year
- Produce preliminary studies for follow-on K, R21, or R01 type research application
- Four grants with the expectation that they each work on at least one of our questions and one of their own design but focused on primary care.
- $100k grants with an additional $10k for indirects and $15k if a follow-on research proposal is submitted to a funding agency or philanthropy
- Solicit questions important to primary care from Family Medicine organizations

Stanford Support

- Dr Stephen Lin will coordinate a learning collaborative for all three projects
- Stanford will support Faculty and Dyad projects with PRIME Registry data
- 3-year effort, dedicated effort by post-docs to develop and complete large data projects, especially with PRIME data
- Internal RFP process with ABFM staff helping with selection
- orient work to primary care questions and to working with family medicine mentors/collaborators in designing the studies

Finding Partners

The Gordon and Betty Moore Foundation interested in supporting this capacity-building initiative

Likely to enhance the learning collaborative and support proposal development with potential to fund more projects

How should we shape this collaboration? NAPCRG? AHRQ partnership?

GORDON AND BETTY MOORE FOUNDATION

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Faculty Support Grantees

University of Houston: Winston Liaw, MD, MPH

University of Pittsburgh: John Maier PhD, MD

University of California-San Diego: Gene A. Kallenberg, MD

University of Texas-San Antonio: Carlos Roberto Jaén, MD, PhD