Leveraging Machine Learning and Artificial Intelligence to Improve Mental Health Access

Paola Pedrelli, Ph.D.

Associate Director, Depression Clinical Research Program

Massachusetts General Hospital

Assistant Professor of Psychiatry, Harvard Medical School

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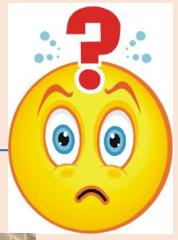
- I have no disclosure

Barriers to Treatment



Low Insight

Lack of Trust

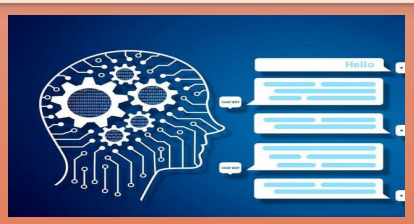
Stigma

Finance

Location

Not Enough Clinicians

Machine Learning

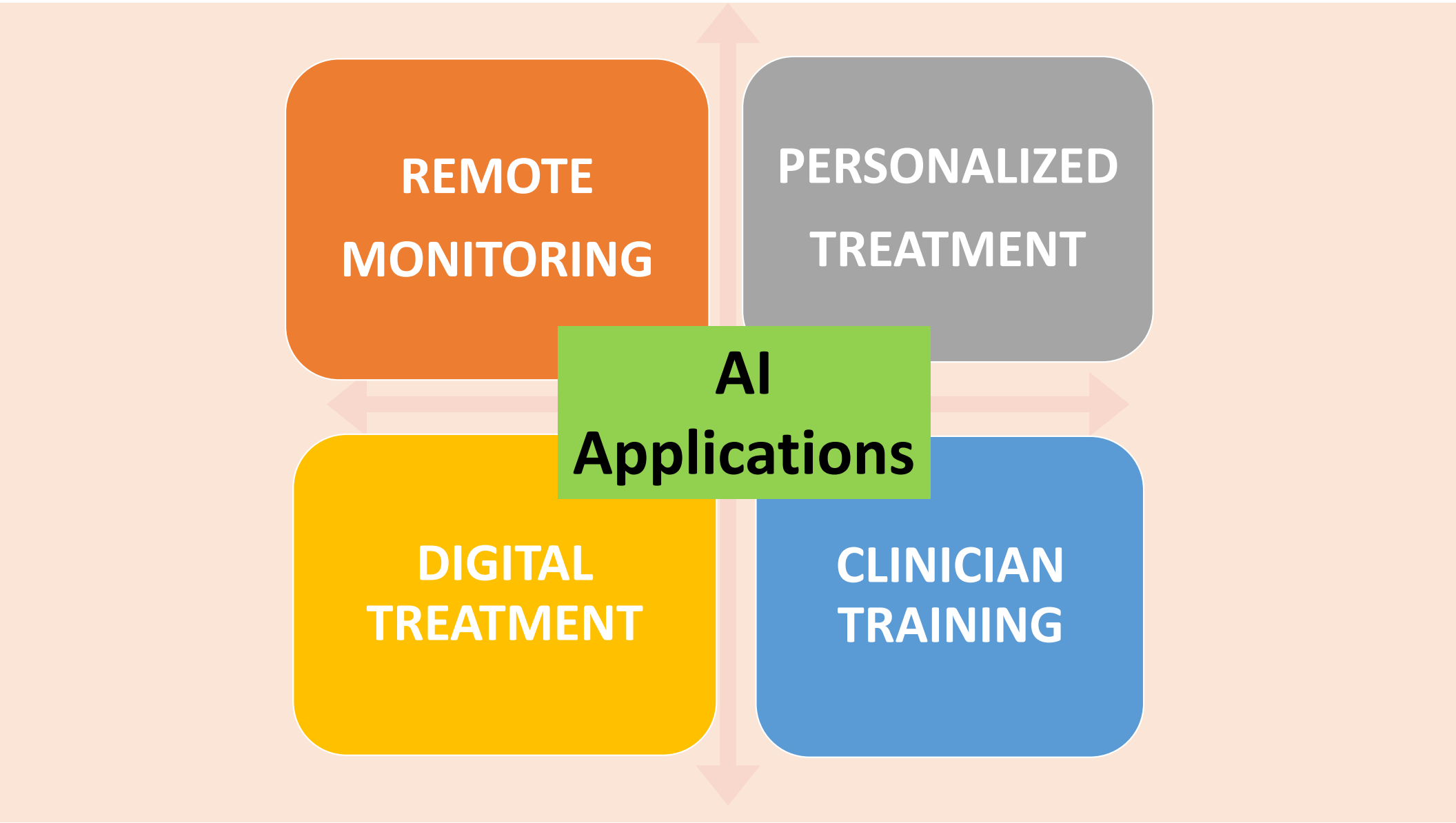


Natural Language Processing

Artificial Intelligence

Visual Computing

Virtual Reality


REMOTE MONITORING
PERSONALIZED TREATMENT
AI Applications
DIGITAL TREATMENT
CLINICIAN TRAINING

REMOTE MONITORING

Mobile and wearables
Sensors

Digital
Phenotyping

Detect
Disorders

Monitor
Symptoms

Detect
High-Risk

PERSONALIZED TREATMENT

Identify Best Treatment Options

Delivering Treatment at The Ideal Time

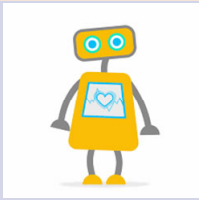
DIGITAL-HEALTH TREATMENT

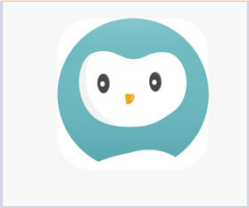
Apps

- **Passive content**
- **Just in Time Adaptive Interventions**
- **Personalized Treatments**

Chatbot

- **Wysa**
- **Woebot**
- **Koko**





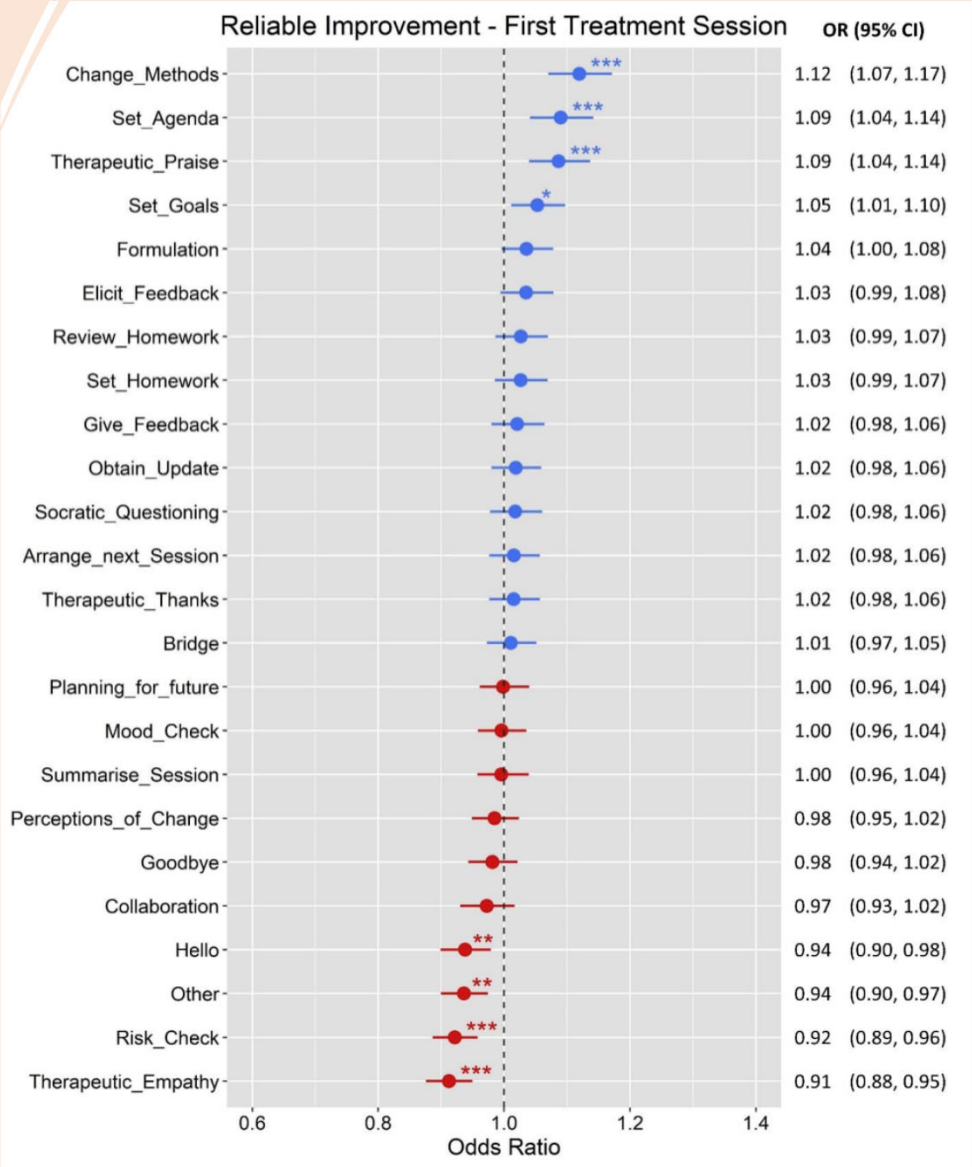
Hybrid

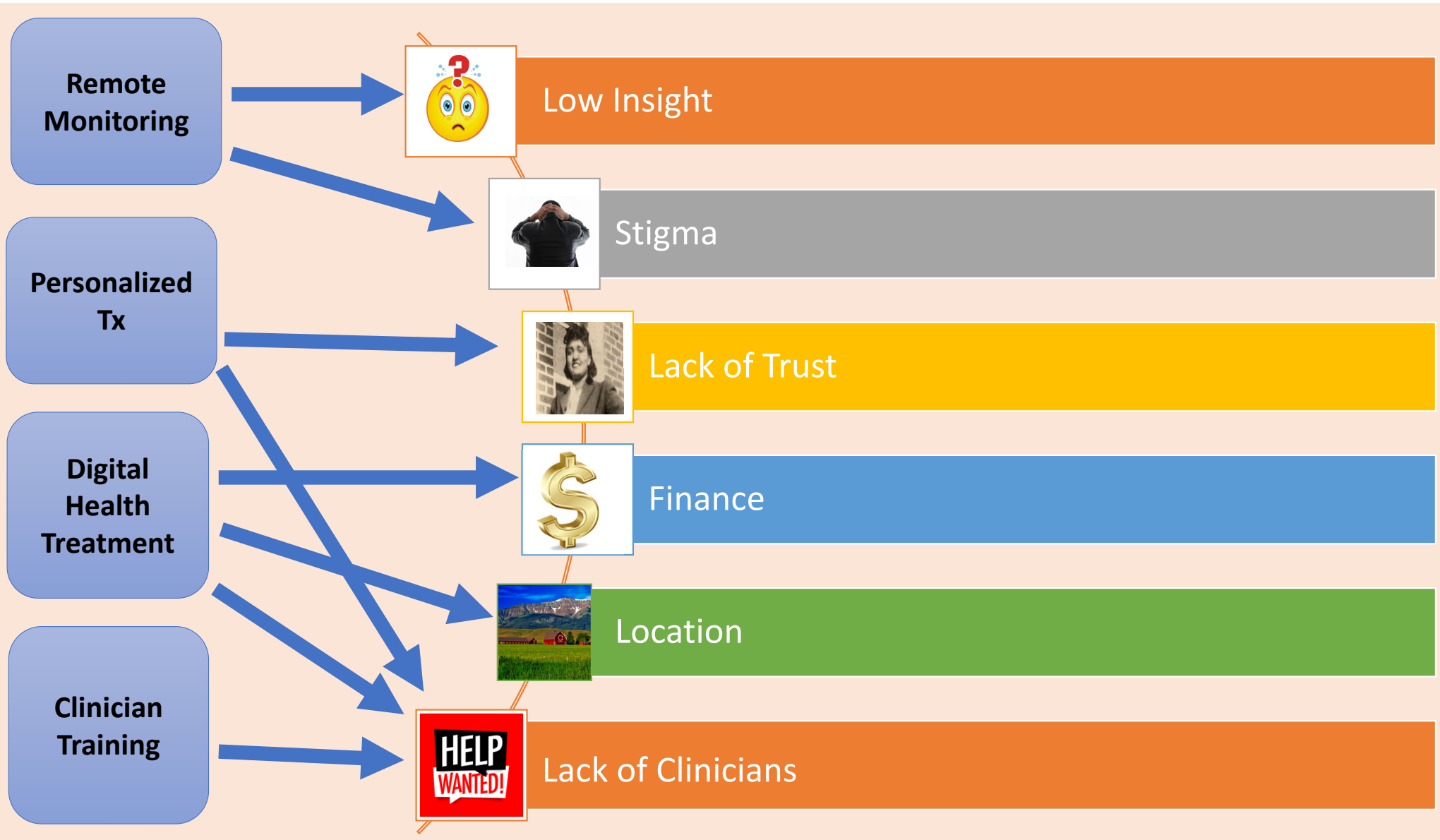
- **Humans + Digital Health Tools**

CLINICIAN TRAINING

- AI Can Examine Therapy elements associated with a positive outcome
  - A study with 90000 CBT sessions transcripts found CBT elements associated with better outcomes (Ewbank et al., 2020)

- Potential to train clinicians on the best strategies to use




Remote Monitoring
Personalized Tx
Digital Health Treatment
Clinician Training
Low Insight
Stigma
Lack of Trust
Finance
Location
HELP WANTED!
Lack of Clinicians

TEC-EQUITY

Everyone, regardless of their race, gender, socioeconomic status, or other factors, should have access to the benefits of technology and be able to participate fully in the digital world

-Access to technology
-Opportunities to benefit
-Reduce Inequalities

- Diversify the AI workforce
- Ensure inclusive data use for training models
- AI models should be transparent and understandable
- Ethical Consideration of Adoption of AI models
- Data Security

THANK YOU