Penn Medicine

ADVANCING EQUITABLE IMPLEMENTATION IN ONCOLOGY CARE: FROM EVIDENCE TO IMPLEMENTATION AND BACK AGAIN

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PC3I PENN CENTER *for* CANCER CARE INNOVATION

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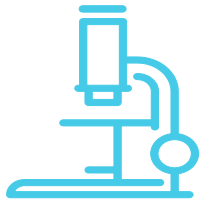
THREE GUIDING QUESTIONS

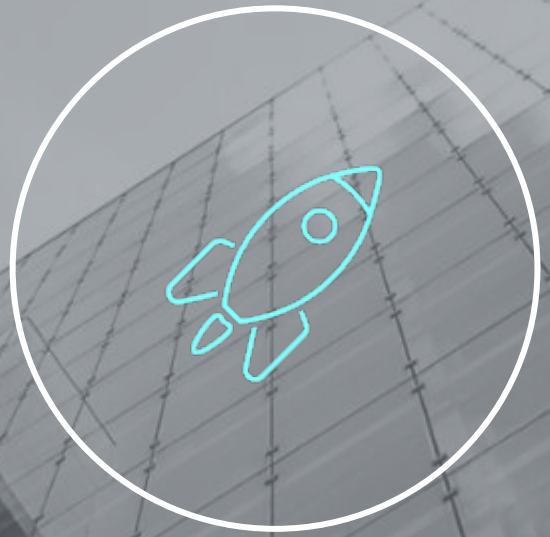


What is implementation science and why do we need it in oncology care?

How can implementation science advance equitable access to evidence-based oncology care?

How can implementation science help to generate "real-world" evidence in oncology care & practice?

WHY IMPLEMENTATION SCIENCE IS NEEDED



PERSISTENT RESEARCH TO PRACTICE GAP

AKA: IF YOU BUILD IT, A FEW WILL COME (LATE), MANY NOT AT ALL, AND MOST WON'T EVEN BE INVITED

17-YEAR TIME-LAG FROM RESEARCH TO PRACTICE RECOGNIZED

Translational Science Spectrum (T1→T2)

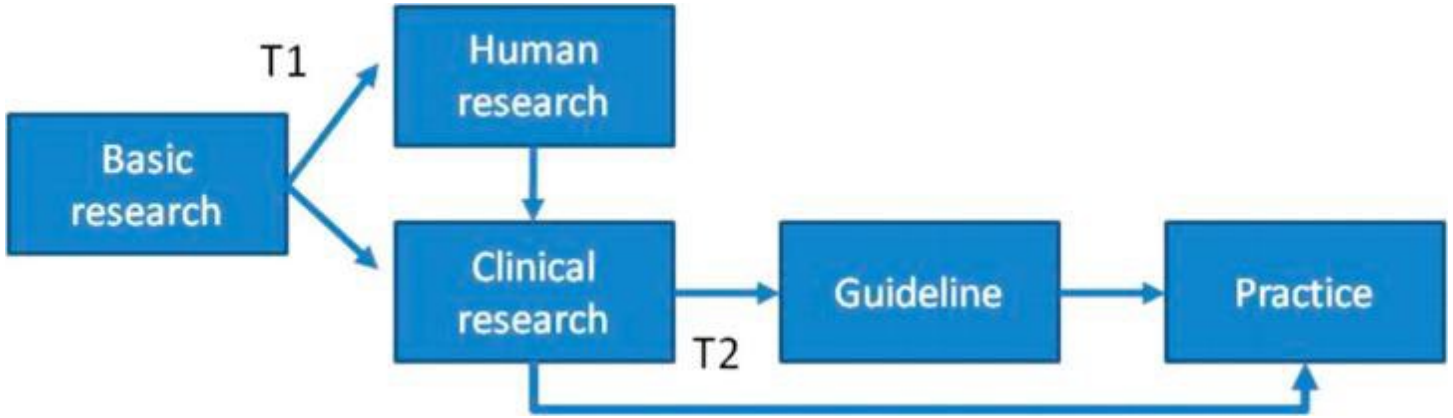
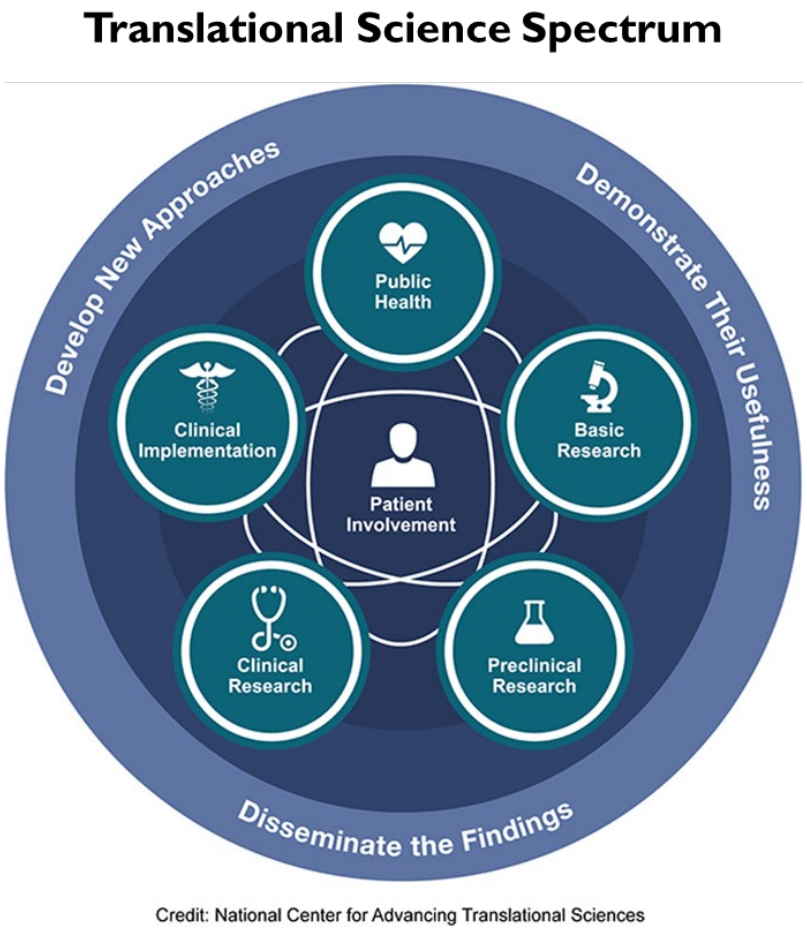


Figure from Morris, Wooding, & Grant 2011

Often cited "average of 17 years"
for (small portion of) evidence to reach clinical practice

Balas & Boren 2000
Grant, Green, & Mason 2003
Morris, Wooding, & Grant 2011

WHAT HAS CHANGED SINCE 2013 REPORT: RE-VISIONED TRANSLATIONAL SCIENCE SPECTRUM



- Since the 2013 IOM report, the stages of translational research has been re-visioned to indicate more fluidity between evidence generation and dissemination but also stress the central importance of patient involvement in the process.
- But has the time-lag changed?

Source: https://ncats.nih.gov/translation/spectrum

SLIGHTLY REDUCED TIME-TO-TRANSLATION IN CANCER CONTROL

15 years (on average) from landmark publication to implementation (50% uptake)

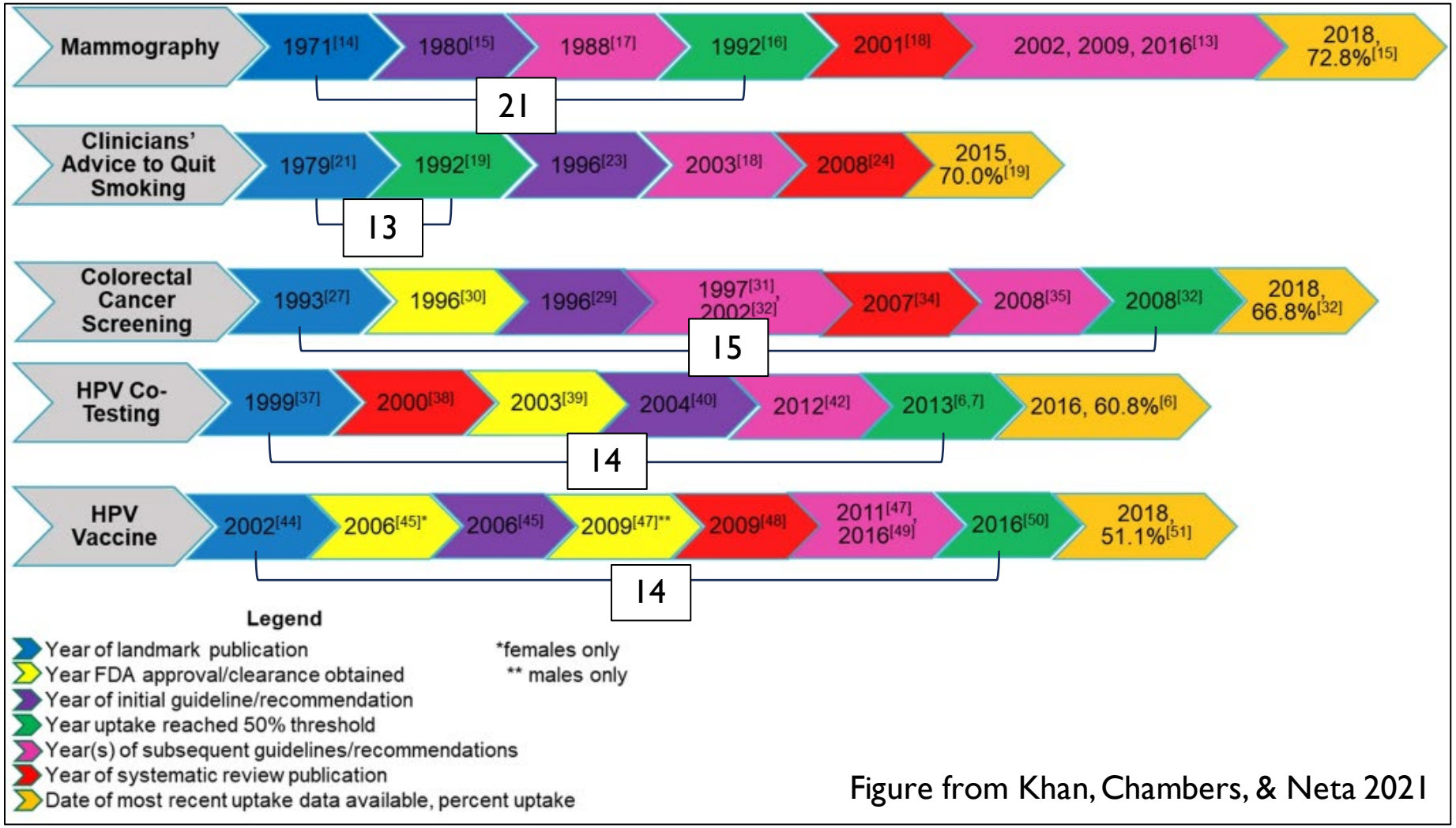


Figure from Khan, Chambers, & Neta 2021

Post-2018

- Differences in guidelines
- Guidelines for patients with cancer
- Starting age reduced
- HPV testing alone preferred by some
- Expanded access for older adults

Evidence & guidelines are not static. Implementation cannot be either


HOW CAN IMPLEMENTATION SCIENCE ADVANCE EQUITABLE ACCESS TO EVIDENCE-BASED ONCOLOGY CARE?

WHAT IS IMPLEMENTATION SCIENCE?

Implementation Science: "the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services"

Ecceles and Mittman 2006

- Guided by theory, it seeks to generate knowledge that extends beyond one setting or study
- Understanding and measuring context is central, as is collaboration and engagement
- Uses strategies to help implement evidence-based practices in equitable and sustainable ways
- De-implementation to remove outdated practices.

AKA: THE THING AND HOW WE HELP PEOPLE TO DO THE THING

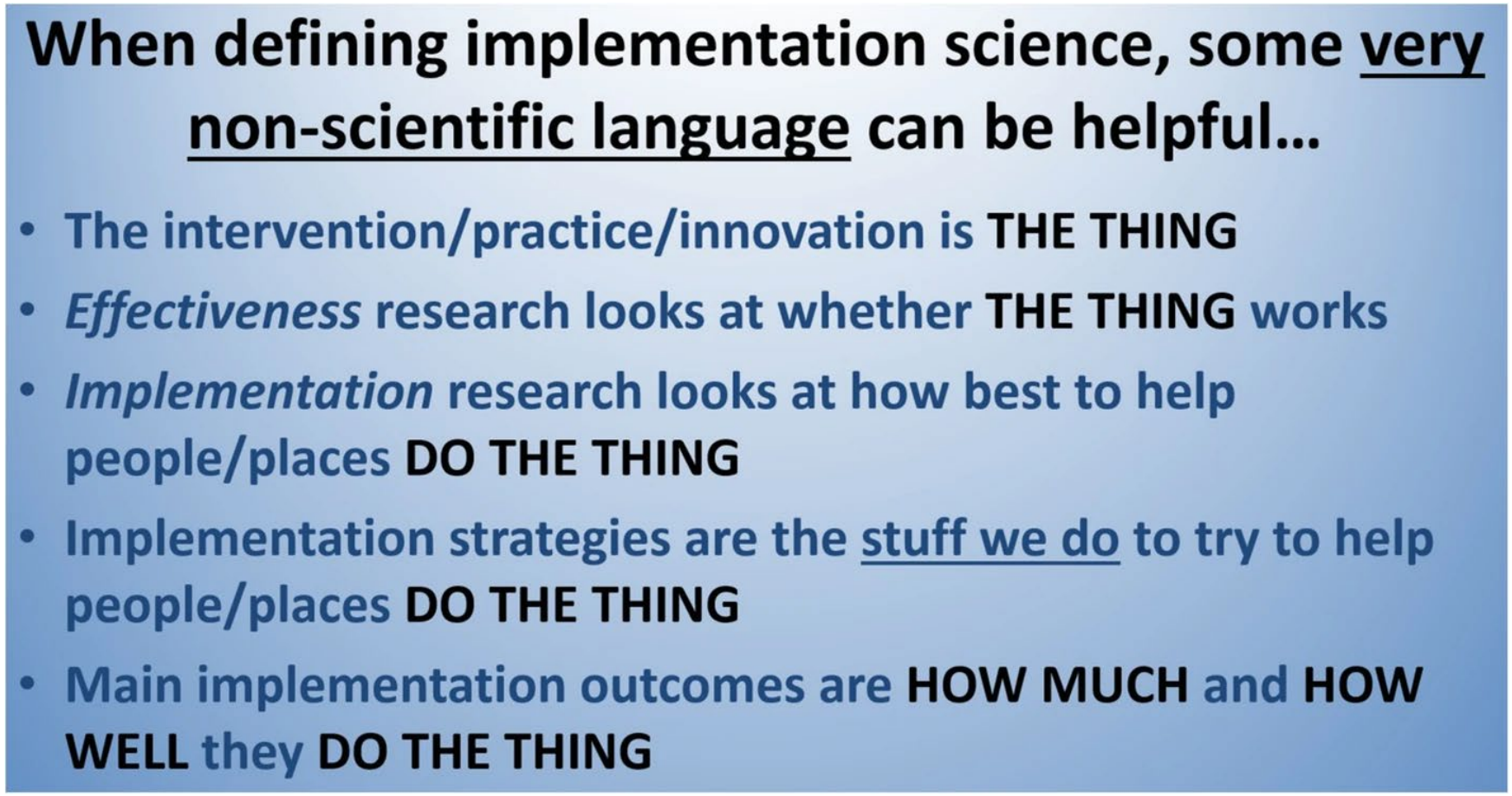


Figure from Curran's "Implementation Science Made Too Simple" (*Implement Sci Commun* 2020)

IMPLEMENTATION SCIENCE LINGO APPLIED TO ONCOLOGY CARE

the thing

with whom & where they do the thing

stuff we do to help them do (or not do) the thing

how much & how well they do the thing

how well the thing works in practice

Evidence-Based Intervention

Molecular testing
Immunotherapy
Oral anticancer therapies
Survivorship care
Tobacco cessation support

Context

Patients & Clinicians
Communities
Hospitals
Insurers
Policymakers
Homes

Implementation Strategies

Patient navigation
Clinical champions
Leadership endorsement
Targeted messaging
Peer support

Implementation Outcomes

Reach
Adoption
Fidelity
Cost
Equity

Effectiveness Outcomes

Stage
Recurrence
QoL
Symptom Burden
Survival

HOW CAN IMPLEMENTATION SCIENCE HELP TO GENERATE **"REAL-WORLD" EVIDENCE** IN ONCOLOGY CARE & PRACTICE?

HYBRID DESIGNS: OPPORTUNITY FOR EVIDENCE GENERATION

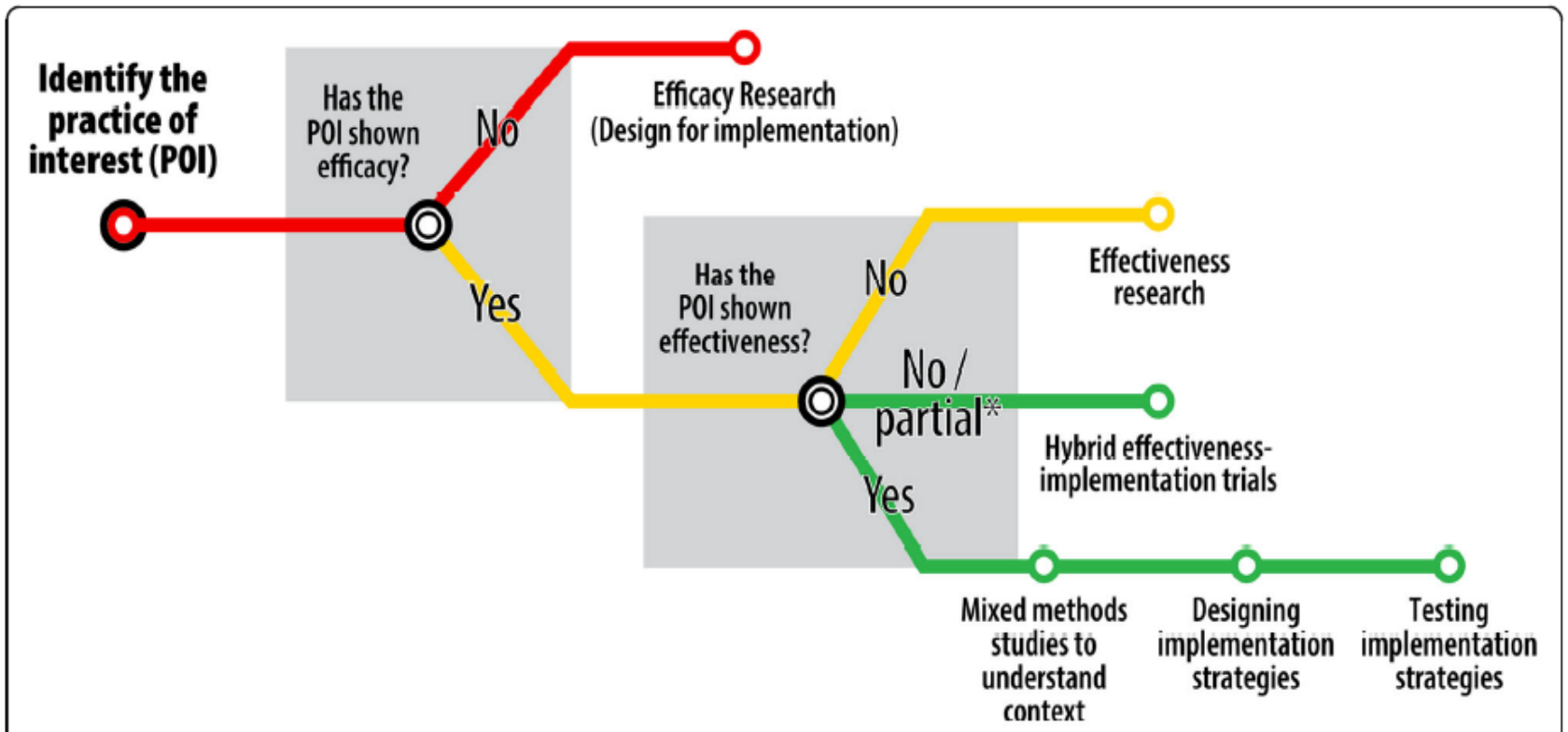


Fig. 1 "Subway" schematic to guide researchers contemplating implementation studies of evidence-based interventions

Never too early to design for implementation (efficacy & effectiveness)

Never too late to generate evidence in practice (implementation)

Figure from Lane-Fall, Curran, & Beidas (2020): Implementation Science Subway Map

But how does one design for equitable implementation & generate real-world data? A few thoughts from our work in implementation trials

Before: Design & Reach

- Design for all skill levels
- Optimize for widespread access & reach
- Identify ways to support & empower use
- Power studies to assess equity of effects
- Use rapid cycle testing in diverse groups before launch
- Co-create with patient, community, & other key partners
- Use theory to hypothesize effects overall & within groups
- Ensure evidence-based practice are equitable in terms of benefit and risk

During: Monitor & Adapt

- Include a plan for monitoring reach by determinants of disparities during trials
- Report & monitor reach during the trial in comparison to historic controls or equity targets
- Adapt recruitment or reach strategies if equity targets drop below a priori threshold
- Consider including interim analysis & stopping rules if disparities emerge during trial

After: Evaluate & Disseminate

- Integrate mixed methods evaluation of why strategies worked or failed and for whom
- Assess and report effects by key determinants of disparities
- Disseminate findings in diverse formats and audiences
- Identify strategies to support implementation in high and low-resource settings
- Collect clinical effectiveness data to understand how thing works in practice and for whom

Rendle & Beidas 2021

Thank you!

PLEASE REACH OUT VIA EMAIL IF YOU HAVE ANY QUESTIONS OR COMMENTS:
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