



Implementation and Learning Healthcare System Research in the Era of Open Science

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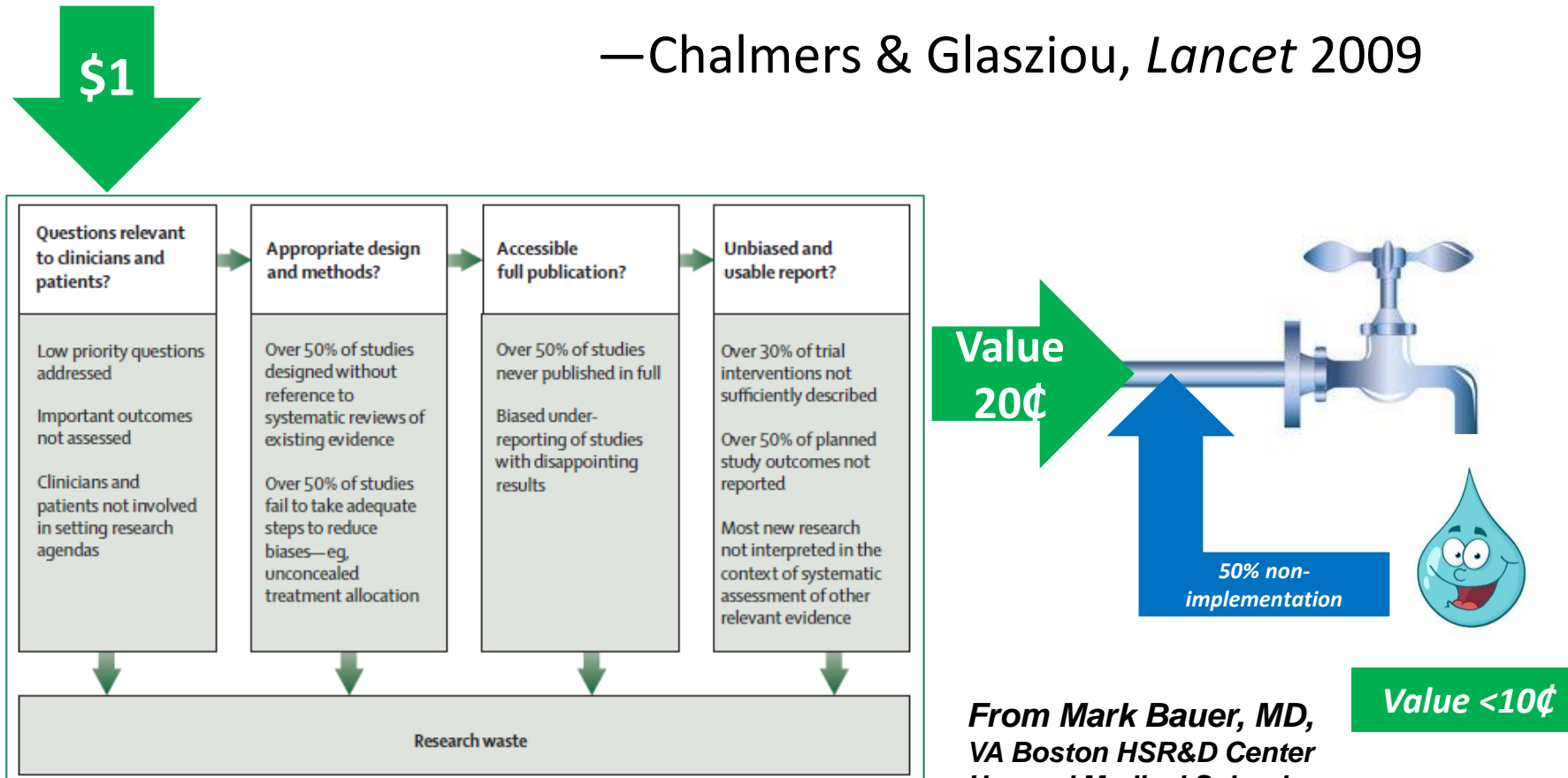
U.S. Department of Veterans Affairs

The views expressed are those of the presenter and do not necessarily represent the views of the Department of Veterans Affairs.

Effective Practices are Not Routinely Implemented

80% of medical research dollars do not result in public health impact.

—Chalmers & Glasziou, *Lancet* 2009



From Mark Bauer, MD,
VA Boston HSR&D Center
Harvard Medical School

THE LATEST RESEARCH SHOWS THAT
WE REALLY SHOULD DO SOMETHING
WITH ALL THIS RESEARCH

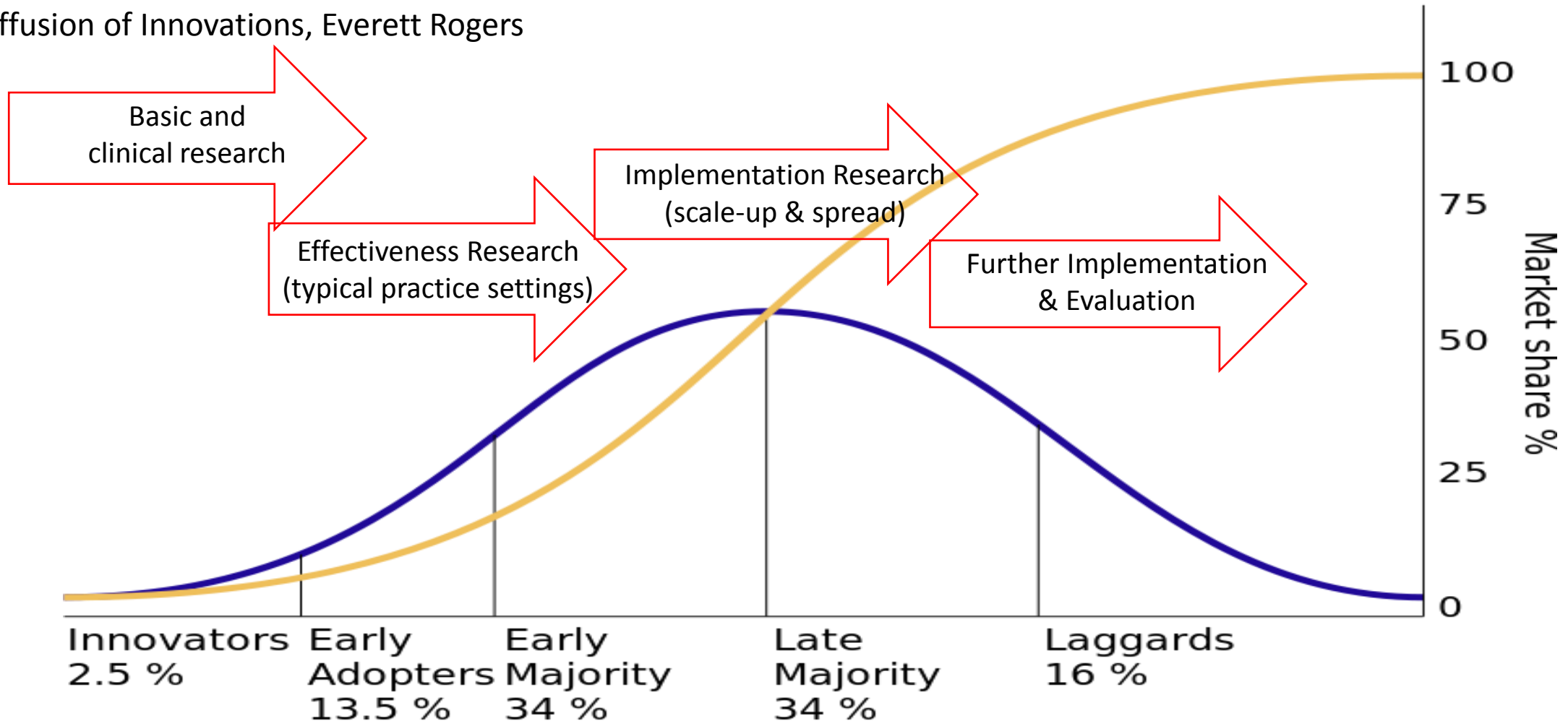


Quality Enhancement Research Initiative (QUERI)

- **Administered through VA's Research & Development Program, the goal of QUERI is to improve Veteran health by helping providers adopt evidence-based practices in routine care**
- Established in 1998, QUERI is a national network of peer-reviewed, academically-affiliated field-based investigators funded by VA operational (medical) dollars
 - 15 Programs addressing cross-organizational VA priority goals
 - 20 Partnered Evaluations on specific programs/policies
 - 5 Evidence Synthesis Program (ESP) Centers
- QUERI is a national resource for deployment and evaluation of implementation strategies (e.g., tools that providers, leaders can use to adopt, sustain best practices across different settings)

QUERI, Research, and the Diffusion of Innovations

Diffusion of Innovations, Everett Rogers



National Network of QUERI Programs



QUERI Implementation Roadmap*

Strategies to Sustain Provider Uptake of Effective Practices

Pre-implementation

1. Identify **high-priority need** from leadership/stakeholders
2. **Identify players** (implementer, end-users)
3. Identify **effective practices**, mechanisms (e.g., ESP, ORD)
4. Assess **practice variation** determinants, success stories (e.g., HSRD IIRs, CFIR)
5. **Adapt** effective practice based on stakeholder input

Implementation

Select, apply, & tailor theory-based implementation strategies (e.g., ERIC):

Performance-focused

Provider training (practice core elements, adaption options)

Audit & Feedback/

Technical support, Incentives

Motivation-focused

e.g., Facilitation

Evidence-based Quality

Improvement

Sustainability

Ongoing monitoring

(RE-AIM):

Reach

Effectiveness

Adoption

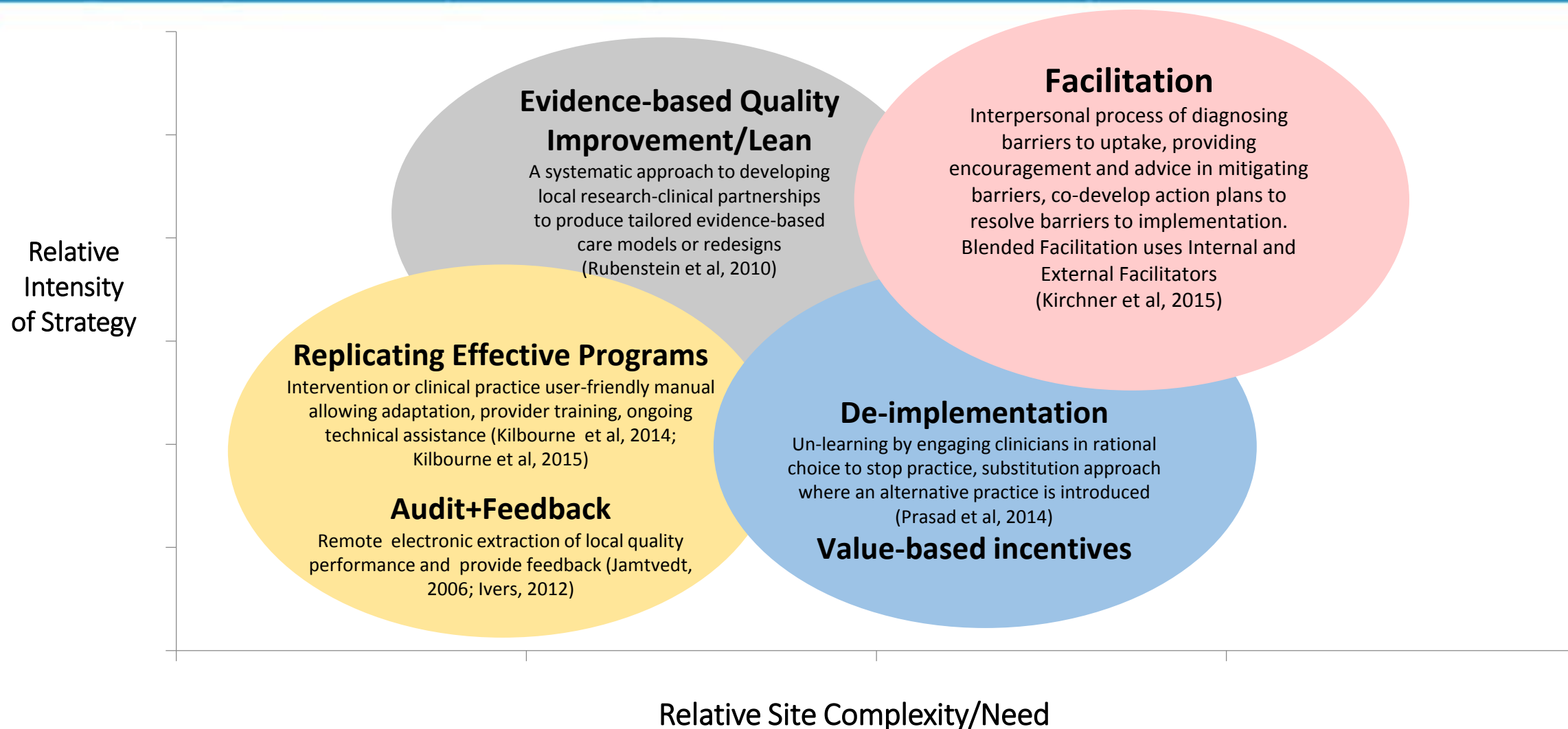
Implementation/Fidelity

Spread

Return-on-investment of implementation strategies

Maintenance: stakeholder ownership

Examples of Implementation Strategies Used by QUERI



QUERI, Implementation Science, and the Learning Healthcare System

- National Academy of Medicine report on Learning Healthcare System
 - Leverage data to deploy, evaluate innovations and spread of effective practices
 - Align science with clinical priority goals
 - Conduct more rapid and efficient studies
- *To date, many Learning Healthcare System initiatives have focused more on Big Data, less on studying implementation strategies for providers*
- *Randomized Program Evaluations*

“Less than one dollar out of every \$1,000 that the government spends on healthcare will go towards evaluating how well the other \$999-plus actually works”- Bridgeland & Orszag, 2013

QUERI Learning Healthcare System Randomized Program Evaluations

- Goal: to rigorously evaluate impact of new VA programs or policies on Veteran outcomes, and inform VA return-on-investment
- Assess which implementation strategies work best to promote policy/program sustainability
- Topics solicited from VHA operations leaders: four selected in 2017 round:
 - **Opioid Prescription** Predictive Model-Based Targeted Risk Mitigation for Patients at High Risk Of Adverse Events (Mental Health Operations)
 - **Suicide Risk Stratification Predictive Modeling** for Veterans at high risk of suicide (Mental Health Operations)
 - Veteran **Home & Community Based Services** (Geriatrics & Extended Care)
 - **Mobile Teledermatology**- impact on care, outcomes (Connected Care)

QUERI and Open Science: Challenges & Opportunities

- Align incentives to share data with operational needs, publication
Policy briefs (intermediate outcomes)
Data management/stewardship support for operations partners
- Study rigor and dissemination
Clinicaltrials.gov registration and implementation
Federal employees and payment for open access journals
Shifting political priorities