

PCOR Methodology

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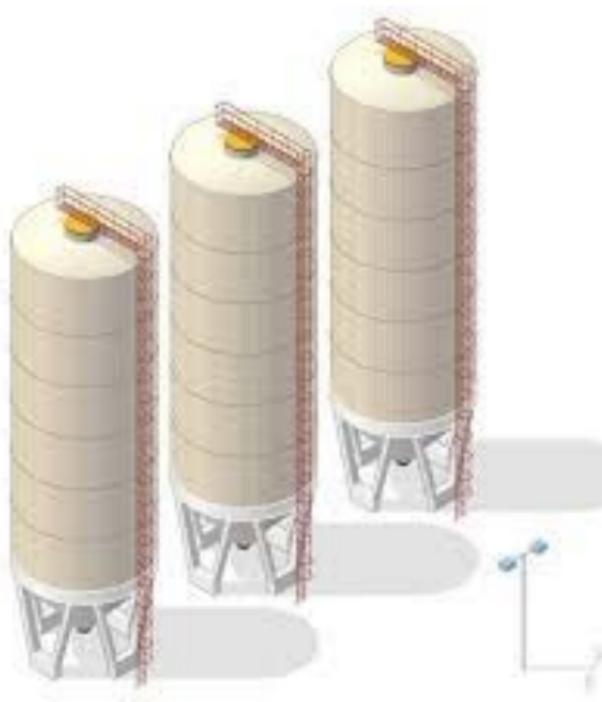
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PCOR Data Capacity Workshop



Data Silos

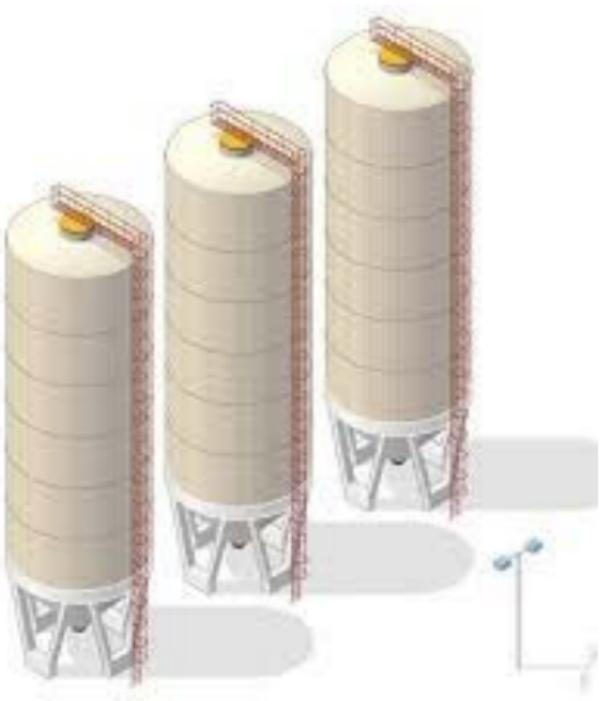
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Data Silos

- ▶ Too many silos
- ▶ Unique IDs questionable
- ▶ Too many rules preventing linkages

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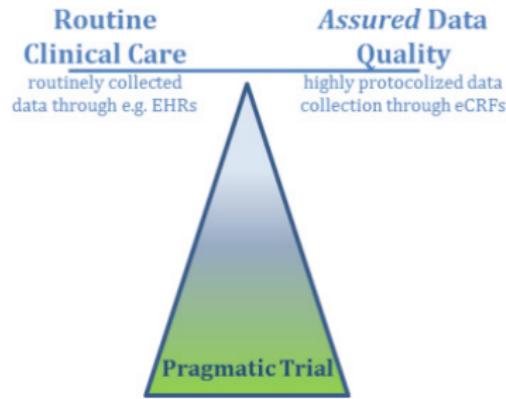
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Learning what works requires **longitudinal** observation

Clinical Trials

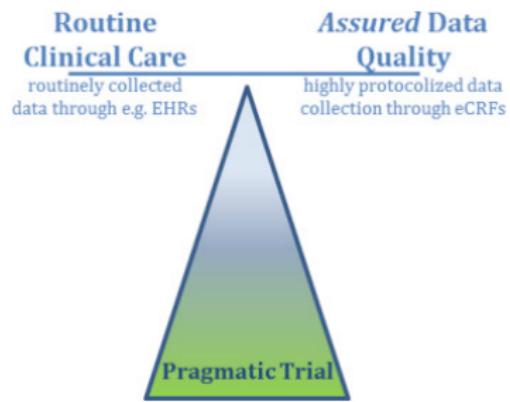




Clinical Trials

► Pragmatic Trials

- Often lack of blinding
- Usual care arms
- Small effect size, heterogeneous populations
- Underuse of hybrid designs



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Learning what works requires **valid** statistical approaches



Missing Data



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- ▶ When are data missing (e.g., EHR)?
- ▶ Irregularly spaced data
- ▶ Combining more datasets increases likelihood of missingness



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Learning what works requires **addressing** missing data

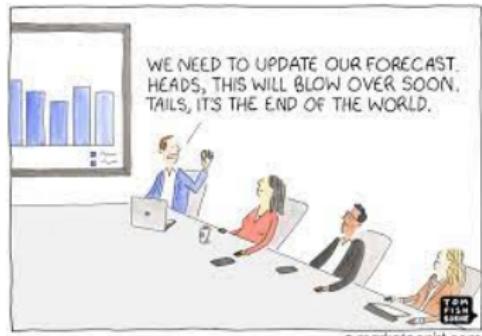


Uncertainty



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- ▶ Heterogeneous data sources
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Learning what works requires an **honest reflection** of uncertainty and **transparency** of decisions

Opportunities

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 - ▶ Streamline approaches for adaptive trials
 - ▶ Develop parallel randomized & prospective observational studies
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 - ▶ Study implication of missing data in sparse data settings
 - ▶ Understand & propagate error

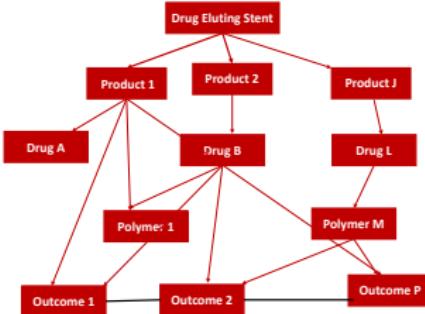
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- ▶ Borrowing information
 - ▶ Exploit connectedness of information

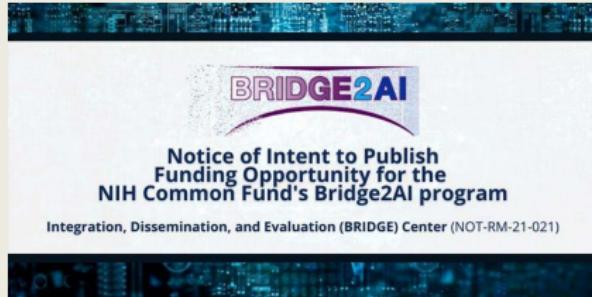
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Longitudinal multi-task approaches



ASPE's Role



BRIDGE2AI

**Notice of Intent to Publish
Funding Opportunity for the
NIH Common Fund's Bridge2AI program**

Integration, Dissemination, and Evaluation (BRIDGE) Center (NOT-RM-21-021)

01 Generating new flagship biomedical and behavioral data sets that are ethically sourced, trustworthy, well-defined, and accessible

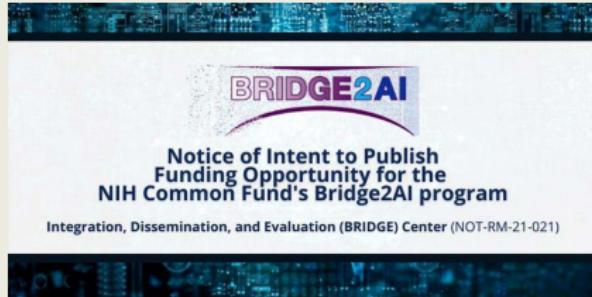
02 Developing software and standards to unify data attributes across multiple data sources and across data types

03 Creating automated tools to accelerate the creation of FAIR (Findable, Accessible, Interoperable, and Reusable) and ethically sourced data sets

04 Providing resources to disseminate data, ethical principles, tools, and best practices

05 Creating training materials and activities for workforce development that bridges the AI, biomedical, and behavioral research communities

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- Data on demand
- Invest in trial infrastructure
- Invest in statistical methodology