# Observations in Building National and International Consortia

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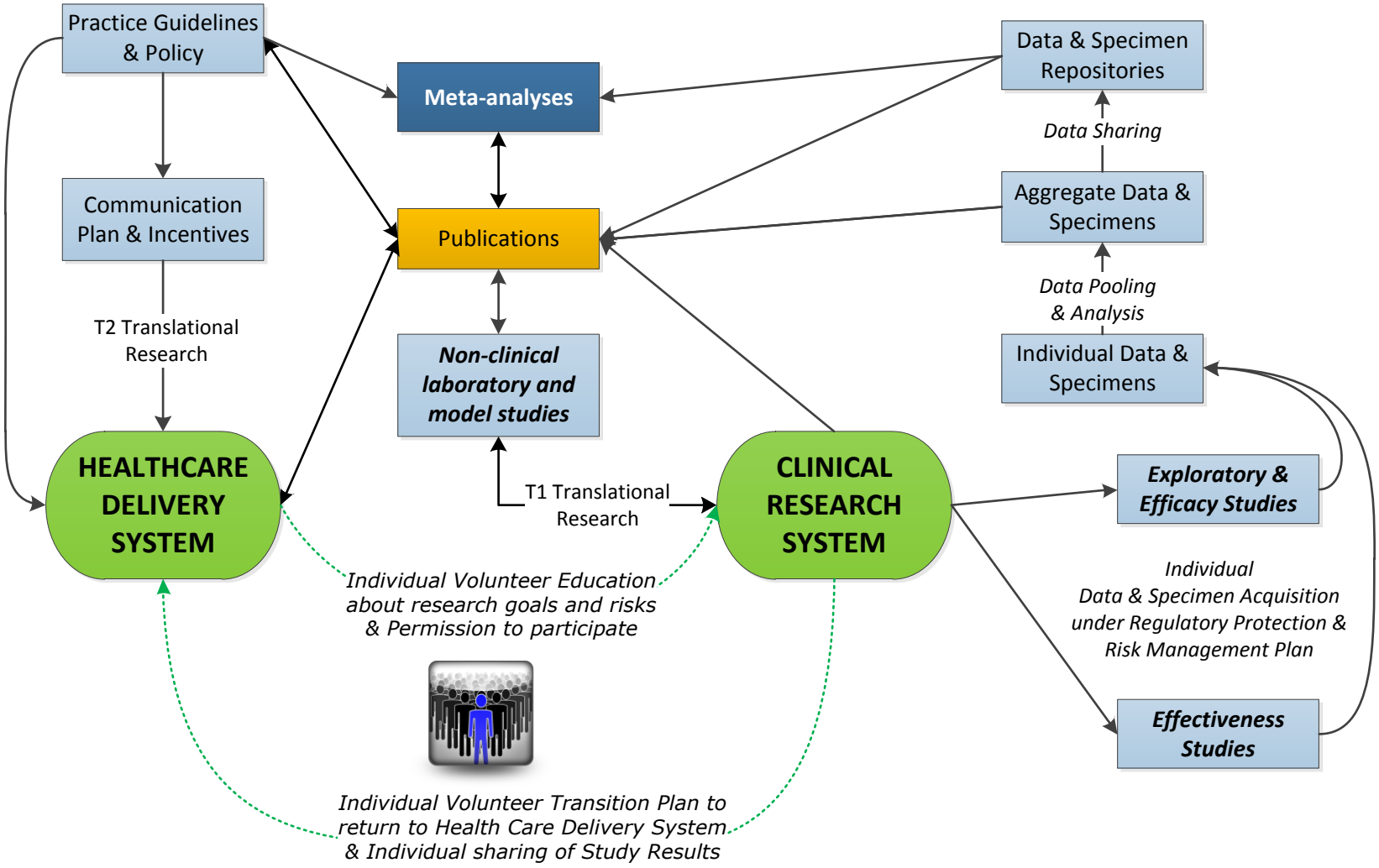
# Disclaimer

- No conflicts of interest to report
- The opinions expressed in this presentation are those of the author and do not necessarily represent those of the federal government or any of its departments or agencies

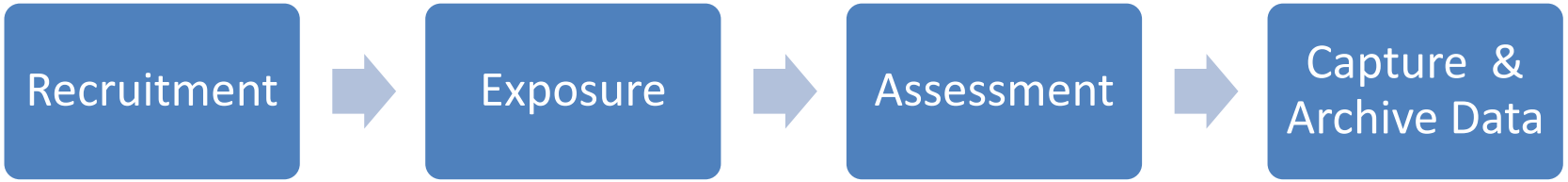
# General Principles

- Metrics support analysis
- A systems approach yields important and useful perspective
- A learning approach improves process and improves outcomes
- Clinical research is complex
- Autonomy is expensive in many ways

# Health Care Delivery & Clinical Research Systems



# Generic Clinical Trial Design




Eligible study volunteers must be contacted, give permission, and enrolled

Study participants must be exposed to the intervention on the appropriate schedule

Outcome measures will be assessed on participants that complete scheduled evaluations

The data from the assessments is captured and archived for processing and analysis

# Examples of Multisite Geographically Dispersed Clinical Studies

- History over last 60 years in pediatric oncology
- Now international for most conditions
- Organized networks outside of oncology proliferated during the 1990s
- Several examples follow:
  - Collection of networks
  - Single purpose networks
  - Multipurpose networks

# Multi Purpose- A Network of Networks

- A single funding source committed hundreds of millions of dollars annually to support dozens of networks
- Successfully established a culture of structured research
- Some locations had over a dozen networks
- Multiple data centers, monitoring committees, hundreds of IRBs, dispersed operations with variable policies

However

- No sharing of resources
- No harmonization
- Difficult or impossible to pool data
- No performance metrics

# Single Purpose- Pediatric Labeling

- Before: Individual sites with individual contracts for each study

- After: Single contract and single lead site with flexible roster of satellite sites
  - Dedicated Data Coordinating Center
  - Dedicated Biorepository
  - Incorporation of performance metrics

However,

- No formal integration with other research efforts
- Use of proprietary data formats and structures

# Single Purpose-Augment Pediatric Research

- Establish dedicated infrastructure in underserved areas
- Align professional development and training with infrastructure
- Develop dedicated Operations Center that is integrated with Data Center
- Provide funding pool to distribute capitation fees on a performance basis
- Function as a surge or augmentation capacity for studies that originate elsewhere
- Adhere to principles of interoperability including use of data standards, best practice operating procedures, and structured communication

# Multi Purpose- Methods Development and Pilot Study

- Blend of pilot study and formative research projects
- Experimentation in all aspects of study
  - Recruitment
  - Outcome measures
  - Informatics
  - Sample collection and processing
  - Content development
  - Analytics
  - Logistics

# Multi Purpose- Methods Development and Training

- Global consortium to advance methods and training
  - Not intended nor designed to implement studies
- Individual projects with international cooperation and collaboration
- Structured reporting and communication

However,

- Cooperation and collaboration across projects to integrate findings was challenging and rare

# Tools- Terminology

- Different definitions can lead to opposite conclusions
  - Nitrous oxide use in preterm infants
- Fragmentation of efforts leading to different definitions

# Observations

- Common protocol documents with consensus on study question and outcome measures are relatively straightforward
- Protocol approval and activation is sluggish but is improving
- Interoperability with other research efforts is of low priority
- Culture change is needed

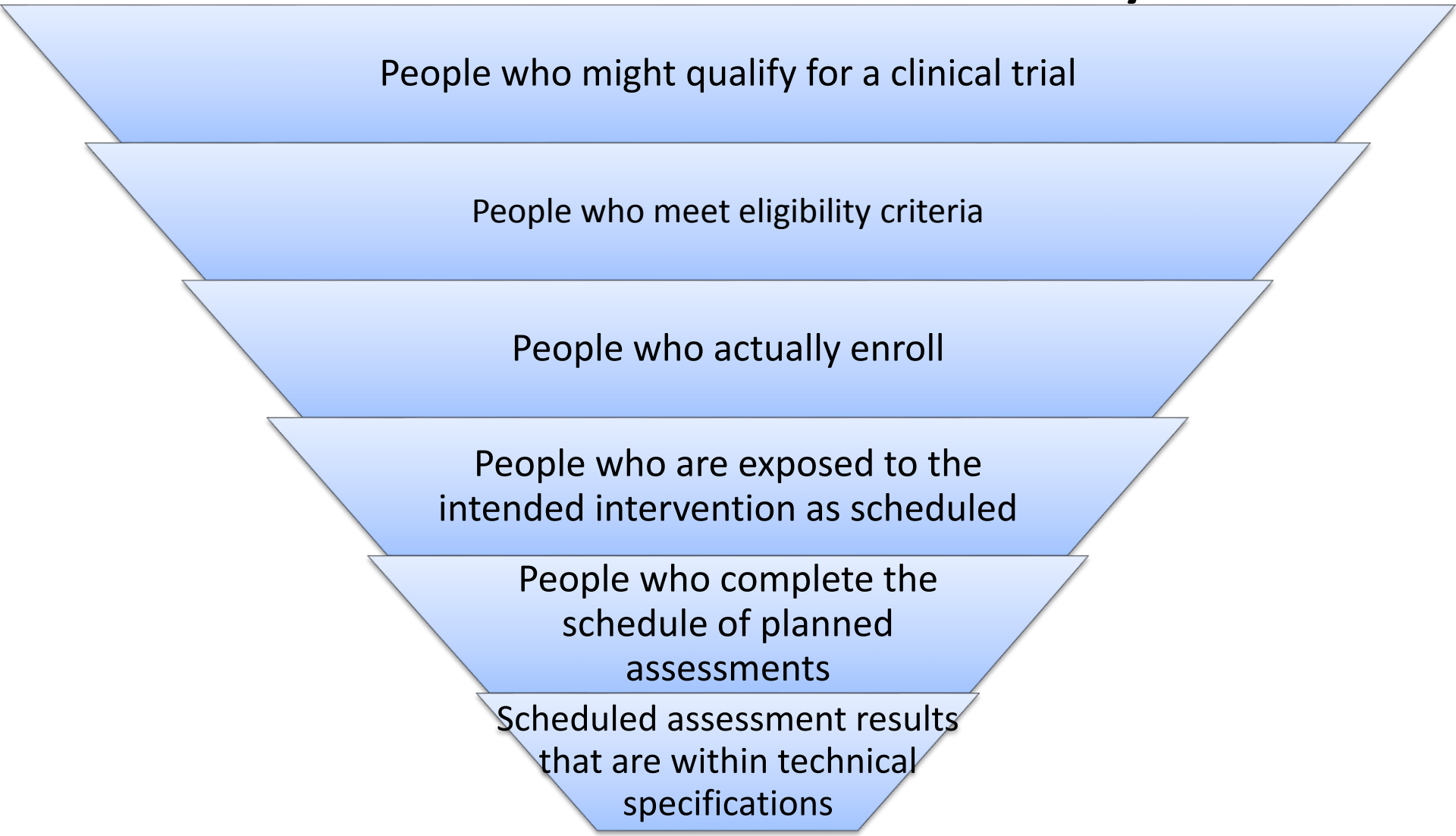
# Looking ahead

- Ask the value of current practices
- Align and harmonize where feasible to improve interoperability
- Consolidate operations where feasible
- Develop a cadre of trained professionals to implement clinical trials
- Build a learning community with ongoing performance metrics and quality control

# Performance Metrics

- Efficiency
- Cost
- Acceptability
- Feasibility
- Value
- Quality

# The Funnel of Efficiency



# Examples from 67 pediatric studies

| Eligible/ Screened | Enrolled/ Eligible | Completed/ Enrolled |
|---|---|---|
| 65% | 71% | 78% |

# Systems Approach

- Agreements
- Assurances
- Approvals
- Compliance
- Governance
- Integration and context

# Master Protocols

- Currently driven by compliance and frequentist statistical theory
- Next generation incorporate performance metrics, interoperability, context specific considerations
- Data usability

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