The Knowledge Grid:
Modular Technology Intended to Stimulate a CBK Infrastructure to Emerge

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Agenda for Today

• What we have done to mobilize CBK

• Links between our work and the draft MCBK Manifesto

• Preview of the Knowledge Grid (KGrid) Demo
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We have done two main things to Mobilize CBK & Stimulate a CBK Infrastructure to Emerge

1. Developed the Knowledge Grid (KGrid)
   A reference implementation of several highly modular, technical CBK infrastructure “building blocks”

2. Spotlighted CBK and its many uses and users
KGrid: specification and development of several modular technical components

**KNOWLEDGE OBJECTS**

**CBK TOOLS**

Instance of CBK


Spotlighting CBK & its many uses and users

Realized that CBK is Critical to Learning Health Systems

Began to List CBK Uses and Users

CBK Paper

MCBK 2017 Invitational Meeting

MCBK 2018 Open Meeting

List CBK Uses and Users
CBK is used throughout the Learning Cycle

Health Problem of Interest

CBK for Collecting, Extracting, Filtering, and Transforming Data

CBK for Data Analytics

CBK for Calculating Scores & Probabilities to Extend Data Sets

CBK for Data Cleaning, Noise Reduction & Validation

CBK to guide Interpretation of Results

D2K: Data to Knowledge

CBK for Calculating Scores & Probabilities

K2P: Knowledge to Performance

CBK for Results Visualization

CBK for Calculating Scores & Probabilities

CBK for Message Tailoring

CBK for Decision Support

P2D: Performance to Data

CBK for Selecting Data, Extracting, Filtering, and Transforming Data
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I. AN APPROACH:
We argue for a sociotechnical infrastructure approach to mobilizing CBK with the goal of **MAKING IT MUCH EASIER** to manage and deploy it.

II. ABOUT TIMING:
Our work raises this question:
Is **NOW THE TIME** to achieve breakthroughs in mobilizing CBK?
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Means to Potentially Make CBK Easier to Manage and Deploy

CBK in Knowledge Objects (KOs) + Digital Libraries for KOs + Activators To Quickly Deploy KOs

Clinical App

KGrid Demo
Digital Library to Archive, Manage & Share CBK

Standing on the shoulders of digital library giants
"Activator" to Provide CBK Directly to Health IT Users

- Knowledge Objects
- Engine
- Payloads
- Shelf
- Metadata
- Open APIs
- EHRs & Apps
- eHealth Applications
- Providers & Patients
Demo Client Apps that Draw On or Consume CBK

CBK for Genotype to Phenotype Mapping

CBK for Conditional Drug Use Recommendations