April 9, 2015 IOM Workshop

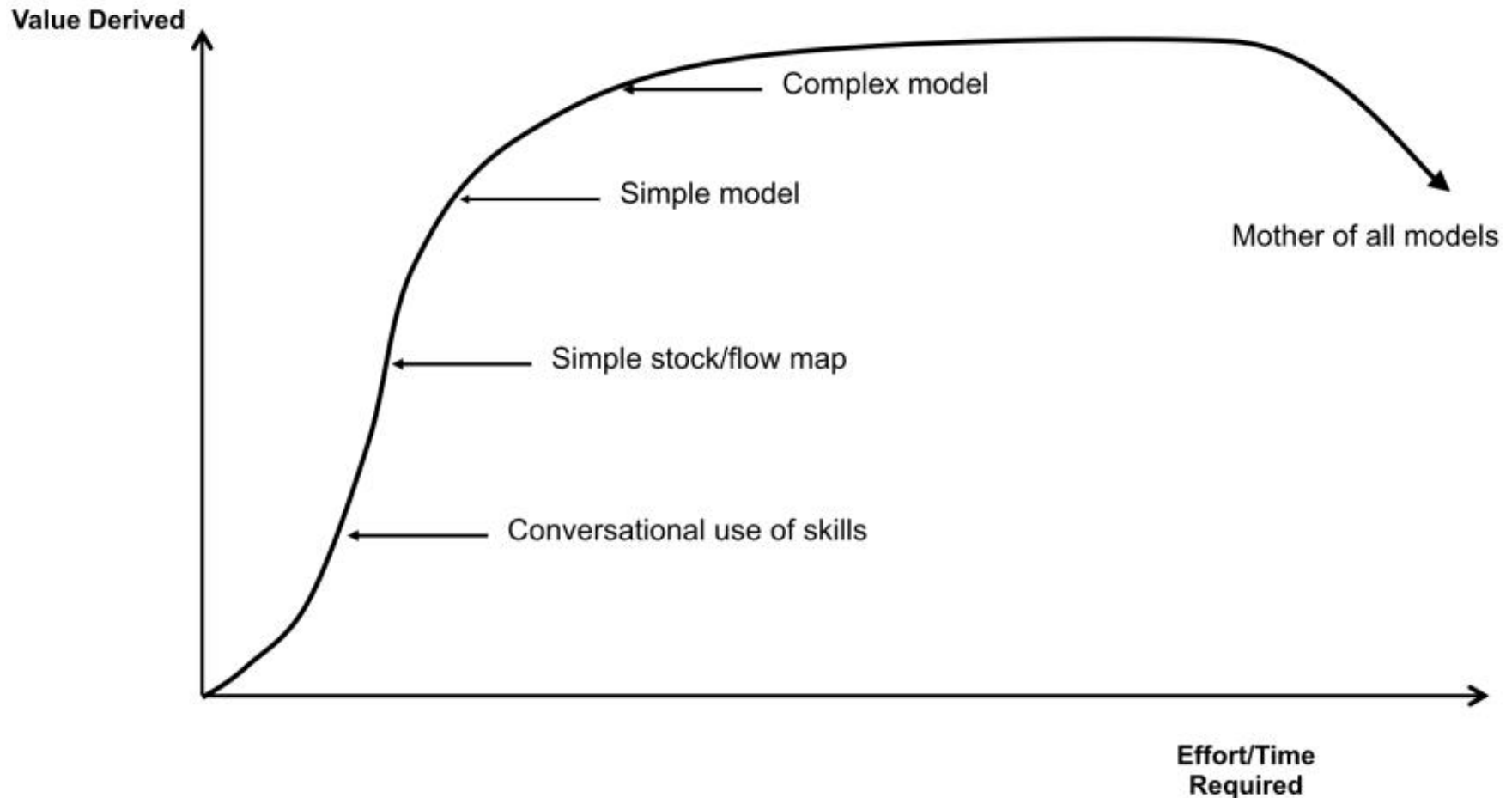# How Modeling Can Inform Strategies to Improve Population Health

Reporting Back from Breakout Groups
(highlights from group discussion as captured by rapporteurs)

Group 1: Health Risk Factors (e.g., Obesity, Substance Abuse)

Facilitator: Karen Minyard, Georgia Health Policy Center

Rapporteur: George Miller, Altarum Institute

Barry Richmond's "Value per Effort Graph"

Value Derived

Complex model

Simple model

Mother of all models

Simple stock/flow map

Conversational use of skills

Effort/Time Required

Group 1
Health Risk Factors (e.g., Obesity, Substance Abuse)

Systems thinking tools (maps/models) are most effective and impactful in catalyzing change when:

- purpose for using is clearly identified and supported by client
- it is developed in collaborative process
- as simple as possible, but no simpler
- can be tailored to the readiness and level of engagement of participants as well as the goals and outcomes of process
- modeler/facilitator has the adaptive and technical skills to use tools
- used as part of a larger change process

Group 2: Natural and Built Environments (e.g., Air, Water, Transit, Housing)

Facilitator: Pasky Pascual, EPA

Rapporteur: J.T. Lane, Louisiana Department of Health and Hospitals

Group 2
Natural & Built Environments

- Themes
  - Great for long-term problems and concerns
  - limitations when used for more immediate needs
- Barriers
  - Resources – governments and organizations need them to do this (people and financial)
  - Education understanding the use and value of modeling.
  - Time to use the model to adopt the solution
  - High expectations about what models are capable of doing. There is an expectation of certainty in the public sphere.

Group 2
Natural & Built Environments

- Opportunities
  - Models as sources of innovation
  - Developing priorities

- Ideas
  - Is there a scientific way to model social and cultural value-based systems?

Group 3:
Social & Economic Conditions

Facilitator: Gary VanLandingham

Rapporteur: Nick Macchione

Group 3
Social & Economic Conditions:
Key Themes and Messages

- Data needs
  - Needed from multiple sectors, spanning from health to human services
  - Capitalize in opportunities to collect data
  - Open source data movement/GIP maps is a potentially useful tool, but need to make sense of it
  - Need to bring together data, modeling could be a useful tool

- Types of models needed
  - What, in the domain of social and economic conditions, do we need models for?
  - Is modeling the barrier to adopting the needed decisions and policies that are needed really a lack of modeling?
  - What can we share in common across sectors?
  - Do not only need models comparing interventions, also need models that look at synergies of multiple interventions—systems science is useful for this

Group 3
Social & Economic Conditions

- Funding
  - What happens when funding runs out.
    - Are open source models the solution?
    - What about proprietary issues?
- Communication
  - Policy makers expectations
    - There are no "quick and dirty" models
    - Not all models are interactive
    - "Your can manipulate your model to do anything, so what good is it"…need to move towards standardization, even thought it will be painful
  - Conversations across cultures (policy makers, modelers, content experts). Educational process.
  - Skepticism—modeling needs to be formalized to ensure trust, and then communicate what has been done to ensure model quality
  - "Translator" between subject matter experts, modelers, and policy makers

Group 3
Social & Economic Conditions

- Next steps?
  - Start with community engagement, figure out questions.
    - Need to think hard about where and how molding can help make a impact in this domain
  - Consider collective impact
    - …who you have at the table and in the conversation (across sectors) is incredibly important. The interaction will provide insights and build trust
  - Using health in all policies as a tool forces you to look at the issues through many lenses, and helps identify what essential data elements are needed
  - Modeling in this domain could be useful to help understand causal pathways, which might be more concrete to a policy maker
  - Communication from the very beginning of the modeling process, with a translator to bridge the "language" gap is needed.

Group 4: Integrated Health Systems (e.g. Community Conditions and Services)

Facilitator: Bobby Milstein, ReThink Health

Rapporteur: Louise Russell, Rutgers University

Group 4
Integrated Health Systems (e.g. Community Conditions and Services)

- Who's represented? Community is key
  - If the community doesn't trust you, the model's not going to work
- First, stakeholders must come together to:
  - Define the problem
  - Identify interventions willing to consider implementing
  - Model those interventions

Group 4
Integrated Health Systems (e.g. Community Conditions and Services)

- Systems models: how broadly to draw the boundaries around the problem – all stakeholders must be consulted at the beginning

- Take time into account; model may say do Y, not X, but in real world, Y must be in place before jettisoning X

Group 4
Integrated Health Systems (e.g., Community Conditions and Services)

- Communication among modelers, those who inform models, and the public
- Different models – mental and mathematical of ALL people involved in decision (including public)
- Before the mathematical model, start with a conceptual model: e.g., cancer not always deadly,
- Public awareness of scientific evidence behind and in addition to the mathematical model