

Science of Science Management

Breakout Discussion Summary

October 2-3, 2008

NIH Campus

Bethesda, MD



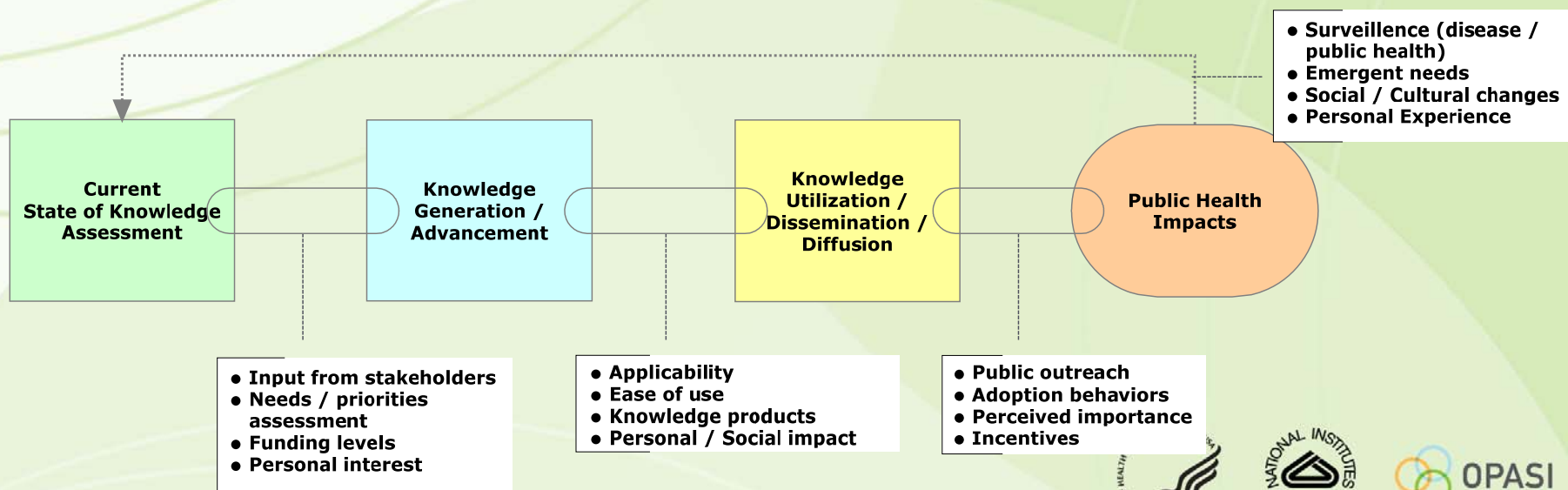
Breakout Discussions

During the closed sessions, IC Directors chaired discussions focused on each area of the Science of Science Management meeting conceptual model.

The Directors presented a brief summary of the discussions to the assembled participants. The summary presentations slides are included here.

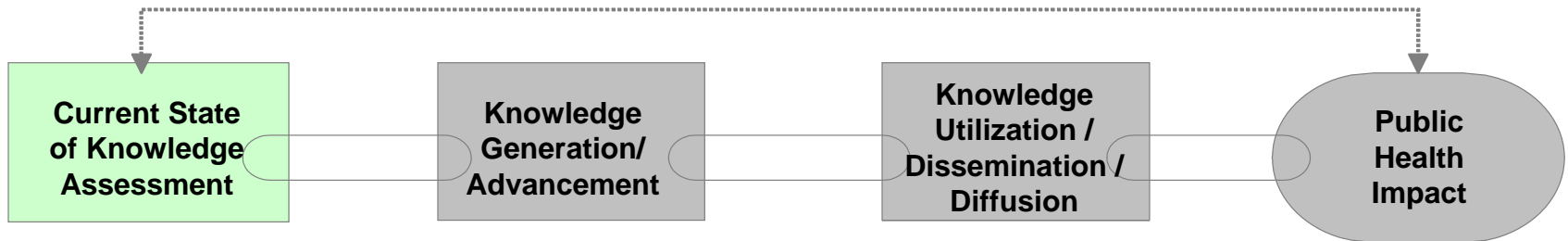
Breakout Discussion Summary

Current State of Knowledge Assessment



Current State of Knowledge Assessment

Context: Focuses on how existing knowledge and needs can be assessed to identify possible gap areas and research opportunities



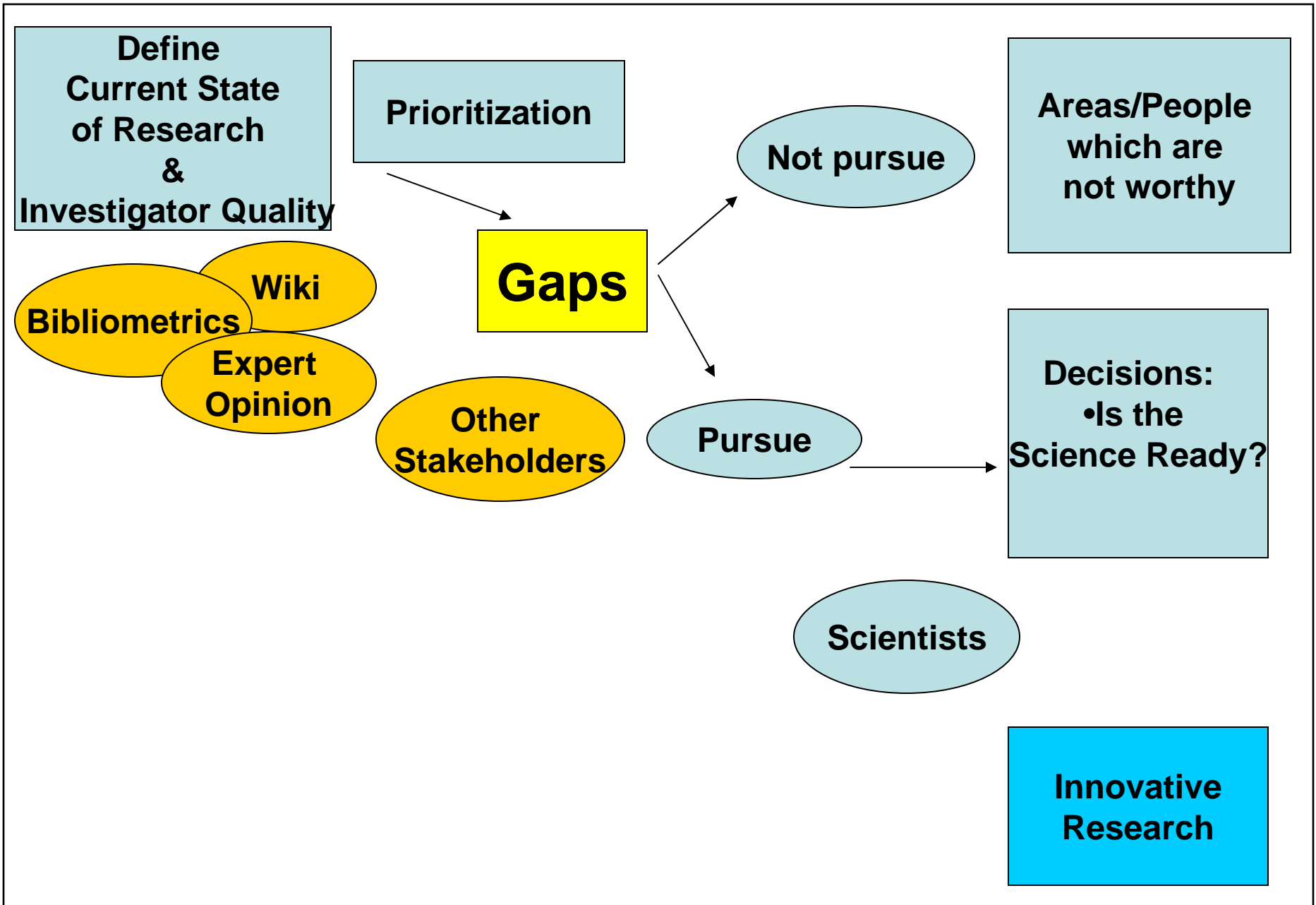
Overarching Guiding Question:

What components should be included in a comprehensive framework of processes, analytic tools and methods that can be used to assess and prioritize the state of knowledge in a basic, clinical, or population-based research field to encourage innovation and advancement?

Priority Question to be Discussed at October Meeting:

How do we assess the current state of knowledge to identify science opportunity for innovative research?

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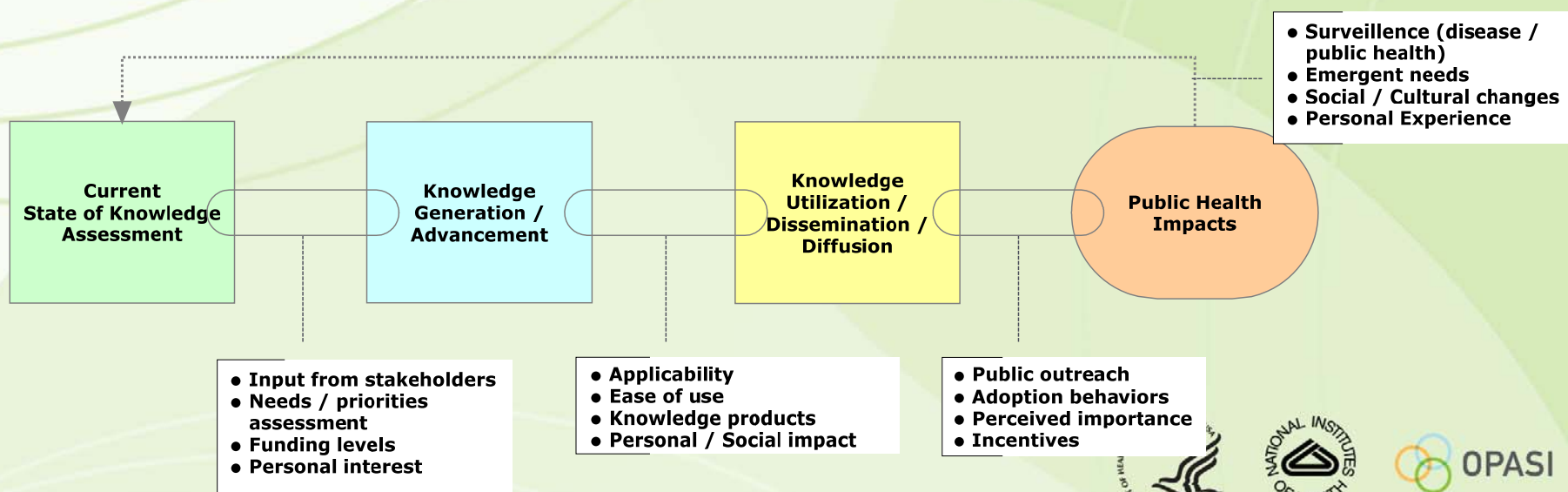
Elaborate factors needed to study and measure constructs:

Construct/ component	Ways to measure	Source
Define Current State of Research	<p>Create a database tool that is reliable, valid, and available for investigating SoS management questions?</p> <p>Unfunded applications: fate of applicants? (not publicly available)</p>	<ul style="list-style-type: none"> •Data NIH develops internally •Data NIH can mandate from PIs •External Data (bibliometric, etc)
Define Investigator Quality	<p>Whether funding individuals or projects yields more innovation?</p>	
Gaps go/no-go	<ul style="list-style-type: none"> •How is the current state of knowledge assessed at NIH? •Develop Criteria by using the characteristic elements of the actors (i.e., new PIs more innovative?) 	<ul style="list-style-type: none"> •Ask Program Directors, PIs (new and “senior”)
Decisions	<ul style="list-style-type: none"> •How do different people approach prioritization and how does it relate to success? •Is the Science Ready? 	<ul style="list-style-type: none"> •Domain Scores/ •Priority Scores/ •Percentiles •Other inputs into funding decisions

- Whether funding individuals or projects yields more innovation?
- How do different people approach prioritization and how does it relate to success?
- How is the current state of knowledge assessed at NIH?
- Create a database tool that is reliable, valid, and available for investigating SoS management questions?
 - Unfunded applications: fate of applicants? (not publicly available)

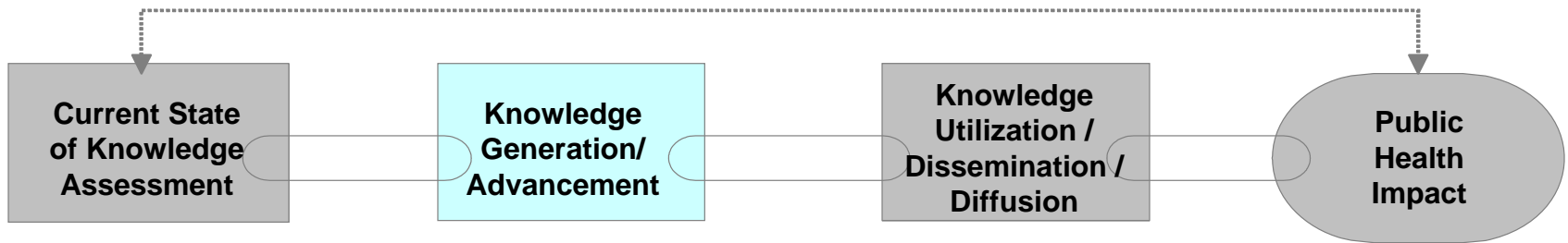
Breakout Discussion Summary

Knowledge Generation and Advancement



Knowledge Generation / Advancement

Context: Addresses the need to develop more appropriate methodologies for assessing science, and for understanding the types of knowledge generated (in addition to publications) especially discovery, innovation, and large systems



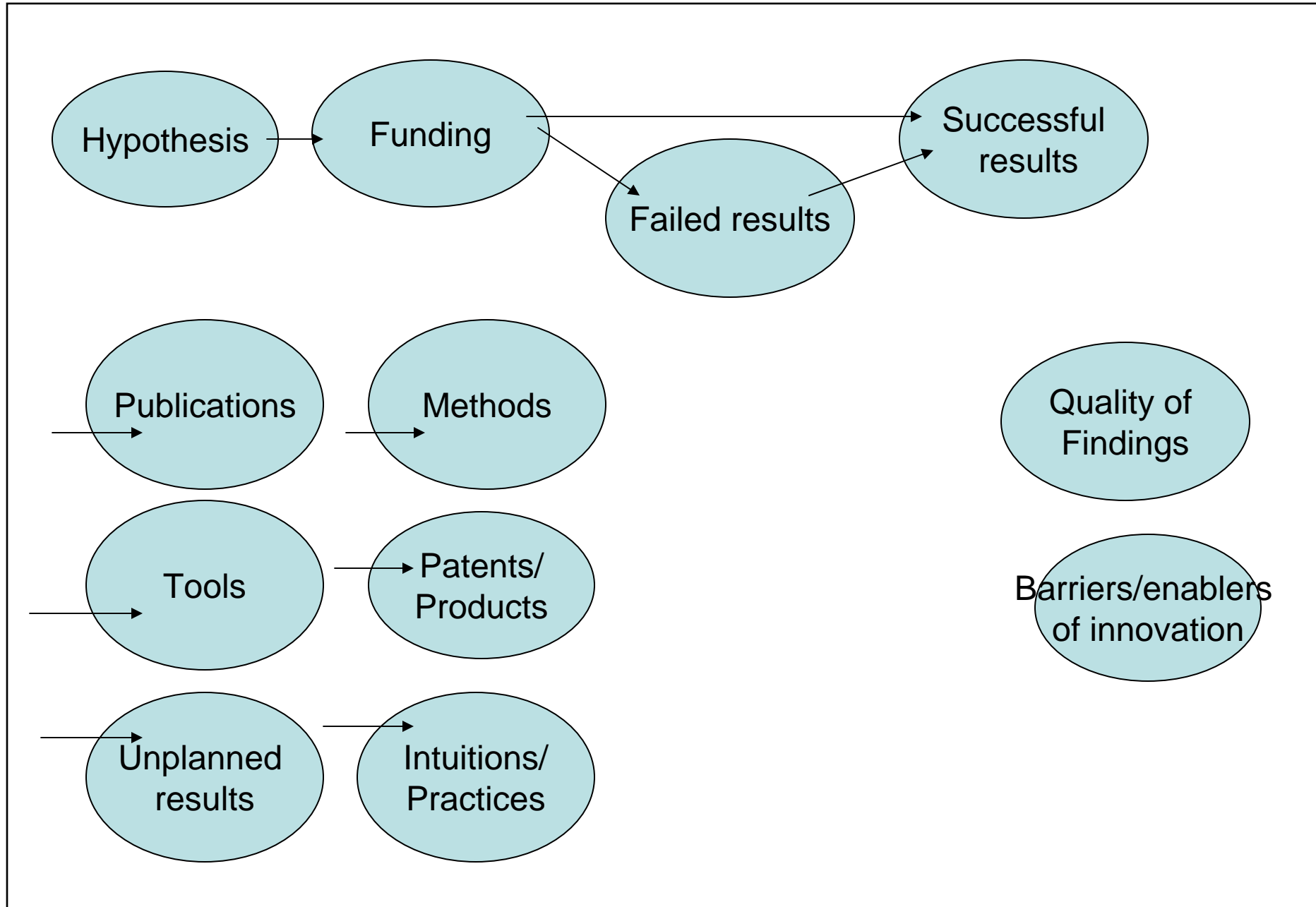
Overarching Guiding Question:

What is needed for a comprehensive assessment of NIH knowledge generation and advancement?

Priority Question to be Discussed at October Meeting:

What is needed for the assessment of NIH knowledge generation?

Illustrate the relationships among the constructs that depict the components of the priority question within the context of the NIH: (include lines and directional arrows)

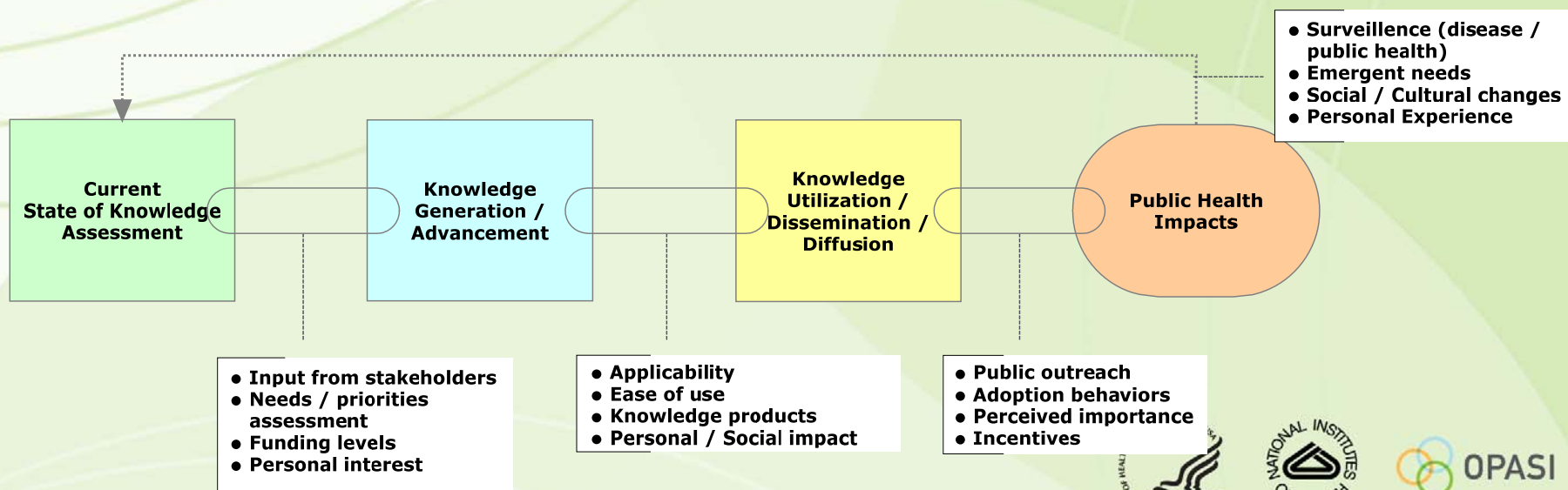


Elaborate factors needed to study and measure constructs:

Construct/ component	Ways to measure	Source
Individual vs group science	scale of team, personal factors, Career stage (group and indiv) factors, spectrum of productivity, nature of work, objective data,	Uzzi, Jones, Whactel;
IT / tools / databases Infrastructures of science	Use / downloads, databases, mapping & connectedness, public availability, new technology developments from private sector	Contractor&Lazar; Agarwal&Goldbulm;
Beyond / in addition to bibliometrics / New set of outputs	New methods, trainees, technologies, workshops, unpublished results (negative, unplanned), use natural experiments, timeframe of metrics, use vs citation data, patents	Olsen& Finholt; BIRN; Giles & Cronin
Adaptability	Diversity of investments, overstudy or understudy	
Value of redundancy & Recognition of gaps areas	Evidence-based guidelines across institutes, translational aspects	
Management / Organization structures	People vs projects, comparison of IC director management styles, internal and external prediction markets	

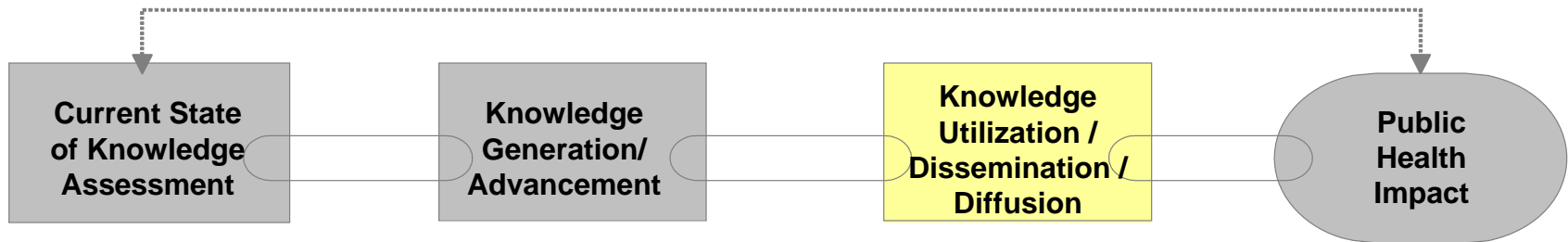
Breakout Discussion Summary

Knowledge Utilization / Dissemination / Diffusion



Knowledge Utilization / Dissemination / Diffusion

Context: Focuses on assessing how knowledge and resources generated from research results are communicated, distributed, utilized, and adopted into behaviors, standards of care, science policies, and the next generation of research



Overarching Guiding Question:

How can social networks and collaborations among constituents/stakeholders facilitate the exchange and use of relevant knowledge to enhance learning and innovation and to facilitate the utilization of the information in practical applications and at key decision points?

Priority Question to be Discussed at October Meeting:

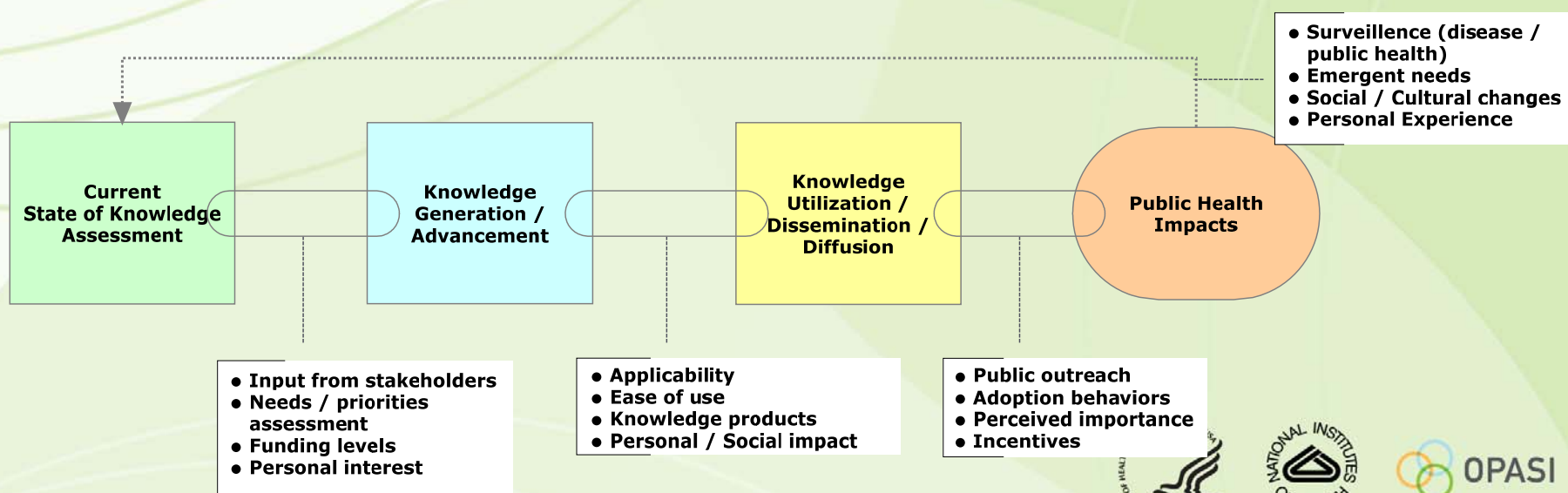
How can we best leverage social networks to facilitate information utilization?

Elaborate factors needed to study and measure constructs:

Who wants the information ?	What kind of Information and Purpose?	Leveraging Dissemination	Impeding Factors	Ways to Measure Dissemination
Producer to Producer	<ul style="list-style-type: none"> -Research findings -Types of research -Summary Information 	<ul style="list-style-type: none"> -Meetings -Research literature -Colleague discussions/ training -Databases/ materials 	<ul style="list-style-type: none"> -Intellectual property – -Jargon/ Conceptualization/ -Cultural -Incentives -Time -Repositories 	<ul style="list-style-type: none"> -Surveillance systems -Bibliometrics -Licensing -MTA
Producer to User	<ul style="list-style-type: none"> -Research findings 	<ul style="list-style-type: none"> -Web (Pubmed Central) -Media -Synthetic pubs -Gatekeepers -Systematic review 	<ul style="list-style-type: none"> -Jargon -Time -Not in digestible format -Competing information -Competing interests and policies 	<ul style="list-style-type: none"> -Surveillance systems -Dissemination statistics -Clinical/Epi
User to Producer	<ul style="list-style-type: none"> -Research ideas 	<ul style="list-style-type: none"> -Money through legislation -Political will -Advisory boards -Advocacy/ civil action/ -Coalitions 	<ul style="list-style-type: none"> -Lack of access / cultural barriers 	<ul style="list-style-type: none"> -Clinical feedback -Consumer research advisory groups
User to User	<ul style="list-style-type: none"> -Research findings 	<ul style="list-style-type: none"> -Media -Patient to patient networks -Personal relationships 	<ul style="list-style-type: none"> -Lack of access / cultural barriers 	<ul style="list-style-type: none"> -Social-advocacy group networks dissemination -Media web measures

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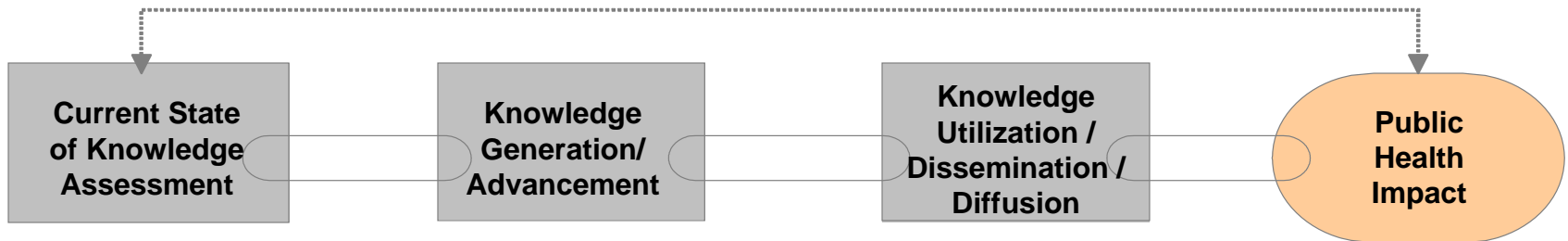
Public Health Impact



Public Health Impact

Context: Assessing the relationship between biomedical research and public health.

- Improved quality of life
- Reduced burden of disease
- Increased life expectancy
- Expanded availability of care



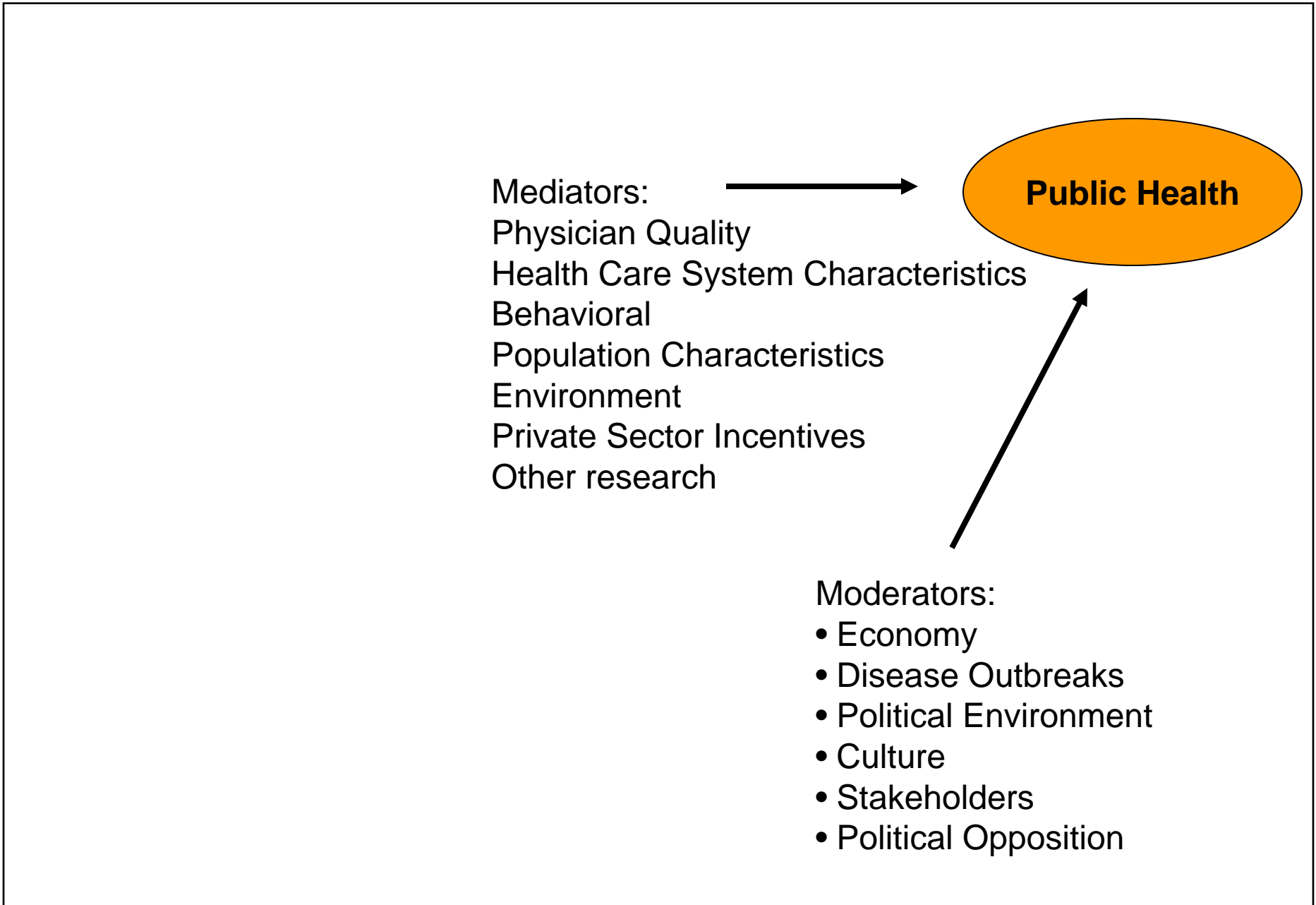
Overarching Guiding Question:

What systemic models for improved public health, including pathways and contexts, could be useful for informing multiple NIH decision making processes?

Priority Question to be Discussed at October Meeting:

How do we measure the impact of NIH research on public health?

Illustrate the relationships among the constructs that depict the components of the priority question within the context of the NIH: (include lines and directional arrows)



Mediators:



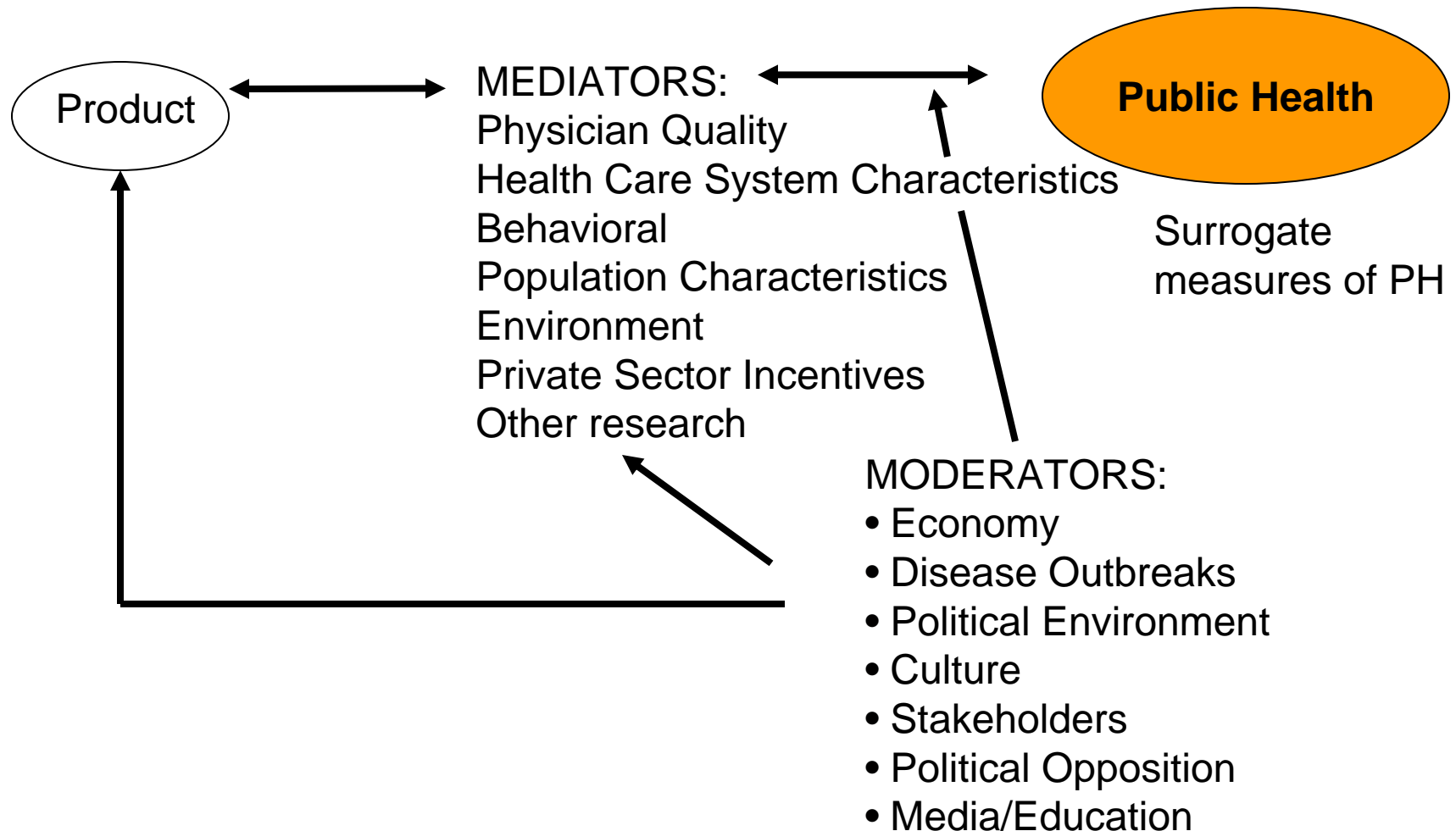
Public Health

- Physician Quality
- Health Care System Characteristics
- Behavioral
- Population Characteristics
- Environment
- Private Sector Incentives
- Other research

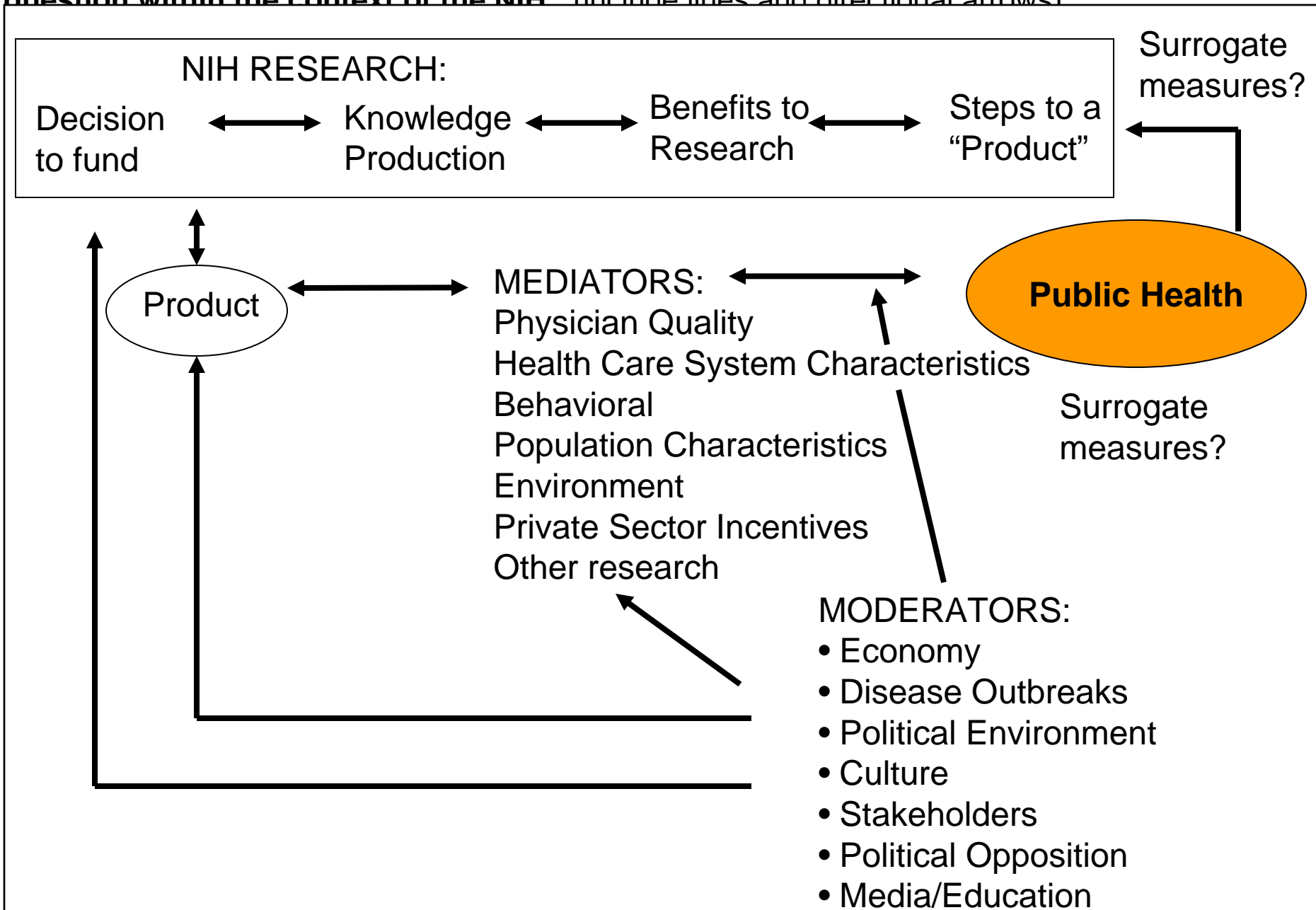
Moderators:

- Economy
- Disease Outbreaks
- Political Environment
- Culture
- Stakeholders
- Political Opposition

Illustrate the relationships among the constructs that depict the components of the priority question within the context of the NIH: (include lines and directional arrows)



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