



HARVARD  
School of Public Health

# Knowledge Translation for Health: The Marriage of Relevance and Excellence

Julio Frenk, MD, PhD

3rd Annual NIH Conference on the  
**Science of Dissemination and Implementation:  
Methods and Measurement**  
National Institutes of Health  
Bethesda, Maryland

# Main messages

To meet health challenges, research must combine **relevance** to decision making with **excellence** in the strict adherence to the norms of scientific inquiry.

Knowledge translation is the key to this happy marriage.




# Outline

1. The Circle of Knowledge
2. Knowledge translation: origins and evolution
3. Conflict and reconciliation
4. Implementing implementation research
5. Conclusions



# Outline

- 
1. The Circle of Knowledge
  2. Knowledge translation: origins and evolution
  3. Conflict and reconciliation
  4. Implementing implementation research
  5. Conclusions



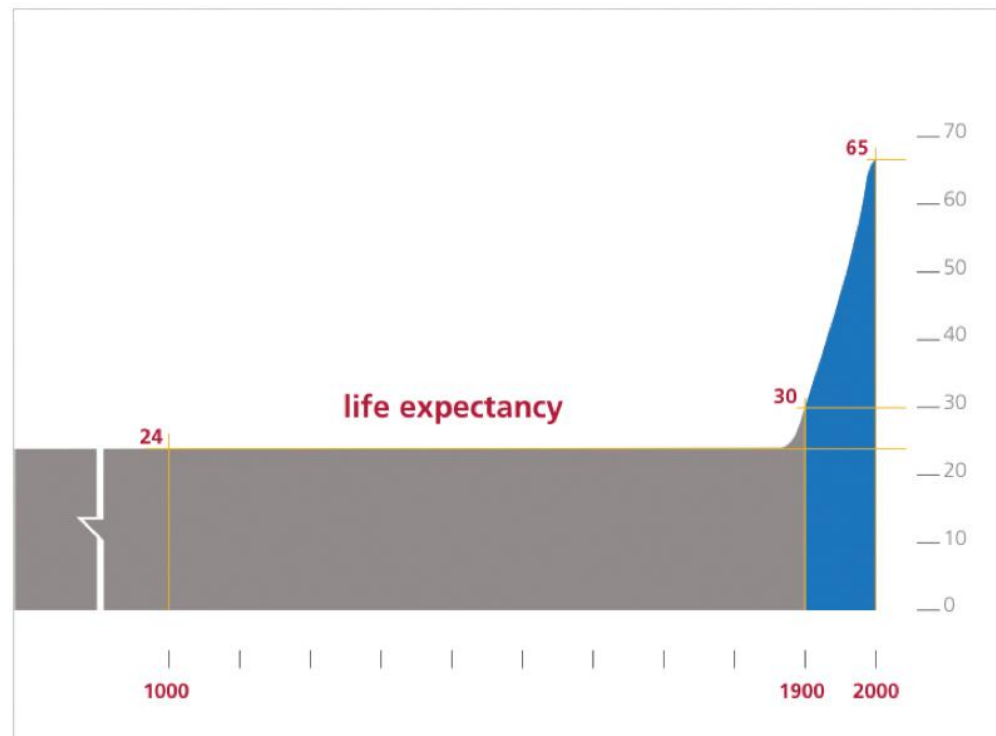
# The dual value of research

**Intrinsic:** Part of human culture

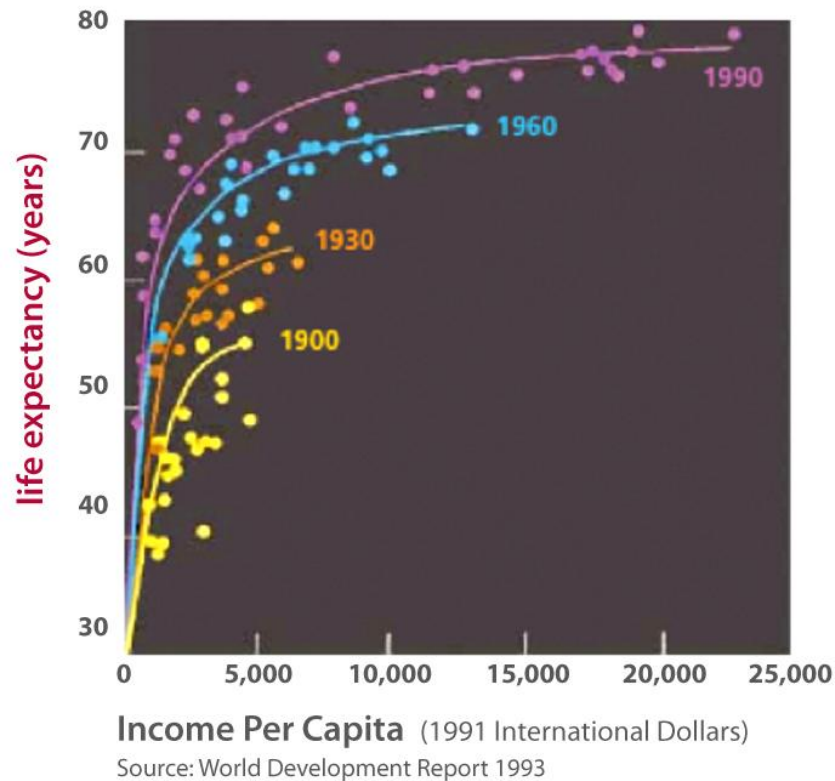
**Instrumental:** Means to achieve other socially valued goals (e.g., health)



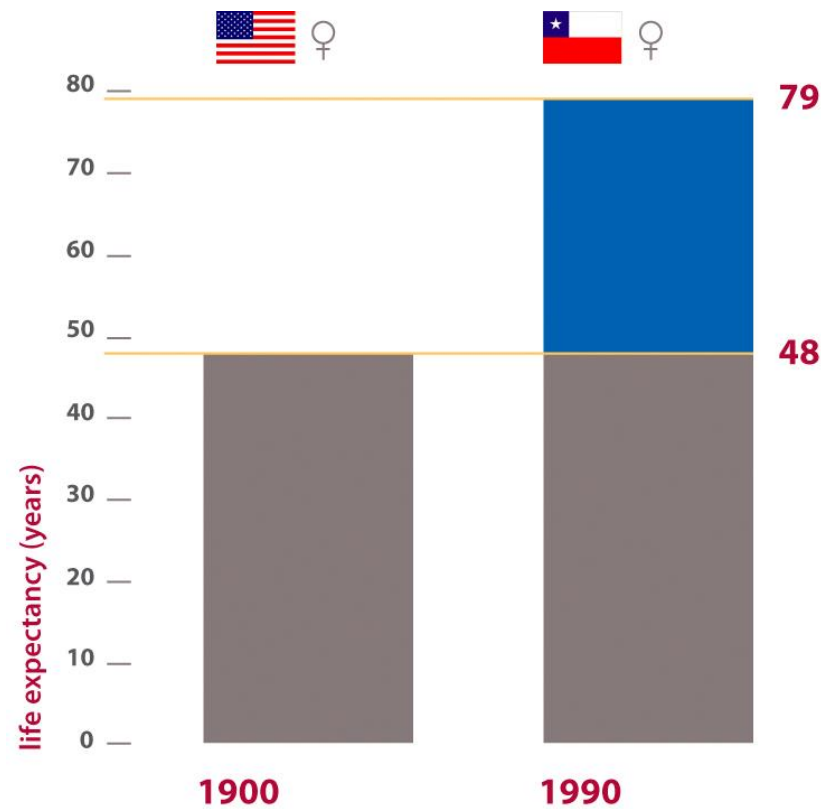
# The health revolution of the 20<sup>th</sup> century



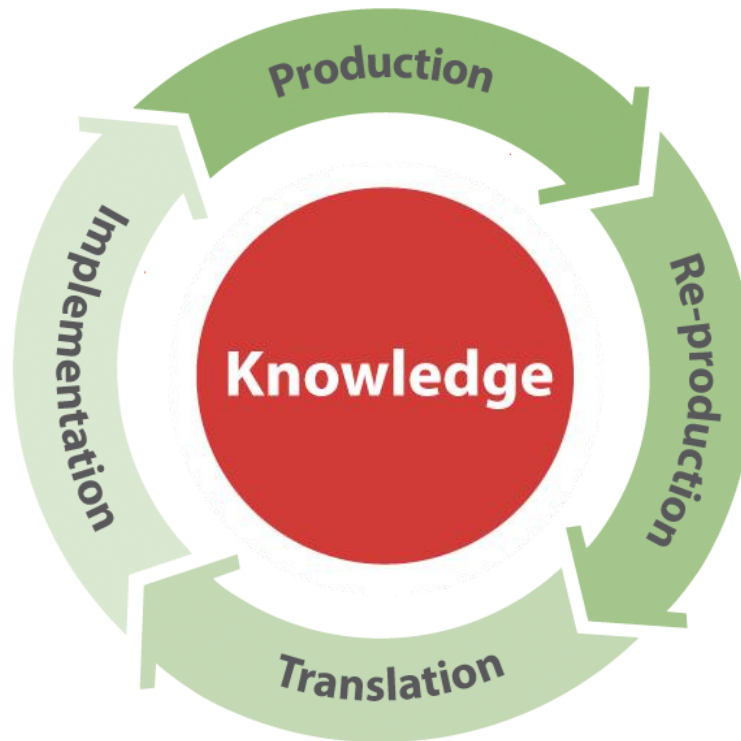
# Life expectancy and income per capita, by decade



# The role of knowledge in health improvement: USA in 1900 versus Chile in 1990



# The Circle of Knowledge



# Outline

1. The Circle of Knowledge
- ↘ 2. Knowledge translation: origins and evolution
3. Conflict and reconciliation
4. Implementing implementation research
5. Conclusions



# Origins of knowledge translation

Originated in the field of applied linguistics, the term “**knowledge translation**” has been used in health and other fields to refer to the exchange, synthesis, and, mostly, application of knowledge.

Source: Colleen M. Davison

*Knowledge translation: implications for evaluation.* 2009



# Fusions and confusions

Confusion in the fusion of concepts to describe the **knowledge-to-action** process:

- knowledge transfer
- knowledge exchange
- research utilization
- research implementation
- research diffusion
- research dissemination

Source: Ian Graham et al.

*Lost in knowledge translation: time for a map?* 2006



# NIH Roadmap for Research



# NIH priorities

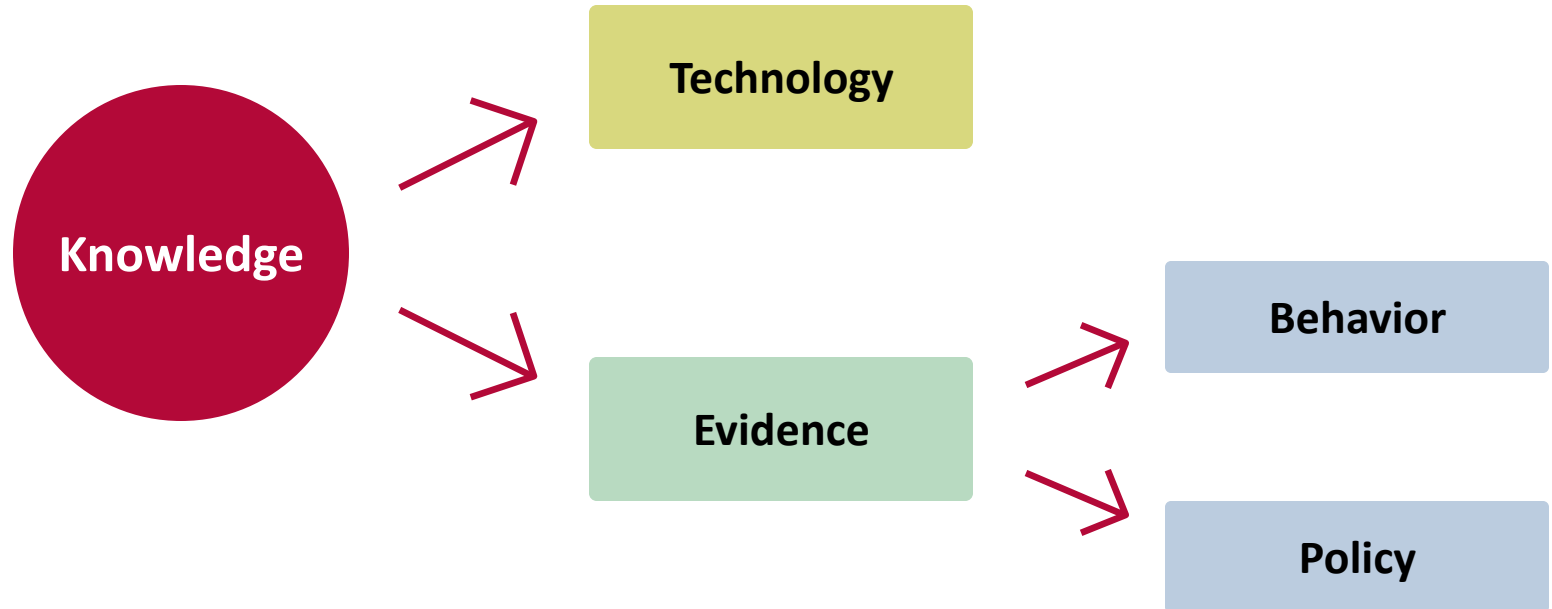


- Large biology projects (high-throughput technologies)
- **Translational research**
- Health care reform
- Global health
- Empowerment of the biomedical research community

*Rejecting 'Big Science' Tag, Collins Five Themes for NIH,*  
Science 2009



# Knowledge translation and the improvement of health



# Outline

1. The Circle of Knowledge
2. Knowledge translation: origins and evolution
- ↘ 3. Conflict and reconciliation
4. Implementing implementation research
5. Conclusions



# Challenge of translation

“Traduttore, traditore!”  
 (“The translator is a traitor!”)

Italian adagio



# Challenge of translation

“Translation is a kind of activity which inevitably involves at least two languages and two cultural traditions.”

Gideon Toury

*The nature and role of norms in translation, 1978*



# Research and decision making: Two realms

**Research:** The search for knowledge through the strict adherence to a series of rules that give objective validity to the results.

**Decision making:** Cognitive process that leads to the selection of a course of action among several alternatives.



*Research holding the torch of knowledge*



# Potential conflicts between researchers and decision makers

Areas of conflict	Researcher	Decision maker
Definition of priorities	Based on the supply of scientific knowledge	Based on the demand for usable knowledge
Time management	Chronophilic	Chronophobic
Language and accessibility of results	Esoteric / specialized publications	Comprehensible language / accessible sources
Integration of findings	Analytical approach with emphasis on internal validity	Synthetic approach with emphasis on external validity
Final product	Published articles and bibliographic citations	Influence on a decision

Source: Julio Frenk  
*Balancing relevance and excellence, 1992*

# Relationship between research and decision making

Characterized by:

- Lack of interest
- Indifference
- Diffidence
- Contempt



# Can they get married?

**Excellence:** Ability of research to advance knowledge through objective rules of scientific inquiry. Emphasized by scientists.

**Relevance:** Ability of research to take on problems that require a solution. Emphasized by decision makers.



# Types of marriages

**Romantic:** Usually initiated by the participants themselves after realizing that a cathexic bond exists between them or that making a commitment to live together is mutually advantageous.

**Pragmatic (or “arranged”):** Facilitated by formal procedures of family or group politics. Typical of dowry-based inheritance systems.

Cambridge Encyclopedia



# Knowledge translation: Tying the knot

Relevance



Excellence

Knowledge translation



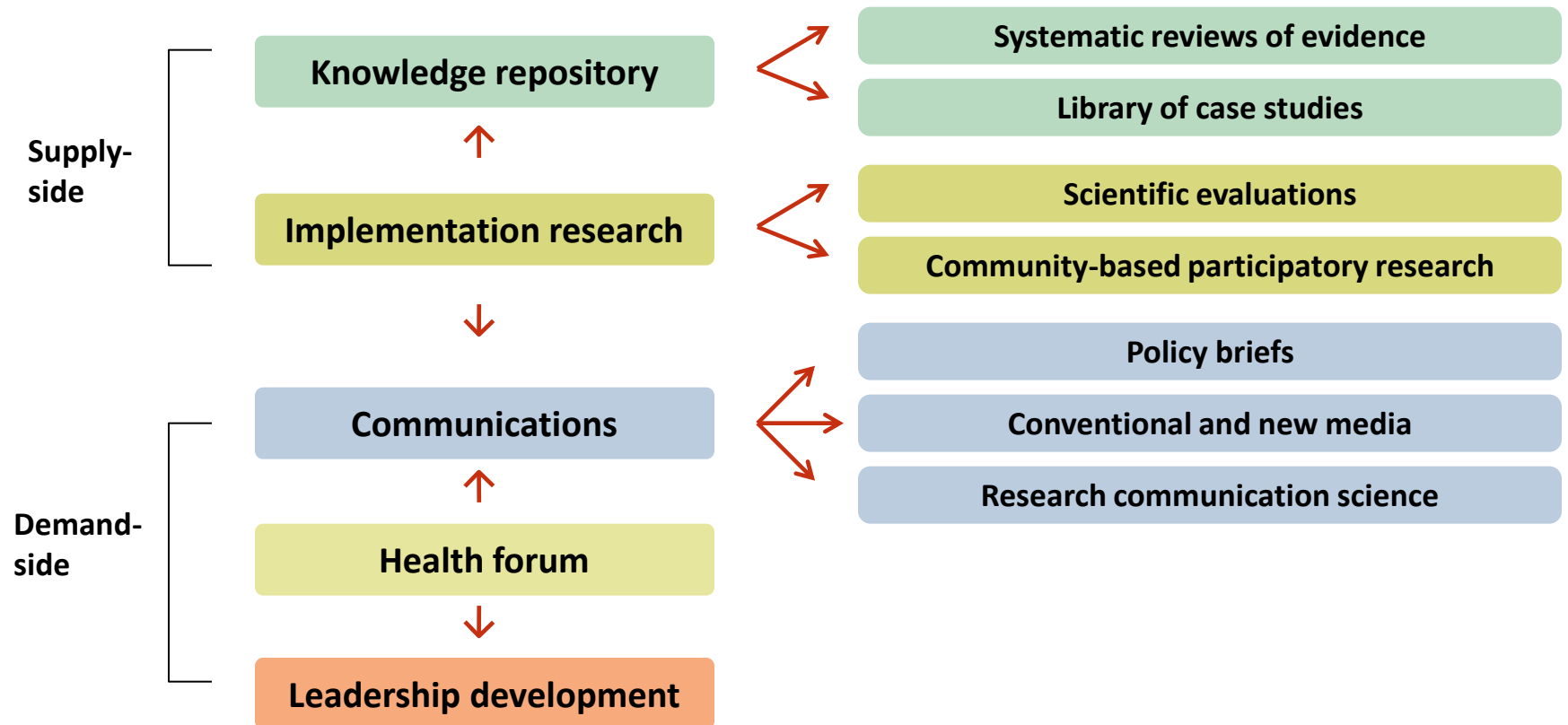
# Potential solutions to conflicts between researchers and decision makers

Areas of conflict	Means to supersede conflicts
Definition of priorities	Decision makers on advisory bodies of research centers
Time management	Collaboration between researchers and decision makers since planning stages of projects Identification of intermediate products of research
Language and accessibility of results	Knowledge repository Policy briefs Joint fora for analysis of results
Integration of findings	Meta-analysis and systematic reviews Mission-oriented research
Final product	Definition of utilization objectives in addition to scientific objectives of research Greater weight to translation in evaluation of researchers

Julio Frenk: *Balancing relevance and excellence*, 1992



# Components of policy translation



# Knowledge translation targets



# Outline

1. The Circle of Knowledge
2. Knowledge translation: origins and evolution
3. Conflict and reconciliation
- ↙ 4. Implementing implementation research
5. Conclusions



# Conditional cash transfers: The Oportunidades program



Innovative idea: conditional cash transfers

Implemented in Mexico to enhance basic capabilities of families living in poverty.

Creates incentives for families to invest in their children's human capital.



# Oportunidades program

## Requirements:

- Sending children to school rather than work
- Attending a clinic to receive a package of health interventions
- Providing a nutritional supplement to pregnant and lactating women, all children aged 6 to 23 months, and low-weight children aged 2 to 5 years.



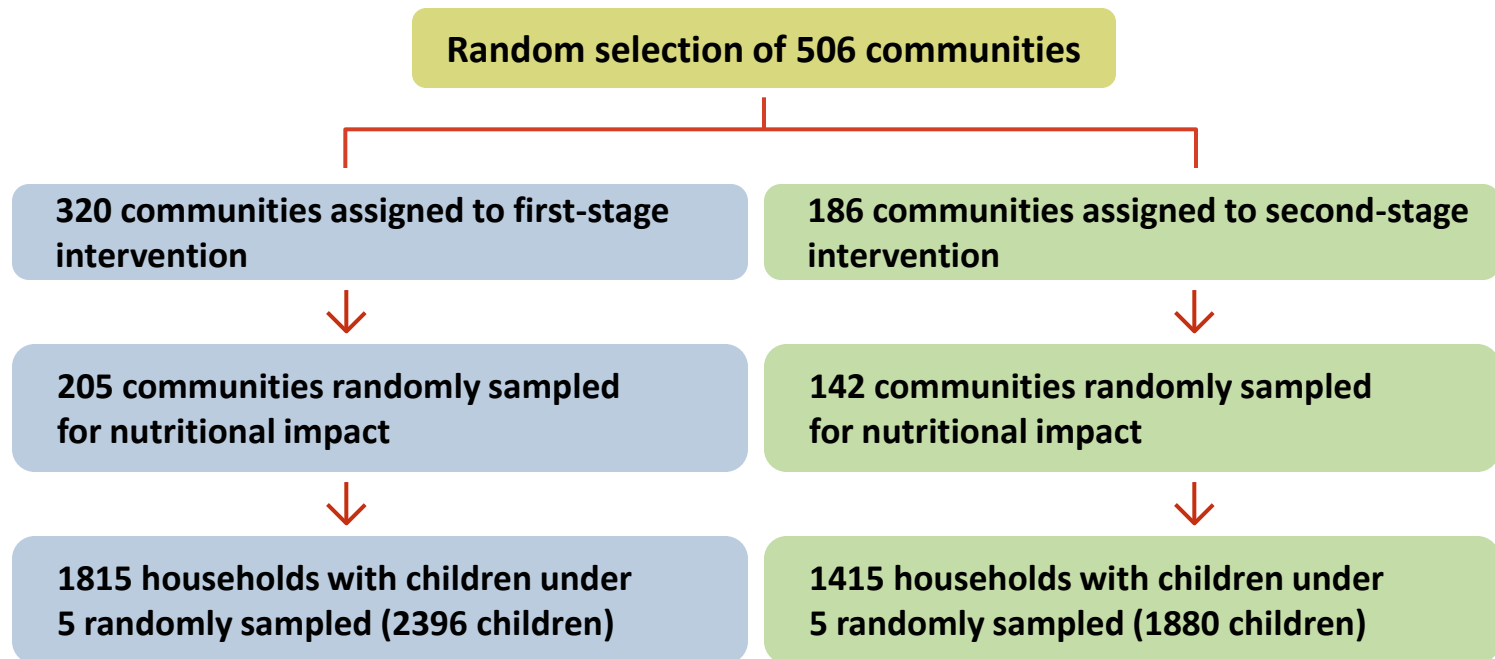
# Opportunity for implementation research

Gradual implementation due to financial and organizational constraints.

Graduality offers a unique opportunity for randomized design.



# Randomized assessment of Oportunidades



1998	First baseline survey
1999	First follow-up survey
2000	Second follow-up survey



# Results of Oportunidades (nutritional component) randomized assessment

Associated with better growth and lower rates of anemia in lower-income, rural infants and children.

Age- and length-adjusted height greater by 1.1 cm among infants younger than 6 months at baseline.

Juan Rivera et al

*Impact of the Mexican Program for Education, Health, and Nutrition on rates of growth and anemia in infants and young children, JAMA 2004*



# Dissemination of Oportunidades

Strong evaluation design has helped turn Oportunidades into a model program.

- LAC region: Similar programs in Brazil, Colombia, Chile, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, and Nicaragua benefit 75 million people.
- New York City: Mayor Bloomberg recently established “Opportunity New York City” based on Oportunidades model.



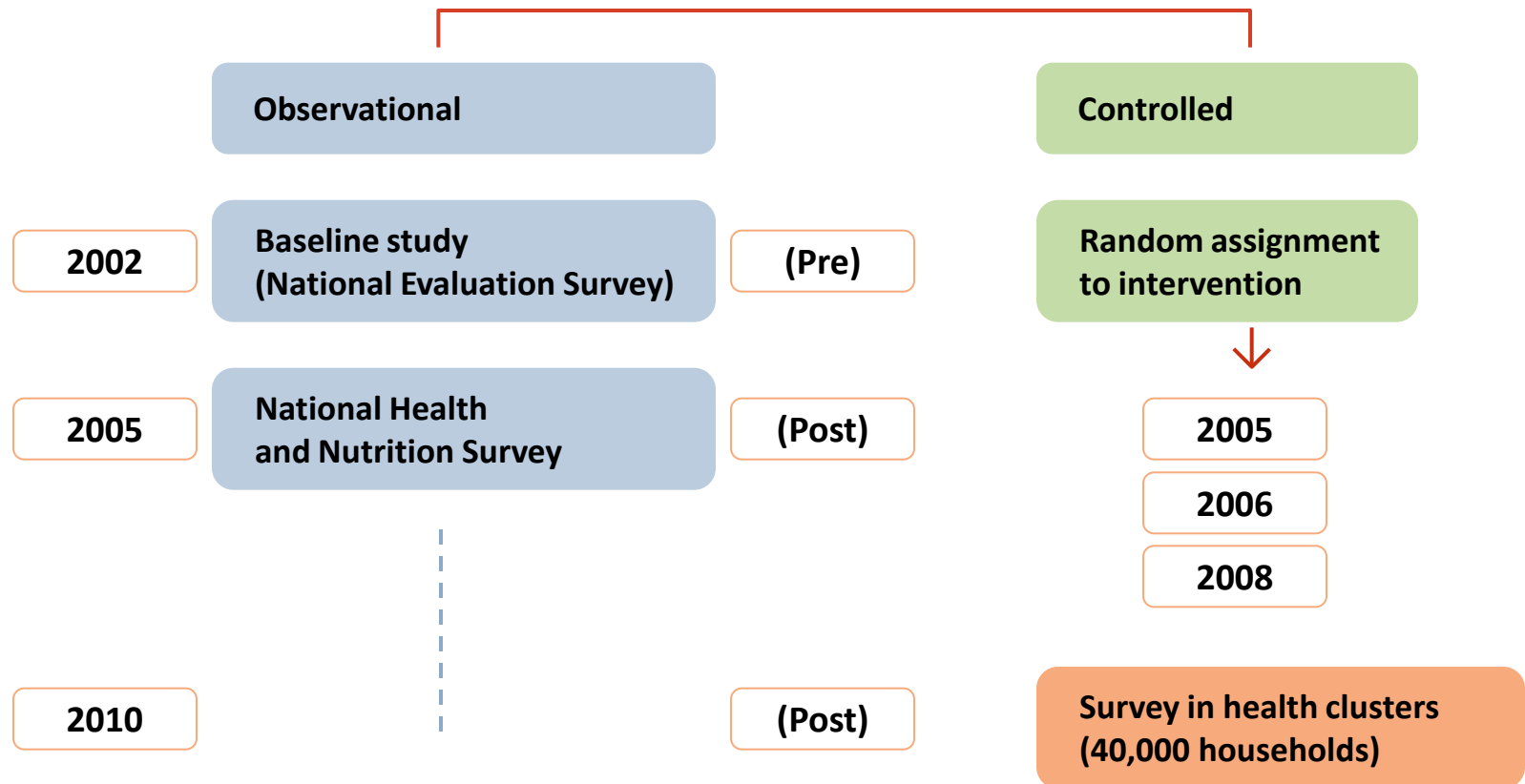
# Seguro Popular de Salud



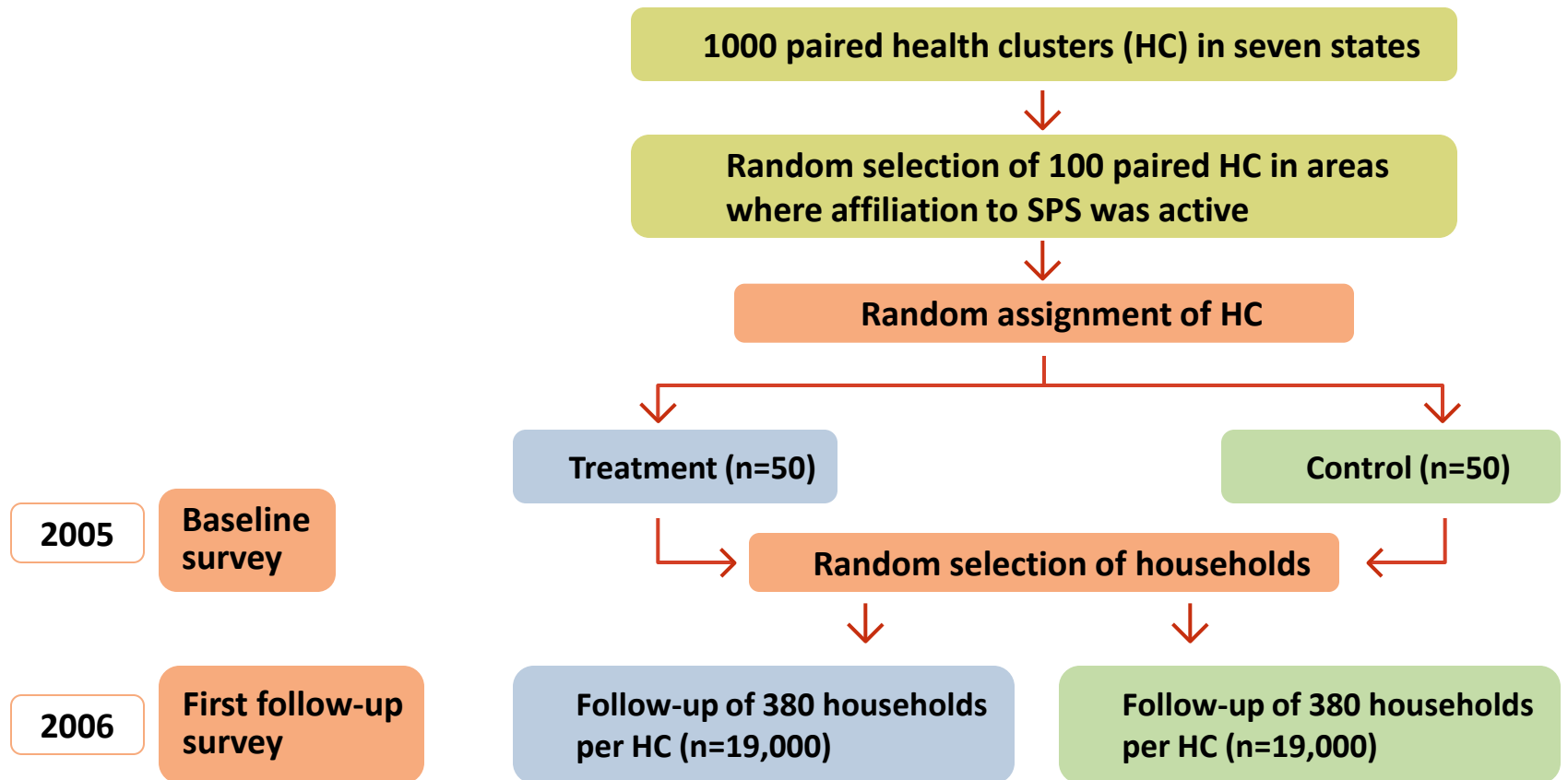
- The Mexican health system is reorganizing and increasing public funding to provide universal health insurance.
- The vehicle for achieving this aim is a public scheme called Seguro Popular.
- By 2009, 30 million people were enrolled.
- This initiative has been subject to a rigorous external evaluation.



# Seguro Popular evaluations



# Randomized assessment of Seguro Popular



# Results of Seguro Popular randomized assessment

Program resources reached the poor.

23% reduction from baseline in catastrophic health expenditures.

Gary King et al  
*Public policy for the poor? A randomised assessment of the Mexican universal health insurance programme,*  
The Lancet 2009



# China: Rural Mutual Health Care

- Social experiment offering health insurance in 10 villages in Western Chinese provinces (60,000 people):
- Pre-post treatment-control study design.
  - Towns matched on socio-economic conditions, availability of health facilities, distance to city centers
  - Assessed one in three households
  - Used difference-in-difference combined propensity score matching.

Wang H, Yip W, Zhang L, Hsiao WC.

*The impact of rural mutual health care on health status: evaluation of a social experiment in rural China*, Health Economics, 2009.



# Results of China health insurance experiment

Reformed health care delivery by changing incentives for health workers and physicians:

- Reduced costs of primary care by 30%
- Community management of village clinics improved availability and quality of services and quality
- Reduced drug costs by 20% and eliminated counterfeit drugs

Improved health outcomes on several dimensions



# Outline

1. Cycle of Knowledge
2. Knowledge translation: origins and evolution
3. Conflicts in the translation of knowledge
4. Implementing implementation research
- ↘ 5. **Conclusions**

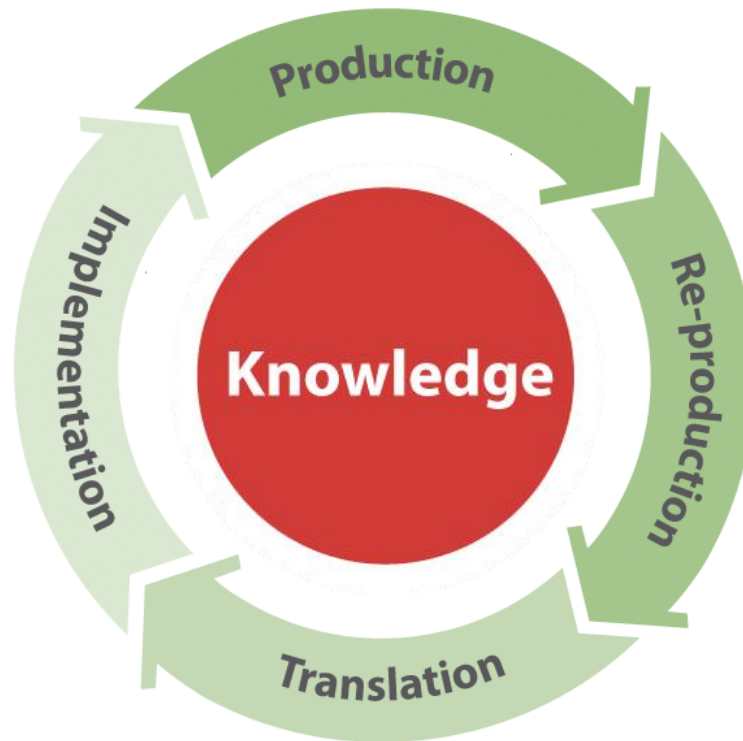


# Conclusions

1. Excellence and relevance can have a fruitful relationship through knowledge translation.
2. We can apply the most rigorous research designs to advance knowledge on large-scale social interventions.
3. Translation can close the knowledge cycle by leading to the production of new scientific evidence.
4. International dissemination of national evaluations clearly show that the dilemma between local and global research is a false one.



# The Challenge



Power of ideas  
informs  
ideas of power



“The pursuit, production, dissemination, application, and preservation of knowledge are the central activities of a civilization. Knowledge is social memory, a connection to the past; and it is social hope, an investment in the future. The ability to create knowledge and put it to use is the adaptive characteristics of humans.”

Louis Menand

*The Marketplace of Ideas*, 2010





# HARVARD

## School of Public Health

### **Julio Frenk, MD, PhD**

**Dean of the Faculty**

**Harvard School of Public Health**

**677 Huntington Avenue**

**Boston, MA 02115**

**617-432-3525**

**[www.hsph.harvard.edu](http://www.hsph.harvard.edu)**