



TEHRAN UNIVERSITY
OF
MEDICAL SCIENCES

Health Research Impact Assessment

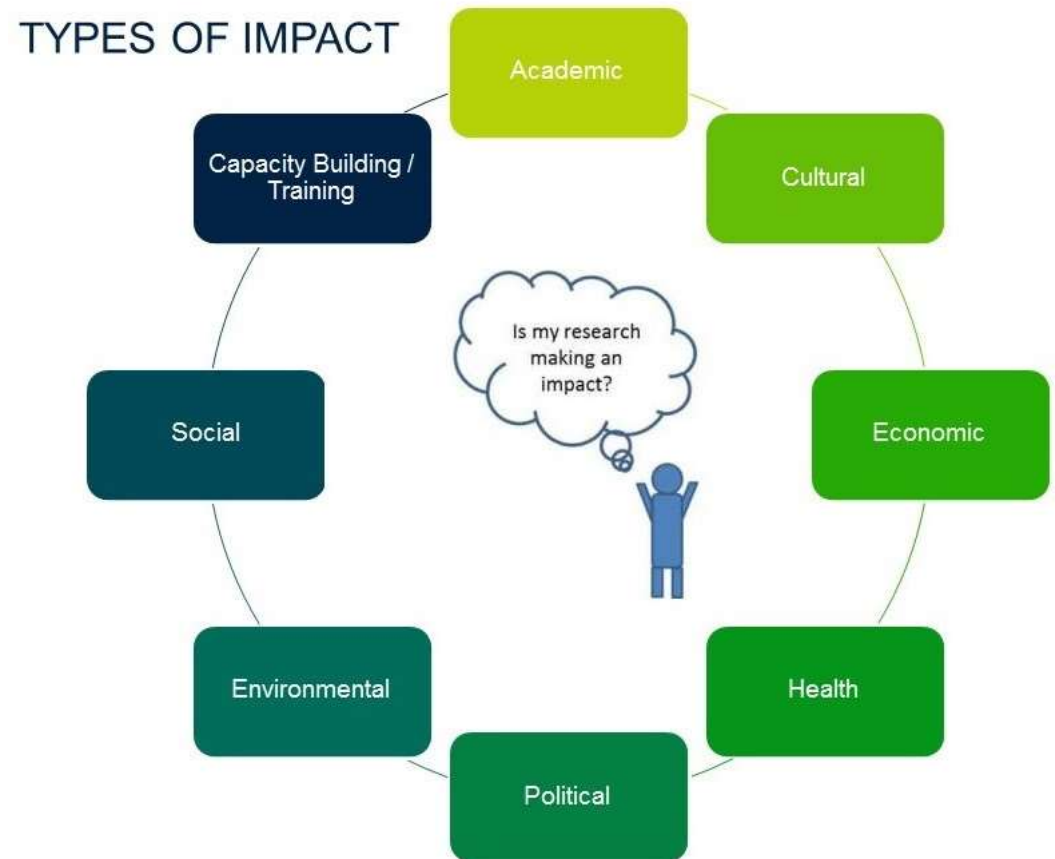
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9 مرداد 1403

The objectives of the presentation

- What's the impact?
- Why measure the impact?
- How to measure the impact?



Impact definition

- “... an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, **beyond academia**”

Source: <http://www.hefce.ac.uk/rsch/REImpact/>

- “... is the demonstrable contribution that research makes to the economy, society, culture, national security, public policy or services, health, the environment, or quality of life, **beyond contributions to academia**”

Source: <http://www.arc.gov.au/research-impact-principles-and-framework#Definition>

Why measure the impact?

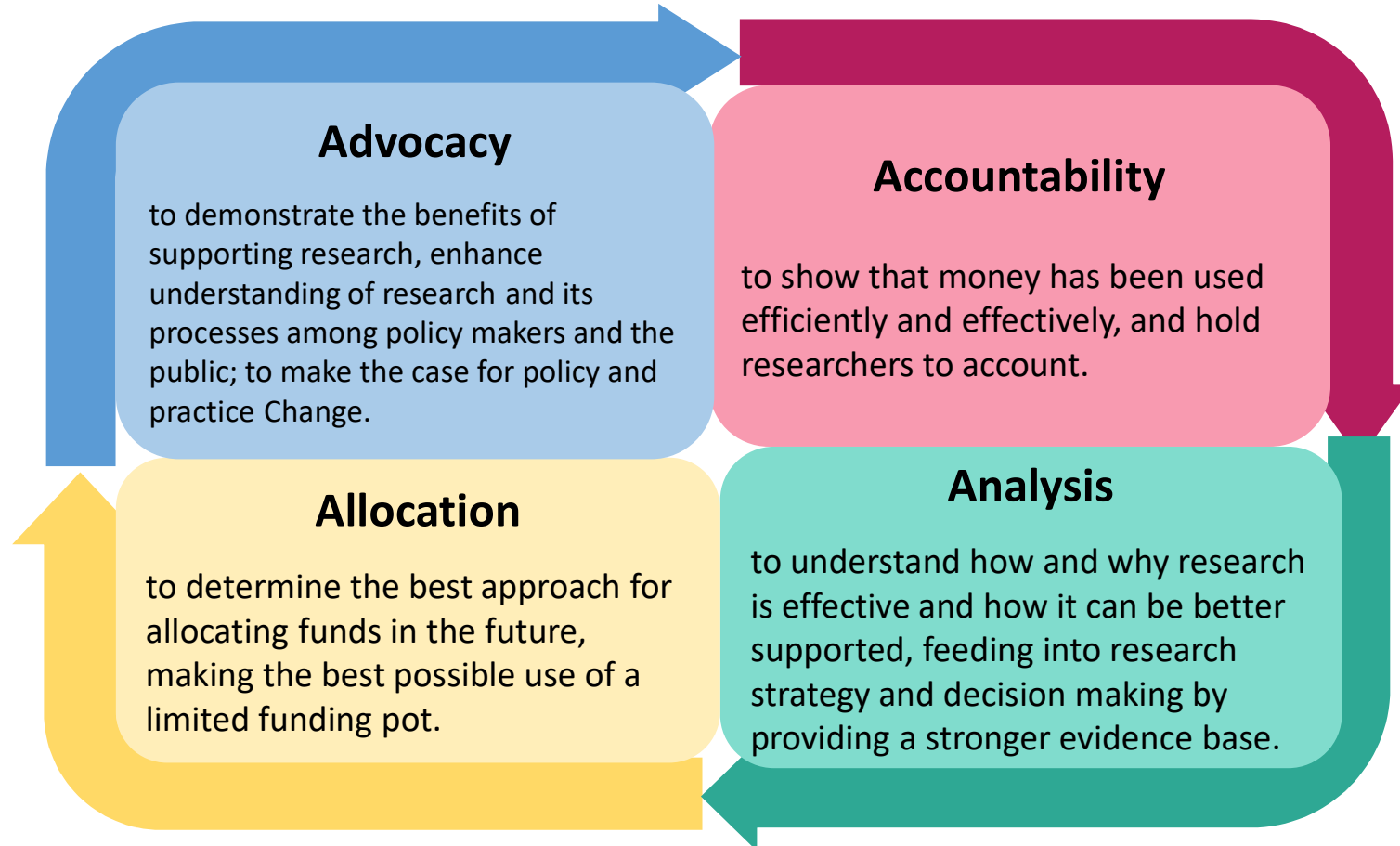
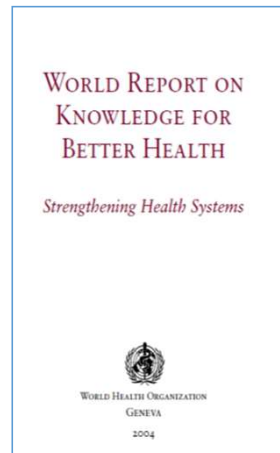


Table 2.1
Purposes of the six frameworks investigated in detail

	REF	ERA	Productive Interactions	NIHR	CAHS	STAR METRICS
Advocacy	✓	✓	✓	✓	✓	✓
Accountability	✓	✓	✓	✓	✓	✓
Analysis			✓	✓	✓	
Allocation	✓	✓				✓

Why measure the impact?



Why is research important for universal health coverage?

Currently most research is invested in new technologies rather than in making better use of existing knowledge. Much more research is needed to turn existing knowledge into practical applications.

Despite a multinational commitment to universal coverage, there are many unsolved questions on how to provide access to health services and financial risk protection to all people in all settings.

Many questions about universal coverage require **local answers** ,
All countries need to be producers of research as well as consumers.

Health Research System

Why measure the impact?

Function	Operational component
Stewardship	<ol style="list-style-type: none">1. Define and articulate vision for a health research system2. Identify appropriate health research priorities and coordinate adherence to them3. Set and monitor ethical standards for health research and research partnerships4. Monitor and evaluate of the health research system
Financing	<ol style="list-style-type: none">5. Secure research funds and allocate them accountably
Creating and sustaining resources	<ol style="list-style-type: none">6. Build, strengthen and sustain the human and physical capacity to conduct, absorb and utilize health research
Producing and using research	<ol style="list-style-type: none">7. Produce scientifically valid research outputs8. Translate and communicate research to inform health policy, strategies, practices and public opinion9. Promote the use of research to develop new tools (drugs, vaccines, devices and other applications) to improve health

Source: adapted from Pang et al., 2003 (5).

Iran Context

The research budget has increased from
0.55% of the GDP in 2001 → 0.87% of the GDP in 2009,

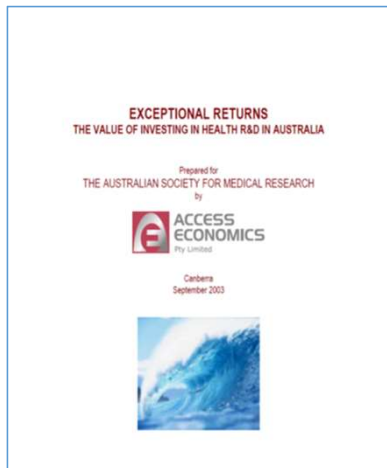
It was meant to be raised to 2.5% in 2015, although this did not happen.

Main reason: the policymakers' lack of belief in the impacts of research compared to other investments

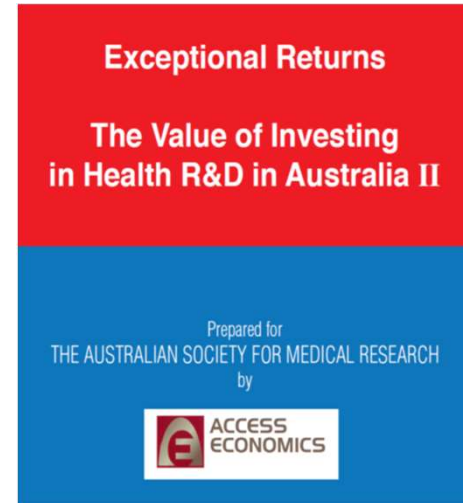
How to measure the impact?

- Top-down (ecologic approach)
- Bottom-up (Case studies)

Ecological approach



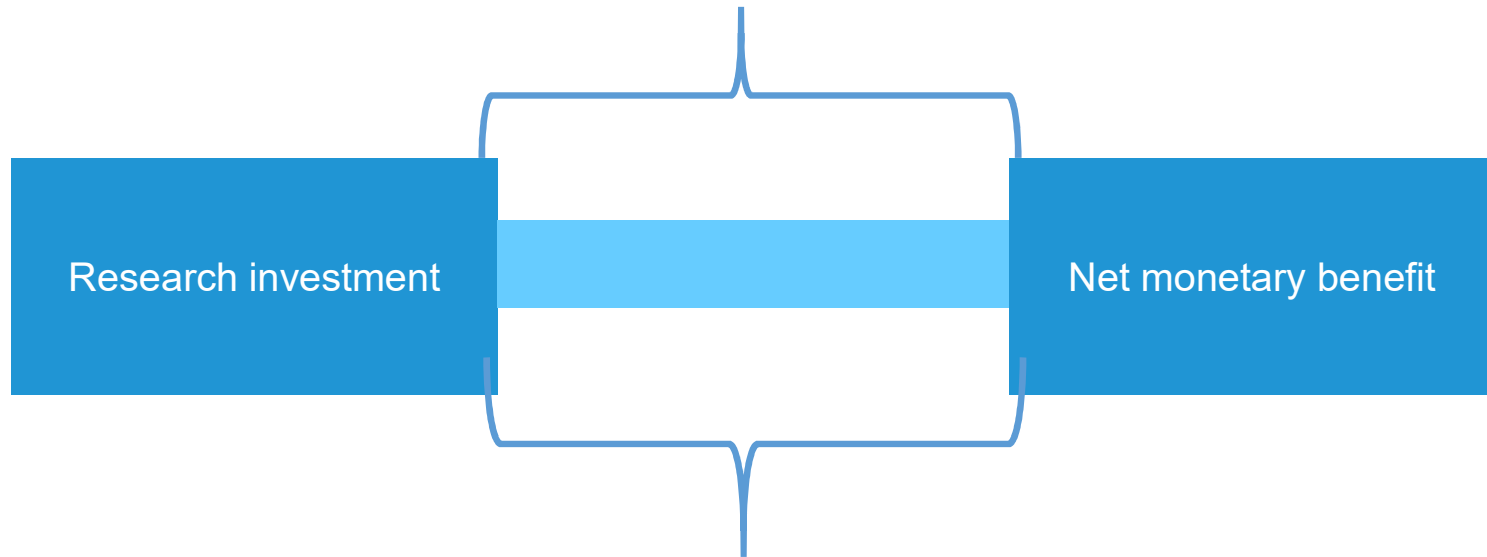
This paper estimates that half of the historical gains in health span are attributable to global health R&D and 2.5% is assumed attributable directly to Australian R&D. Historically, annual rates of return to Australian health R&D were up to \$5 for every \$1 spent on R&D.



Australian health R&D expenditure between 1992-93 and 2004-05 is estimated to return a net benefit of approximately \$29.5 billion. For the average dollar invested in Australian health R&D, \$2.17 in health benefits is returned, with a minimum of \$0.57 and maximum of \$6.01.

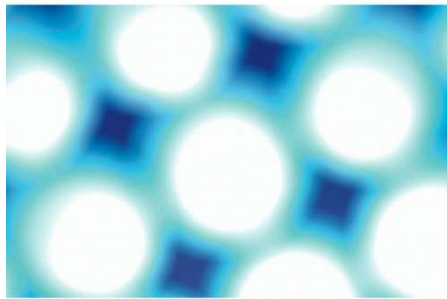
**To calculate the return on investment, we have to
make four key estimates**

Time lag between research
investment and health gain



Attribution

Medical Research:
What's it worth?
Estimating the economic benefits
from medical research in the UK



Health Economics Research Group (HERG)
Brunel University
Office of Health Economics (OHE)
RAND Europe
For the Medical Research Council,
the Wellcome Trust and the
Academy of Medical Sciences
November 2008

	Cancer	CVD	MSD	Mental Health
Average annual research investment	£377m (in constant 2011/12 prices)	£131m (in constant 2005/06 prices)	£70m (in constant 2013/14 prices)	£60m (in constant 2005/06 prices)
Time lag (average time between publication of cited publication and clinical guideline)	15 years	17 years	16 years	12 years
Attribution (proportion of papers that cite a UK address from the papers cited on guidelines)	17%	17%	30%	28%
Total net health gain	£161bn (in constant 2011/12 prices)	£53bn (in constant 2005/06 prices)	£16bn (in constant 2013/14 prices)	£29bn (in constant 2005/06 prices)
IRR (health gain)	10%	9%	7%	7%



Impact of Health Research Systems on Under-5 Mortality Rate: A Trend Analysis



Bahareh Yazdizadeh^{1*}, Mahboubeh Parsaeian², Reza Majdzadeh^{1,2}, Sima Nikooee¹

Table 1. Time-Adjustments of Variables Used in the Model

	U5MR	TA/CSA/GDP	MVC	HDI	CPI
Time	1990	Average of 1986-1990	Average of 1986-1990	1990	Average of 1996-2010
	1995	Average of 1991-1995	Average of 1991-1995	1995	
	2000	Average of 1996-2000	Average of 1996-2000	2000	
	2005	Average of 2001-2005	Average of 2001-2005	2005	
	2010	Average of 2006-2010	Average of 2006-2009	2010	

Abbreviations: TA: total articles; HDI: human development index; U5MR, under-five mortality rate; GDP, gross domestic product; MVC, measles vaccination coverage; CPI, corruption perception index; CSA, child-specific articles.

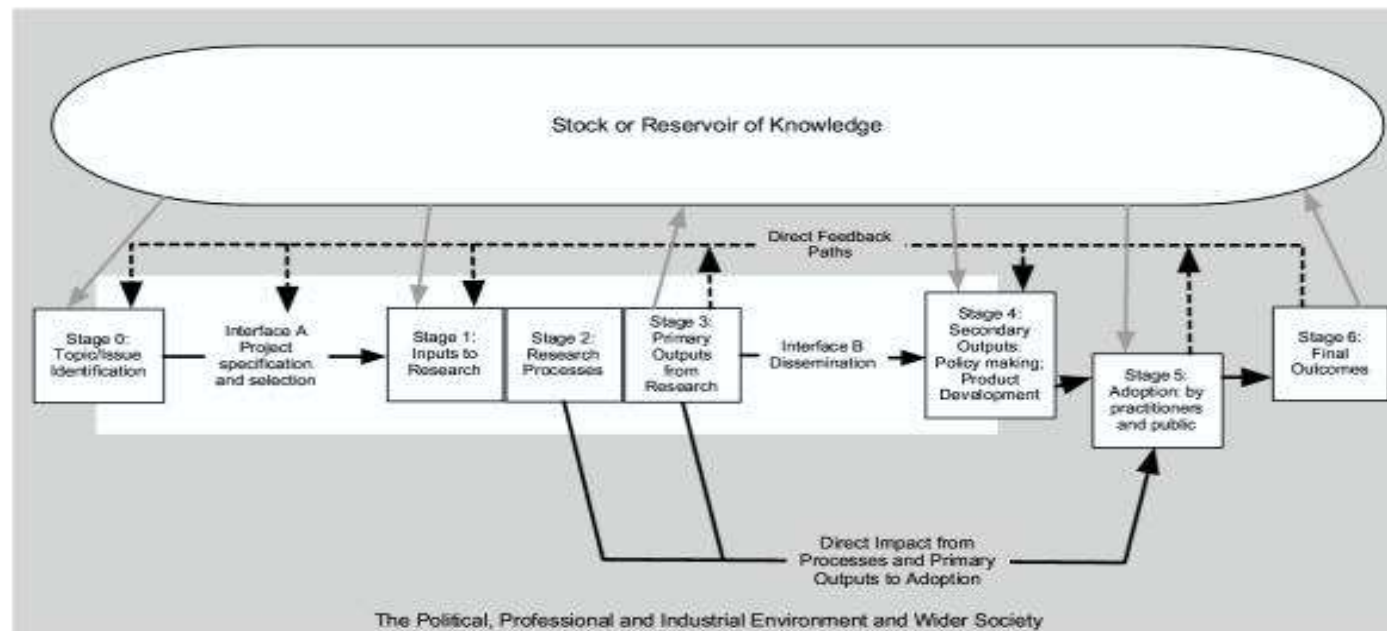
Results: Among all the models, ‘the random intercept and random slope models’ had lower residuals. The same variables of CSA, HDI, and time were significant and the coefficient of CSA was estimated at -0.17; meaning, with the addition of every 100 CSA, the rate of U5MR decreased by 17 per 1000 live births.

Conclusion: Although the number of CSA has contributed to the reduction of U5MR, the amount of its contribution is negligible compared to the countries’ development. We recommend entering different types of researches into the model separately in future research *and* including the variable of ‘exchange between knowledge generator and user.’

Case studies

Case studies examine the impact of specific health research, investigate the details of impact and propose ideas for increasing it.

Payback logic model



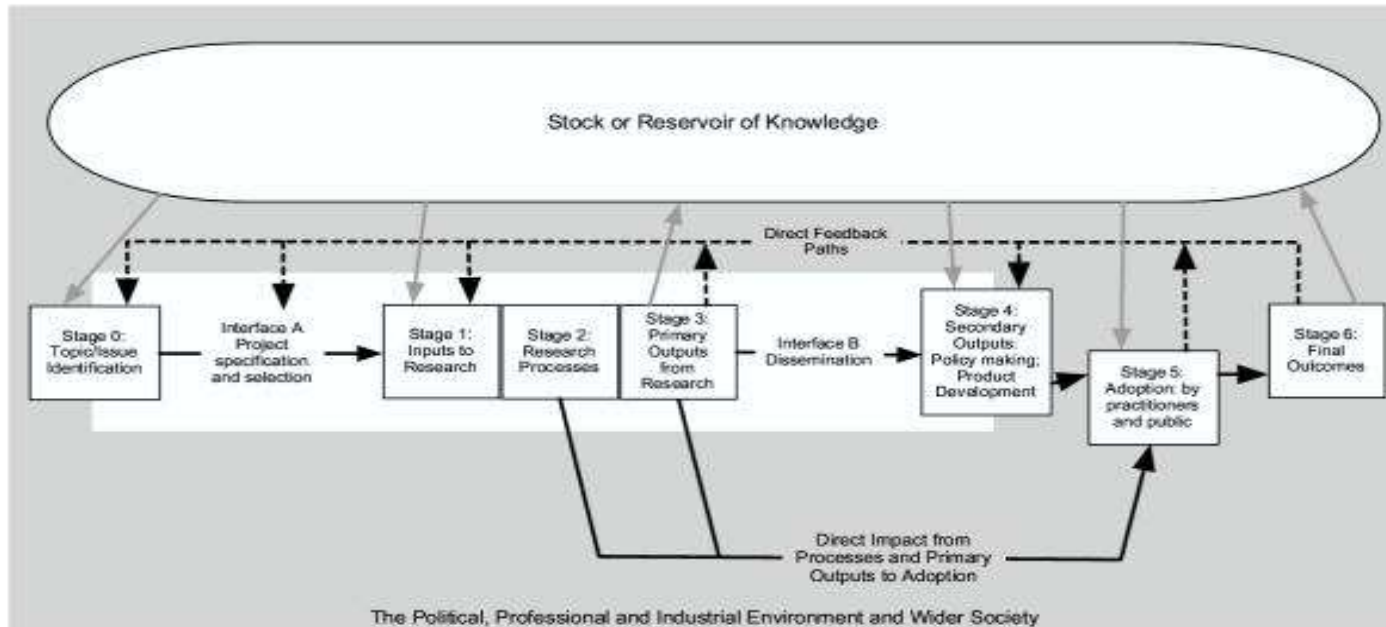
(Buxton M, Hanney S: How can payback from health research be assessed? Health Serv Res Policy 1996)

Which approach?

- Attribution problem
- Time lag

Approach	Advantages	Disadvantages
Top down (ecologic approach)	A little work for data collection (using exist data bases)	Attribution problem
Bottom up (case studies)	Control of some part of attribution problem	A lot of work for data collection (many individual interviews and document analysis)

Payback logic model



(Buxton M, Hanney S: How can payback from health research be assessed? Health Serv Res Policy 1996)

**CAHS 2009
(Impacts)**

**Advancing
Knowledge**

**Building
Capacity**

**Informing
Decision Making**

Health Benefits

**Broad Economic
and Social
Benefits**

MAKING AN IMPACT

A Preferred Framework and Indicators to Measure Returns
on Investment in Health Research



Report of the Panel on the Return on Investments in Health Research
January 2009



Indicators of each domains

Aggregation levels

Individual

Research group/grant

Institutions/departments

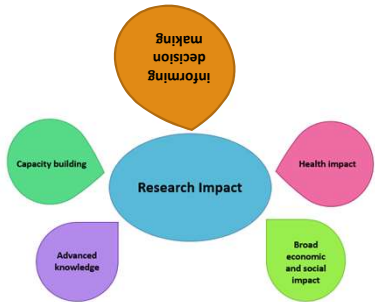
Funding agency

Provincially/ Nationally,

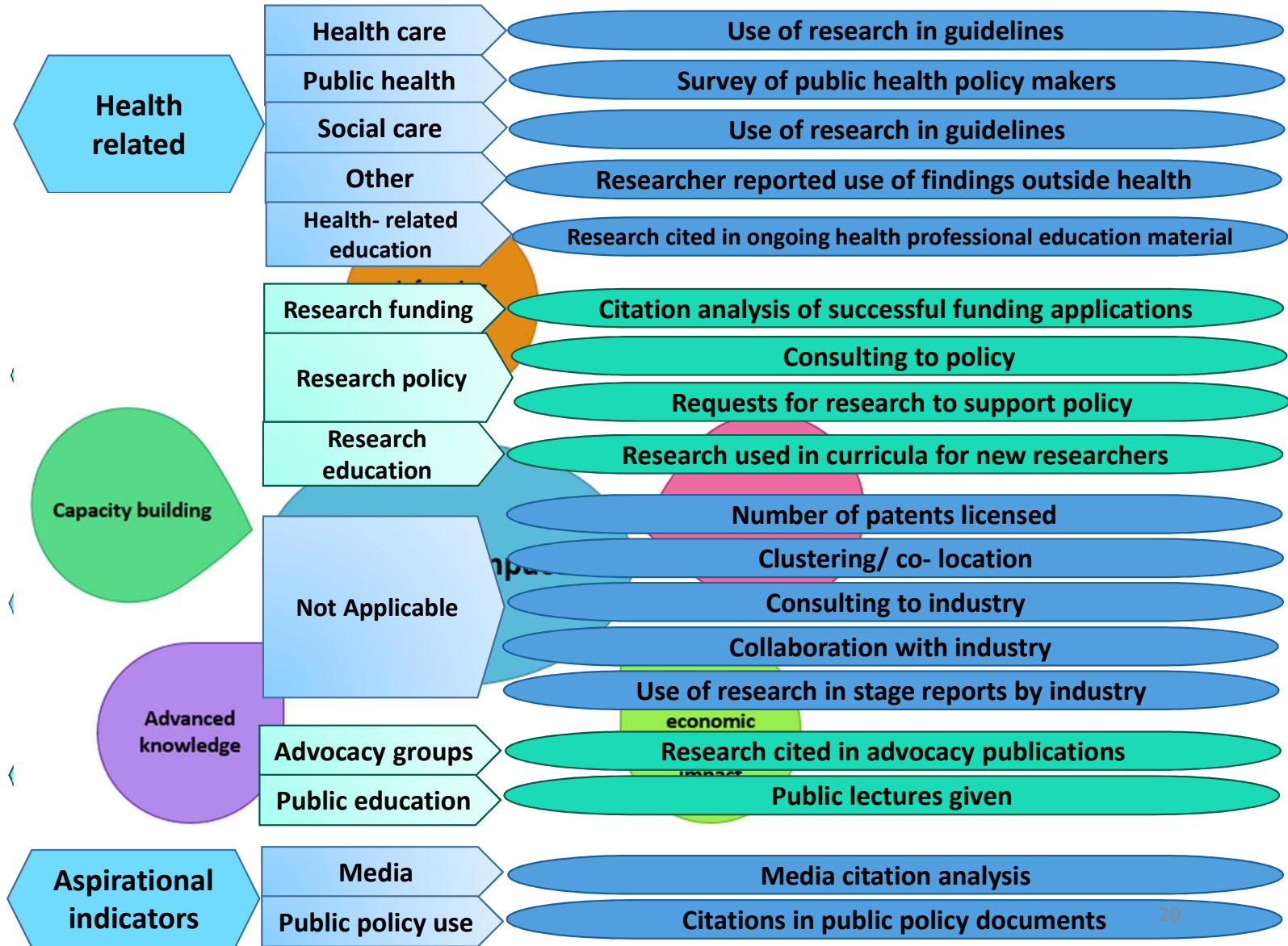
Internationally

Pillars

- Biomedical Research
- Clinical Research
- Health Services Research
- Population and Public Health Research
- Cross Pillar Research



informing decision making



Systematic review of methods for evaluating healthcare research economic impact

Bahareh Yazdizadeh^{1*}, Reza Majidsadeh¹, Hojat Salmasian¹

Abstract
Background: The economic benefits of healthcare research require study so that appropriate resources can be allocated to this research, particularly in developing countries. As a first step, we performed a systematic review to identify the methods used to assess the economic impact of healthcare research, and the outcomes.
Method: An electronic search yielded 8414 articles. After studying titles, abstracts, and full texts, 18 articles in addition to 21 relevant Web sites were identified.
Results: The initial search yielded 8414 articles. After studying titles, abstracts, and full texts, 18 articles in addition to 21 relevant Web sites were identified. The economic impact of healthcare research, and the outcomes, were included in the analysis. Eleven other reports were found on Web sites. We found that the outcomes of healthcare research payback included direct cost-savings, cost reductions in healthcare delivery, and improved health status. Two research methods were used to assess economic impact: micro-economic studies, which examine the relationship between healthcare research payback and macro-economic outcomes, and cost-benefit analysis, which examines the relationship between healthcare research payback and economic outcomes.
Conclusions: Our study shows that different methods and outcomes can be used to assess economic impact of healthcare research. There is no unique methodological approach for the economic impact of healthcare research. We therefore recommend a consensus on national frameworks in order to build capacity, arrange for necessary information, and disseminate the results of research to policy-makers and the public.

Background
Healthcare research is essential for the most fundamental of public health: the prevention of disease and the promotion of health.

RESEARCH

Open Access



Impact assessment of Iran's health technology assessment programme

Bahareh Yazdizadeh¹, Farideh Mohtasham^{1*} and Ashraf Velayati²

Abstract

Background: Following approximately 10 years from the beginning of Iran's national Health Technology Assessment (HTA) programme, the present study aims to evaluate its success by examining the impact of HTA and identify determinant factors leading to the implementation of HTA report results.

Methods: The triangulation method was employed herein. HTA reports were initially identified and their determinant factors were then examined from the perspectives of both researchers (by preparing a query according to the Payback model and sending it to HTA principle investigators) and stakeholders (semi-structured interviews held with each HTA stakeholder). Simultaneously, the quality of the HTA reports was examined using critical appraisal checklists.

Results: The impact of 19 equipment technologies and four pharmaceutical technologies were assessed. Twenty researchers replied (response rate, 86.96%) to the questionnaire on the impact of HTA researcher's perspective. To assess the impact of HTA reports from the stakeholder's perspective, 19 reports were chosen and interviewed as the main target audience.

The most common step taken to disseminate the results of the HTA projects was publication. Taught researchers and their colleagues' new skills had facilitated the securing of other organisations. Most reports had used the systematic review method but the research rarely presented regarding outcomes, costs and analysis. The greatest impact of HTA reports had been on policy-makers providing and allocating finances. Barriers in stewardship, identification of topics, performance and dissemination of HTA results were the main barriers of implementation.

Conclusions: In most aspects, the status of HTA impact reports need improvement. The results of the HTA programme in Iran have been investigated in other studies. These findings solution that can be actively applied to the health system to improve the status quo.

Keywords: Health technology assessment, Health research impact assessment, Res

Background
The rapid dissemination of health technologies has exposed governments to challenges in the delivery of high-quality and utilisation of direct and long-term

RESEARCH

An assessment of health research impact in Iran

Bahareh Yazdizadeh^{1*}, Reza Majidsadeh^{1,2}, Leila Jarani³, Farideh Mohtasham¹, Sima Nikooee¹, Abdmohammad Mousavi⁴, Farid Najafi⁵, Maryam Atabatzadeh⁶, Azam Bazrafshan⁷, Morteza Zare⁸ and Manoochehr Korami⁹

Abstract

Background: In recent years, Iran has made significant developments in the field of health sciences. However, the question is whether this considerable increase has affected public health. The research budget has always been negligible and unsustainable in developing countries. Hence, using the Payback Framework, we conducted this study to evaluate the impact of health research in Iran.
Methods: By using a cross-sectional method and two-stage stratified cluster sampling, the projects were randomly selected from six medical universities. A questionnaire was designed according to the Payback Framework and completed by the principle investigators. A questionnaire was designed according to the Payback Framework and completed by the principle investigators. A questionnaire was designed according to the Payback Framework and completed by the principle investigators.
Results: The response rate was 70.4%. Ten point twenty-four percent (10.24%) of the studies had been ordered by a knowledge user organization. The average number of articles published in journals per project was 0.95, and half of the studies had no articles published in journals. The results of 1.2% of the studies had been used in systematic review articles and the same proportion had been implemented in clinical or public health guidelines. The results of 5.3% of the studies had been implemented in Scopus. The results of 1.2% of the studies had been used in systematic review articles and the same proportion had been implemented in clinical or public health guidelines. The results of 5.3% of the studies had been implemented in Scopus. The results of 1.2% of the studies had been used in systematic review articles and the same proportion had been implemented in clinical or public health guidelines. The results of 5.3% of the studies had been implemented in Scopus.

Conclusion: In most aspects, the status of research impact needs improvement. A comparison of Iran's ranking of knowledge creation and knowledge impact in the Global Innovation Index confirms the expected impact. Important problems identified were not conducting research based on national needs, lack of research implementation of research results.

Keywords:

Research impact assessment, Payback, Health research system

Background

Where scientific development is concerned, Iran is perceived the fastest rate of growth among the Middle Eastern region in the past decade. Development, such that Iran's health system has advanced during the years.

Research article

Assessing the impact of small-research grants supported by WHO in the Eastern Mediterranean Region 2010–2018

Bahareh Yazdizadeh¹, Ahmed Mandil², Sima Nikooee¹ and Arash Rashidian²

¹Knowledge Utilization Research Center, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran. ²World Health Organization Office for the Eastern Mediterranean, Cairo, Egypt. (Correspondence to: Ahmed Mandil: mandila@who.int)

Electronic supplementary material:
The online version of this article contains supplementary material.

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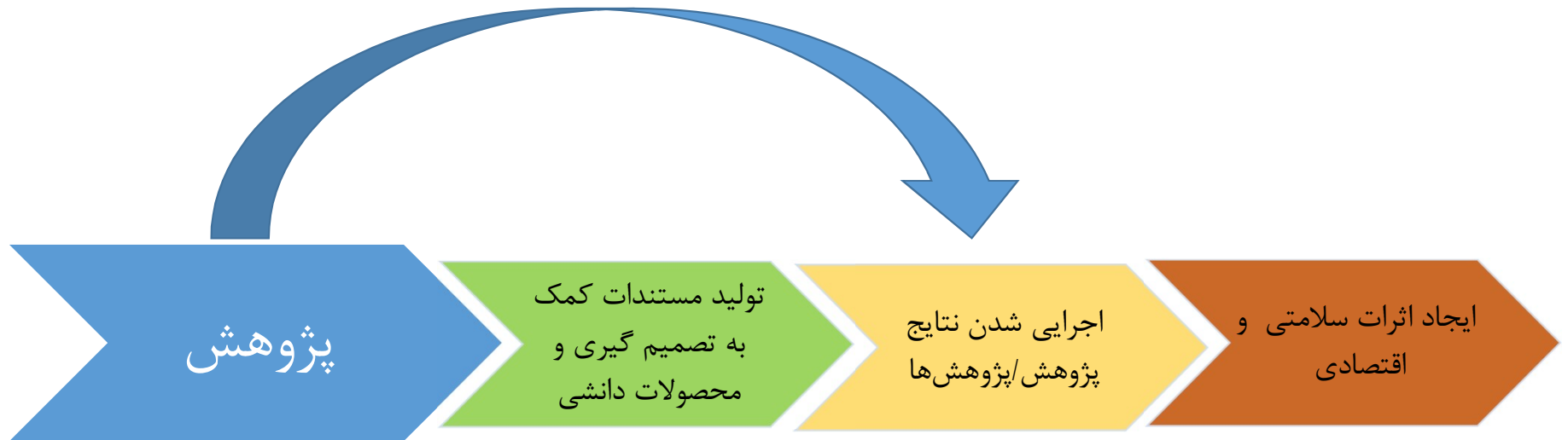
Establishing research impact assessment in Iran: The first report from a non-high-income country

Bahareh Yazdizadeh^{1*}, Ayat Ahmadi¹, Farid Najafi², Kazem Mohammad³, Mohammad Fariden⁴, Davood Khalili⁵, Mahdi Mahdavi⁶, Elaheh Rahimpour⁷, Abolghasem Jouyban⁸, Roya Kelishadi⁹, Mohammad Reza Monazzam¹⁰, Monir Baradaran Eftekhari¹¹, Katayoun Falahat¹², Sima Nikooee¹, Reza Majdzadeh^{13*}

Background This study presents the first report on research impact assessment (RIA) in non-high-income countries, undertaken as a pilot initiative in 2021. Within it, we aimed to explore the feasibility of employing the 'pay-back' model for evaluating the impact

مسیر پژوهش به اثر

(برنامه ارزشیابی اثرات پژوهش های سلامت ۱۴۰۰، معاونت تحقیقات و فناوری وزارت بهداشت، درمان و آموزش پزشکی)



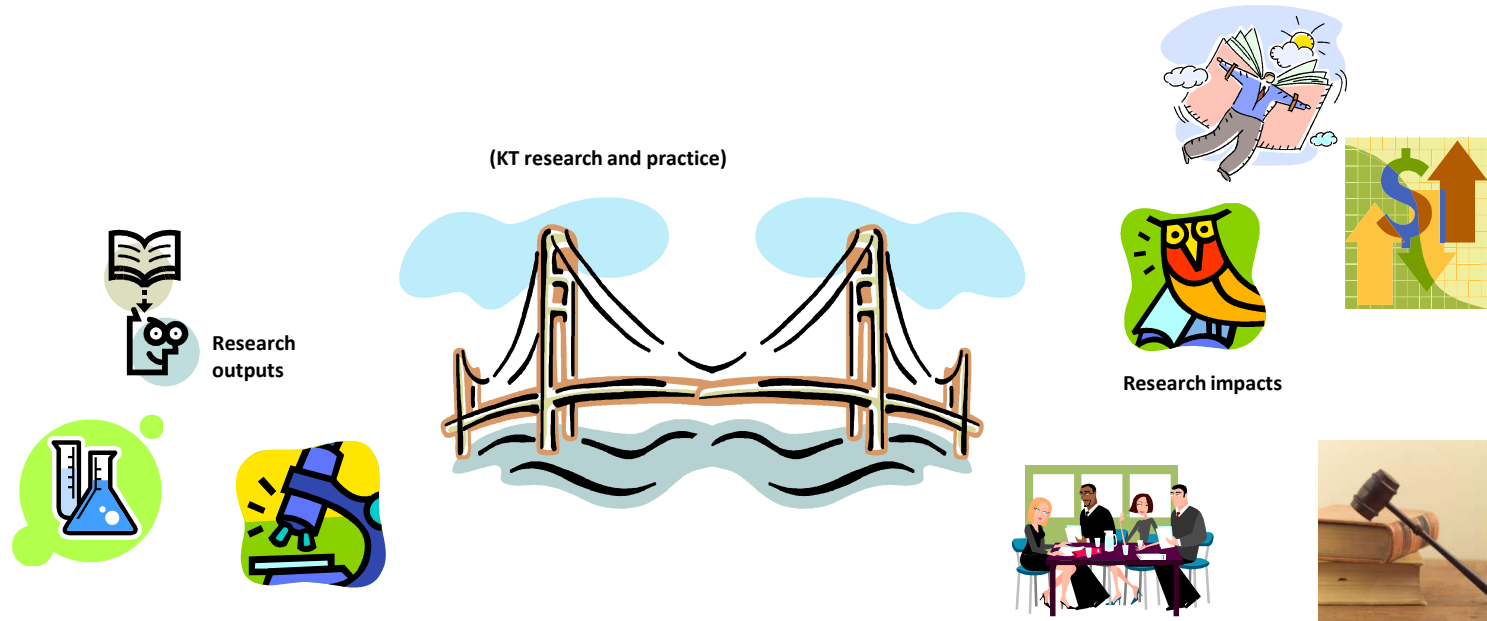
برنامه ارزشیابی اثرات پژوهش های سلامت

شاخص	حیطه اثر
تولید مستندات کمک به تصمیم گیری در سطوح بین المللی، ملی و استانی	الف تولید مستندات کمک تصمیم گیر و محصولات دانشی
استفاده از نتایج پژوهش ها در تهیه مستندات کمک به تصمیم گیری	ب اجرائی شدن نتایج پژوهش / پژوهش ها
استفاده از نتایج پژوهش ها در سیاست گذاری های ملی (داخل و خارج از وزارت بهداشت) استفاده از نتایج پژوهش ها در سیاست گذاری های استانی، دانشگاهی و شبکه بهداشتی و درمان شهرستان	ج ایجاد اثرات سلامتی و اقتصادی
نتایج پژوهش اجرایی شده و اثرات سلامتی آن (اثر بر شیوع و بروز بیماری، کیفیت زندگی و یا طول عمر) اندازه گیری شده باشد.	
نتایج پژوهش اجرایی شده و اثرات اقتصادی آن (اثر بر درآمدزایی و افزایش کارایی در سطح فرد و سازمان) اندازه گیری شده باشد.	

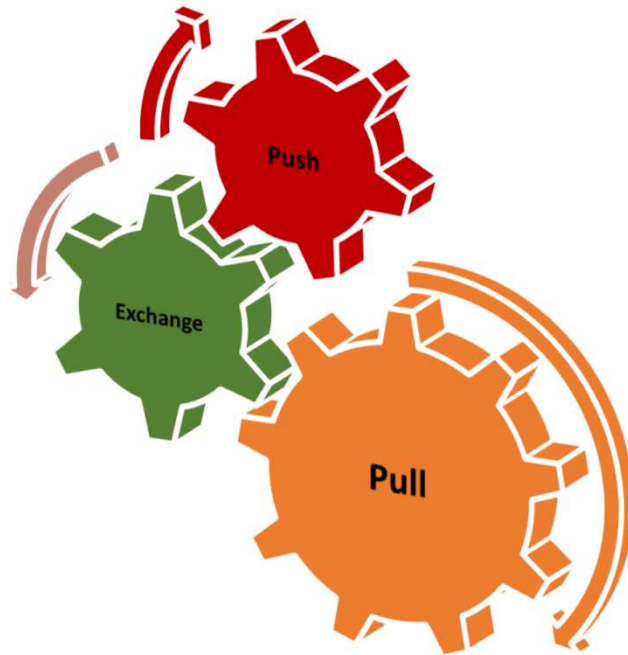
Future research and future steps

- Compare the impact of different type of research
- Improving measuring by addressing methodological challenges

Knowledge Translation is the bridge between discovery and impact



It's is about making a difference



Lavis, J; Roberston, D.; Woodside, J.; McLeod, C.B.; Abelson; J. (2003). « How Can Research Organizations More Effectively Transfer Research Knowledge to Decision-Makers »; The Milbank Quarterly, 81 (2) : 221-248.

Push activities

Gholami et al. *Health Research Policy and Systems* 2011, 9:10
<http://www.health-policy-systems.com/content/9/1/10>



HEALTH RESEARCH POLICY
AND SYSTEMS

RESEARCH

Open Access

How should we assess knowledge translation in research organizations; designing a knowledge translation self-assessment tool for research institutes (SATORI)

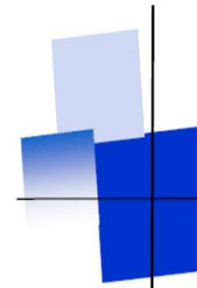
Jaleh Gholami^{1,2}, Reza Majdzadeh^{2,1*}, Saharnaz Nedjat^{1,2}, Sima Nedjat², Katayoun Maleki², Mahnaz Ashoorkhani², Bahareh Yazdizadeh^{2,1}

این ابزار در چهار بخش طراحی شده:

- ۱- سوال پژوهش: آیا نیازهای تصمیم گیرندگانی که از نتایج تحقیق استفاده می کنند را شناسایی می کنیم و به صورت موضوع پژوهشی درمی آوریم؟
- ۲- تولید دانش: آیا شواهدی تولید می کنیم که در تصمیم گیری ها قابل استفاده باشد؟
- ۳- انتقال دانش: آیا سازوکارهای مناسب برای انتشار نتایج پژوهش های سازمان به مخاطبین آنها وجود دارد و اقدامات مناسب برای انتقال صورت می گیرد؟
- ۴- ترویج استفاده از شواهد: آیا به تصمیم گیرندگان کمک می کنیم که بتوانند از نتایج پژوهش ها بهتر استفاده کنند؟



دانشگاه علوم پزشکی و خدمات بهداشتی درمانی تهران

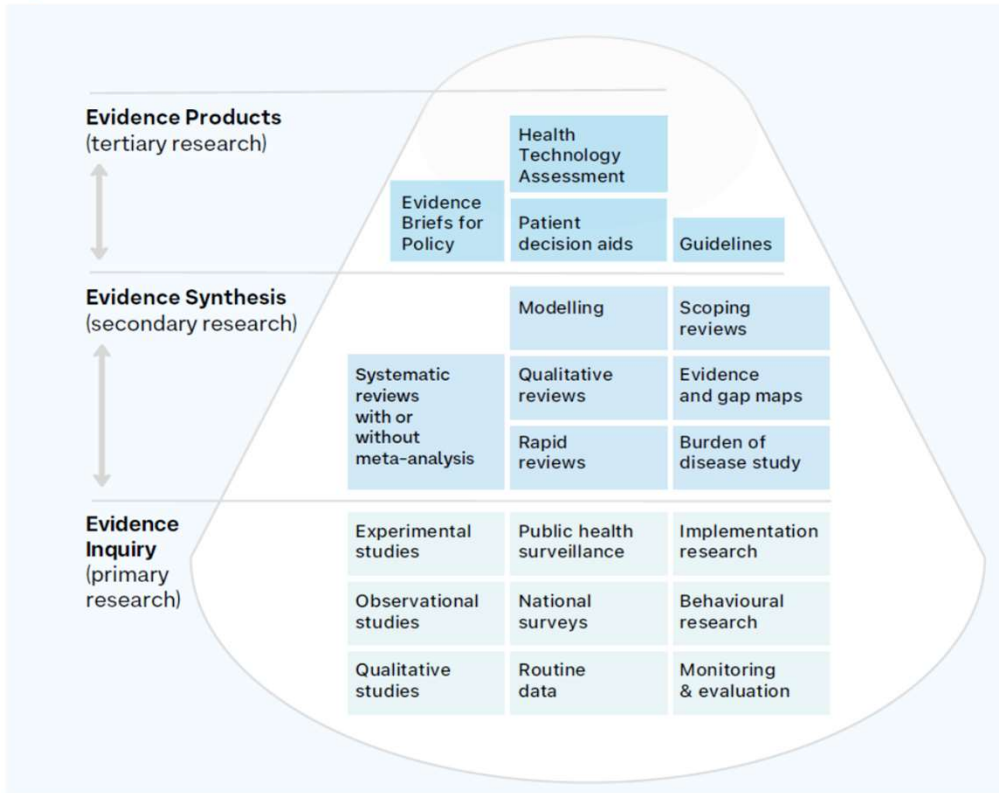


ابزار خودارزیابی ترجمه دانش ویژه سازمان های
پژوهشی

Knowledge Translation
Self Assessment Tool for Research
Institutes (SATORI)

سوال پژوهش

Fig. 2.1. Evidence creation funnel



- انجام پژوهش مبتنی بر نیاز
- شناسایی نیازهای دانشی بر اساس چالش های سلامت
- انجام مطالعات ثانویه و تولید ابزارهای کمک تصمیم گیر

PULL activities

- All activities which promote use of knowledge in target groups

Policy maker and manager, Health care provider, Patient and public, Industry, Media

- Change behavior

Exchange activities

Brokering

individuals, groups, organizations in PUSH, PULL or as independent organizations.

- ✓ Find and link people
- ✓ Work with both parties to scan the literature, summarize what exists, identify gaps
- ✓ Work with researchers and users of research to create research-able questions from policy/management issues
- ✓ Ensure that both researchers and users of research are engaged throughout the research process

Iran?

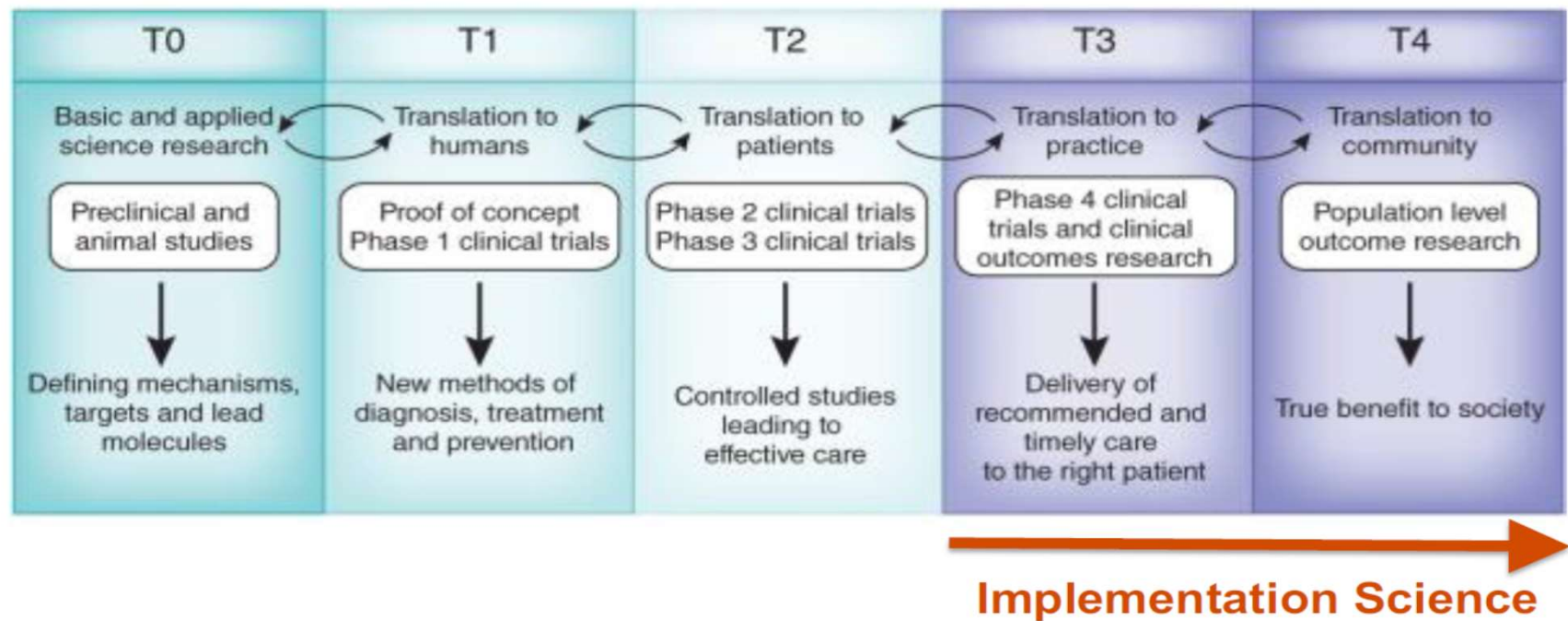
Networking

formal network of producer and user of knowledge. Examples:

- Knowledge translation platforms (KTP)
Evidence Informed Policy Network (EVIPNet)
- Community of practice
- Formal knowledge networks

Iran?

Translational Research Pathways



Thank you