Health Research Impact Assessment

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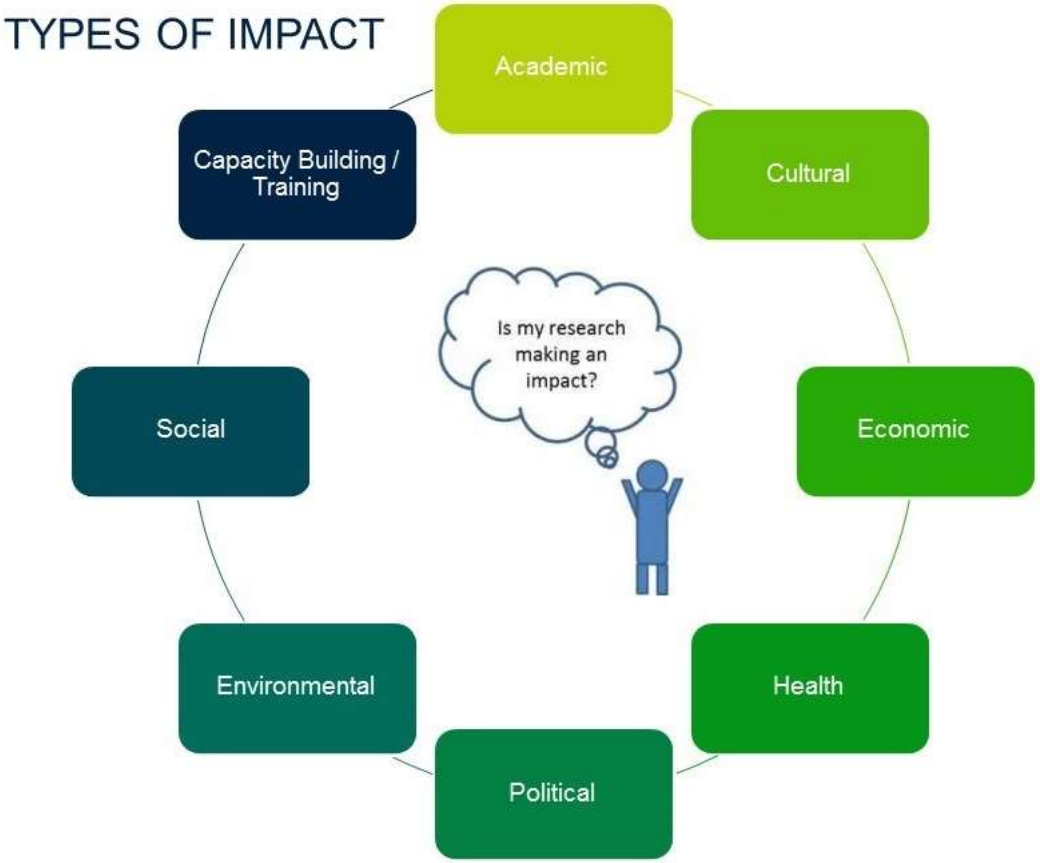
25 تیر 1404

The objectives of the presentation

- What's the impact?
- Why measure the impact?
- How to measure the impact?
- Research impact and knowledge translation



What’s the research 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/REFimpact/

- "… 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?

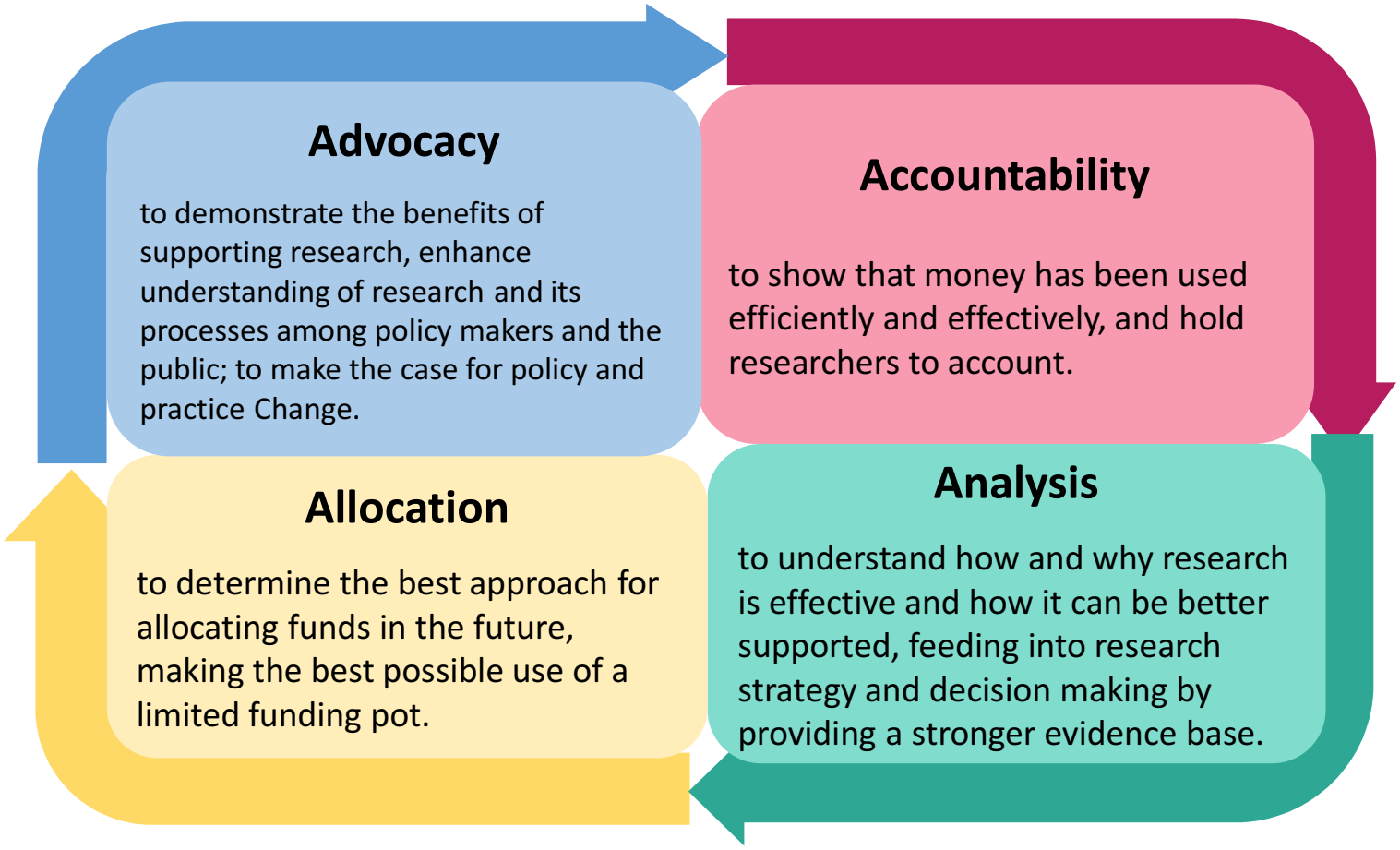
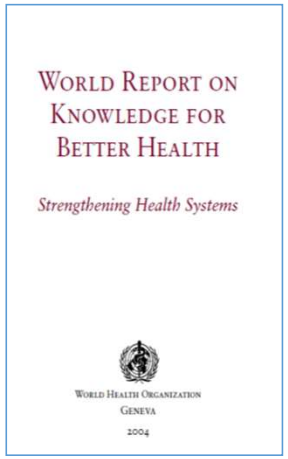
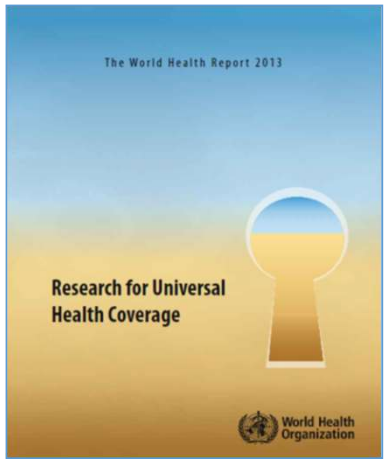


Table 2.1
Purposes of the six frameworks investigated in detail

	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	1. Define and articulate vision for a health research system
	2. Identify appropriate health research priorities and coordinate adherence to them
	3. Set and monitor ethical standards for health research and research partnerships
	4. Monitor and evaluate of the health research system
Financing	5. Secure research funds and allocate them accountably
Creating and sustaining resources	6. Build, strengthen and sustain the human and physical capacity to conduct, absorb and utilize health research
Producing and using research	7. Produce scientifically valid research outputs
	8. Translate and communicate research to inform health policy, strategies, practices and public opinion
	9. 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.

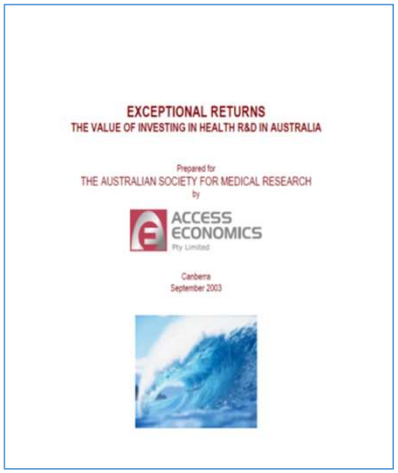
Main reason: the policymakers' lack of belief in the impacts of research compared to other investments

Sepanlou SG, Malekzadeh R. Health research system in Iran: an overview. Arch Iran Med. 2012;15(7):392–3.

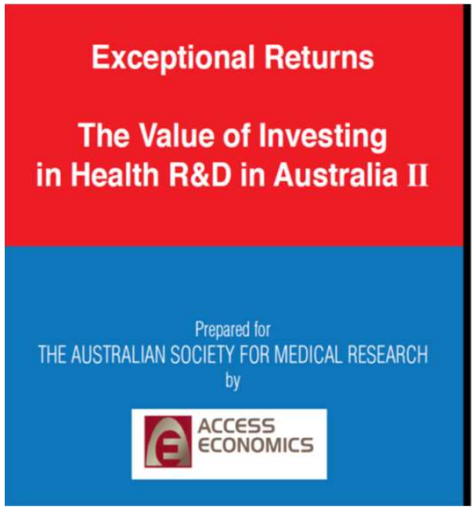
How to measure the impact?

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

Ecological approach

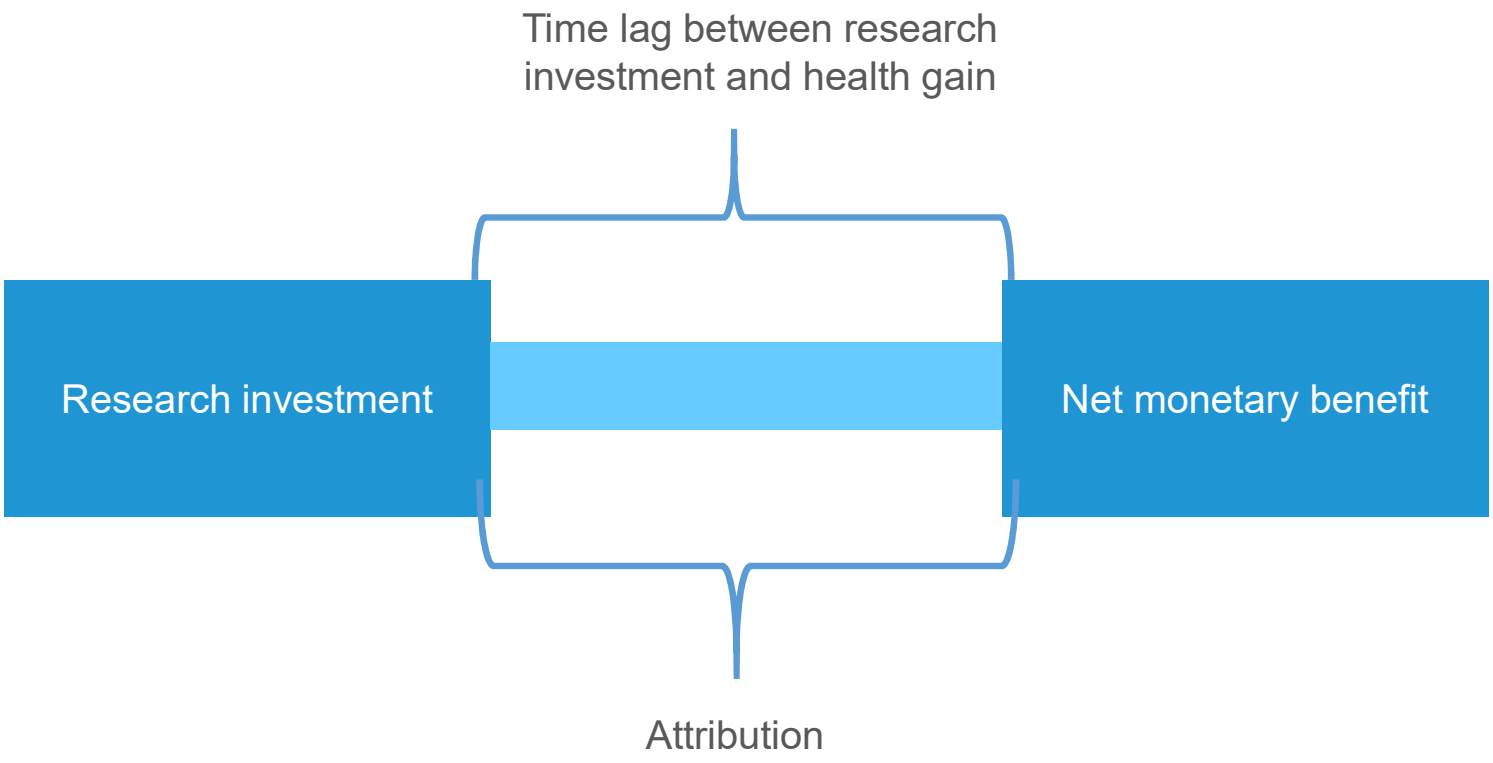


This paper estimates that half of the historical gains in health span are attributable to global health R&D and 2.5% is assumed attributable directly to Australian R&D.
Historically, annual rates of return to Australian health R&D were up to $5 for every $1 spent on R&D.



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



	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%

http://ijhpm.com
Int J Health Policy Manag 2017, 6(7), 395–402
doi 10.15171/ijhpm.2016.147
IJHPM International Journal of Health Policy and Management
Original Article

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

Bahareh Yazdizadeh[1*], Mahboubeh Parsaeian[2], Reza Majdzadeh[1,2], Sima Nikooee[1]

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.

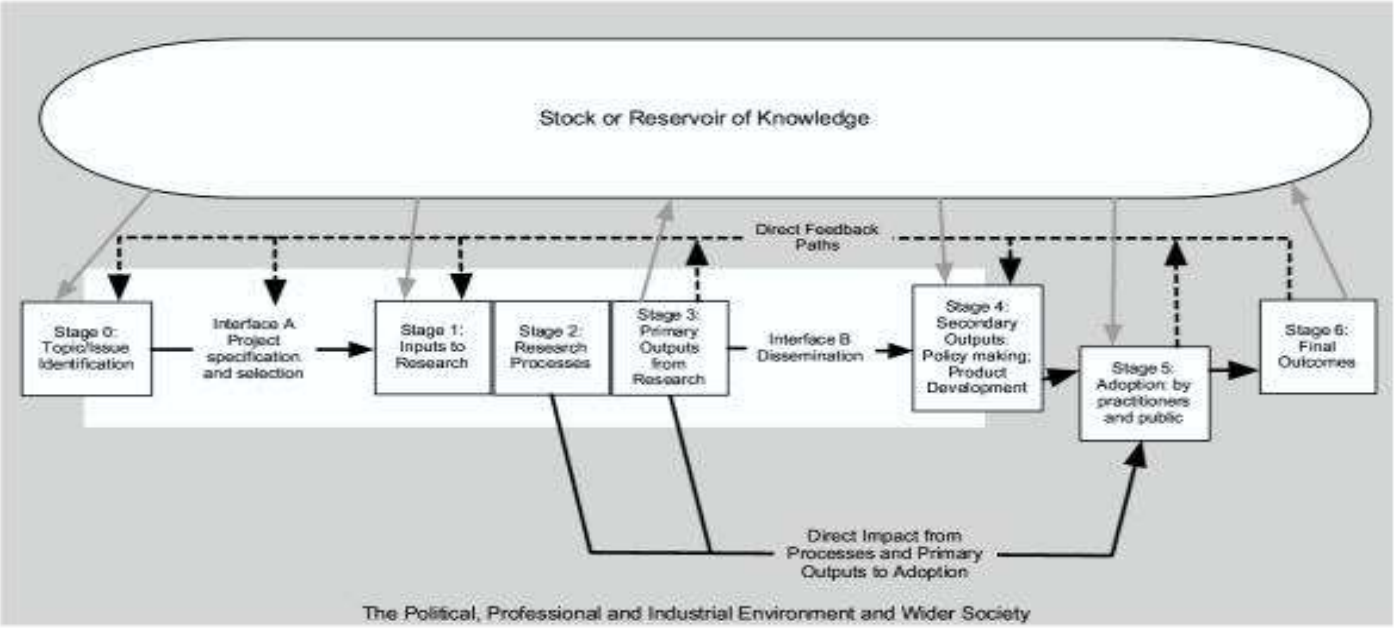
Results: Among all the models, 'the random intercept and random slope models' had lower residuals. The same variables of CSA, HDI, and time were significant and the coefficient of CSA was estimated at -0.17; meaning, with the addition of every 100 CSA, the rate of U5MR decreased by 17 per 1000 live births.

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



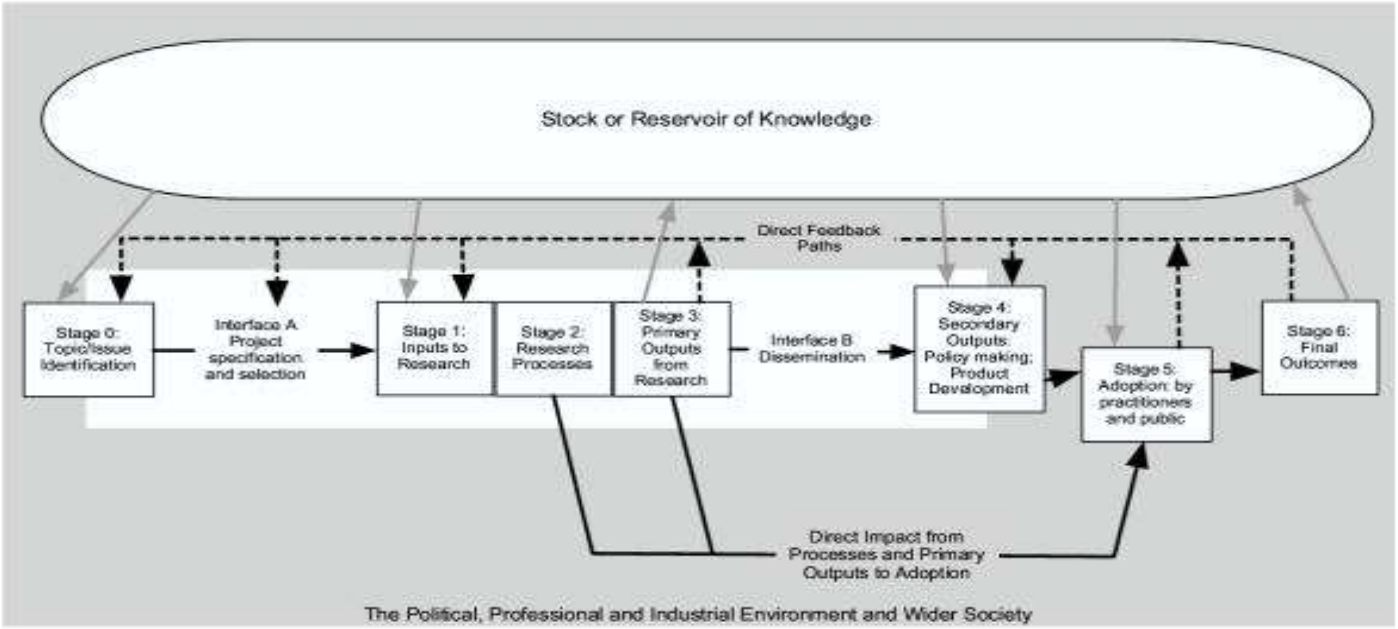
(Buxton M, Hanney S: How can payback from health research be assessed? Health Serv Res Policy 1996)

Which approach?

- Attribution problem
- Time lag

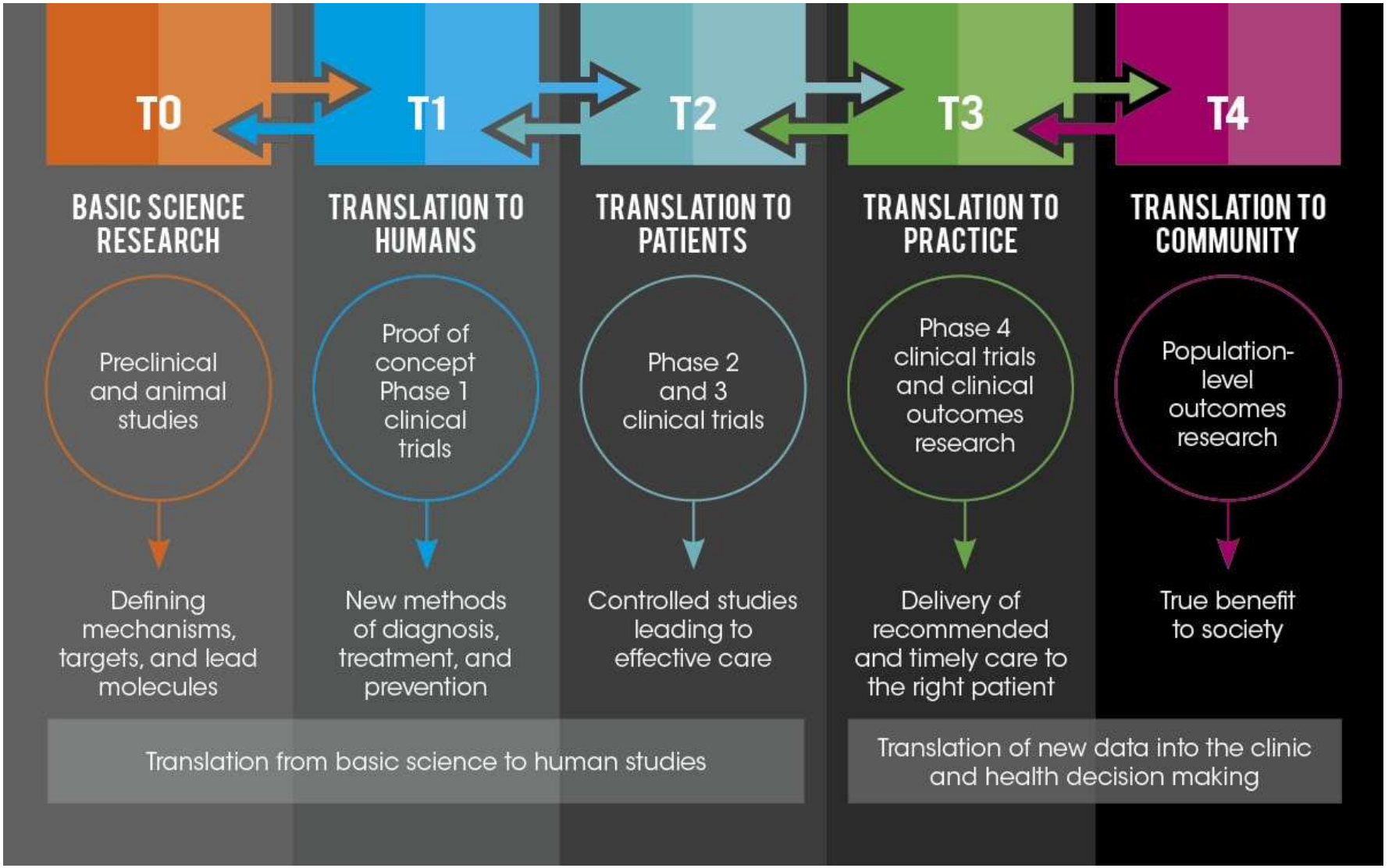
Approach	Advantages	Disadvantages
Top down (ecologic approach)	A little work for data collection (using exist data bases)	Attribution problem
Bottom up (case studies)	Control of some part of attribution problem	A lot of work for data collection (many individual interviews and document analysis)

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

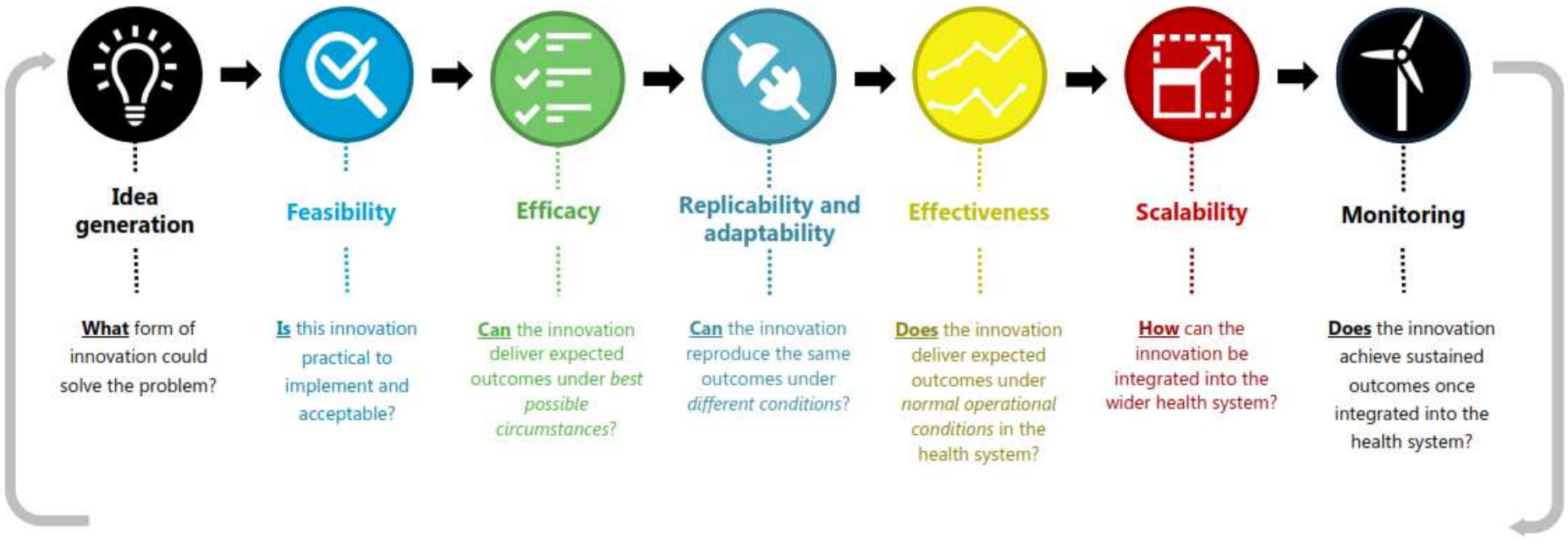

T0
T1
T2
T3
T4
BASIC SCIENCE RESEARCH
TRANSLATION TO HUMANS
TRANSLATION TO PATIENTS
TRANSLATION TO PRACTICE
TRANSLATION TO COMMUNITY
Preclinical and animal studies
Proof of concept Phase 1 clinical trials
Phase 2 and 3 clinical trials
Phase 4 clinical trials and clinical outcomes research
Population-level outcomes research
Defining mechanisms, targets, and lead molecules
New methods of diagnosis, treatment, and prevention
Controlled studies leading to effective care
Delivery of recommended and timely care to the right patient
True benefit to society
Translation from basic science to human studies
Translation of new data into the clinic and health decision making

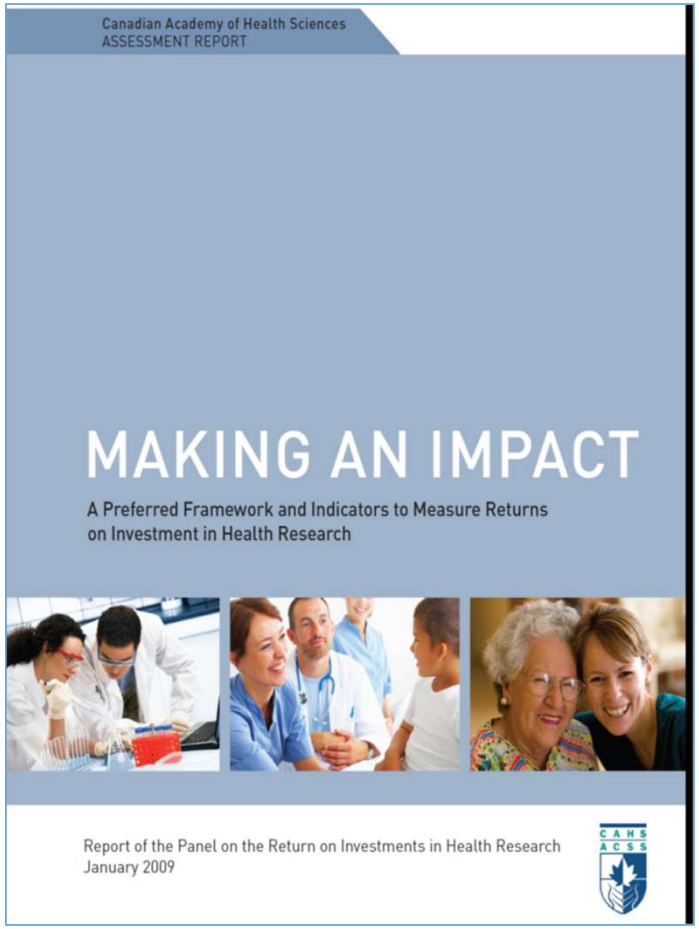
Translational Research Pathway

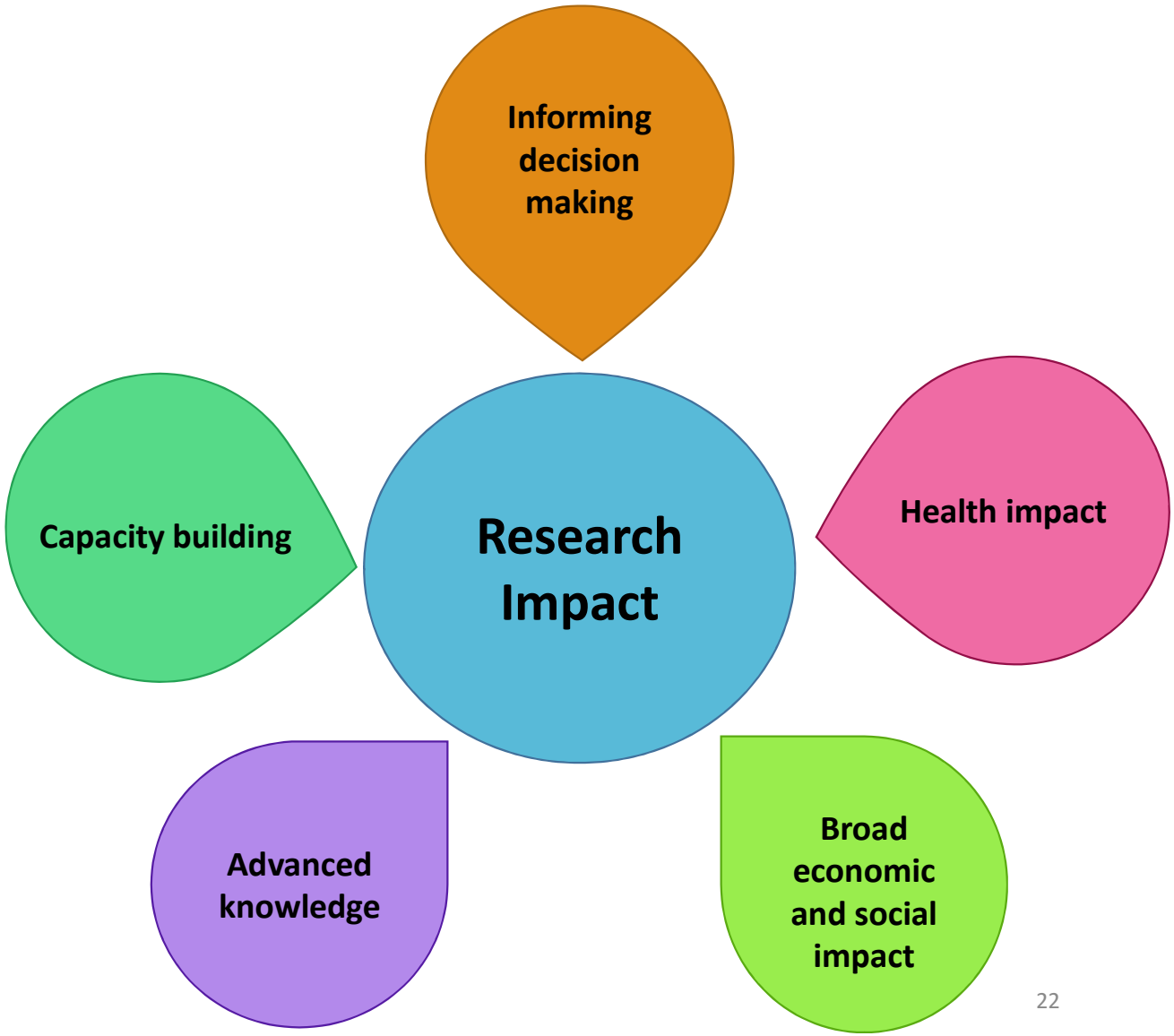
Translation is the process of turning observations in the laboratory, clinic and community into interventions that improve the health of individuals and the public — from diagnostics and therapeutics to medical procedures and behavioral changes.

https://ncats.nih.gov/about/about-translational-science

Figure 1. Translational Research Framework: testing policy, program and service innovation




Canadian Academy of Health Sciences
ASSESSMENT REPORT
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


Informing decision making
Capacity building
Research Impact
Health impact
Advanced knowledge
Broad economic and social impact

Indicators of each domains

Aggregation levels

Individual

Research group/grant

Institutions/departments

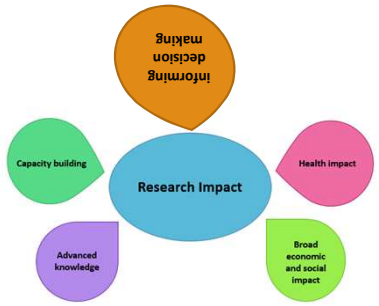
Funding agency

Provincially/ Nationally,

Internationally

Pillars

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



informing decision making

Capacity building

Advanced knowledge

economic

impact

Health related	Health care	Use of research in guidelines
	Public health	Survey of public health policy makers
	Social care	Use of research in guidelines
	Other	Researcher reported use of findings outside health
	Health- related education	Research cited in ongoing health professional education material
Capacity building	Research funding	Citation analysis of successful funding applications
	Research policy	Consulting to policy
		Requests for research to support policy
	Research education	Research used in curricula for new researchers
Not Applicable		Number of patents licensed
		Clustering/ co- location
		Consulting to industry
		Collaboration with industry
		Use of research in stage reports by industry
Advanced knowledge	Advocacy groups	Research cited in advocacy publications
	Public education	Public lectures given
Aspirational indicators	Media	Media citation analysis
	Public policy use	Citations in public policy documents

Systematic review of methods for evaluating healthcare research economic impact

Impact assessment of Iran's health technology assessment programme

An assessment of health research impact in Iran

Research article

EMHJ – Vol. 28 No. 10 – 2022

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

Bahareh Yazdizadeh,[1] Ahmed Mandil,[2] Sima Nikooee[1] and Arash Rashidian[2]

[1]Knowledge Utilization Research Center, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran. [2]World 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.

journal of global health

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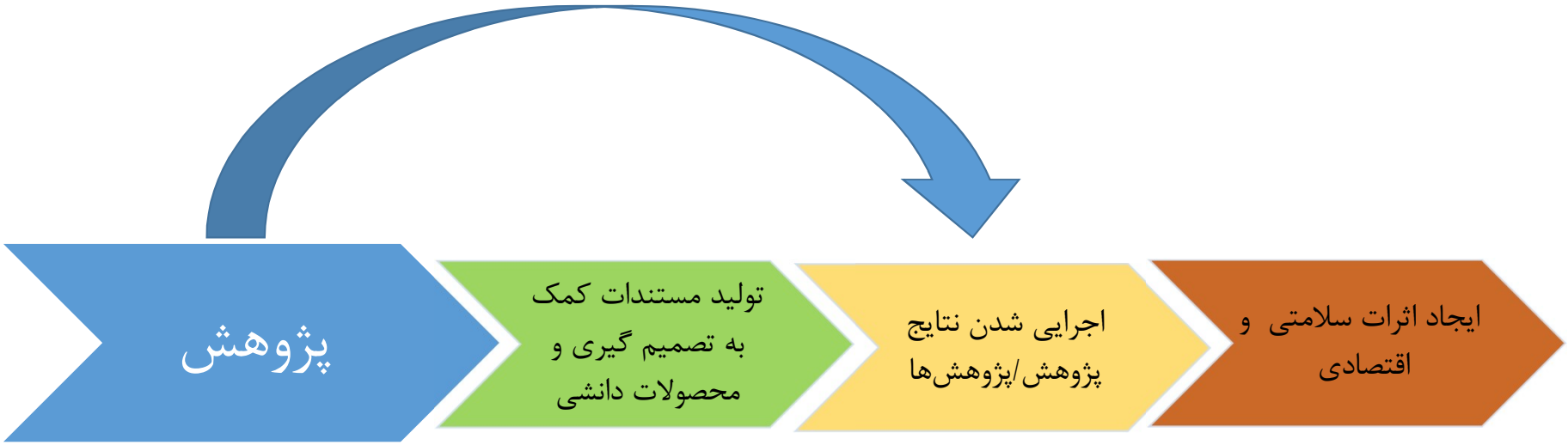
Establishing research impact assessment in Iran: The first report from a non-high-income country

Bahareh Yazdizadeh[1]*, Ayat Ahmadi[1], Farid Najafi[2], Kazem Mohammad[3], Mohammad Fariden[4], Davood Khalili[5], Mahdi Mahdavi[6], Elaheh Rahimpour[7], Abolghasem Jouyban[8], Roya Kelishadi[9], Mohammad Reza Monazzam[10], Monir Baradaran Eftekhari[11], Katayoun Falahat[12], Sima Nikooee[1], 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 'payback' model for evaluating the impact

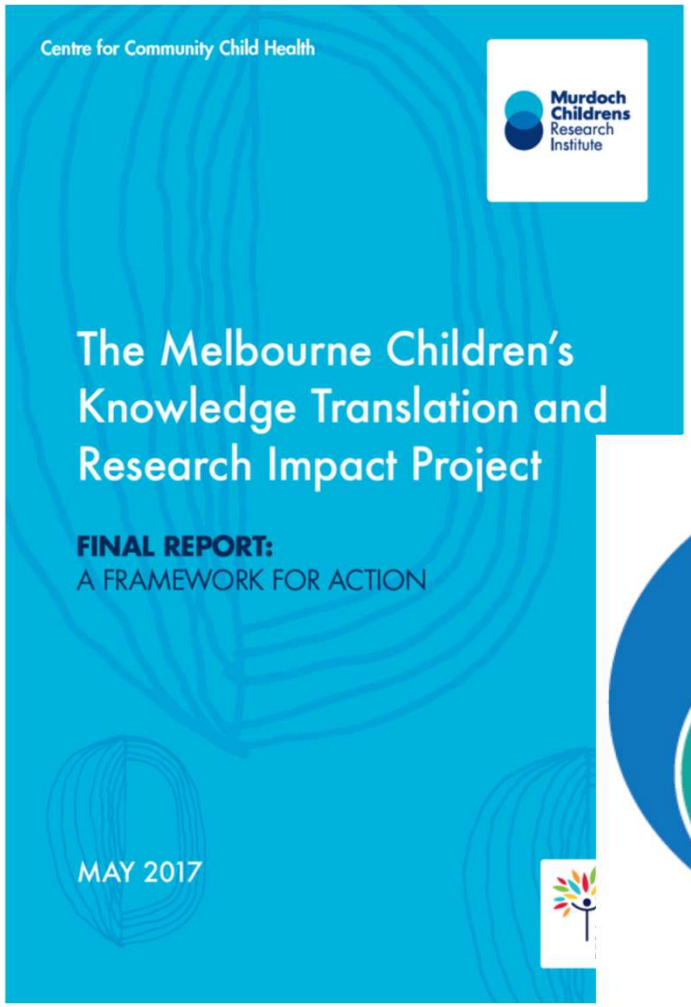
مسیر پژوهش به اثر

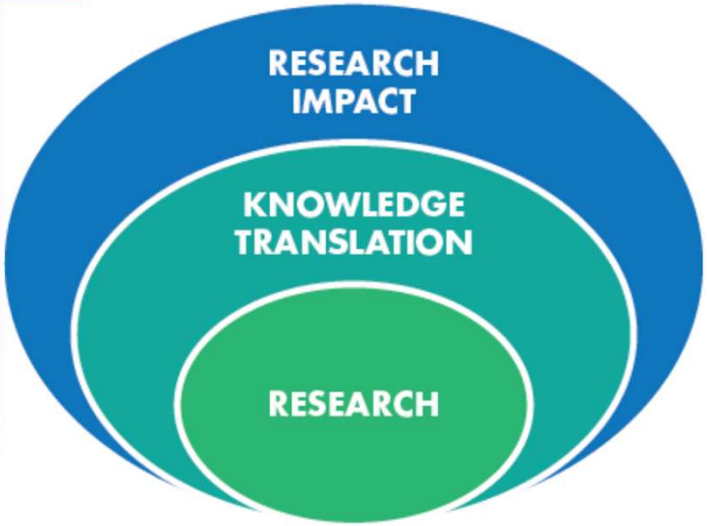
(برنامه ارزشیابی اثرات پژوهش های سلامت۱۴۰۰، معاونت تحقیقات و فناوری وزارت بهداشت، درمان و آموزش پزشکی)



برنامه ارزشیابی اثرات پژوهش های سلامت

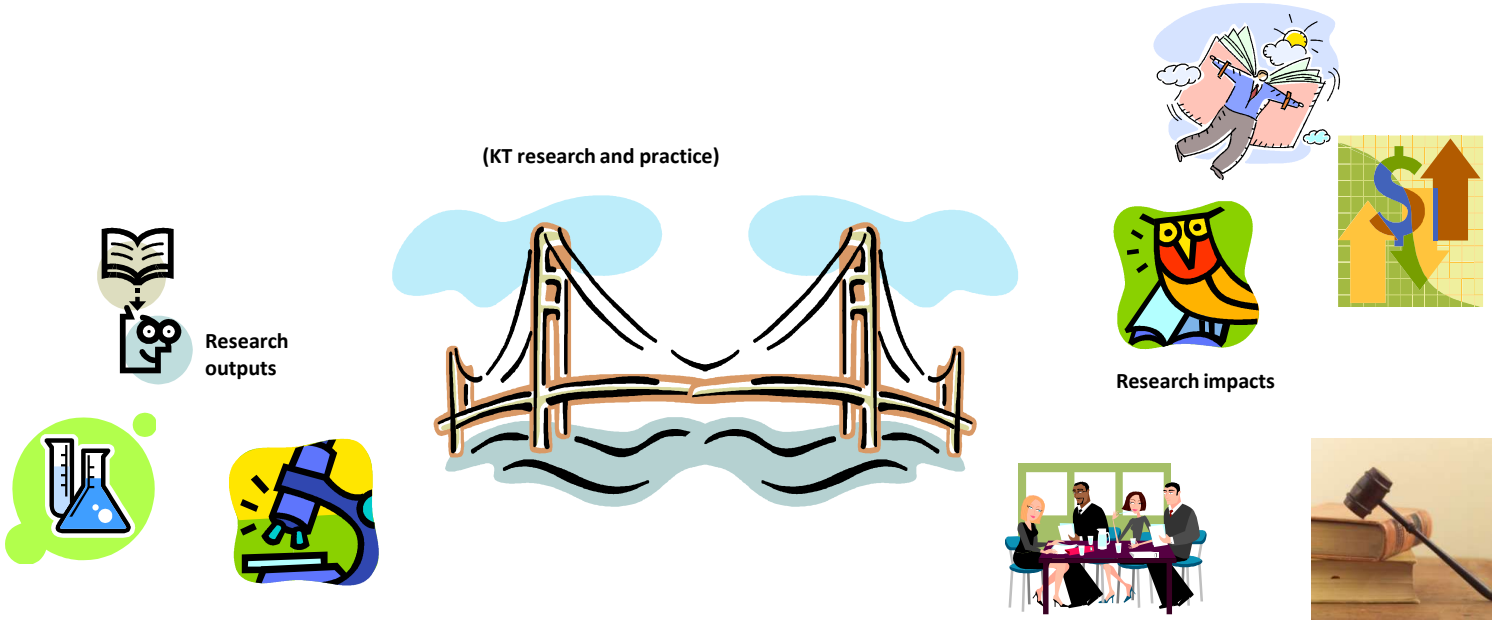
حیطه اثر	شاخص
الف تولید مستندات کمک تصمیم گیر و محصولات دانشی	تولید مستندات کمک به تصمیم گیری در سطوح بین المللی، ملی و استانی
	استفاده از نتایج پژوهش‌ها در تهیه مستندات کمک به تصمیم‌گیری
ب اجرایی شدن نتایج پژوهش/پژوهش‌ها	استفاده از نتایج پژوهش‌ها در سیاست گذاری‌های ملی (داخل و خارج از وزارت بهداشت)
	استفاده از نتایج پژوهش‌ها در سیاست گذاری‌های 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) انئازه گیری شده باشد.


Centre for Community Child Health
Murdoch Childrens Research Institute
The Melbourne Children's Knowledge Translation and Research Impact Project
FINAL REPORT:
A FRAMEWORK FOR ACTION
MAY 2017

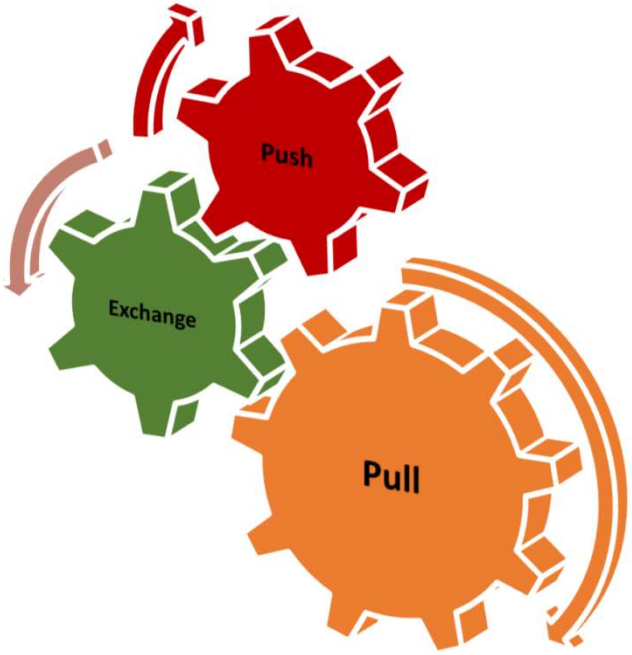

RESEARCH IMPACT
KNOWLEDGE TRANSLATION
RESEARCH


The University Of Queensland
AUSTRALIA
CREATE CHANGE
Knowledge Translation and Impact Planner (KTIPs)
Instructional Guide

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.

Esmail *et al. Implementation Science* (2020) 15:11
https://doi.org/10.1186/s13012-020-0964-5

Implementation Science

SYSTEMATIC REVIEW Open Access

A scoping review of full-spectrum knowledge translation theories, models, and frameworks

Rosmin Esmail[1,2,3,4], Heather M Hanson[1,2], Jayna Holroyd-Leduc[1,2,3,4,5], Sage Brown[1,6], Lisa Strifler[7,8], Sharon E Straus[7,9], Daniel J. Niven[1,2,3,10] and Fiona M. Clement[1,3,6*]

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Implementation Science

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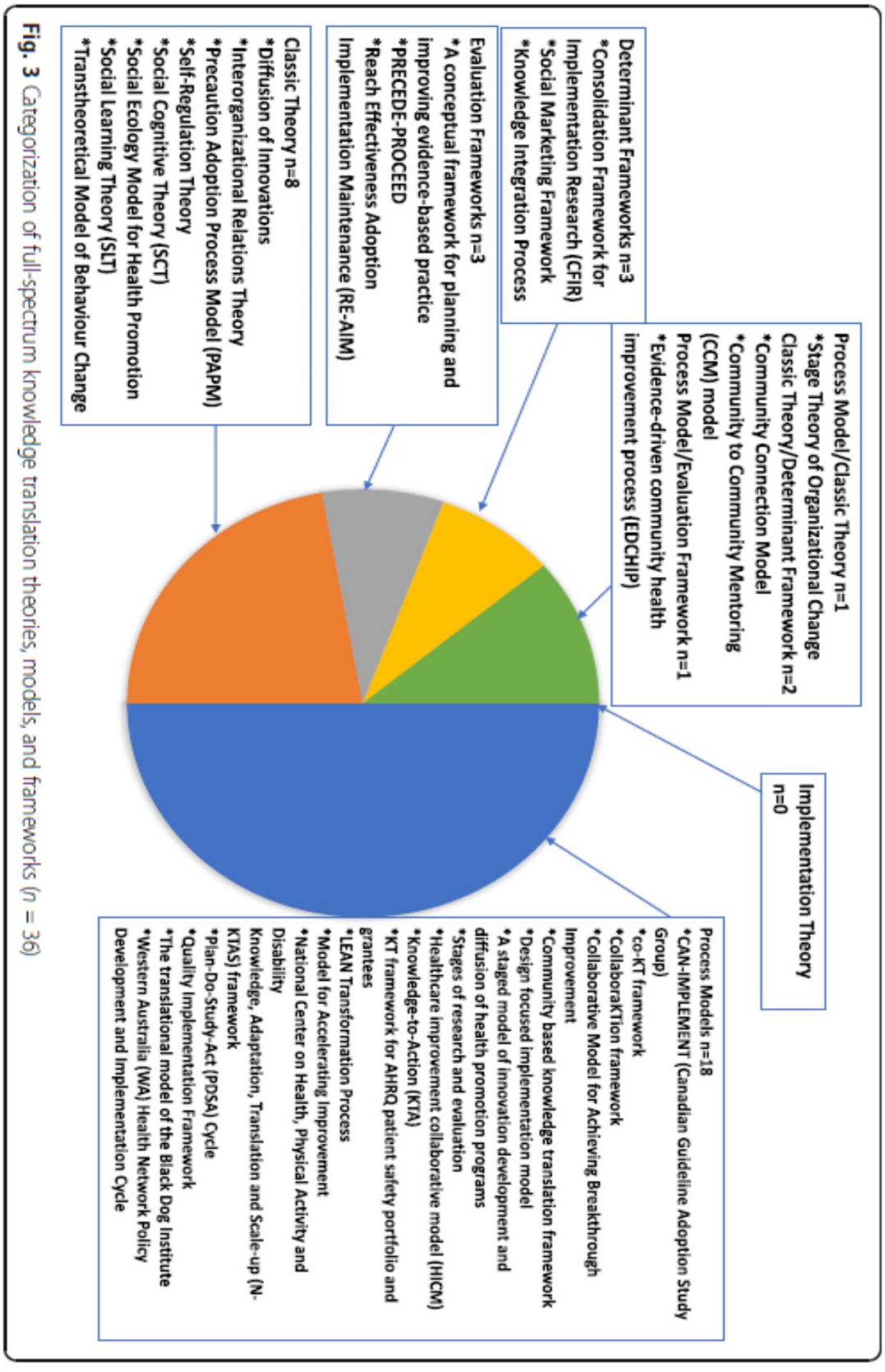


Fig. 3 Categorization of full-spectrum knowledge translation theories, models, and frameworks ($n = 36$)

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 Nedjat[2], Katayoun Maleki[2], Mahnaz Ashoorkhani[2], 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؟

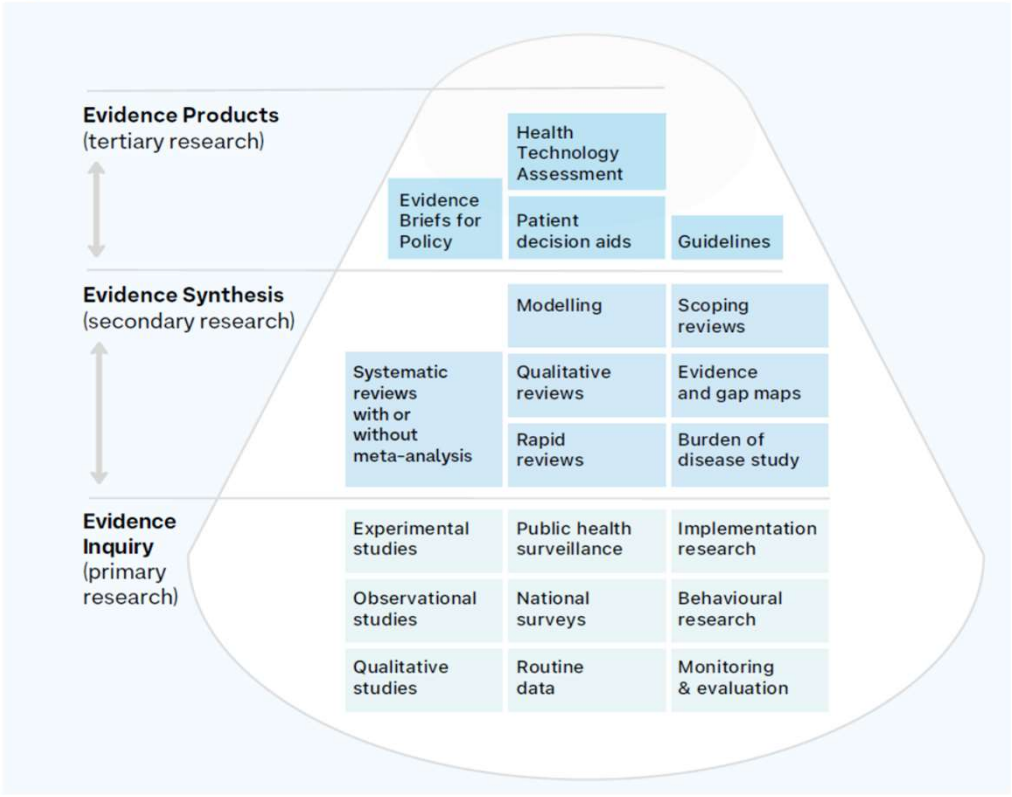
دانشگاه علوم پزشکی و خدمات بهداشتی درمانی تهران

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?

Smits and Denis *Implementation Science* 2014, **9**:28
http://www.implementationscience.com/content/9/1/28

IMPLEMENTATION SCIENCE

RESEARCH **Open Access**

How research funding agencies support science integration into policy and practice: An international overview

Pernelle A Smits[1,2*] and Jean-Louis Denis[1]

FACETS
a multidisciplinary open access science journal

RESEARCH ARTICLE

Funding change: An environmental scan of research funders' knowledge translation strategic plans and initiatives across 10 high-income countries/regions

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Thank you