



World Health Organization  
Collaborating Centre for  
Health Technology Assessment

# Evaluating biomedical research impact in Spain and the challenges encountered by the ISOR project

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**Catalan Agency for Health Technology  
Assessment and Research (CAHTA)**

**[www.cahta.net](http://www.cahta.net)**

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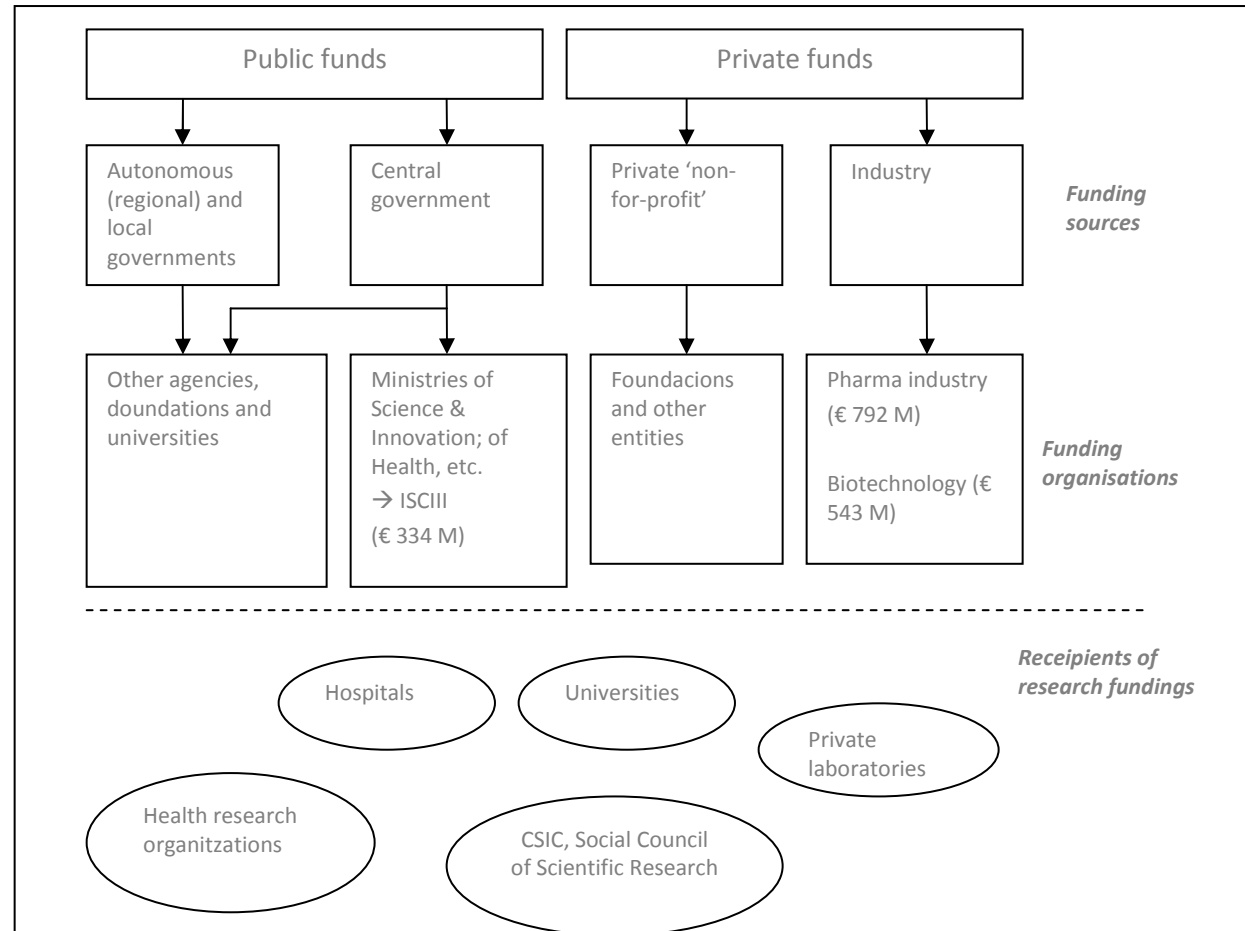
# Spanish background

- In Spain, evaluation practices (in general) have little tradition, compared to Anglo-Saxon and Scandinavian countries.
- Yet, for the case of assessing the impact of health research, there is an incipient background record.
- Most initiatives come **from the bottom, not coordinated.**
- Most obtained results cover **only the first impact level** (whatever model is used): **scientific production and advances in knowledge.**



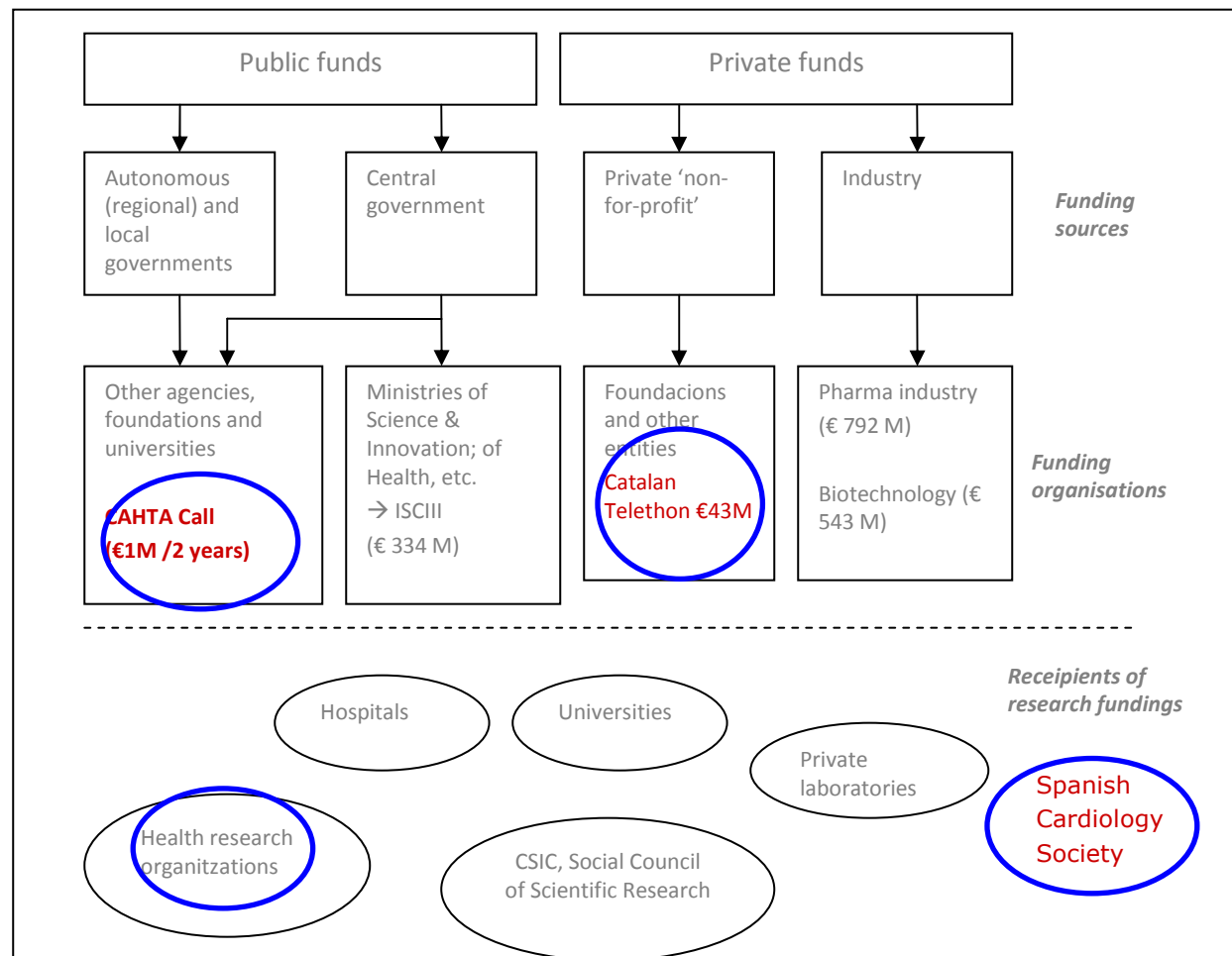
# Health research in Spain

## Main funding flows (excluding international)



Source: Archontakis F. Health and Medical Research in Spain. RAND Europe Health Research Observatory.2008

# Projects of assessment of health research impact in the health funding map



# All projects focus the assessment on the impact in scientific production and advancing knowledge

## WHAT

	Specific programme on specific discipline	Specific programme on specific diseases	All research on one disease	All biomedical research in Spain
Public research funding programme	<b>ISOR project (assessment of CAHTA Call) (overall: €7M)</b>			
Philanthropic research funding programme		<b>Catalan Telethon (€43M)</b>		
Society of specific disease research			<b>Spanish Society of Cardiology (assessment of all research on cardiology)</b>	
Biomedical research organisation				<b>Barcelona Biomedical Research Park (assessment of all biomedical research)</b>

WHO



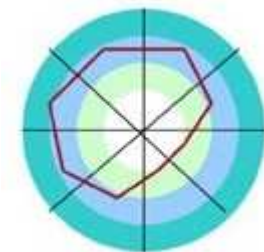
# CAHTA projects

- Evaluation of the Catalan TV3 Telethon on biomedical research in Catalonia
  - Assessment of payback phases
  - Coordinators: Silvina Berra and Joan MV Pons, 2006
- Assessment of biomedical research groups in Barcelona.

➔ (mostly) Basic medicine

- ISOR project

➔ Health services, clinical medicine, cost effectiveness, epidemiology, public health



# ISOR Project: objectives

- To assess CAHTA Research Call projects on clinical medicine and health services on the following impact levels
  - Advancing knowledge (**completed**)
  - Capacity building (**ongoing**)
  - Informing decision making (**ongoing**)
  - Health benefits
  - Broader economic benefits and prosperity
- To promote assessment practices in Spain and collaboration between stakeholders through:
  - Common commitment and recognition of the need (especially nowadays, with the drastic budget cuts in science and innovation due to the economic downturn).
  - Adoption of a common method and definition of indicators
  - Enhancing capacities to prioritize (at least one share of) research activities according to expected impacts
- Contribute to the global knowledge of the discipline



# ISOR Project: Characteristics of CAHTA Research Call

- 5 calls (92 completed research projects) from 1996 to 2004 (from 13 to 5 years time perspective)
- Predominance of **oriented research** with **local relevance** and **informing local decision-making**
- **Call for topics** and topic prioritization method of IOM (institute of Medicine, US) to ensure that the knowledge gaps of decision makers are addressed
- Ex-ante, ongoing and ex-post evaluations (13 years experience)
- There is a scientific committee that monitors the whole process.
- Prototypical research team: consortium of hospital units, university centres and (sometimes) local government units



# ISOR Project: approach (1)

- Adoption of the Canadian CAHS ROI model and indicators
- Spain-specific theoretical and methodological issues
  - Key role of decision-making in the impact chain
    - Research communities and decision making communities as interfaces with insufficient communication
    - Difficult to assess
    - Detection of barriers
    - Identification of facilitators
  - Spanish-specific difficulties?
    - Less tradition of scientific evidence-based decision-making
    - Language barriers
    - (Lack of) knowledge transfer tools



# ISOR project: tools

- Validation of end-of-grant data (from 10 to 0 years after completion)
  - Raised concerns on attribution issues
  - 60% response
- Preliminary impact questionnaire. Very incomplete and ambiguous responses
  - Very incomplete responses.
  - Most researchers “dont know” about the use of their research, even in their own units
  - 50% response
- Transfer knowledge actions questionnaire (see <http://impact/cahta.net>)
  - Confusion on the term “transfer action”
- Impact questionnaire (based on Australian questionnaire\*)
  - WHO are the KEY INFORMANTS
  - Importance of finding informants that belong to the two communities (research & decision-making)
  - Very time and resources consuming

\*Kalucy L, Jackson Bowers E, McIntyre E, Hordacre AL, Reed.  
Exploring the impact of primary health care research.

Report of Primary Health Care Research & Information Service [www.phcris.org.au](http://www.phcris.org.au). February 2009



# ISOR project: few preliminary results

- On the impact in 'advancing knowledge'
  - Application of the Canadian ROI indicators in four category groups:
    - Quality -> lack of good databases (320 Spanish journals of scientific quality: only 44 of which are in Medline and 14 in WOS.
    - Activity -> bibliometrics not good enough
    - Outreach -> coauthor analysis and language analysis (WOS: 80% orig. articles in Spanish, 20% in English; 80% citations in English)
    - Structure / context -> need institutional collaboration to move on
  - Qualitative approach (peer review) for assessing the contents and local relevance of the top-ten research projects (according to quality standards)
    - Bias towards clinical research, co-financed projects and big research groups
    - No local application
- On other impacts: work in progress



# ISOR project: Challenges

- Lack of methodological consensus and common framework for the analysis across stakeholders (internationally)
- Scarcity of institutional cooperation / absorption of the idea
- Scarcity of funding sources
- Project organisational challenges



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# ISOR project: methodological challenges

## Phase 1: preliminaries

- Confusion in the literature
- Diversity in countries' and programmes' adoption of frameworks
  - Diversity of language and concepts' usage
  - Diversity of available methods
  - Available studies are methodologically complex
- The publication of the canadian ROI CAHS\* document in January 2009 is a great contribution towards unification of methodological approaches.

\*Canadian Academy of Health Science. Making an Impact, 2009  
Preferred framework and indicators for the  
Returns on Investment in Health Research



# What is the ROI CAHS model and indicators about?\*

- Useful common framework for any different type of health research (from basic research to health services)
- Useful for any stakeholder's view (from funder to evaluator)
- Provides a set of generic indicators in the five impact levels:
  - Advancing knowledge (5 levels of indicators, 11 generic indicators)
  - Capacity building (5 levels, 7 generic indicators)
  - Informing decision-making (5 levels, 13 generic indicators)
  - Health impacts (3 levels, 14 generic indicators)
  - Broad economic and social impacts (5 levels, 11 generic indicators)

\*Frank C and Nason E, Health research: measuring the social, health and economic benefits. CMAJ, MARCH 3, 2009;180(5)



# ISOR project: methodological challenges

## Phase 2: impact in advancing knowledge (1)

General for any type of biomedical research:

- Comparability (across countries, research programmes, disciplines, etc) is still an open challenge
- Attribution
- Time-lag
- Counterfactual (easier to assess in locally oriented research?)

See CAHS ROI document, 2009



# ISOR project: methodological challenges

## Phase 2: impact in advancing knowledge (2)

### Specific to locally oriented research:

- Lack of comprehensive scientific publications databases
  - Only cover a subsample of overall scientific production
  - Scarce local-oriented research representation
  - Only allows analysis of scientific publications (books, book chapters, technical reports, CPG, etc not included)
- For (locally) oriented research such as health services research
  - The ROI indicators might be still incomplete
  - Bibliographic databases generally include basic health research, most of clinical research and a incomplete amount of oriented health research (health services, epidemiology, organisational, policy, etc)
  - How to assess the local scientific findings of local relevance? (peer-review methods are not cost effective in this case)



# ISOR project: methodological challenges

## Phase 3: informing decision-making

- Difficulty to identify the right relevant informant
  - Project on the impact of COPD: identification of local opinion leaders
  - Healthcare organisation and health research is mostly run by politicians (not technical experts). Evidence-based decision-making is mainly practiced at a local level.



# ISOR project: Challenges

- Lack of methodological consensus and common framework for the analysis across stakeholders (internationally)
- **Project organisation and study design challenges**
- Scarcity of institutional cooperation / absorption of the idea
- Scarcity of funding sources



# ISOR project: work organisation challenges (1)

- Difficult access to relevant information
  - Routinely collected data usually add very little to research impact assessment
  - Bibliographic databases
    - Are not always accessible (need special access)
    - Offer only a good coverage of basic research (and clinical)
  - Need to build-up your own database
    - Very time consuming, labour intensive and high risk of errors
- Very long and time consuming process (five levels of impact)



# ISOR project: Challenges

- Lack of methodological consensus and common framework for the analysis across stakeholders (internationally)
- Project organisational challenges
- **Scarcity of institutional cooperation / absorption of the idea**
- Scarcity of funding sources



# ISOR project: the challenges of institutional cooperation / absorption

- Need for advocacy at the top level among:
  - Stakeholders of the research planning
  - Stakeholders of the research usage
  - (opinion leaders might help)
  - Usual feedback: “assessing the impact of research is very important, but not a high priority”
- Usually, good acceptance from the bottom
- Organisation of a hearing of institutional Spanish stakeholders with the chairman of the canadian ROI document.
  - Objective of progressing in a coordinated way
  - Good acceptance from stakeholders from the bottom
  - Difficulties to convince top stakeholders to participate



# ISOR project: Challenges

- Lack of methodological consensus and common framework for the analysis across stakeholders (internationally)
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- **Scarcity of funding sources**



# ISOR project: funding challenge

- Very few (if any) calls to implement studies or methods (international or Spanish)
- Many visits to potential funding organisations
  - Very good first reaction
  - Often requested to prepare a proposal
  - But hard to obtain fundings at the end: “importance and relevance is acknowledged, but not a high priority for funding allocation”



# ISOR project: Current situation

- Study on the impact on advancing knowledge. **Completed**
- Study of the impact on decision-making:
  - Methodological part (**quite advanced**)
    - **Questionnaire for key informants (research finding users and peers)**
    - **Identification of the target groups for interviews**
    - **Possibility of assessment from qualitative research experts**
  - Search for funding and technical support
  - We are building up a consortium of interested stakeholders for cooperative actions and common projects

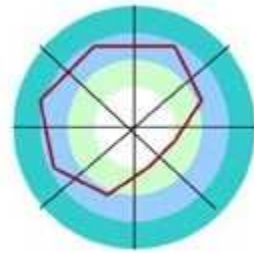


# Conclusions

- Methods for assessing the impact of biomedical research varies significantly according to the orientation of the research you aim to evaluate
- Informing decision-making seems to be the key element of the chain in Spain, at least for oriented research
- Health services research is a particularly difficult case.
- In the business of research impact evaluation there are many stakeholders:
  - research funding organisations
  - research organisations
  - research planning and priority-setting
  - research evaluators
- Cooperation between stakeholders for a common method / indicators is crucial.



# Thank you



<http://impact.cahta.net>

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