

Knowledge Translation Measurement

Concepts, Strategies and Tools

Hosted by SEDL's Center on Knowledge Translation
for Disability and Rehabilitation Research (KTDRR)

The Payback Framework

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 - Health Research Board, Ireland
 - National Breast Cancer Foundation, Australia
 - World Health Organization

Structure of presentation

- Role of the Payback Framework
- Key elements and conceptual underpinning
- Payback Framework: multidimensional categorisation of benefits
- Payback Framework: logic model to help measure impact
- Developments of framework and methods of application
- Examples of application to health research: UK, USA, Australia
- Examples of wider application: UK social science research
- Lessons
- Discussion

Role of the Payback Framework

- The Framework is primarily intended to help assess or measure the payback/impacts/benefits from health research
- It does not aim to provide a detailed theoretical analysis of how paybacks arise or a single blueprint for action
- But it is underpinned by over 30 years of analysis at Brunel University on collaboration between researchers and users
- Flexibility: been applied widely including beyond applied research and beyond health (see acknowledgements)
- Often seems acceptable to researchers and funders: identifies and demonstrates full range of benefits of research funding.

Key elements and conceptual underpinning

- Payback Framework: 2 main elements (Buxton & Hanney, 1996)
 - Multidimensional categorization of payback/benefits/impacts
 - 2 traditional academic categories; 3 wider categories of impact
 - Logic Model of processes- to organize measurement of impacts
 - 7 stages; 2 interfaces
- Underpinning conceptual framework: collaborative research
 - Kogan and Henkel (1983; 2006) built on concept of interaction between researchers and users (Weiss, 1979) to develop concept of collaborative health research – users & researchers jointly develop agendas etc
 - They explored how brokerage roles best operate to facilitate receptor bodies' (i.e. users') access to and use of research findings
 - Permeability at the interfaces between funders/users and researchers becomes a key issue to examine

Payback Framework: Multidimensional categorization of benefits

- 5 main categories of benefits or paybacks:
 - *Traditional academic*:
 - knowledge production (articles etc)
 - targeting future research, capacity building, (& absorption –not usually viewed as traditional but we show leads to impacts)
 - *Wider*
 - informing policies (in multiple ways- Hanney et al. 2003) & product development
 - health and health sector benefits, eg better health, health equity etc
 - broader economic benefits (overlaps and changing definitions)

Payback Framework: Multidimensional categorisation – What is missing?

We do not usually explicitly include dissemination as a payback category - by itself it is not necessarily seen being beneficial

It is very important interface in the model as a link to achieving payback but only if the research leads to one of other paybacks, not if it leads to negative outcomes.

It has been used as a category in some studies but reservations illustrated by: article on MMR vaccination in UK

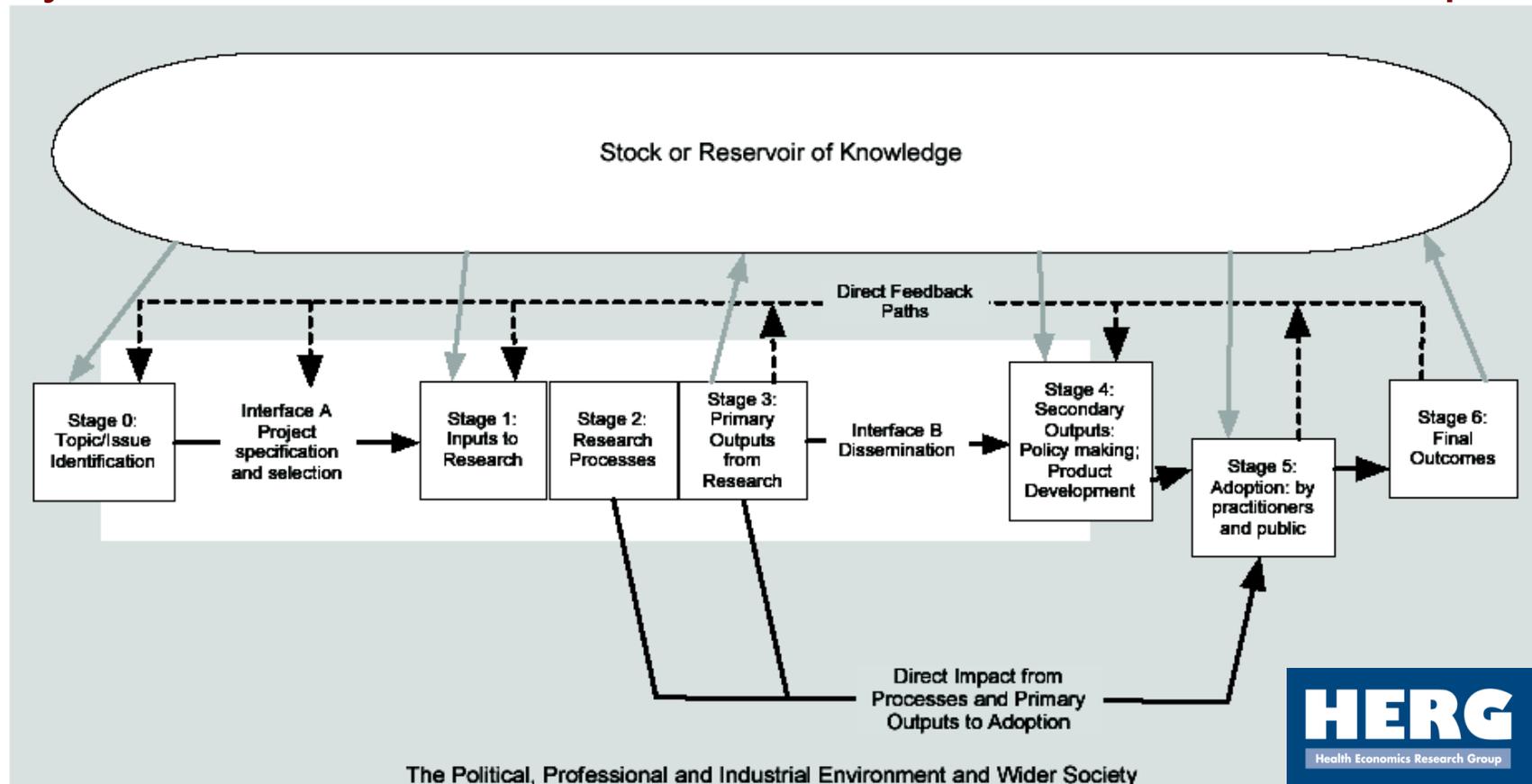


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Payback Framework: model to assess health research impacts



Adapted from: Hanney S, Gonzalez-Block M, Buxton M and Kogan M, The Utilisation of health research in policy-making: concepts, examples and methods of assessment. Health Research Policy Systems 2003, 1:2

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Is a collaborative-type model acceptable?

Do these types of models
pose a threat to researchers'
freedom to do the best
science?

Can we not go back to the
time when all researchers
could set the questions?

Let's explore



Is a collaborative-type model acceptable?

- According to legend somewhere between you in the USA and me in the UK there is the lost city of Atlantis
- In 1627 Francis Bacon, viewed as the founder of the Scientific Method, described a voyage in which a ship became lost in a terrible storm and the crew were shipwrecked at Atlantis
- He described 'The New Atlantis' as a Utopian society which included 'science' organised for the benefit of society, with different 'scientists' playing different roles:
 - 'We have three that try new experiments, such as themselves think good'
 - We have three ...looking into the experiments of their fellows, and cast about how to draw out of them things of use and practice for man's life...

So the idea of research serving the needs of society is not new

Developing the scope of the Payback Framework

- Framework is flexible: applied to various types of research
 - Started with a focus on applied/health services research
 - Expanded to full range of biomedical (and then other) research
- Initial case studies, then applied to various bodies of research
 - Programmes of major research funders
 - Health Technology Assessment (HTA) [CER?] programme of UK NIHR
 - Mind and Body Interactions for Health program of US NIH
 - Future of work programmes of UK ESRC
 - Full portfolios of medical research charities
 - Arthritis Research Campaign, UK
 - National Breast Cancer Foundation of Australia

Measuring research impact: Methods of applying the Payback Framework

- Range of methods most informed by Payback Framework:
 - Data collection using range of methods and triangulation:
 - documentary and archival review;
 - survey of organised according to stages of framework and cover payback categories;
 - case studies: semi-structured interview schedules - as above, but can include detailed questions on researcher/user interactions
 - Data analysis: level of detail depends on purpose of study
 - Case study presentation: all presented according to stages of Payback Framework
- Selection of methods for each study depends on purpose

Examples of application to health research – UK example of benefits: collaborative approach

- Economic evaluation of heart transplant programme: impact case study organised using Payback Framework - focus here is on wider impacts
- Interface A: 2 teams of researchers separately proposed economic evaluations; policymaker/funders liaised with them to create a single project aimed to produce data to meet policy needs
- Receptor policy body (DH) organised to know likely findings of final report through interaction/absorption of interim reports. Findings relevant for key policy decision; provided strong evidence base for specific policy
- Initial policy to increase programme funding announced on day final report received, subsequently confirmed in decision to expand the concentrated transplant programme: could go on to estimate other impacts

Application of payback framework: assessing impact of UK HTA programme

- Questionnaire to all PIs in programme (133/204); structured using payback framework (Hanney et al., 2007)
- Survey revealed many articles produced, much research training, 73% of PIs claimed impact on policy, 53% on practice
- 16 case studies involving PI interview, documentary review
- Each case study written up using payback model - studies broadly supported survey findings but provided richer data
- The case studies highlighted collaborative approach: user involvement in agenda setting; how creation of 'receptor' bodies making clinical policies increases scope for research use

Examples of application to health research – assessment of portfolio of UK ARC: led by RAND Europe

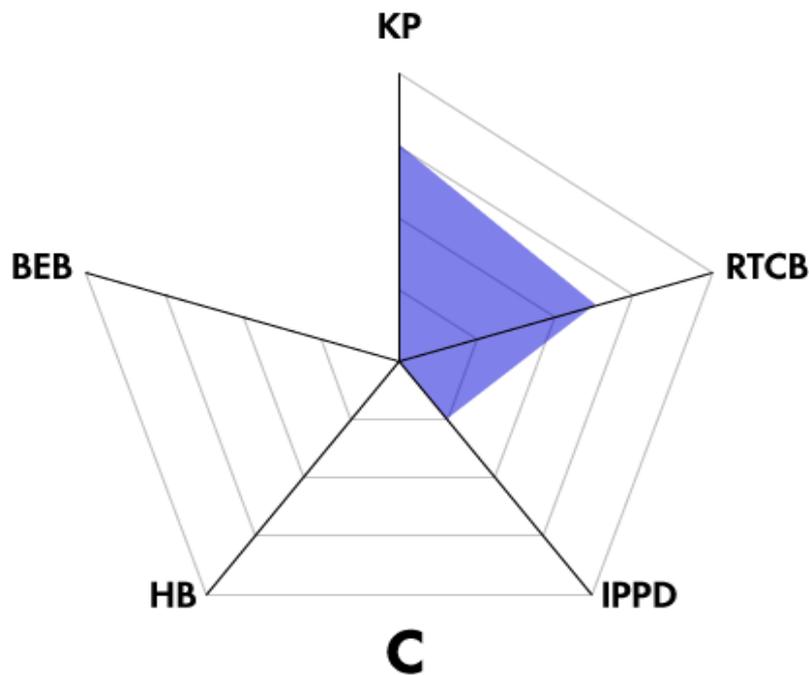
- Data collection in 16 case studies of different modes of funding (projects, fellowships, programmes, centres), types of research (basic, clinical, AHP)
 - Archival document review: application, referees' comments; board discussion, correspondence etc
 - Document review, including publications
 - Interviews with PIs, researchers & users
- Write-up of case studies: narratives & summaries using stages of model and categories
- Group consensus scoring on each main dimension of payback
- Displayed as payback profiles (Wooding et al, 2005)

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Examples of application to health research – assessment of portfolio of UK ARC: Profile of payback from a single project



The 5 Payback categories:

- KP (knowledge production)
- RTCB (research targeting & capacity building)
- IPPD (informing policy & product development)
- HB (health & health sector benefits)
- BEB (broader economic benefits)

(Wooding et al., 2004)



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Examples of application to health research – assessment of portfolio of UK ARC: Combining profiles of payback from single projects

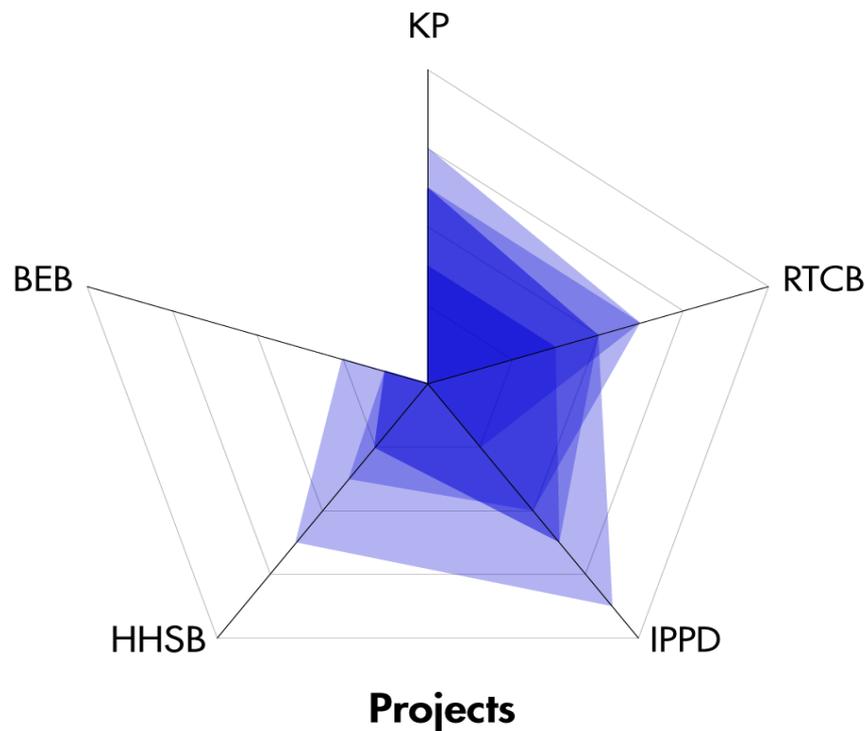
- Having developed a profile for each project, they can be combined in various ways
- All of those of one mode of funding (eg projects) could be combined to show the payback profile of that group
- The greater the intensity of the colour, the more examples included at that level of payback in the relevant category
- Then all projects could be compared with all programmes, fellowships and centres
- Similar approaches could be used for type of research etc

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Examples of application to health research – assessment of portfolio of UK ARC: Overlaying profiles for 6 projects



The 5 Payback categories:

- KP (knowledge production)
- RTCB (research targeting & capacity building)
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- HB (health & health sector benefits)
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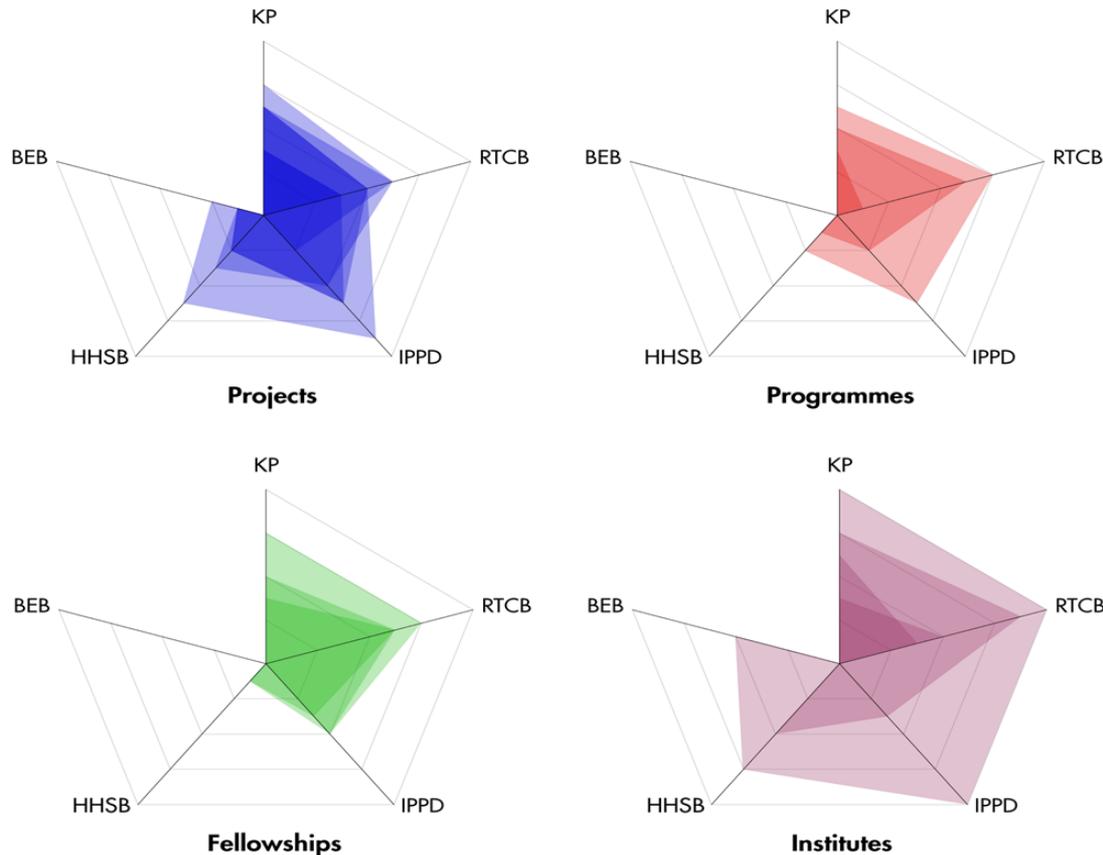
(Wooding et al, 2004)

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Examples of application to health research – assessment of portfolio of UK ARC: Comparative analysis - funding



Projects: 6 grants
 Programmes: 3 grants
 Fellowships: 3 grants
 Institutes: 4 grants
 (Wooding et al., 2004)

Examples of application to health research – NIH's Mind-Body Interactions and health program

- Payback framework seen as appropriate to assess outcomes from NIH's MBIH program (Scott et al., 2011)
- Project & findings described in report (Madrillon Group, 2011) & jointly with OBSSR to American Evaluation Association (Scott et al, 2011a)
 - Focus: Program as whole, centers & investigator-initiated projects
 - Methods: Documentary review, interviews, bibliometrics, & scoring
 - Key findings: MBIH centers had impacts in all 5 categories; Policy impacts: e.g. 6/15 centers influenced guidelines, 13/15 centres influenced healthcare professional education or training
- Framework well-suited to evaluations of NIH research programs

Examples of application to health research – National Breast Cancer Foundation, Australia

- Focus: projects, fellowships, PhDs, national resources
- Methods: archival review, bibliometric analysis, survey, 16 case studies: above & semi-structured interviews, guidelines
- Issues: many grants recently finished (can be big issue)
- Findings: impacts in all categories: details in forthcoming publication (Donovan et al., 2013)
- Impacts study itself conducted in collaborative way, its impact:
 - Informed research strategy of NBCF: moves towards more translational grants

Example of application to other research – UK Economic & Social Research Council programme

- Focus: projects in Future of Work Programme (Klautzer et al.)
- Methods 1: Revised payback categories
- Methods 2: archival review, analysis of publications, survey, 4 case studies: above, plus semi-structured interviews, policies
- Issues: some thought evaluation too long after the research
- Findings: wide range of paybacks
 - Policies: most PIs identified organisations affected, incrementally
 - Identifying impacts beyond policies even more difficult
- There was an impact through being part of a programme that helped form networks with researchers and users

Lessons (about the Payback Framework)

- Theoretical and practical limitations
 - Approach plays down difficulties of attribution to specific studies
 - Resource intensive to apply in case studies
 - In practice often impossible to follow through to the wider impacts of most interest to users
- Wide range of applications suggests has some strengths
 - Provides a framework for consistent data gathering & presentation across a series of case studies – highlighted in recent World Health Report on health research (WHO, 2013)
 - Flexibility: can be applied to range of types of funding, different types of research etc.
 - Categories cover range of perspectives that important to both researchers and various types of users

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References

- Bacon F (1627) *The New Atlantis*.
- Buxton M, Hanney S (1996) How can payback from health services research be assessed? *J Health Serv Res Policy*, **1**: 35-43.
- Donovan C, Butler L, Butt A, Jones T, Hanney S. (in press) Evaluation of the impact of National Breast Cancer Foundation funded research. *Medical Journal of Australia*
- Hanney S, Gonzalez-Block M, Buxton M, Kogan M (2003) The utilisation of health research in policy-making: Concepts, examples and methods of assessment. *Health Res Policy Syst*, **1**:2 [<http://www.health-policy-systems.com/content/1/1/2>]
- Hanney S, Buxton M, Green C, Coulson D, Raftery J (2007) An assessment of the impact of the NHS Health Technology Assessment Programme. *Health Technol Assess*, **11**(53). [<http://ushamp-build.squiz.co.uk/jl/hta/volume-11/issue-53>]
- Klautzer, L., S. Hanney, E. Nason, J. Rubin, J. Grant, and S. Wooding (2011) Assessing policy and practice impacts of social science research: the application of the Payback Framework to assess the Future of Work programme. *Res Eval* **20**: 201-09.
- Kogan M, Henkel M (1983) *Government and Research: The Rothschild Experiment in a Government Department*. London: Heinemann.
- Kogan M, Henkel M, Hanney S (2006) *Government and Research; Thirty Years of Evolution*. second edition). Dordrecht: Springer.

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References (continued)

- Scott JE, Blasinsky M, Dufour M, Mandal RJ, Philogene GS (2011) An evaluation of the Mind-Body Interactions and Health Program: assessing the impact of an NIH program using the Payback Framework. *Res Eval*, **20**:185-92
- The Madrillon Group (2011) *The Mind-Body Interactions and Health Program Outcome Evaluation: Final Report*. Vienna, VA: The Madrillon Group, Inc.
- Scott JE, Blasinsky M, Dufour M, Philogene GS, Mandal RJ (2011 a) Putting a value on biomedical research programs: adapting the research payback framework for application in the United States. American Evaluation Association, Anaheim, California. November 5, 2011
- Weiss C (1979) The many meanings of research utilization. *Public Adm Rev*, **39**:426-31
- Wooding S, Hanney S, Buxton M and Grant J (2004) *The Returns from Arthritis Research. Volume 1: Approach, Analysis and Recommendations*. Cambridge: RAND Europe.
- Wooding S, Hanney S, Buxton M, Grant J (2005) Payback arising from research funding: Evaluation of the Arthritis research Campaign. *Rheumatology*, **44**:1145-56
- World Health Organization (2013) *Research for Universal Health Coverage: The World Health Report 2013*. Geneva: WHO. <http://www.health-policy-systems.com/>

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Thank you

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