Primary Health Care Research Impact Project
Final Report Stage 1

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Primary Health Care Research Impact Project: Final Report Stage 1

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Acknowledgements

The research team would like to thank the participants in this project for their generosity in agreeing to be interviewed for this project and the members of the Advisory Committee for their advice and input into the project.

Advisory Committee

This project has been overseen by an Advisory Committee of people with an interest in the area of research impact. Members of the Advisory Committee were:

- Ms Rachel Yates, Australian Divisions of General Practice
- Professor Dimity Pond, Department of General Practice, University of Newcastle
- Professor Roy Goldie, Dean Health Sciences, Flinders University
- Ms Rita Raizis, Department of Health and Ageing
- Ms Raj Bhardwaj, Department of Health and Ageing
- Dr Linda Butler, Research Evaluation and Policy Project, Australian National University
- Professor Rob Sanson-Fisher, National Institute of Clinical Studies
- Ms Suzanne Northcott, NH&MRC

The role of the Advisory Committee was to:

- Advise on methodology;
- Comment on the interpretation of compiled findings;
- Oversee the progress of the project;
- Advise on the development of a method for assessing the impact of primary health care research based on the findings of this study;
- Comment on drafts of the final report;
- Advise on how to disseminate and apply the findings of the project.
Executive Summary

The purpose of this study was to develop a feasible way of assessing the impact of primary health care research. As a starting point, we assessed whether the Buxton and Hanney Payback Framework [1] and data gathering methods provide a feasible method to assess the impact of primary health care research in Australia. This report gives the results of the first stage of the project.

This project is being conducted in stages. This first stage, conducted during 2006, studied four nationally funded research projects. Research methods included interviews with the Chief Investigators of the projects, interviews with a number of key informants who were able to provide more information on how the research findings have been used, and examination of the publications from the projects. Analysis of qualitative data was assisted by NVivo 7 software.

Interviews with the Chief Investigator provided the bulk of the information for this study of research impact. Key informants, when available, provided a further perspective and deeper information on the use of research findings.

The methods proved feasible to assess impact. There were some impacts not covered by the Payback Framework, including building collaborative links with the community and decision makers to facilitate evidence based practice and policy, and some categories required clarification. We have recommended some modifications to the Payback framework based on our findings.

This project experienced difficulties obtaining information about impact which could be partly overcome if researchers recorded all their dissemination activities and maintained contact with users of their research. Although all Chief Investigators had presented the results of their work many times, only one was able to provide a list of conference presentations, and the record of other presentations was patchy. Interpersonal connections, networks, committee participation and chance meetings were important for dissemination and impact, yet without adequate records these ephemeral connections were hard to capture as evidence of pathways to achieving impact.

In this small sample the number of peer reviewed publications was not necessarily indicative of the impact of projects. One of the projects with the highest impact had no peer reviewed publications.

The strongest pathways to impact were formed by strong collaborative links, personal relationships and the involvement of practitioners, health care managers and policy makers in defining the research question and in the research processes. Good dissemination was important and all researchers presented their work many times to different audiences. Also important was the involvement of respected and credible champions, with strong links to decision making processes, and the alignment of the research findings with Government priorities and dominant ideas.

Implications of this study for the assessment of primary health care research under the Research Quality Framework (RQF)

The preferred RQF model, released in October 2006, [2] will assess both the quality and the impact of university research.

The quality of the research is defined in terms of its academic impact. Ways of measuring academic impact or quality will be citation data and discipline specific outputs, such as ranked conferences, journals or exhibition venues specific to the discipline and grant income data. As a discipline primary health care research is challenged to develop alternative rankings, based on discipline specific outputs, such as conferences and journals, which still needs to be done.
The impact of the research “relates to the recognition by qualified end users that methodologically sound and rigorous research has been successfully applied to achieve social, economic, environmental and/or cultural outcomes.” [2] The basis of the impact assessment will be an impact statement which includes generic and panel specific impact criteria, case studies, and details of end users who can be contacted to verify claims of impact. [2]

This study suggests that the Buxton and Hanney Payback Framework can be used with some modification as the basis of “panel specific impact criteria” to assess impact and as a Framework to structure case studies. Further development of potential “generic and panel specific impact criteria” through a second stage of this project is recommended.

A number of questions have been raised about the assessment of research impact which would apply to any model including:

- Which developments are attributable to the research project under examination?
- Are impacts derived from applications of the research attributable to the original research project?

Some issues were raised during the consultation with the Advisory Committee for this project. These included:

- whether findings from single studies have the standard of evidence required to justify their implementation in policy or practice;
- whether some research findings should have disproportionate influence, through being championed, or through the involvement of research users in the research process;
- a research group should not be penalised for having little impact because its research did not take place in a favourable political environment.

Assessment of research impact may be as important as publications and research grants to the assessment of primary health care research under the RQF. This study gives grounds for optimism as it shows primary health care research can have a great deal of impact and that this can occur even in projects with low citations in the literature. Primary health care research is well positioned for impact if it is collaborative, sets up the pathways through which ideas spread, and meets identified health care needs. Demonstrating that impact may be what primary health care needs to justify increased funding.

In the second stage of the project, the team will refine and develop the methodology for assessing the impact of primary health care research and use this to assess the impact of a larger set of primary health care research projects.
Introduction

The impact of research is a topical issue in Australia and internationally because of increasing pressures for research funding to be accountable in terms of benefits and transfer of research findings into practice and policy.

The immediate driver for this project was the impending first cycle of the Australian Research Quality Framework (RQF). This project was, to a great extent, a response to the Recommended Model of the RQF launched in October 2006 [3], and its aims reflect the concerns raised at the time about how research impact could be measured.

If publication measures (bibliometrics 1) were the sole measure of quality and impact, primary health care publication output would not be competitive. Public health and primary health care research is mostly published in journals which are not listed on the Thompson Scientific ISI Web of Science database and have not been assigned a Journal Impact Factor by ISI [4]. While research is essential to support the growing interest in primary health care, the challenge for the primary health care research sector is to compete for funding against biomedical sciences and other clinical research, when one of the key selection criteria for funding is the Chief Investigator’s track record, consisting primarily of publications. It thus became urgent to explore how primary health care research impact could be measured.

The purpose of this two stage study was to develop a feasible way to assess the impact of primary health care research. This first stage studied four nationally funded research projects to:

- identify how much or what types of impact can be assessed through various means at different stages of research completion;
- develop efficient methods for primary health care researchers (or other relevant organisations) to track and assess the impact of their projects.

This report gives the results of the first stage of the project, together with some insights relating to the application of the Recommended Model of the Research Quality Framework (RQF) [2] which will be implemented in Australian Universities commencing in 2007.

In the second stage of the project, the team will refine and develop the methodology for assessing the impact of primary health care research and use this to assess the impact of a larger set of primary health care research projects.

Several theoretical models developed to assess research impact were outlined in the 2005 PHCRIS publication ‘Focus on... measuring research impact’ [5]. One promising model of research impact the Buxton and Hanney Payback Framework [1], combines bibliometric measures with an assessment of impact on the users of the research. The Framework was applied to assess the research impact of the Arthritis research program in the UK through a combination of bibliometrics, document analysis and qualitative case studies of research projects. We used the Payback Framework as a starting point to structure our enquiry.

1 Bibliometrics is the study of publication data. It uses a variety of statistical techniques to find patterns in publication output. One widely used bibliometric measure is the Journal Impact Factor (JIF), which assigns a rating to a journal based on the number of citations made to articles published in that journal during the assessment period. More highly cited journals rate higher. The ISI index is used to calculate JIFs. Primary health care is at a disadvantage because most of our journals are not listed in the ISI Web of Science database therefore citations to our articles are not recorded. Moreover, the number of citations is also related to the number of researchers in the field and the concentration of that research in specific journals. PHC researchers are relatively few in number and publish broadly in many journals.
A note about definition of terms

The word ‘impact’ is used in a number of different ways in the academic context.

It is often used to refer to the Journal Impact Factor, which is a statistic calculated on the number of citations to articles in a particular journal. Journals containing higher numbers of cited articles are given a higher Impact Factor by the Thompson Scientific, who run the ISI Web of Knowledge database. Only journals indexed in ISI can have an Impact Factor.

‘Research Impact’ is also used generically to refer to publication impact, or to publication plus other types of impact. Buxton and Hanney use the term in this broader sense in their model.

However, the RQF uses the term ‘Research Quality’ to refer to publication measures and ‘Research Impact’ to refer to the social, economic, environmental and/or cultural outcomes of research. In the RQF terminology the Payback Framework thus assesses both research quality and impact.

Buxton and Hanney’s terminology is used in this report except where specified in discussion of the RQF.
Methodology

The Payback Framework

A number of methods were used to explore, qualitatively, the impact of chosen projects in order to develop a methodology or a tool for assessing the impact of primary health care research projects.

A previous synthesis of the literature on research impact undertaken by our team [5] highlighted that research impact has a multidimensional, unpredictable, non linear and contingent nature. In order to structure data collection, examine pathways to impact and determine how to assess it we needed to make an a priori assumption about what impact is. We used as a starting point the Buxton and Hanney Payback Framework as it was modified to assess the impact of a funding program for arthritis research [1]. The Payback Framework specifies five kinds of research impact as described in Table 1. The Brunel team also developed a related Logic Model to show how processes at different stage of the research result in impact as shown in Table 2.

Table 1  Categories of impact used in the Buxton and Hanney Payback Framework

<table>
<thead>
<tr>
<th>Category</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge production</td>
<td>Peer reviewed publications, citations, Journal Impact Factor.</td>
</tr>
<tr>
<td>Research targeting, capacity building and absorption</td>
<td>Better targeting of future research; Development of research skills, personnel and research capacity; Critical capacity to utilize appropriately existing research; Staff development and educational benefits.</td>
</tr>
<tr>
<td>Informing policy and product development</td>
<td>Improved information base on which to take political and executive decisions; Clinical or regional guidelines; Education/ training policies or audit and evaluation criteria; Inclusion in a systematic review; Inform product development.</td>
</tr>
<tr>
<td>Health and health sector benefits</td>
<td>Cost reduction in the delivery of existing services; Qualitative improvements in process of service delivery; Increased effectiveness of health services. ie increased health; Equity ie improved allocation of resources at an area level, better targeting and accessibility. Revenues gained from intellectual property rights</td>
</tr>
<tr>
<td>Broader economic benefits</td>
<td>Wider economic benefits from commercial exploitation of benefits arising from research; Contribution to a healthy workforce.</td>
</tr>
</tbody>
</table>
Table 2  The Buxton and Hanney Logic Model showing research processes which potentially lead to impact

<table>
<thead>
<tr>
<th>Processes that lead to outcomes</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0 Topic / issue identification</td>
<td>Generation of original idea</td>
</tr>
<tr>
<td>Interface A Project specification and selection</td>
<td>Processes of development of proposal and submission</td>
</tr>
<tr>
<td>Stage 1 Inputs to research</td>
<td>Other funding</td>
</tr>
<tr>
<td></td>
<td>Experience of research team</td>
</tr>
<tr>
<td></td>
<td>Knowledge base of team</td>
</tr>
<tr>
<td>Stage 2 Research processes</td>
<td>How appropriate research methods were</td>
</tr>
<tr>
<td></td>
<td>Difficulties encountered</td>
</tr>
<tr>
<td></td>
<td>How potential users were involved</td>
</tr>
<tr>
<td>Stage 3 Primary outputs from research</td>
<td>Types of publications</td>
</tr>
<tr>
<td></td>
<td>Non conventional outlets for publications</td>
</tr>
<tr>
<td></td>
<td>How follow on research happened</td>
</tr>
<tr>
<td></td>
<td>How other take up of research happened</td>
</tr>
<tr>
<td></td>
<td>Capacity building</td>
</tr>
<tr>
<td>Interface B Dissemination</td>
<td>Processes of uptake in policy/industry eg presentations, networking</td>
</tr>
<tr>
<td>Stage 4 Secondary outputs- policy making and product development</td>
<td>Pathways to policy or product development</td>
</tr>
<tr>
<td>Stage 5 Adoption by practitioners and public</td>
<td>Pathways to behavioural change by practitioners</td>
</tr>
<tr>
<td>Stage 6 Final outcomes</td>
<td>Pathways to health or economic benefits</td>
</tr>
</tbody>
</table>

The sample

A sampling frame was compiled using research projects in primary healthcare listed in the Roadmap Of Australian primary health care Research (ROAR) database on the PHCRIS website. The ROAR database contains summaries of all research funded under the General Practice Evaluation Program (GPEP), all Primary Health Care Research, Evaluation and Development Program (PHCRE) funded research and all Primary Health Care projects funded by the National Health and Medical Research Council (NHMRC). Criteria for inclusion in the study were:

- Primary health care research as defined by the NHMRC and PHCRED
- Funding of over $100,000 through a major competitive grant scheme
- Commenced after 1999 and completed by 2005.

These criteria were chosen to maximise the chance that selected projects did have an impact and that the time frame would allow for that impact to have occurred but not for the trail to be cold. We wanted to ensure that respondents could be located and that projects were recent enough that respondents could fully remember them. We were also guided by the finding by Butler and Biglia [4] that 99% of journal articles from projects are published over a period of up to seven years from the start of the project.

As this project was seen as the first stage of a larger project and we wished to assess the methodology, a sample size of four randomly selected projects was chosen. Random sampling was used in order to avoid any suggestion that we were selecting projects based on merit.

From this sampling frame one project was randomly selected from each of the following categories:

- 1X GPEP (Project Grant, not seeding grant or training award)
- 1X NHMRC funded before 2003 (when PHCRE funding commenced)
- 1X PHCRED (NHMRC grant with a PHC topic funded 2003 or afterwards).
- 1X Randomised Controlled Trial funded by any of the above.

The final sample is described in Table 3.
Ethics Approval
The Flinders University Social andBehavioural Ethics Committee granted PHCRIS ethics approval for the first stage of this project. Ethical issues the team has addressed include a concern that projects studied could not be made anonymous and although the respondents and their projects are not named, they are easily identifiable. For this reason, respondents have been asked to approve versions of this report before it has been seen by the Advisory Committee.

Since members of the Advisory Committee are also prominent members of the research community, who may have influence over future funding allocation, we were also concerned to protect our respondents, and the committee has not had access to tape recordings or transcripts.

Data collection methods
The first aim of this project was to identify how much or what types of impact can be assessed through various means at different stages of research completion. The data collection methods we chose to trial were adapted from those used by Hanney et al [1]. The methods were interwoven, not sequential, and included:

- analysis of the publications derived from the projects (ie where published, type of journal, journal impact factor);
- analysis of documents associated with the project such as original proposals, reports, publications, conference presentations, newsletter articles, policy documents, media publications and more;
- semi structured interviews with Chief Investigators and persons they nominated to provide further information about how the research was used in policy or practice.

Interviews
A questionnaire was developed, in consultation with the Advisory Committee, based on the Buxton and Hanney Payback Framework [1]. The questionnaire incorporated categories of the Payback Framework and the Logic Model as well as questions about the dissemination strategies and interface with end users. The questionnaire was adapted for key informants, who were considered to be end users of the project findings. Copies of the questionnaires are in Appendix 1.

Contact was made by email and phone with the Chief Investigator(s) of the project through their organisation. All those approached agreed to participate, although in one case one person was nominated to be interviewed on behalf of the team. Interviews were an hour or more in length. They took place by telephone and were audio-taped and fully transcribed. In addition, all those present at the interview took notes, which were collated and transcribed. The Project Officer conducted all the interviews, with one or more of the research team also present at each interview, so that all members of the research team were familiar with the interview data.

The Chief Investigators were asked to suggest two to three people who could be approached to provide more detail about the use of the research in policy or practice, in further research or other applications such as guidelines or teaching materials. These people were then approached for an interview. One person gave a brief telephone comment only and another replied to a questionnaire by email. A number of people declined to participate. All interviews with key informants were audio-taped. Notes were simultaneously recorded by a minimum of two members of the study team. In a few cases interviews were also transcribed.
Scrutiny of Publications
During interviews, the Chief Investigators were asked to list publications derived from the project. The ISI index was used to locate these articles, to ascertain the number of recorded citations, and to identify the Impact Factor of the journals in which they were published.
In addition, publications were located in the Scopus database and any citations were recorded. At the time this project was conceptualised the Scopus database was under consideration as a source of citation data for the RQF.

Scrutiny of Documentation
During interviews, Chief Investigators were asked about other presentations, papers, media articles, reports, resources and other items which derived from their research project and an attempt was made to obtain copies of these. In addition internet searching using Google and Google Scholar was used to locate references to the projects.

Table 3 Final Sample

<table>
<thead>
<tr>
<th>Funding source</th>
<th>Funding amount</th>
<th>Funding Dates</th>
<th>Interviews conducted</th>
<th>Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 1</td>
<td>NHMRC</td>
<td>$135,000</td>
<td>2002-2004 Chief Investigator, Research Assistant, Two managers of health organisations (one by email)</td>
<td>Transcribed Notes Notes Email</td>
</tr>
<tr>
<td>Project 2</td>
<td>PHCRED</td>
<td>$134,000</td>
<td>2003-2005 Two Chief Investigators, Research Assistant, Consumer representative on the project</td>
<td>Both Transcribed Notes Notes</td>
</tr>
<tr>
<td>Project 3</td>
<td>NHMRC</td>
<td>$150,000</td>
<td>1999-2000 Chief Investigator, Policy maker, Representative from a non Government organisation (brief telephone comment)</td>
<td>Transcribed Transcribed Notes</td>
</tr>
<tr>
<td>Project 4</td>
<td>GPEP</td>
<td>$156,000</td>
<td>2000-2002 Chief Investigator, Head of Faculty.</td>
<td>Transcribed Transcribed</td>
</tr>
</tbody>
</table>

Data Analysis
Data from all sources were analysed according to the Payback Framework using categories and the category descriptions provided [1].
Two grids were constructed using this Framework. The Payback Framework identifies the impacts that each project has had in a range of categories. The Logic Model identifies processes at each stage of the research which have potentially led to outcomes. Completed Payback and Logic grids are in Appendix 2 and 3.
The data were analysed thematically to identify issues which arose with this methodology, and to discover more about the social context in which research is disseminated and used in policy and practice, the mechanisms by which a project affects its environment and ways in which researchers can potentially increase the impact of their research.
The NVivo qualitative data analysis program was used to organise the data.
The project team met regularly to interpret and comment on the analysis and the node structure being compiled using NVivo 7.
Reliability and Validity

Reliability was addressed through providing multiple sources of data, multiple types of data, multiple research projects from which data is gathered and through analysis of the data by multiple researchers.

Validity was addressed through feeding the research findings back to the interviewed participants to comment on how well the findings reflect their experience. This process addressed the ethics of the project as the anonymity of participants cannot be guaranteed and this gave them some control over what is said about their research.
Results and Discussion

Overview of projects

Details of the final sample are shown in Table 3, with the number of interviews conducted for each project, and whether interviews were transcribed. As the results are difficult to interpret without some understanding of each project, a project summary approved by the Chief Investigators is included in Box 1.

Box 1  Summary of projects studied

Project 1
This Victorian project was preceded by a period of work, by the university concerned, with a number of Primary Care Partnerships (PCPs) during which the concept of trust emerged as being critical to the establishment of collaborative relationships. With university funding, a tool to measure trust between primary care agencies was developed. Funding from the NHMRC was obtained to undertake a multi-method evaluation of the development and role of trust in a Primary Care Partnership.

The Chief Investigator (CI) and Research Assistant worked closely with managers and practitioners in the PCPs during the project and findings were fed into administrative processes. Subsequently, the CI has presented many times to PCP, Local and State Government audiences, has fed research findings into her work on boards and committees and has used the tool a number of times in evaluation consultancies. The project has enhanced university/community engagement and this style of working is now well established in that department of the university.

Project 2
This project brought together a panel of assessors to review case studies of procedural medical care in rural areas to develop a methodology to assess quality of care. It found that standards of care were high and equivalent to that provided in city areas.

Findings were disseminated through interpersonal contact in general practice networks and were presented many times to general practice audiences throughout the State. The dissemination coincided with a crisis in State Health where the quality of rural health care was brought into question and strategic contact with policy makers, through well positioned champions, led to the project findings being used to support arguments that quality of care is not worse in rural areas.

Project 3
This project was a randomised controlled trial of providing a physical activity intervention in a group of patients with a specific medical condition, which followed a project funded by NSW Health which trialled physical activity intervention in general practice.

Results showed that providing the intervention to the group with the medical condition was no more effective than providing it to all patients. The project coincided with other policy developments, which integrated the management of multiple risk factors for chronic disease in primary care, so that physical activity advice was not given separately to other health advice.

The one publication derived from the project was published five years after its completion. It therefore was not included in a literature review undertaken for the above chronic disease initiative, although it has been included in a systematic review.

Project 4
This project arose from the experience of clinicians managing elderly patients in an emergency department and their anecdotal experience that many older people were presenting for emergency care as a result of missed opportunities in the primary care setting for earlier alternative intervention. There was little research evidence to confirm this hypothesis. The project found that opportunities for alternative care and better outcomes did indeed exist for a large proportion of the older people studied. Improved systems of community care could have prevented a large percentage of elderly patients needing to use emergency departments.

When the project was nearing completion, a project team was undertaking service redesign work at the hospital and showed interest in the findings of the research. Through this connection and through a series of presentations, the State Health Department came to hear of the research. A champion of the project, who has a key role in health reform, was also able to use the findings to push for change.

The project findings were used to underpin a major State Government trial program to provide better access, interagency involvement and enhanced coordination of services for the elderly in primary care. There have been no publications (to date) from this project but it has been, and continues to be, widely presented and has featured on television.
Aim 1: Identify how much or what types of impact can be assessed through various means at different stages of research completion

In this small sample of relatively recently completed research projects we identified more impact in knowledge production, research targeting, capacity building and absorption, and informing policy and product development, than in health and health sector benefits or broader economic benefits, as shown in the Payback Grid in Appendix 2.

However the team considers that some additional categories are required, as some impacts from the research projects we examined were not covered by the Payback Framework.

In general the impact categories proved to be adequate, although we found that interviews became repetitive due to perceived overlap between categories. For example, within the main category Research targeting, capacity building and absorption, the sub category Development of research skills, personnel and research capacity overlapped Staff development and educational benefits. We (and our respondents) were not certain how to interpret the category Critical capacity to utilize appropriately existing research. The research team considers that some clarification and modification of the scope of each category would better represent primary health care research, particularly action research designs.

The following sections describe the contributions of each source of information to the identification of impact and issues associated with each source.

Methods of data collection

Interviews with Chief Investigators and Key Informants

Locating appropriate respondents

We located all Chief Investigators of the four randomly selected projects using internet searches, although this took considerable persistence. One was overseas, another on leave, and one Chief Investigator declined to participate and nominated a member of his team to participate on behalf of the team.

The Chief Investigators interviewed were asked to nominate several people able to provide more information on how the findings of the research had been applied. Three Chief Investigators reserved the right to contact these people first and ask their permission before supplying their contact details. A number of people declined to participate at this stage, although the research team was not aware of how many people had been approached by the Chief Investigators and what percentage had declined.

Despite some difficulties, we eventually located all the key informants recommended to us, each of whom agreed to be interviewed. All had ongoing professional relationships and friendships with the Chief Investigators, which may have influenced their decision to participate.

The research team recognises the generosity of the key informants agreeing to be interviewed but anticipates that the time taken could become burdensome if it were required on an ongoing basis for the Research Quality Framework.

Given the time-consuming nature of the methodology, the research team examined which informants were able to provide the most relevant information. It appeared that little additional information was gathered from interviews with research assistants. However, triangulation is useful to verify information provided. Conflicting information was provided to us in two cases, about the number of articles written, and about providing project results to the reference group.

Memory and record keeping

Although all Chief Investigators had presented the results of their work many times at conferences, in seminars, meetings, and professional settings, only one was able to provide a list of conference presentations,
and the record of other presentations was patchy. Interpersonal connections, networks, committee participation and chance meetings were important for dissemination and impact, yet without adequate records these ephemeral connections were hard to capture as evidence of pathways to achieving impact.

This project suggests that keeping records of personal dissemination through networks will become important in the context of the coming Research Quality Framework.

Chief Investigators’ awareness of impact

The research team found that the Chief Investigators interviewed had some knowledge of the impact of their research, but were aware of the limitations of their knowledge:

“Just referring to the responses we’ve had at conferences and people who’ve seen the work, we’ve seen an awful lot of people saying ‘hey this is really important stuff’ and I’m sure it’s led to a lot of other people generating questions and research. I just don’t know what it is.” CI Project 4

The method used in this project only sought information about impact from the research team and those informants nominated by the team. Given the complexity of the interactions and chains of causalities in the process by which research influences policy and practice, this is unlikely to be the full extent of impact.

Bibliometric analysis for the purpose of demonstrating impact

The first category in the Payback Framework is Knowledge Production, which examines peer reviewed publications, the Journal Impact Factor of journals in which articles are published and citations to articles.

Table 4 shows the publications resulting from the four research projects studied. Out of seven peer-reviewed publications only one is listed in a journal indexed by the ISI Web of Science index and is in a journal with a recorded Impact Factor. Scopus∗ lists 4 articles and records one citation to one article. Neither the ISI index nor Scopus is therefore useful for assessing impact through publications in this small sample of primary health care research projects.

<table>
<thead>
<tr>
<th>Project</th>
<th>Peer reviewed publications (from authors)</th>
<th>Number Listed in ISI</th>
<th>Citations (from ISI)</th>
<th>ISI Impact factor</th>
<th>Listed in Scopus</th>
<th>Citations (from Scopus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 1</td>
<td>5 articles</td>
<td>2 x 2001 2 x 2003 1 x 2005</td>
<td>0</td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Project 2</td>
<td>2 articles in 2005</td>
<td>0</td>
<td></td>
<td></td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Project 3</td>
<td>1 article in 2005</td>
<td>1</td>
<td>2 citations. (1 in a systematic review)</td>
<td>1.356</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Project 4</td>
<td>No articles written</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

∗ Scopus is a large abstract and citation database owned by Elsevier. It is being considered as an alternative to the ISI index for the Australian Research Quality Framework.
These results are congruent with previous bibliometric studies of public health and primary health care publications which show small percentages of publications indexed by the ISI Web of Science index [4, 6, 7].

A previous analysis by PHCRIS of the publications derived from General Practice Evaluation Program (GPEP) projects [9] found that of the 13 most used journals only 6 are indexed. Only 32% of articles are on the ISI database and in a journal with a recorded Journal Impact Factor. Any assessment of the Journal Impact Factor as a measure of research impact (or indeed quality) in this field would therefore be misleading. This finding is congruent with similar findings by Hanney and his team in their evaluation of the impact of Arthritis Funding in the UK [7].

While interviews identified that these four research project had a range of impacts, the pathways to impact do not appear to be through peer reviewed publications. Except for one article included in a systematic review, no examples of impact occurring through peer reviewed publications were found. One of the projects we studied had no peer reviewed publications, yet had prompted the development of an extensive State Government program. Clearly using bibliometric indicators as a measure of research impact in this field may be misleading.

Contrary to established academic practice a focus on achieving academic publications may actually impede achieving impact in primary health care. In this small sample the primary reason for this appears to be the perceived need to delay releasing findings until after publication, which may take years, with the result that the findings “miss the boat”.

The theoretical writing is something that obviously an academic has to do but the way that it is actually impacting on the agencies is not through the papers that we write directly from the project, but through the other papers like the ones for the state-wide chairs and managers because a group of them are actually co-authors… CI Project 1

It’s my understanding when you are submitting a paper to an academic journal, you have to be very careful what you send to other places or you may infringe copyright so I have interpreted those rules very carefully and have mostly gone for the academic journals and then pointed people to those rather than using other purposes directly. CI Project 2

This study was done in 1999-2000 and nothing was published till 2005. If you can get it published more immediately it will have more impact Policy Maker Project 3

This was a paper that took a long time to publish (but it is essential that one publishes in the scientific literature the results of such findings) so we couldn’t release it in a report to the policy makers because that would have prejudiced its scientific publication. CI Project 3

Document analysis

Chief Investigators provided us with a number of publications and reports from their projects. The research team obtained copies of more project reports and publications, and several media articles and transcripts through Google searching. Access to project outputs, while providing evidence of dissemination, does not in itself provide evidence of impact. A question arises over whether project outputs, other than peer reviewed publications, should be regarded as impacts in themselves.

We did not see any documentation showing how the research findings were used in policy or organisational development. The lack of references in policy documents does not assist the search for documental impact. This component of the methods was not straightforward, although searches in Google Scholar are potentially valuable to find references to use of research that the CI is unaware of, as long as sufficiently specific search terms can be devised to identify the research.
Timing of impact assessment

We selected the sampling frame for this study from projects funded after 1999 and completed by 2005. This timing was suggested by Butler & Biglia’s work in bibliometrics [4] which found that 99% of publications from a project were published within seven years of project commencement. We were also keen to find a balance between allowing time for impact to have occurred and yet not so long that memory will have failed and respondents could not be located.

On the basis of this small study we consider assessment of impact should be undertaken sooner rather than later. Most impacts appeared to happen through the personal networks of the researchers and their connections with policy makers and/or decision makers. Impacts tended therefore to be synchronous or follow soon after the research while the processes and networks were still active and findings were being actively discussed and were able to be ‘inserted’ into current debates and policy processes. Separating the impact of the research from other organisational and policy developments was another challenge which increased with time since project completion. As time goes on this would be increasingly difficult to untangle. Tracking down Chief Investigators and key informants also increased in difficulty with time since completion of the research.

Table 5 summarises the contribution of interviews, bibliometric and document analysis to identification of different types of impact at different stages of research completion.

Table 5  Sources of information about categories of research impact at different stages of research completion

<table>
<thead>
<tr>
<th>Category of impact</th>
<th>Within two years of completion</th>
<th>Ten years after</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge production</td>
<td>CI records and testimony, bibliometrics</td>
<td>Bibliometrics</td>
</tr>
<tr>
<td>Informing policy and product development</td>
<td>Key informants / survey of practitioners.</td>
<td>CI testimony. Key informants. May not be traceable.</td>
</tr>
<tr>
<td></td>
<td>Use in guidelines /organisational procedures.</td>
<td></td>
</tr>
<tr>
<td>Broader economic benefits</td>
<td>CI testimony, patents</td>
<td>CI testimony, patents</td>
</tr>
<tr>
<td>Health sector benefits</td>
<td>Key informants/ personal contact/ survey of practitioners. Use in guidelines /organisational procedures. Research findings.</td>
<td>Key informants/ personal contact/ survey of practitioners. Use in guidelines /organisational procedures. Research findings, epidemiology</td>
</tr>
<tr>
<td>Capacity building</td>
<td>CI testimony Subsequent grants</td>
<td>Subsequent grants</td>
</tr>
<tr>
<td>Enhanced networks and partnerships for research transfer</td>
<td>Key informants, CI testimony</td>
<td>CI testimony, Key informants. May not be traceable.</td>
</tr>
</tbody>
</table>

Issues for further deliberation in assessing research impact

Determining which impacts were attributable to the research project under examination

Determining which impacts led from the one project under examination was unclear in Projects 1 and 3, which were part of a series of research projects with a similar theme which led on from each other. Projects 1 and 4, both of which worked closely with health care organisations, also informed and blended with health service organisational developments and Government Initiatives. Many of the impacts came through these further developments and it is not clear how many generations of impacts should be attributable to the research project.
We found that action research projects where practitioners and health service organisations informed and participated in the research at many stages and early findings were implemented during the project did not easily fit into the Payback Framework. It became very unclear what was the research and what was organisational or program development. This issue is part of the wider need for discussion over what is the appropriate unit of analysis. Should it be the researcher, the team, the project or the research program?

**What evidence is admissible?**

In using the Payback grid we found that impacts depended on a long chain of assumptions, with the research having an effect on proximal rather than distal links in this chain. For example, Project 1 developed an instrument to identify qualities in trust based relationships that would enable the identification of intervention points when organisational relationships were dysfunctional. The assumption for impact purposes is that better levels of trust lead to better collaborations, better service coordination and therefore efficiencies and decreased waiting lists. The evidence for the instrument actually leading to improvements in dysfunctional relationships let alone longer term effects is indirect, though the mechanism is plausible. It is not clear if this is admissible as evidence of impact. Similarly, project 4 led to a State Government Initiative to better coordinate preventative services for the elderly in primary care. The impact of the research is the development of the initiative, but the long term effect of the initiative on elderly people is not yet proven though again plausible given some evidence for the effectiveness of this type of preventative approach from New Zealand.

**The negative finding**

The actual results of research influence uptake of research and ultimate impact. Two projects in this study had findings which affirmed the status quo rather than suggesting changes were required. In Project 2 an assessment of quality found that standards of care were very high and no action was required. Project 3 found that an intervention trialled was not more effective than the control. This finding was noted and the intervention was not implemented. One would not expect implementation of activities that were shown not to be effective, but this does not mean the research was of lesser quality.

**Considerations of validity: more thought and guidelines are needed**

A number of issues about the assessment of research impact were raised when the Advisory Committee discussed preliminary results of this project.

The first is a question of whether all research findings should be implemented in policy or practice. This project has illustrated the social processes by which a piece of research affects its environment. Usually, single research studies do not by themselves have the standard of evidence that should be required to make a change to health care or the health system, which should be based on scientific accumulation of research knowledge [8, 9].

A related issue is whether some research findings should be privileged through being championed or due to the involvement of policy makers in the research process.

Conversely, should a research group be penalised because its research did not arrive in a favourable political environment? The political context can be receptive and favour impact, yet can change unpredictably. Results from one of the projects studied arrived in an environment where political will was moving in another direction. Again this does not mean the research was of lesser quality. Although not initially intended to influence policy, another project was used in policy arguments when the quality of rural health care was brought into question during a crisis. The findings, which showed that quality of care was good, were used to support political arguments.
Aim 2: Develop efficient methods for primary health care researchers (or other organisations) to use to track and assess the impact of their projects.

How impact occurs
A number of factors that influence the impact of primary health care research have emerged from the analysis. The Logic Model, developed by Buxton and Hanney alongside the Payback Framework structured an analysis of how activities at various stages of the research process can lead to impact. The completed Logic Model for the projects studied is included as Appendix 3. In addition, thematic analysis of the interview transcripts has given some insights which can inform activities researchers can undertake to promote their research.

Strong collaborative links with practitioners, health administrators and policy makers
A strong theme in our findings was that interpersonal connections mattered. Collaborative research, links with policy makers, personal connections with those with influence and pathways into decision making processes were the channels by which impact happens.

“This is the first time I have come across academics doing research linked with practice and doing it in a collaborative way. Can see links between what we need to know and what we can do. Can put pressure on policy. Mutual learning. Most research comes out and you can choose to pick it up or not. This is a new way of working, more timely, interrelated backwards and forwards, quick moving.” Health Service Manager Project 1

“one of the barriers, I guess, was we didn’t have general practitioners on this project to talk it through with in the primary care circles specifically.” CI Project 3

Instead of this work having been done by researchers who are interested in research and published it and then moved onto other things, it was done by clinicians who pondered it and sat on it and worked on it and it flowed on directly into clinical work.” CI Project 4

Credible champions
Senior people with influence and the right connections can bring research findings to a decision making forum where they can be used. The Key Informant in Project 4 told us about his involvement with health care reform and how he regarded the research findings as a “Godsend” as it was just the justification he required to drive reform. Once he had the data he was able to progress the issue with senior policy makers and “move it forward”.

“[My connection with the project] “has provided numerous avenues to influence opinion behaviour and policy at the state government level.” Health Service Manager Project 1

“When [CI] has been there academics have had a better hearing. It has lent credibility. [CI] has linked practitioners to research”. Research Assistant Project 1

So, one of the other issues is the credibility of the source. If [CI] has done the study we are more likely to pay attention and be involved in it rather than someone who is not as well respected as him.” Policy maker Project 3

Alignment with current Government priorities
In all four projects the extent of alignment of the research findings with Government priorities and with tides of opinion influenced the uptake of their research findings. Strong connections with practitioners, health services and policy makers helped to ground the research questions in the needs of the day.

“The policy issues really fell out of this research rather than being something we went in with.....Timing was good actually, because of the Qld Health enquiries we actually got an opportunity to sort of get it in front of some key people. “ CI Project 2
Planned dissemination
Some funding bodies don’t require reports or publications and do not have systems in place to disseminate research findings or bring them to the attention of decision makers. Time for writing and dissemination is often not supported or budgeted for, and people move their attention to other demands on their time once the project is completed,

“Most of us run a research projects to the dollar so there is nothing left over for helping dissemination…….. Some of the other organisational factors have actually been impediments to dissemination. Things around myself as head of a research unit and head of discipline in a new course and all the other things that come with being a senior academic. “ CI Project 2

“first of all it was such a long process to get it finalised and by that time, a lot of the exhaustion about ‘well we’ve finally got the report up and it’s in print, let’s move on to what we can do with it’. It’s led to other things and I must say there’s a very small project team remaining, it was basically just myself and one or two other people and as far as getting it printed or published, it’s gotten bogged down in other stuff. ….. we’re primarily all clinicians……” CI Project 4

Personal dissemination
All researchers in our sample presented their work many times to different audiences. They also received individual requests for information and discussed their findings informally. One form of dissemination which seemed to particularly useful was to inform the participants in the project and the members of the Advisory Committee as their personal involvement and contacts became conduits for impact.

“I do a lot of keynote addresses and all that kind of stuff and presentations and workshops and evaluations and so on out in PCP [Primary Care Partnership] land and it penetrates in that way, rather than very directly. That to me, is the appropriate way to be disseminating it because the research is about grass roots behaviour and grass roots issue for agencies, so it needs to get back there if it’s going to have an effect.” CI Project 1

“I would have shown these results in talks that I gave to general practitioners across New South Wales as part of talks on physical activity and health. Now how many division or general practice seminars did I give during the year since we had these results? Probably about 50. And how many times might I have mentioned this paper? Possibly a third. I’ve got no idea for every single presentation whether I mentioned these results or not but as soon as these results were available, they were of interest and I would have shown them.” CI Project 3

“It wasn’t a particularly formal presentation but we did have a least one senior State Health person involved as one of the reviewers and certainly their views on cost efficiency were important and are reported as part of the study and we just verbally presented it to a number of State Health people.” CI Project 2

Primary Health Care Research under the Research Quality Framework (RQF)
This research was undertaken in response to concerns raised regarding how primary health care research would fare under the Preferred Model of the RQF launched in September 2005. During 2006 the RQF has been refined by the RQF Development and Advisory Groups with the input of four technical working groups who advised on quality Metrics, Research Impact, Information Technology and Exploratory Modelling. This research was undertaken through the same time period and was substantially complete when the Preferred RQF model was released in October 2006 [2]. In the process, thinking has progressed and many of our original concerns have been addressed in the Recommended RQF document released in October 2006.
As the RQF will be a major determinant of future directions, we have integrated our findings with the requirements of the RQF in framing our conclusions. The RQF will assess both the quality and the impact of university research, terms which are specifically defined. The unit of assessment will be a research group, rather than a research project, which has been the focus of our study.

Despite this we believe our findings can inform future directions for the assessment of primary health care research.

A distinguishing feature of the preferred RQF model, released in October 2006, [2] is its explicit assessment of both the quality and the impact of university research. The terms ‘quality’ and ‘impact’ have specific meanings within the RQF. Thus university research will be assessed on:

- **“the quality of original research including its intrinsic merit and academic impact. Academic impact relates to the recognition of the originality of research by peers and its impact on the development of the same or related discipline areas within the community of peers; and**
- **the impact or use of original research outside the peer community that will typically not be reported in traditional peer reviewed literature (that is, the extent to which research is successfully applied during the assessment period for the RQF). Broader impact relates to the recognition by qualified end users that methodologically sound and rigorous research has been successfully applied to achieve social, economic, environmental and/or cultural outcomes.”** [2]

The **quality** of the research is defined in terms of its academic impact. Ways of measuring academic impact or quality will be:

- **Citation data**, such the as number of journal articles in high impact journals and citations to those articles. It is recognised that this does not suit all disciplines, due to gaps in the coverage of the ISI databases and primary health care is one discipline where this applies;
- Disciplines are challenged also to develop rankings based on **discipline specific outputs**, such as conferences, journals or exhibition venues, with researchers being encouraged to publish in the most prestigious outlets for their discipline. The development of discipline specific quality measures has not been done yet in our discipline but is an area for future work.
- **Grant income** data.

The **impact** of the research, i.e. its social, economic, environmental and/or cultural outcomes, will be assessed through an **impact statement** which includes:

- an “evidence based statement of claims for the Group against **generic and panel specific impact criteria** including verifiable indicators in support of those claims”;
- up to four **case studies** that illustrate the groups claims of impact;
- and details of **end users** who can be contacted to verify claims of impact. [2]

Primary health care research may not measure up under standard citation analysis (quality measures) and **discipline specific indicators** of quality outputs are yet to be developed in our field. However, even though the sample size is very small, this study has shown that primary health care research can indeed have a great deal of impact and can potentially do well with impact assessment under the RQF. Primary health care research is well positioned, with established networks, links with health care organisations, practitioners and policy makers. And our research is collaborative, setting up the pathways through which ideas spread, and meets identified health care needs. Demonstrating that impact may be just what primary health care needs to justify increased funding.

**Use of the Buxton and Hanney Payback Framework**

The Buxton and Hanney Payback Framework crosses both Quality and Impact RQF categories. It is based on analysis of citation data, document analysis and a case study compiled by interview. The unit of analysis is the research project. This differs from the RQF in which a research group is the unit of analysis.
The Buxton and Hanney Payback Framework covers citation data, but not discipline specific outputs, which remain to be developed for primary health care. It is therefore not sufficient for assessment of Quality under the RQF.

This study can give some indication whether the Payback Framework and data gathering methods can be used successfully to gather material for case studies and structure an “evidence based statement of claims for the group against generic and panel specific impact criteria including verifiable indicators in support of those claims”.

There are two components to this: the practicalities of data gathering and the categories of the model.

This project experienced a number of difficulties with data gathering due to inadequate record keeping and recall of events and contacts relevant to impact, some of which could be overcome by changes to researcher behaviour. Compilation of case studies by the researchers themselves using the modified Payback Framework is feasible with good record keeping and collection of evidence. We recommend that researchers keep a record of their presentations at conferences and elsewhere, reports and publications, media articles, and personal approaches. They also need to maintain contact with the users of their research if possible.

**Modifying the Framework**

As discussed in more detail on page 15, we found the categories of the Payback Framework to be adequate but requiring some clarification and modification of the scope of each category to better represent primary health care research, particularly action research designs. Our recommended modifications are given in Table 6.

The team considers that an additional category focussing on enhanced structures for research transfer is required. The prevailing pathways to impact are through the interpersonal networks of the Chief Investigators, as Buxton and Hanney [10] recognised. We suggest adding a new category of Research Transfer to the interview schedule, with the following scope:

- **Enhanced pathways and relationships for research transfer to policy makers;**
  “one of the things that we have been doing across the two units in the last 12 months and partly under the [funder’s] banner is building much stronger relationship with policy writers, policy analysts at both State and Federal level. …. But I guess it’s really got us thinking much more about how we engage with policy makers” CI Project 2

- **Improved university engagement with the community and the health care sector.**
  “the work that we’re actually doing in both teaching and research around building our partnerships with community agencies... We’re finding the group of people in the School of Public Health are really keen to be involved as a group in the development of research projects that I’ve been able to initiate through our partnerships links with outside agencies like local government, community health and so forth.” CI Project 1

Both of these impacts are strongly identified as Government priorities in a number of recent reports [11-13].
<table>
<thead>
<tr>
<th>Category</th>
<th>Scope (Additions in Bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge production</td>
<td>Peer reviewed publications, citations, Journal Impact Factor.</td>
</tr>
<tr>
<td></td>
<td>All other publications</td>
</tr>
<tr>
<td></td>
<td>Reports, papers, conference and other presentations, newsletter articles, web sites, resources and other research outputs</td>
</tr>
<tr>
<td></td>
<td>Presentations to policy makers, practitioners and decision makers</td>
</tr>
<tr>
<td></td>
<td>Media stories and appearances</td>
</tr>
<tr>
<td>Research targeting, capacity building and absorption</td>
<td>Better targeting of future research</td>
</tr>
<tr>
<td></td>
<td>Development of research skills, personnel and research capacity</td>
</tr>
<tr>
<td></td>
<td>Critical capacity to utilize appropriately existing research</td>
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<td></td>
<td>Staff development and educational benefits.</td>
</tr>
<tr>
<td>Informing policy and product development</td>
<td>Improved information base on which to take political and executive decisions</td>
</tr>
<tr>
<td></td>
<td>Implementation or influence at an organisational, local, regional, National or international level</td>
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<td></td>
<td>Clinical or regional guidelines</td>
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<td></td>
<td>Education/ training policies or audit and evaluation criteria</td>
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<td></td>
<td>Inclusion in a systematic review</td>
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<td></td>
<td>Inform product development</td>
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<td>Health and health sector benefits</td>
<td>Cost reduction in the delivery of existing services</td>
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<td></td>
<td>Qualitative improvements in process of service delivery</td>
</tr>
<tr>
<td></td>
<td><strong>Implementation in practice</strong></td>
</tr>
<tr>
<td></td>
<td>Increased effectiveness of health services. ie increased health</td>
</tr>
<tr>
<td></td>
<td>Equity ie improved allocation of resources at an area level, better targeting and accessibility</td>
</tr>
<tr>
<td></td>
<td>Revenues gained from intellectual property rights</td>
</tr>
<tr>
<td>Broader economic benefits</td>
<td>Wider economic benefits from commercial exploitation of benefits arising from research</td>
</tr>
<tr>
<td></td>
<td>Contribution to a healthy population</td>
</tr>
<tr>
<td>Research transfer</td>
<td>Enhanced pathways and relationships for research transfer to policy makers, organisational decision makers, practitioners and consumers.</td>
</tr>
<tr>
<td></td>
<td>Improved university engagement with the community and the health care sector.</td>
</tr>
</tbody>
</table>
Areas for further work

As citation measures are of limited value in assessing quality of primary health care research, the discipline has been challenged to develop alternative rankings, based on discipline specific outputs, such as conferences and journals, and encouraging researchers to publish in the most prestigious outlets for their discipline. Other disciplines are working on listing journals, conferences, and ranking their level of prestige. This has not yet taken place in primary health care research but needs to be considered together with other disciplines covered by our Expert Assessment Panel (whichever this will be).

Research transfer research is a relatively new field. A collation of evidence and examples of how to optimise impact and what behaviours and structures are required will become necessary. Researchers will also need advice on what constitutes a good case study and how to gather the evidence.

The early findings from this study used a sample of only four projects. Extension of this project using a larger sample and a modification of The Buxton and Hanney Payback Framework will allow firmer conclusions about how a project impacts its environment and how this may be enhanced. It will also allow further development of The Buxton and Hanney Payback Framework and identify other potential “generic and panel specific impact criteria”.

Whatever model is used, this project identifies a number of issues related to the processes of impact assessment which need to be thought through. These are:

- Which developments are attributable to the research project (or research group) under examination? This project found that there was considerable sliding between what was the project and what was organisational development. The nature of much primary health care research, and health services research more generally, is that the research is carried out in a collaborative style with results feeding into organisational (or political) processes, often before completion.
- How many generations of impact are attributable to the project and where does one draw the line?
- What evidence of impact is admissible?
- Are presentations, non peer reviewed publications and other activities designed to increase impact counted as an impact in themselves or a process measure?
- Lack of record keeping of conference presentations, meetings, media reports and other dissemination activities;
- Locating end users.
- What is the appropriate time scale for the assessment of impact? For this project we chose up to seven years since completion of funding, based on a balance between time for an impact to occur and researchers’ memory recall. The RQF will assess impacts occurring during the last six years although the research may have been undertaken at any time prior.
Conclusions

**Recommendations for primary health care researchers**

*Maintaining records*

Consideration of the potential “recognition by qualified end users that methodologically sound and rigorous research has been successfully applied to achieve social, economic, environmental and/or cultural outcomes.” [2] means that introduction of the RQF could lead to changes in traditional academic ways of working. Researchers will need to keep track of what happens as a result of their research by recording non peer reviewed publications and presentations, maintaining networks, keeping contact details of those who have used their research when they move on to other positions, as well as recording and following up informal contacts.

Our recommendations for the records researchers will need to keep in order to complete case studies of the impact of their research are shown in Table 7. In the RQF, publications other than in peer reviewed journals will become important, particularly with the ease and popularity of ‘Googling’ for information compared to the difficulty and expense of accessing full text peer reviewed journal articles for many people outside universities. Researchers should keep:

- a record of conference and other presentations, including those to policy makers and practitioners and meetings where it is presented or discussed.
- note of individual enquiries and requests for more information.
- copies of reports, media stories, newsletter articles, and other publications citing your research. Google is useful in finding these citations.
- contact with those who have used your research findings as their testimony will be needed to provide evidence of research use and those who move on may be difficult to locate.
Table 7: A modified Payback Framework to structure research impact case studies for the RQF and the records which we recommend researchers maintain to complete it

<table>
<thead>
<tr>
<th>Category</th>
<th>Scope (Additions in Italics)</th>
<th>Evidence to gather</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge production</td>
<td>Peer reviewed publications, citations, Journal Impact Factor.</td>
<td>Personal records of all publications, conference presentations, appearances, and other research outputs, not just peer reviewed</td>
</tr>
<tr>
<td></td>
<td><em>All other publications</em></td>
<td>Web site hit rates and other evidence of use</td>
</tr>
<tr>
<td></td>
<td><em>Reports, papers, conference and other presentations, newsletter articles, web sites, resources and other research outputs</em></td>
<td></td>
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<tr>
<td></td>
<td><em>Presentations to policy makers, practitioners and decision makers</em></td>
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<td><em>Media stories and appearances</em></td>
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<tr>
<td>Research targeting, capacity building and absorption</td>
<td>Better targeting of future research</td>
<td>Subsequent grants received</td>
</tr>
<tr>
<td></td>
<td>Development of research skills, personnel and research capacity</td>
<td>Follow on research by self or others</td>
</tr>
<tr>
<td></td>
<td>Staff development and educational benefits.</td>
<td>Contact details of those who can confirm use of research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scholarships and higher degrees awarded</td>
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<tr>
<td></td>
<td></td>
<td>Promotions and subsequent employment of research staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Records of personal contacts for further information</td>
</tr>
<tr>
<td>Informing policy and product development</td>
<td>Improved information base on which to take political and executive decisions</td>
<td>Contact details of those who can confirm use of research</td>
</tr>
<tr>
<td></td>
<td><em>Implementation or influence at an organisational, local, regional, National or international level</em></td>
<td>Citation in policy documents</td>
</tr>
<tr>
<td></td>
<td>Clinical or regional guidelines</td>
<td>Testimony of policy makers, managers or decision makers</td>
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<tr>
<td></td>
<td>Education/ training policies or audit and evaluation criteria</td>
<td>Organisational documentation</td>
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<tr>
<td></td>
<td>Inclusion in a systematic review</td>
<td>Policy documents and reports</td>
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<td></td>
<td>Inform product development.</td>
<td>Minutes of meetings</td>
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<td></td>
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<td>Research reports</td>
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<td></td>
<td>Patents</td>
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<td></td>
<td>Evidence of implementation or influence</td>
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<tr>
<td>Health and health sector benefits</td>
<td>Cost reduction in the delivery of existing services</td>
<td>Contact details of those who can confirm use of research</td>
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<td></td>
<td>Qualitative improvements in process of service delivery</td>
<td>Evaluation and research reports</td>
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<tr>
<td></td>
<td><em>Implementation in practice</em></td>
<td>Organisational documentation</td>
</tr>
<tr>
<td></td>
<td>Increased effectiveness of health services.</td>
<td>Epidemiological studies</td>
</tr>
<tr>
<td></td>
<td><em>increased health</em></td>
<td>Health services research reports</td>
</tr>
<tr>
<td></td>
<td>Equity <em>improved allocation of resources at an area level, better targeting and accessibility</em></td>
<td>Minutes of meetings</td>
</tr>
<tr>
<td></td>
<td>Revenues gained from intellectual property rights</td>
<td></td>
</tr>
<tr>
<td>Broader economic benefits</td>
<td>Wider economic benefits from commercial exploitation of benefits arising from research</td>
<td>Epidemiological or research studies</td>
</tr>
<tr>
<td></td>
<td>Contribution to a healthy population.</td>
<td></td>
</tr>
<tr>
<td>Research transfer</td>
<td><em>Enhanced pathways and relationships for research transfer to policy makers, organisational decision makers, practitioners and consumers.</em></td>
<td>Researcher testimony</td>
</tr>
<tr>
<td></td>
<td><em>Improved university engagement with the community and the health care sector.</em></td>
<td>Testimony of research users</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evidence of collaborative activities, and engagement of potential users in research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evidence of dissemination</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minutes of meetings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Records of individual contacts</td>
</tr>
</tbody>
</table>
Optimising impact

The project provides some insights into the structures and processes required to optimise the impact of primary health care research.

Ideas for research should be developed in consultation with the potential users of that research, who need to be involved in the project throughout. Early findings need to be fed into decision making processes at opportune moments. Those people who are well placed to bring research findings to decision making processes need to know about the findings. Researchers need to maintain their networks, not just with other researchers but with people who are well positioned in policy, community, and practice networks, and in particular to cultivate potential champions.

All the researchers in our study presented their findings many times to different audiences at conferences, meetings, seminars and individually to managers of health care organisations, policy makers or practitioners. Unexpected pathways to impact may occur.

A planned dissemination strategy is important. As well as effective diffusion of the results through networks of peers, dissemination is needed outside of the peer network, making use of people who span boundaries to access other networks.

How funding bodies can assess the impact of their primary health care research funding program

This project has shown that it is feasible to gather information about research impact through interviews with the Chief Investigators of research projects supplemented with interviews with the end users of research.

This project used telephone interviews to gather the data however consideration could be given to gathering the information by electronic questionnaire or in a written report. Buxton and Hanney [14] in their assessment of the North Thames Research and Development Program compared the information gathered from questionnaires based on their Framework with the information gathered from case studies compiled through interview. They found that questionnaires slightly understated the impact of the research, and concluded that a well designed questionnaire could be a useful and sufficiently reliable technique but that interviews provide a fuller and more reliable basis for comparison of projects.

Interviews are resource intensive. We found that note taking during the interviews did not provide sufficient detail, context or accuracy for compiling the case studies and that our interpretation at the time of interview led to selective note taking of points which were not always the most important in retrospect. Transcription of interviews enabled fast and accurate coding using NVivo yet was time consuming and expensive. Our interviews were over an hour in length and explored pathways to impact. Transcription of a shorter, tighter interview schedule may be a compromise position.

The modified Payback Framework provides a workable structure to inform data gathering and the compilation of a grid which facilitates the comparison of projects. In the North Thames project, Buxton and Hanney allocated benefit scores to research projects to facilitate comparison. Scores were allocated by two people working independently and the mean of the two scores was used in the subsequent analysis. The Research Quality Framework [2] has opted for a five point rating scale with closely defined categories. We have not attempted to score or compare research in this project but it is conceivable that this could be done.

Guidelines need to be developed on the extent to which second and third generation impacts could be attributable to the research project under examination and what type of evidence of impact was acceptable. Documentary evidence is not often accessible. Timing of the impact assessment also needs to be considered as discussed above.
Final words
This project was a response to a number of concerns that were raised, in response to the Recommended Model of the RQF launched in October 2006 [3], about how the impact of primary health care research could be measured.

We have shown that the Buxton and Hanney Payback Framework can be used, with some minor modification as the basis of “panel specific impact criteria” to assess impact, as defined by the RQF documentation, and as a framework to structure case studies.

We have also shown that primary health care research does have a great deal of impact on the health system and that there is good reason for confidence that the discipline is well positioned to rate well under the RQF.
References


Appendix 1 Interview schedules for Chief Investigators and Key Informants
Primary Health Care Research Impact Project
Schedule for semi structured interview with Chief Investigators

The following is a guide to the topics to be explored during an interview with Chief Investigators of projects. While the question guide below will be followed, the discussion will be permitted to deviate to explore unexpected themes which arise. Interviews will be by telephone or in person and will be recorded and transcribed.

Interviewer…………………… Date .......... Time ..........

Research project
................................................................................

Start date ................................................

Finish date ................................................

Chief investigator1
................................................................................

Chief investigator2
................................................................................

Thank you for agreeing to take part in this interview, which will take about an hour. I’m going to ask for your impressions of the areas in which this research project has had an impact, so far.

1. Could you tell me briefly about the aims of your project and what the findings were?

2. Do you know whether the findings have been used in any way?

I would like to start with how the findings from your research project were disseminated:

3. Could you tell me about the peer reviewed publications which have derived from this project and where they have been published?
4. Are you aware of any papers that gave a citation to the papers you have published from your research? If yes, please give the reference of the citing paper if possible.

5. Could you tell me about any other publications such as reports to funders, or articles in press?

6. Have the results been featured in the media, such as a newsletter, newspapers, web sites, radio or television?

7. Have the results been disseminated elsewhere eg specific conferences, seminars, other presentations, email lists, personal lobbying? What was the audience for these presentations?

8. Are there any other outputs from this project? eg training packages, news releases, websites.

Organisational and research capacity

9. Has your research project led to any PhDs or other higher degrees for those working on the project, or is it likely to do so?

10. Has your project contributed to an increase in overall research capacity of your administrative unit? eg
   - development of research skills?
   - attracting overseas senior researchers to undertake research in Australia?
   - career progression of people associated with the research team?
   - the reputation of your research unit?

11. Has this research project had any effect on your research team’s capacity to use appropriate existing research from elsewhere?

12. Have the project findings or methodology generated subsequent research by members of the team?

13. Has your research had benefits in attracting further research funding?

14. Have the project findings or methodology generated or influenced subsequent research by other groups?
15. Has this project had any other staff development or educational benefits?

22. Have there been other policy outcomes from this research?

Political and administrative impact

16. Has this project led to improved information by which to influence policy and executive decisions? Can you give examples?

23. Are you aware if your research has made any contribution to medical or allied health training? eg Educational resources, training programs.

17. Do you know if policy makers have used the results of this research project in any way? If yes, please give details.

24. Are you aware of any impact that your research has had on health sector policy or practices, either directly, or through further research by your self or others? eg contributing to:
   - Health programs or projects at an organisational, local, State or National level
   - Setting of health targets
   - Organisational how-to manuals
   - Clinical guidelines
   - Criteria used by evaluative, inspecting or accreditation bodies

18. Do you know if it has led to changes in policy?

19. Do you know if it has led to the development or refinement of any Government programs and initiatives?

20. Has it contributed/ led to changes in knowledge, understanding and attitudes by policy makers? Can you give examples?

21. Has it been used to support arguments in a persuasive way?
25. Has this research led to any cost reduction in the delivery of existing services? Is there potential for this to happen in future?

26. Has it led (or might it lead) to any improvements in the process of service delivery?

27. Has it increased the quality or effectiveness of services?

28. Has this project led (or might it lead) to any other organisational development?

29. Has it led to changes in clinical practice by health practitioners?

30. Other health sector benefits? Eg new community links, enhanced networks, collaborative relationships, staff satisfaction, morale.

31. Has the research contributed to better health outcomes or improved quality of life for consumers at an individual or population level?

32. Has it had an effect (or might it) on equity? Has it led to improved allocation of resources at an area level, better targeting and accessibility?

33. Have any revenues been gained from intellectual property rights?

34. Are you aware of any patents, or other commercial products, to which your research has contributed? If yes, please give details.

35. Is there any possibility of wider economic benefits from commercial exploitation of innovations from this research?

36. Has this research led to economic benefits from a healthy workforce and reduction in working days lost?

**Economic Outcomes**

**Consumer Outcomes**

**Other outcomes**
37. Have there been any other social, cultural or environmental outcomes from your project that we have not covered?

Interface with potential users

38. Have the researchers worked with policy makers, practitioners or other potential users of research in any way before the project?

   eg needs assessment, specifying the project, commissioning the project, development of the research question, research design, on a steering committee, personal discussion.

39. Have the researchers worked with key user groups during or after the project? eg presenting at targeted seminars or meetings with key user groups, informal dissemination.

40. Has your interface with potential users of the research impacted on how the results of your project have been used?

Process issues

41. What organisational factors have influenced the dissemination and impact of your project?

   eg funding, duration, timing, researcher continuity, staffing levels, other organisational factors.

42. What personal factors have influenced the publication and impact of the project eg personal connections, personal influence, and reputation, use of ‘champions’?

43. Were any of the dissemination strategies particularly influential in achieving utilisation of the research findings? Why?

Other comments?

44. Please describe any other factors which have affected the impact of your research and any other outcomes not already covered.

Potential or actual users of the research
45. In order to assess in more depth how your project has had an impact we would like you to suggest up to three people we could talk with who could provide a perspective on how the research has been used in policy, practice, organisational development, further research or in other applications such as guidelines or teaching materials. The research team will contact these people and interview them according to the developed protocol.

**Documentary sources**

46. Would you be willing to provide a copy of the original project research proposal and any other project documentation which gives the original research question and/or the aims and objectives of the research?

We will be searching for documentary sources which could potentially provide evidence of impact. Are there any sources that you could tell me about?

*On Policy:*

- policy papers, discussion papers,
- parliamentary papers,
- reports,
- press releases,
- newspapers, newsletters,
- web sites, television or other media,

*On practice:*

- guidelines, systematic reviews,
- learning resources,
- procedure manuals,
- seminars and conference papers,
- newsletters, Newspaper articles,
- Web sites
- other research reports etc;

*On consumers:*

- Further research reports,
- Organisational documentation,
- Evaluation reports,

**Thankyou for your time.**
Primary Health Care Research Impact Project

Draft schedule for semi structured interview with end users

The following is a guide to the topics to be explored during an interview with end users of projects. While the question guide below will be followed, the discussion will be permitted to deviate to explore unexpected themes which arise. Interviews will be by telephone or in person and will be recorded and transcribed.

Interviewer………………………… Date ………… Time …………
Research project …………………………………………………………..
Start date ………………………………………..
Finish date ……………………………………….
End user name ………………………………………
End user position and institution …………………………………………
Referral from Chief investigator …………………………………………

Thank you for agreeing to take part in this interview, which will take about half an hour.

As you know, your name was given to us by [name] who was the CI on a research project funded by [X], on the topic of [Y] in [year]. [Name] considered you would have some knowledge of this project and the way it has been used and any impact it may have had.

Dissemination

1. First, are you aware of the project?
2. How did you become aware of this project?
3. Could you outline briefly your connection to it?

4. Are you aware of any of the publications which have come from this project? Eg reports to the funding body and stakeholders, peer reviewed publications, articles in newsletters, press releases.

5. Have you been present when the results have been presented? Eg specific conferences, seminars, other presentations.

6. Are you aware of any presentations that you did not attend?

7. Have you seen the results in newspapers, newsletters, radio or television, press releases email lists or on web sites?

8. Do you consider any of these dissemination strategies particularly influential in raising your awareness and/or leading to use of the research findings?

9. Are you aware of any other outputs from this project? Eg web sites, educational resources, guidelines.

10. Are you aware if this project led to development of research skills? If yes, please give details.

11. Are you aware if this project led to any PhDs and other higher degrees?

12. Are you aware if this project led to any other increase in research capacity?
   Eg attracting senior researchers attracted to undertake research in Australia or career progression of people associated with the research team? If yes, please give details,

13. Are you aware if this project had any effect on the research team’s capacity to absorb and use appropriately existing research from elsewhere?

14. Are you aware if this project had staff development or educational benefits?

15. Are you aware if this project made any contribution to medical or allied health training? If yes, please give details.

---

**Organisational and research capacity**

---

**Policy impact**
16. Do you consider this project led to improved information on which to influence policy and executive decisions?

17. Have you used the results of this research project in any way in your work? If yes, please give details.

18. Has it led to changes in policy?

19. Has it led to the development or refining of any Government programs and initiatives?

20. Are you aware if this research had benefits in better targeting of future research?

21. Has it contributed/led to changes in knowledge, understanding and attitudes by policy makers?

22. Has it been used to support political arguments in a persuasive way?

23. Have there been other policy outcomes from this research?

*Health and health sector impact*

24. Are you aware of any impact that this research has had on health sector policy and or practices either directly or through further research by the research team or others, eg contributing to:

- Health programs or projects at an organisational. Local State or National level?
- Policy or administrative decisions nationally or locally
- Clinical guidelines
- Health promotion schemes
- Training packages
- Setting of health targets
- How-to manuals
- Criteria used by evaluative, inspecting or accreditation bodies
- Changes in behaviour of practitioners at the national or local level?

25. Do you know if this research led to any cost reduction in the delivery of existing services? Is there potential for this to happen in future?

26. Do you know if this research led (or might it lead) to any improvements in the process of service delivery?
27. Do you know if this research increased the effectiveness of services?

Consumer outcomes

28. Has the research led to better health outcomes or improved quality of life for consumers?

29. Has it led or could it lead to improved health at a population level?

30. Are you aware if this research has had (or might have) an effect on equity? Has it led to improved allocation of resources at an area level, better targeting and accessibility?

Broader economic benefits

31. Are you aware if this research has resulted in any revenues being gained from intellectual property rights?

32. Are you aware of wider economic benefits from commercial exploitation of innovations from this research?

33. Are you aware of any patents, or other commercial products, to which this research has contributed? If yes, please give details.

34. Are you aware if this research led to economic benefits from a healthy workforce and reduction in working days lost?

Interface with potential users

35. You have been nominated as someone who has insight into how this piece of research has been used. Could you tell me how the researchers worked with potential users of research before or during and after the project. eg needs assessment, specifying the project, commissioning the project, development of the research question, research design, steering committee, personal discussion, presenting at targeted seminars or meetings with key user groups, informal dissemination.

36. Did your connection with the project have an effect on the eventual use of the results? If so how?

Process issues
37. Do you know whether any organisational factors have influenced publication and impact of this project? eg funding, duration, timing, staffing levels, staff continuity.

38. Do you know whether any research team factors have influenced the publication and impact of the project? eg personal connections, personal influence, reputation and use of ‘champions’?

39. Are you aware of any other factors which have influenced the impact of this project on end-users like yourself?

*Documentary Sources*

*It would be very helpful if you could suggest documentary sources which could potentially provide evidence of the use of the research.*

- impacts on policy eg policy papers, discussion papers, parliamentary papers, press releases, newspapers, television or other media,
- impacts on practice eg guidelines, systematic reviews, learning resources, seminars and conference papers, newsletters, other research reports etc;
- impacts on research eg citations of papers, derivative research, acknowledgements

*Other comments*

40. Is there anything else you would like to add about research impact, in relation to this or other projects?

*Thankyou for your time*
## Appendix 2 Assessment of Research Impact using Payback Categories

<table>
<thead>
<tr>
<th>Payback category</th>
<th>Scope</th>
<th>Project 1</th>
<th>Project 2</th>
<th>Project 3</th>
<th>Project 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge production</strong></td>
<td>Peer reviewed articles</td>
<td>5 peer reviewed articles</td>
<td>2 x 2001</td>
<td>2 x 2003</td>
<td>1 x 2005</td>
</tr>
<tr>
<td></td>
<td>Listed in the ISI index</td>
<td>• None listed in the ISI index.</td>
<td>• None listed in the ISI index.</td>
<td>• Listed on ISI Index.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Listed in Scopus</td>
<td>• Two articles listed in Scopus.</td>
<td>• Two articles listed in Scopus.</td>
<td>• Not listed on Scopus.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Citations</td>
<td>From Scopus one publication has one citation.</td>
<td>From Scopus. No citations to either article.</td>
<td>Two citations to one article on ISI. One of these citations is a systematic review.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Journal impact factor</td>
<td>No ISI Journal Impact factor</td>
<td>No ISI Journal Impact factor</td>
<td>One publication with an ISI Journal Impact factor of 1.356</td>
<td></td>
</tr>
<tr>
<td><strong>Readership targeted by journal articles</strong></td>
<td>Public Health journals most appropriate for user group.</td>
<td>On line Rural Health journal.</td>
<td>Health Promotion journal</td>
<td></td>
<td>Application in program development but no further research to date.</td>
</tr>
<tr>
<td><strong>Research targeting, capacity building and absorption</strong></td>
<td>Better targeting of future research</td>
<td>Used the Trust Scale in a consulting model.</td>
<td>PHD developed from this project. MHMRC Scholarship. Advancement of methodology for assessing quality in medical services.</td>
<td>No. Retired from the area.</td>
<td></td>
</tr>
<tr>
<td><strong>Development of research skills, personnel and research capacity</strong></td>
<td>Skills of Research Assistant. Primary Care Partnership co-researchers inspired to do further study. Project led to changes in organisation of Uni Department towards working collaboratively with community agencies.</td>
<td>Skills of Research Assistant</td>
<td></td>
<td>Development of skills of research staff leading to promotion.</td>
<td></td>
</tr>
<tr>
<td>Payback category</td>
<td>Scope</td>
<td>Project 1</td>
<td>Project 2</td>
<td>Project 3</td>
<td>Project 4</td>
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<td>------------------------------------------------------</td>
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<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Research targeting, capacity building and absorption</td>
<td>Better targeting of future research</td>
<td>Used the Trust Scale in a consulting model.</td>
<td>PHD developed from this project. MHRMC Scholarship.</td>
<td>No. Retired from the area.</td>
<td>Application in program development but no further research to date.</td>
</tr>
<tr>
<td></td>
<td>Development of research skills, personnel and research capacity</td>
<td>Skills of Research Assistant. Primary Care Partnership co-researchers inspired to do further study. Project led to changes in organisation of Uni Department towards working collaboratively with community agencies.</td>
<td>Skills of Research Assistant</td>
<td>No. Retired from the area.</td>
<td>Development of skills of research staff leading to promotion.</td>
</tr>
<tr>
<td></td>
<td>Critical capacity to utilize appropriately existing research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff development and educational benefits</td>
<td>Research Assistant career advancement. Using skills learned in the project.</td>
<td>Research Assistant went on to do a PhD informed by the project.</td>
<td>No information given</td>
<td>Secondment of CI to State Govt. Considerable positive impact on CI’s reputation.</td>
</tr>
<tr>
<td>Informing policy and product development</td>
<td>Improved information base on which to take political and executive decisions</td>
<td>Informed Primary Care Partnership development. State Govt Funding for partnership development in Primary Care Partnerships. Local and regional protocol to improve service coordination. Informed the development of partnership evaluation materials.</td>
<td>Used to support arguments during political turmoil over the QLD health system.</td>
<td>Considered by State Govt and the Heart Foundation but not used.</td>
<td>Used to provide evidence to support the myth that emergency departments were full of elderly people. Provided the numbers to justify the injection of funding and stimulated change. Led to State Govt program of improved inter agency coordination to better meet the needs of elderly people in the community.</td>
</tr>
<tr>
<td></td>
<td>Clinical or regional guidelines</td>
<td>Reinforced existing</td>
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<td>Payback category</td>
<td>Scope</td>
<td>Project 1</td>
<td>Project 2</td>
<td>Project 3</td>
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<tr>
<td></td>
<td><strong>Education/ training policies or audit and evaluation criteria,</strong></td>
<td>Trust scale used 5-6 times since on evaluation projects. Incorporating into University Public Health teaching. Informed Leadership Development program for partnership managers. One manager has gone on to receive a Churchill Fellowship based on this work. Informed International Summer School for the Asia Pacific Region (xxx Health.)</td>
<td>Incorporated into JCU teaching. Contribution to audit/evaluation methodology.</td>
<td>Resources developed and used by Heart Foundation to educate GPs.</td>
<td>No</td>
</tr>
<tr>
<td><strong>Health and health sector benefits</strong></td>
<td><strong>Inclusion in a systematic review,</strong></td>
<td>No</td>
<td>No</td>
<td>Included in a systematic review of exercise prescription in GP done by a group from Denmark.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td><strong>Inform product development</strong></td>
<td>Trust scale</td>
<td>Resource developed. Used by Heart Foundation free of charge.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Cost reduction in the delivery of existing services</strong></td>
<td>No</td>
<td>No</td>
<td>Potential for prevention has not been realised</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Qualitative improvements in process of service delivery</strong></td>
<td>Trust based relationships produce efficient collaborative activities and support service coordination. Trust scale enabled dialogue. Better service coordination leads to efficiencies and decrease of waiting lists. Trust supports the sharing of information.</td>
<td>Project showed that services were already of good quality.</td>
<td>Potential for prevention has not been realised. Evaluation showed that Heart Foundation training using project resources was unsuccessful at changing GPs prescribing of physical activity.</td>
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<td>Payback category</td>
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<tr>
<td></td>
<td><strong>Increased effectiveness of health services. i.e increased health</strong></td>
<td>Appears more seamless to the consumer. Staff are less stressed.</td>
<td>Project showed that services were already of good quality.</td>
<td>Project identified appropriate group for intervention</td>
<td>More recognition of the needs of the elderly and better services. Anecdotal evidence of improved experiences. Approach has improved health outcomes in NZ. Fewer admissions, prescriptions, tests. Increased patient satisfaction.</td>
</tr>
<tr>
<td></td>
<td><strong>Equity i.e improved allocation of resources at an area level, better targeting and accessibility.</strong></td>
<td>Found that quality of services in rural areas was as good as in urban areas.</td>
<td>Project resources made freely available.</td>
<td>Led to increased focus on the needs of the elderly. Prevention of health problems that lead to hospitalisation.</td>
<td></td>
</tr>
<tr>
<td>Broader economic benefits</td>
<td><strong>Revenues gained from intellectual property rights</strong></td>
<td>Trust scale has been used subsequently 6+ times in a consulting model. Scale has also been given free of charge to a group in Canada.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Wider economic benefits from commercial exploitation of benefits arising from R&amp;D</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td><strong>Contribution to a healthy workforce</strong></td>
<td>Those working in the Primary Care Partnerships will have less stress and have less working days lost to illness.</td>
<td>Rural doctors and nurses feel validated. Good for morale.</td>
<td>Not implemented</td>
<td>Elderly people are not in the workforce. Possibly less stress on hospital staff.</td>
</tr>
<tr>
<td>Payback category</td>
<td>Scope</td>
<td>Project 1</td>
<td>Project 2</td>
<td>Project 3</td>
<td>Project 4</td>
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</tr>
<tr>
<td>Enhanced pathways and relationships for research transfer to policy makers.</td>
<td>CI is seen as reputable and is influential in having research considered in decision making. Collaborative research involving community agencies as a model for engagement of the university with its community and the movement of research findings into policy and practice.</td>
<td>Contacts established with policy makers. Research used to inform debate.</td>
<td>As a legacy of a number of projects CI seen as a reputable ‘expert’ who is contacted when advice is needed.</td>
<td>CI seen as innovative and reputable. Has been given a position in State Government related to the area of the research project.</td>
<td></td>
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<td>Partnerships and university-community engagement</td>
<td>Project led to changes in organisation of Uni Department towards working collaboratively with community agencies.</td>
<td>Worked with GPs and GP organisations in the design and conduct of the research.</td>
<td>Worked with Heart Foundation and with GPs and GP organisations.</td>
<td>Not undertaken in a university setting. Many collaborative links between health organisations including Ambulance, Meals of Wheels, Emergency Dept and State Government.</td>
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Appendix 3 Primary Health Care Research Impact Project Logic Model

<table>
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<tr>
<th>Processes that lead to outcomes</th>
<th>Project 1</th>
<th>Project 2</th>
<th>Project 3</th>
<th>Project 4</th>
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<tbody>
<tr>
<td><strong>Stage 0 Topic / issue identification</strong></td>
<td>Arose from work done collaboratively with the Primary Care Partnerships (PCPs), funded by Latrobe University. Trust was identified as an issue. Decision made to obtain funding to develop a scale to measure trust.</td>
<td>Putting an end to a myth that rural medical care was of poor quality. Study of methodology to assess the quality of medical care.</td>
<td>Investigator driven. Researchers developed concept, hypothesis and methodology. Hypothesis informed method. Adapted resources developed for a previous project. Intended to be policy relevant.</td>
<td>Initiated by Prof Medicine in response to problems in the emergency department of the hospital. Much anecdotal evidence and discussion among staff that there was a problem. Recognised the need to substantiate a myth and to get all the facts about what was happening prior to admission. Intention to get hard data with which to influence policy makers.</td>
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<tr>
<td><strong>Interface A Project specification and selection</strong></td>
<td>First application for funding was not successful. Redeveloped in partnership with Primary Care Partnerships.</td>
<td>No information given</td>
<td>No information given</td>
<td>No information given</td>
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<td><strong>Stage 1 Inputs to research</strong></td>
<td>Built on a substantial base of relationships developed with Primary Care Partnerships, the substantial credibility and personal networks of the CI and previous research on trust funded by the university.</td>
<td>History of many commissioned workforce studies for QLD Health and Commonwealth. Well known and respected. Strong links with GP organisations. Good relationship with Director of Medical Services (QLD Health) who wanted to be seen as a partner in the project.</td>
<td>Previous research in the area funded by the NSW Health Dept. Ongoing personal relationship between CI and policy officer with NSW Health Dept due to previously working together. CI seen as valuable ‘expert’ by Health Dept.</td>
<td>Connection of the Prof Medicine with the Health Reform Alliance. Research initiated developed and conducted by practitioners experiencing problems.</td>
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<tr>
<td>Processes that lead to outcomes</td>
<td>Project 1</td>
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<td><strong>Stage 2 Research processes</strong></td>
<td>Collaborative action research model. Worked closely with Primary Care Partnerships, managers, staff and policy makers. Many presentations. <strong>Difficulties:</strong> Cessation of Statistical support during the project required RA to upgrade skills. Staff turnover in Primary Care Partnerships was turned into a positive by looking at the effect this has on trust.</td>
<td>GP organisations assisted with recruitment, provided input into questionnaire design and processes and reviewed cases.</td>
<td>Developed resources in consultation with Health Dept and with RACGP. Tested resources with GPs and consumers. CIs ran workshops to train GPs in the use of materials. Policy maker aware of the research through personal friendship and through mutual meetings with the Heart Foundation but not involved. GP academics not involved.</td>
<td>Large qualitative research project. Huge amounts of data from 100 cases. Involvement of practitioners, and community groups through Steering Committee. Policy makers not involved at this stage.</td>
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<td>Types of publications</td>
<td>Four peer reviewed publications in public health journals. Some difficulty publishing as concepts were unfamiliar to journal editors. Follow on research: use of trust scale in a consulting model 5-6 times since project. Happened through personal contacts/presentations. Conference presentation in Amsterdam led to use in Canada.</td>
<td>Two articles published in 2005 in on line rural health journal. Project led to consideration of the need to build stronger relationships with policy makers (through PHCRED). PhD project built on the findings. Working more closely with Qld Health on policy implications of research.</td>
<td>Publication delayed. Complete in 2000 but not published till 2005. Therefore not included in synthesis of research evidence informing the SNAP program. No report to funder required. No follow on research. Retired from the area. Criticised by policy maker for being behind where policy was at the time. Publication has been used in a systematic review.</td>
<td>No publications. Qualitative research methodology was voluminous and time consuming. Funding did not cover dissemination. Reporting though GPEP did not lead to uptake. No follow on research to date.</td>
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<td>Types of publications</td>
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<tr>
<td>- non conventional outlets for publications</td>
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<td>- how follow on research happened</td>
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<td>- how other take up of research happened</td>
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<td>- capacity building</td>
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## Processes that lead to outcomes

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<th>Interface B Dissemination</th>
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<tr>
<td>Processes of uptake in policy/industry eg presentations, networking</td>
<td>Conference presentations, presentations to Primary Care Partnerships, and multidisciplinary groups including policy makers from all levels of government. Participation of Primary Care Partnerships (PCPs) in the research, presentations to PCPs, one on one contact with PCP managers and policy makers through relationships and networks, presence on committees and boards and personal mentoring of PCP managers in research skill development.</td>
<td>Presented at a variety of settings during and after the project. Dissemination to participants not systematic. Conflicting information over whose role it was. “Talking with the players”, one on one. Missed opportunity with consumer rep. One on one dissemination in response to personal requests (20+ inquiries). No funding for dissemination.</td>
<td>Talks with GPs across NSW (DGP seminars) as part of physical activity and health. Possibly, presentation to policy makers.</td>
<td>Conference presentations. Presentations to policy makers. Featured on television (Statelinel). Disseminated through the Steering Committee and through associated community groups.</td>
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## Stage 4 Secondary outputs- policy making and product development

- Pathways to policy or product development

<p>| Working though committees, contacts, Primary Care Partnership managers and their influence and university structures. Influencing thinking by inserting small messages at opportune moments- infiltration. Credibility and reputation of CI gave weight to research findings. Favourable political climate with collaboration/partnerships on the agenda. | QLD Health used findings during an inquiry into QLD Health. Uni Head of Faculty was on QLD Health inquiry committee and was kept informed of research findings. QLD Health made aware through participation. Also received a report. Several one on one discussions with QLD Health people but QLD Health in crisis at the time. Struggling to find an audience. Approached regional Govt. | Interest in primary care policy turned to integrating chronic disease management and multiple risk factor recommendations (SNAP) even though not evidence based (CI view). SNAP seen as a philosophy-integration- avoids duplication- and move towards prevention in GP setting. Results not seen as significant. Did not support hypothesis. Just as effective to recommend physical activity to all patients, not just high risk. Therefore contrary to SNAP. Divisions of GP not interested in taking the findings further. | Fit with government and COAG agendas (hospital avoidance). Part of a general trend towards prevention approach in primary care. Prof Medicine able to take it to the Health Reform Alliance. Came to the attention of those doing service redesign work at the hospital. Through them it came to the attention of the NSW Health Department Health Services Improvement Branch and coincided with their interest. This led to the SAFTE program. Through SAFTE the Ambulance Service, HACC, Meals of Wheels and other groups have become involved. |</p>
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<td><strong>Stage 5 Adoption by practitioners and public</strong></td>
<td>Working with PCPs at senior level and at operational level by different members of the research team. Development of model of University-Community research partnerships within University department.</td>
<td>Having many GPs involved. Made them realise how little there was to criticise. Good for morale.</td>
<td>Resources developed from the predecessor to this study and refined in this study were picked up by NSW Health and then the Heart Foundation. Heart Foundation pre and post survey did not show any increase in proportion of GPs recommending physical activity.</td>
<td>Through the SAFTE program practitioners from many disciplines are now working together. To improve primary care for older people. Health and Non Health practitioners are doing joint assessments in people’s homes.</td>
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<td><strong>Stage 6 Final outcomes</strong></td>
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<td>Retired from the area.</td>
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