

POLICY REPORT

The researcher development program: how to extend the involvement of Australian general practitioners in research?

HH Birden

*Northern Rivers University Department of Rural Health, Lismore, New South Wales,
Australia*

Submitted: 18 April 2007; **Resubmitted:** 13 June 2007; **Published:** 14 August 2007

Birden HH

The researcher development program: how to extend the involvement of Australian general practitioners in research?

Rural and Remote Health 7: 776. (Online), 2007

Available from: <http://www.rrh.org.au>

A B S T R A C T

Context: This article reviews the Researcher Development Program (RDP) component of the Australian Government's Primary Health Care Research, Evaluation, and Development (PHC RED) strategy, examining critical aspects of program performance and suggesting strategies that might increase the involvement of rural GPs in research.

Issue: Primary health care research capacity can only be built by providing sustainable, dedicated funding and a dedicated redistribution of workload from practice to research. The PHC RED funds and program supports only provide incentives to redirect existing capacity within primary health care from patient care to research for the time during which incentives are in place, generally as a part-time funded position for less than one-year's duration. The one-year time constraint is the most serious impediment to the success of the program. There is no formal provision for the continuing status of clinician/researchers. Continuation depends on the capacity of the mentor agencies, academic departments of general practice or university departments of rural health, to continue to support them, and on the time they can make available from their practice. Existing measures of program success, published research and new knowledge incorporated into practice settings, are too ambitious for researchers given a one-year time frame, working part time. Clinician/researchers have a demonstrated willingness to devote time to



developing and answering a research question, but often lack the time and administrative support to get through the processes required, including ethics application and writing for publication.

Lessons learned: A better way to capture success of the RDP program might be through a multi-objective composite set of measures of research performance that captures different types of outputs, with weighting factors assigned to different measures of research output. Development of peer-review panels to replace or augment annual reporting to assess the progress of PHC RED programs might also serve both to measure success and to promote collaborative ventures. Small scale research projects are more conducive to practising GPs than randomised controlled trials or large scale observational studies. Smaller projects can still lead to important discoveries and improvements to the healthcare system. Examples include guideline development, descriptive studies, and small-number analytical epidemiological studies. In order to engage the rural primary care community in redirecting clinical time to research, the needs of clinicians must be met, as well as those of funders, academic mentors and collaborators. Structures and systems that can be developed through PHC RED, including research networks, will determine whether efforts to increase research in primary-care settings succeed and are sustainable. Sustainable networks need sustainable funding.

Key words: funding, general practitioners, research, university departments of rural health.

Context

Growth purely for its own sake is the philosophy of cancer¹.

Research centred in a primary-care setting is particularly important because this is the setting in which the determinants of quality regarding the health status of the individual, the cost-effectiveness of care provision, and the programmatic soundness of the healthcare system come together^{2,3}.

This article reviews the Researcher Development Program (RDP) component of the Australian Government's Primary Health Care Research, Evaluation, and Development (PHC RED) strategy. The views presented are drawn from the experiences and observations of a group of participants in the program and from a review of the literature relevant to the goals of the RDP program. Based on the evidence of what works, suggestions are offered as to what might work to increase the involvement of GPs in research.

The Australian Government, through its Department of Health and Ageing, has funded PHC RED since 2000. The program seeks to build research capacity in primary care through funding university and general practice partners to carry out certain capacity building initiatives and to provide research methods training and infrastructure supports. The PHC RED consists of several components: the Australian Primary Health Care Research Institute (APHCRI) is tasked with providing leadership in primary health care research⁴; the Research Capacity Building Initiative provides financial support to university departments of general practice and rural health to engage in a broad range of collaborative activities with the aim of increasing research in primary care; the Primary Health Care Research and Information Service (PHCRIS)⁵ provides support in the area of dissemination and knowledge exchange⁶.

The RDP is intended to support clinicians through a transformation to novice (early career) researchers by imparting skills and providing mentorship through a research project initiated by the participant. The hope is that, once bitten by the research bug, RDP clinician/researchers will continue to grow as researchers after program support



structures have ended. The RDP scheme enrolls primary care clinicians in paid, part-time positions of one year's duration.

The goal of the RDP is to build research capacity in Australian primary health care⁷ in general, and in general practice in particular. If successful, this increased capacity will manifest as a sustainable increase in the quantity and quality of research performed by primary care practitioners, especially rural GPs. This will support better healthcare outcomes, including cost-effectiveness, through capturing best clinical practice relevant to current critical areas of health policy.

A stakeholder analysis in the early phase of PHC RED found that lack of time, lack of research expertise or access to means to improve it, and lack of connection to skilled research were the chief barriers to conducting research in primary-care settings⁸. Fair relationships between academic and practice partners have also been cited as being important⁹.

A recently completed evaluation of PHC RED was generally favourable to the effort, although it also found that there was 'insufficient clarity about the of PHC RED's goals and objectives, i.e. what it's trying to do'¹⁰.

A recent systematic review of factors influencing research uptake into policy¹¹ reported results very similar to those of a report on research conducted in Australia on the enablers of and barriers to diffusion and dissemination of research in primary care¹². In both reports, the key factors supporting the adoption of research into policy were the timeliness of the research itself and the personal contact among major stakeholders. The barriers were the lack of these attributes. The systematic review also cited as facilitators the quality of research undertaken and research that supported existing policy directions, while the Australian study found that peer support and a formal academic posting for clinicians engaged in research were influential.

Issues

Capacity building is a misnomer in regard to RDP, as no increase in sustained funding or formal ongoing redistribution of workload from practice to research is provided or supported by the program. The PHC RED funds and program supports merely provide incentives to redirect the working capacity that exists within primary health care from patient care to research for the year in which these incentives are in place.

This one-year time constraint is the most serious impediment to the success of the program. Pirkis et al. highlighted the problem of such a limited approach in their survey of health service researchers in Australia¹³. While experience has been that most RDP clinicians desire to continue their research efforts, there is no formal provision for their continuing status with their mentor agencies after the end of their funded period. Continuation depends on the capacity of the mentor agencies, academic department of general practice or university departments of rural health, to continue to support them.

If these researcher/clinicians are to continue to make progress, their efforts need to be sustained, with PHC RED funded agencies acting as research partners or external mentors. They also need support from their workplace. However, recent research in Australia suggests that primary-care providers do not have sufficient capacity, in terms of time, money, or support, to provide primary care, let alone redirect time from it to engage in research¹⁴. While RDP funding is in place, clinicians have 'protected time' to work on their projects. Once funding ends, support for research is subordinated to clinical work load, and further work on research projects is tenuous. This means that research capacity isn't truly built.

Any research question worth answering will require some in-depth, specialised knowledge in the area of study⁹. It is a fairly straightforward task to help RDP clinicians formulate a question and to learn and successfully use general research



skills, but this is insufficient to instil enough depth of understanding in a novice researcher for the completion of a project of more than modest scope or sophistication. Any project of substantial value will involve some modification of existing methods and in-depth knowledge of particular analysis techniques. Access to such expertise is a problem in rural and (especially) remote areas, but efforts such as university departments of rural health, rural clinical schools, and access to telehealth and online resources are contributing to the solution.

A forum for RDP clinicians nearing completion of their year in the program, the 'Sapling Breakfast Session' was convened on 2 December 2005 as part of the New South Wales biennial PHC RED program conference. Figure 1 presents observations and suggestions contributed by that group.

The deliverables that the Commonwealth Government seeks from PHC RED are high quality published research and new knowledge incorporated into practice settings and priority areas of health policy formulation. In expecting these results in the short time frame of policy-makers (2-4 year election cycles), the Commonwealth has set a one-year time frame for RDP clinician placements. However, it is unrealistic to expect a novice researcher, even with a robust support system, to complete and publish a research project of any substance in a year, especially with only a few hours per week funded for the purpose. The ultimate benefits to the health-care system from research built initially by PHC RED efforts will take considerable time to realise. This has been referred to as the 'evidence to practice gap'¹⁵.

The Commonwealth is also interested in seeing PHC RED-funded clinicians compete successfully for higher level research grants. However, measuring output by the number of successful grants may not be realistic in a field like primary health care that is newly developing and not particularly research oriented. In the USA the average ratio of basic science grants (which are the majority of grants) per funded faculty member at the top 15 National Institutes of Health-funded institutions is 1.45 ± 0.09 (SD)¹⁶. In Australia,

recent additional funding from APHCRI and the National Health and Medical Research Council has probably saturated the market of fundable projects in primary health care. A US Institute of Medicine study concluded that patient-oriented researchers were not trained as well in the art of grant writing as basic science researchers¹⁶.

A measurement system that focuses on publications in peer-reviewed journals as the main outcome measure for success of the program is also problematic. Such a system works against clinicians who may be willing to devote time to developing and answering a research question, but lack the time and administrative support to get through the arduous process of writing for publication. Academics are now conditioned to orient their work not merely to publication, but also to publication in high impact journals, meaning that research that is not of the highest degree of interest and sophistication is generally not worth their time. This elitism works to the detriment of the effort to inculcate a research culture in primary care, where a publication of any sort is generally reward enough for effort.

In addition, a focus on producing publications will not capture the contributions to healthcare improvement that can come through incremental, unpublishable, but nevertheless significant, improvements in delivery systems¹⁷. For example, one RDP clinician in 2004 discovered a systematic deficit in providing medication information to cardiac patients being discharged from the hospital where she worked. She was able to work through existing systems to institute a better discharge process. This will result in better patient outcomes and, hence, more cost-effective and better quality health care as a result. However, the time and effort needed to document this for publication were beyond the time and support available to her. It is also unlikely that a paper on such a modest, incremental improvement would be accepted by a peer-reviewed journal.



- General practitioners do not have the time or patience for process (ethics applications etc); their success depends on meeting patients' needs.
- Academics do not have time for mentoring; their success depends on publication.
- The research skills short course should be held earlier in the RDP clinician year – then extend it as a support network.
- Create a cohesive feel across the state – make RDP clinicians a cohort: distribute photos, research topics and brief biographies early on in the process to all participants.
- Hold videoconference sessions regularly to share problems and progress – there is value in commiseration.
- Set up a mentoring network for similar communication among identified mentors of RDPs.
- Access to senior researchers is important.
- A goal of the RDP program should be to change the thinking process of participants so that they think like researchers: critically, analytically.
- Writing skills and presentation skills should be taught as part of the program.
- Do not underestimate “friction” in the process of research (ie in ethics approval, drafting documents, selecting participants etc).

Figure 1: Novice researcher breakfast workshop, PHC RED program conference, 2 December 2005 in Sydney, Australia. RDP, Researcher development program.

Lessons learned

A multi-objective composite set of measures of research performance that captures different types of outputs might be a better way to determine the success of the RDP program. The UK's Research Assessment Exercise (RAE), for example, uses published research outputs as only one of their measures to provide the primary evidence for research quality to RAE panels. These panels develop a complex final grade awarded to each institution that determines subsequent funding¹⁸. Such multi-objective composite measure systems may require that weighting factors be assigned to different measures of research output. A potential drawback is that it would be more difficult to make comparisons across institutions and countries¹⁹ if different schemes are used for each. A weighting factor acknowledging the greater difficulties faced by rural and remote researchers would provide an additional incentive.

Another option to providing a better assessment mechanism would be the development of peer-review panels to replace or augment annual reporting to assess the progress of PHC RED programs. This would also promote collaborative ventures. Panels could establish the most appropriate

indicators for the departments they were to review, and the results of the review could be a weighting factor used in determining continued funding.

If it is to be successful, PHC RED will need to provide more than transient incentives for rural GPs to engage in research. General practitioners need continuing structural supports to ensure that research development which has started is sustainable. To accomplish this, there follow some additional principles that should be included as the Commonwealth proceeds in its efforts to foster and nurture a research culture.

First, the focus should be ‘simplicity over complexity’. Dismay is expressed at the fact that GPs are generally not involved in higher level research, primarily randomised controlled trials²⁰. But GPs are probably more appropriately involved in what we may think of as basic research. Being the first point of contact with the healthcare system, including healthcare research, such doctors are best positioned to make the observations, formalised as case series or observational descriptive study types, on which hypothesis formulation can then be based and tested²¹.



The basic elements of observation, deduction and serendipity are the cornerstones of some of the most innovative research conducted in Australia. One such example is the recent Nobel Prize for Medicine received by Barry Marshall and Robin Warren 'who with tenacity and a prepared mind challenged prevailing dogmas'²² and established that the cause of peptic ulcers is a bacterium²³. Small scale research projects, ranking low in the hierarchy of evidence, can lead to the development of more ambitious research questions for larger scale, collaborative work. Examples include guideline development, descriptive studies, and small-number epidemiological studies. A recent article by Pirkis and colleagues²⁴ lends support to this approach in two ways. First, it shows the continuing utility of case studies as a valid contribution to the research evidence base. Second, it shows the contribution of general practice research to an important health policy question, in this case mental health care.

Second, care must be taken not to try to create a rural/remote primary health care research culture too big or too fast²⁵. Time spent by new clinician/researchers on research will be time taken away from other imperatives in a system already over-burdening clinicians. Conflict between the competing demands of research and daily healthcare delivery, where research will necessarily and rightly have a lower priority, presents a high potential for failure of attempts at complex research endeavours²⁶.

There are critical-mass and time considerations that will affect any opportunity for a research development program to produce sustainable change. It may not be possible to maintain mentorship and research infrastructure in many rural and remote sites due to their small size. Sharing of resources through collaborations may be more efficient and productive²⁷.

Relevant, sustainable support infrastructure that will continue to nurture new research efforts can and should be created, so that the research culture and efforts spawned by PHC RED grow. In order to engage the rural primary-care community in redirecting clinical time to research time, the issues at hand must be framed to support the clinicians'

needs and perspective as well as those of funders and academic mentor/collaborators. Research networks have proven to be the most successful mechanism for achieving this²⁸⁻³¹ and have been suggested as the way forward in Australia by Zwar et al., who provide a clear and succinct set of essential elements to realise the vision³². But sustainable networks need sustainable funding, and lots more of it than the modest amounts currently going to PHC RED. By providing such funds, the Australian Government could expect a better and more sustainable return on their investment.

Finally, a systems-analysis approach³³⁻³⁵ should be adopted to research capacity building. This would involve carefully examining how research capacity interfaces with patient care capacity in diverse rural and remote primary-care settings. It is likely that social/professional networks³⁶, both those that currently exist and those that can be forged through future PHC RED activity, will determine whether a more robust research culture can be developed and sustained in rural and remote general practice.

References

1. Fforde J. *Lost in a good book*. London: Viking, 2003.
2. De Maeseneer JM, van Driel ML, Green LA, Van Weel C. The need for research in primary care. *Lancet* 2003; **362(9392)**: 1314-1319.
3. Kekki P. Promoting clinical research in general practice. *Education for Health* 2005; **18**: 283-289.
4. Australian National University. Australian Primary Health Care Research Institute. (Online) 2007. Available: <http://www.anu.edu.au/aphcri/> (Accessed 8 January 2007).
5. PHCRIS. Primary Health Care Research & Information Service. (Online) 2007. Available: <http://www.phcris.org.au/> (Accessed 8 January 2007).



6. Australian Government, Department of Health and Ageing. *Primary health care research, evaluation and development strategy Phase 2 (2006-2009) Strategic plan*. (Online) 2005. Available: <http://www.phcris.org.au/phcred/PHCRED%20Strategic%20Plan%202006-2009.pdf> (Accessed 5 June 2007).
7. Australian Government, Department of Health and Ageing. *NSW Primary Health Care Research Capacity Building Program Compendium of Business Plans 2004*. Sydney: NSW Primary Health Care Research Capacity Building Program, 2004.
8. Barnett L, Holden L, Donoghue D, Passey M, Birden H. What's needed to increase research capacity in rural primary health care? *Australian Journal of Primary Health* 2005; **11**: 45-53.
9. Kalucy EC, Pearce CM, Beacham B, Lowcay BL, Yates RE. What supports effective research links between Divisions of General Practice and universities? *Medical Journal of Australia* 2006; **185**: 114-117.
10. PHCRIS. *Evaluation of the primary health care research, evaluation, and development strategy*. (Online) 2005. Available: http://www.phcris.org.au/phcred/evaluation_report.php (Accessed 29 August 2005).
11. Innvær S, Vist G, Trommald M, Oxman A. Health policy-makers' perceptions of their use of evidence: a systematic review. *Journal of Health Services Research and Policy* 2002; **7**: 239-244.
12. Beacham B, Hale M, Lowcay B, McIntyre E, Kalucy L. *Australian general practice research: Investigators' experiences of diffusion, dissemination and implementation of research results. A study of General Practice Evaluation Program (GPEP) Investigators' experiences and ideas*. Adelaide, SA: Primary Health Care Research and Information Service, 2005.
13. Pirkis J, Goldfeld S, Peacock S, Dodson S, Haas M, Cumming J. Assessing the capacity of the health services research community in Australia and New Zealand. *Australia and New Zealand Health Policy* 2005; **2**: 4.
14. Powell Davies G, Hu W, McDonald J, Furler J, Harris E, Harris M. Developments in Australian general practice 2000-2002: what did these contribute to a well functioning and comprehensive Primary Health Care System? *Australia and New Zealand Health Policy* 2006; **3**: 1.
15. McGrath J, Lawrence V, Richardson W. Making medical research clinically friendly: a communication-based conceptual framework. *Education for Health* 2004; **17**: 374-384.
16. Joiner K, Wormsley S. Strategies for defining financial benchmarks for the research mission in academic health centers. *Academic Medicine* 2005; **80**: 211-217.
17. Cooke J. A framework to evaluate research capacity building in health care. *BMC Family Practice* 2005; **6**: 44.
18. Bence V, Oppenheim C. The role of academic journal publications in the UK research assessment exercise. *Learned Publishing* 2004; **17**: 53-68.
19. Nagpaul P, Roy S. Constructing a multi-objective measure of research performance. *Scientometrics* 2003; **56**: 383-402.
20. Van der Weyden MB. Australian general practice: time for renewed purpose. *Medical Journal of Australia* 2003; **179**: 6-7 [Comment].
21. Rothwell PM. Medical academia is failing patients and clinicians. *BMJ* 2006; **332**: 863-864.
22. Nobelprize.org. *The Nobel Prize in Physiology or Medicine for 2005*. (Online) 2005. Available: http://nobelprize.org/nobel_prizes/medicine/laureates/2005/press.html (Accessed 5 December 2006).
23. Reuters. *Australians win Nobel for gastritis discovery*. (Online) 2005. Available: <http://www.abc.net.au/news/newsitems/200510/s1473768.htm> (Accessed 12 October 2005).



24. Pirkis J, Blashki G, Murphy A, Hickie IB, Ciechomski L. The contribution of general practice based research to the development of national policy: case studies from Ireland and Australia. *Australian and New Zealand Health Policy* 2006; **3**: 4.
25. Mant D. *R & D in primary care: Final report. National Working Group report*. London: HMSO, 1997.
26. Mant D, Del Mar C, Glasziou P, Knottnerus A, Wallace P, van Weel C. The state of primary-care research. *Lancet* 2004; **364(9438)**: 1004-1006.
27. Yallop JJ, McAvoy BR, Croucher JL, Tonkin A, Piterman L. Primary health care research - essential but disadvantaged. *Medical Journal of Australia* 2006; **185**: 118-120.
28. Green LA, Hickner J. A short history of primary care practice-based research networks: from concept to essential research laboratories. *Journal of the American Board of Family Medicine* 2006; **19**: 1-10.
29. Nutting PA, Beasley JW, Werner JJ. Practice-based research networks answer primary care questions. *JAMA* 1999; **281**: 686-688.
30. Green LA, Dovey SM. Practice based primary care research networks. They work and are ready for full development and support. *BMJ* 2001; **322(7286)**: 567-568 [Comment].
31. Edwards N, Kothari A. CHNET-Works! A networking infrastructure for community health nurse researchers and decision-makers. *Canadian Journal of Nursing Research* 2004; **36**: 203-207.
32. Zwar NA, Weller DP, McCloughan L, Traynor VJ. Supporting research in primary care: are practice-based research networks the missing link? *Medical Journal of Australia* 2006; **185**: 110-113.
33. Green LW. Public health asks of systems science: to advance our evidence-based practice, can you help us get more practice-based evidence? *American Journal of Public Health* 2006; **96**: 406-409.
34. Ferrer RL, Hambidge SJ, Maly RC. The essential role of generalists in health care systems. *Annals of Internal Medicine* 2005; **142**: 691-699.
35. Reisman A. *Systems analysis in health care delivery*. Lexington, MA: Lexington Books, DC. Heath and Company, 1979.
36. Lewis JM. A network approach for researching partnerships in health. *Australia and New Zealand Health Policy* 2005; **2(22)**: doi:10.1186/1743-8462-2-22. Available: <http://www.anzhealthpolicy.com/content/2/1/22> (Accessed 9 July 2007).
-