



Nicholas Zwar  
Mark F Harris  
Elizabeth Denney-Wilson

# Cardiovascular absolute risk assessment

## A research journey in general practice

General practitioners are asked to implement new tools or approaches often without attention being paid to whether these are acceptable, feasible and effective in the primary care context. Cardiovascular absolute risk (CVAR) assessment is recommended in clinical practice guidelines and assessment tools have been disseminated. It combines multiple risk factors to estimate the probability that an individual will develop cardiovascular disease (CVD) in a given period of time. Australian guidelines state that 'it is reasonable to expect that a CVD prevention strategy based on estimated absolute risk will be more effective and enable more efficient use of resources, than the traditional clinical management approach based on identifying and correcting individual risk factors through the application of several separate guidelines'.<sup>1</sup>

Sounds promising. However, several questions remain, such as: what is the experience of GPs using CVAR assessment tools; what is the impact on the consultation; what is the impact of CVAR assessment on management of behavioural risk factors and on medication use; what do patients think of CVAR assessment; how does it affect patient behaviour; and, what impact does it have on patient outcomes?

These were some of the questions that have sent researchers at the University of New South Wales (UNSW) Centre for Primary Health Care and Equity on a research journey over the past 6 years. An early project was conducted by Dr Donna Torley, an academic registrar, involving focus groups with GPs exploring their experience of using absolute risk assessment.<sup>2</sup> It found that the level of use was low, that there was uncertainty about absolute versus relative risk, and that risk tools were being

used as much, if not more, as visual aids for patient education than for guiding management decisions.

Following on from this work a series of projects conducted by PhD student Dr Qing Wan explored the impact of CVAR assessment on the consultation process and found that it was difficult to incorporate opportunistically (it took an average of 14 minutes) but was ideal for use in a health check. General practitioners thought it was more appropriate to apply CVAR assessment to regular patients with an established relationship. Computerised assessment tools were preferred over paper versions. Again, CVAR assessment was found to be a valuable tool for patient education and motivation. Use of CVAR assessment was associated with more discussion of behavioural risk factors (especially smoking and alcohol) but referral for assistance with addressing risk factors was infrequent. In a before and after study involving 25 patients there was a nonsignificant trend for physiological risk factors and CVAR to improve by the 3 month follow up point.<sup>3-5</sup>

The research journey has progressed to a randomised controlled trial of the implementation of CVAR assessment in general practice, involving 36 GPs from 34 practices and recruiting 1074 patients. The intervention group of GPs received education in using a CVAR implementation model, whereas the control group of GPs continued to provide usual care. Study outcomes include clinical processes, patient risk, use of lifestyle intervention and medication prescription. A significant barrier to implementation in all the studies is that less than 5% of patients presenting for risk assessment are in the high risk group. This is an interesting finding in itself and means that the risk assessment most often leads to lifestyle interventions rather than the prescribing of a new medication. We are still analysing the data, and there is much more to learn, but already our findings are helping to inform the implementation of new treatment guidelines for absolute risk assessment.

This is one of many research projects being conducted at the Centre for Primary Health Care and Equity and in the School of Public Health and Community Medicine at UNSW. It shows research can be relevant to the challenges facing GPs every day in delivering evidence based preventive care. The research journey is only possible with the assistance of the GPs and practice staff who take part in the studies, and for that we are very grateful.

### Authors

Nicholas Zwar MBBS, MPH, PhD, FRACGP, is Professor of General Practice, School of Public Health and Community Medicine, University of New South Wales. [n.zwar@unsw.edu.au](mailto:n.zwar@unsw.edu.au)

Mark F Harris MBBS, FRACGP, MD, is Professor and Director, Centre for Primary Health Care and Equity, University of New South Wales

Elizabeth Denney-Wilson BN, MPH, PhD, is Research Fellow, Centre for Primary Health Care and Equity, University of New South Wales.

Conflict of interest: none declared.

### References

1. National Vascular Disease Prevention Alliance. Guidelines for the assessment of absolute cardiovascular disease risk. 2009. Available at [www.heartfoundation.org.au/SiteCollectionDocuments/A\\_AR\\_Guidelines\\_FINAL%20FOR%20WEB.pdf](http://www.heartfoundation.org.au/SiteCollectionDocuments/A_AR_Guidelines_FINAL%20FOR%20WEB.pdf) [Accessed 19 March 2011].
2. Torley D, Zwar N, Comino E, Harris M. GPs' views of absolute cardiovascular risk and its role in primary prevention. *Aust Fam Physician* 2005;34:503-7.
3. Wan Q, Harris MF, Zwar N, Vaghholkar S. Sharing risk management: an implementation model for cardiovascular absolute risk assessment and management in Australian general practice. *Int J Clin Pract* 2008;62:905-11.
4. Wan Q, Harris MF, Zwar N, Vaghholkar S, Kemp L, Campbell T. Experience in implementation of cardiovascular absolute risk assessment and management in Australian general practice. *Int J Clin Pract* 2010;64:1166-7.
5. Wan Q, Zwar N, Vaghholkar S, Campbell T, Harris MF. Cardiovascular absolute risk assessment and management: engagement and outcomes in general practice patients. *Aust Family Physician* 2010;39:954-8.

correspondence [afp@racgp.org.au](mailto:afp@racgp.org.au)