

NPS MedicineWise: a national approach to improving the quality of use of medicines

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ABSTRACT

The investments made by governments to provide affordable access to effective health technologies are significant. To ensure this investment delivers optimal health outcomes, policies, strategies and programs to ensure appropriate use of technologies and avoidance of waste are also required. In Australia, NPS MedicineWise has been funded by the Australian Federal Government since 1998 to design, develop, implement and evaluate national programs to improve the quality use of medicines and medical tests. The investment in these programs has consistently achieved demonstrable improvements in the use of medicines and medical tests. Moreover, it has resulted in improved health outcomes and savings in government expenditure far in excess of the cost of the programs. This model has been important in supporting and sustaining Australia's universal health care system.

Introduction

The promise of universal health care in providing improved access to health services, improved health outcomes and financial risk protection, creates expectations that health professionals and consumers will have ready access to an increasing range of medicines. In this context, Australia's National Medicines Policy has provided a strong framework to support and address some of the tensions that arise with the introduction of new technologies (especially medicines) and changes in health care delivery (Australian Government Department of Health and Ageing, 2000). The policy is based on 4 pillars. Firstly, medicines should meet appropriate standards of quality, safety and efficacy—in Australia this is addressed by the national regulator, the Therapeutic Goods Administration. Secondly, consumers should have timely access to medicines, at a cost individuals and the community can afford—this is addressed by the Pharmaceutical Benefits Scheme which facilitates subsidised access to approved medicines for all Australians. Thirdly, the

pharmaceutical industry should be viable and should act responsibly with respect to its activities to support research and market access. Fourthly, there should be mechanisms to ensure quality use of medicines (ie rational and responsible use of medicines) once access has been enabled. These four pillars are inter-dependent and all four are necessary if the health needs of our community are to be consistently and cost-effectively safeguarded.

NPS Medicinewise

NPS MedicineWise (previously known as the National Prescribing Service) was established to provide a nationally coordinated approach to improving the quality use of medicines (Weekes et al, 2005). NPS MedicineWise is an independent, not-for-profit organisation with a mission to enable both health professionals and consumers to make better decisions about medicines and medical tests, and thereby achieve better health and economic outcomes. Since 1998, the Australian Federal Government has funded NPS MedicineWise to

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design, develop, implement and evaluate national programs to improve the quality use of medicines, and more recently medical tests. Since inception, the investment in these programs has consistently achieved demonstrable improvements in the use of medicines and medical tests. Moreover, it has resulted in improved health outcomes and savings in government expenditure far in excess of the cost of the programs. This model plays an important role in supporting Medicare, Australia's universal health care system.

Australia has been well served by national formularies and clinical practice guidelines (Therapeutic Guidelines, 2015; Australian Medicines Handbook, 2015). Yet while these resources are well disseminated and provide essential repositories of guidance for practitioners, on their own they don't ensure appropriate use of medicines and related technologies. The translation of evidence into practice is complex and often challenging. Providing timely access to evidence-based information is not enough because, for example, the evidence may be contested, may not be readily applied in the local setting, or may require significant changes in health professional and/or consumer behaviour. Understanding this complexity and designing and delivering programs that enable and sustain changes in behaviour is critical to positively influencing quality use of medicines.

The NPS MedicineWise approach is to identify problems with medicines and medical tests where: (1) there is an identified gap between best practice and current practice; (2) closing that gap will make a significant improvement in health and economic outcomes; and (3) the problem is likely to be responsive to awareness raising, educational and quality improvement activities. Each year NPS MedicineWise delivers at least three national educational programs focussed on carefully selected therapeutic issues. Program design takes into account the many individual and environmental factors that affect the use of medicines or medical tests. Programs employ a range of tactics and strategies with multiple products and services delivered through multiple channels, which are designed to positively influence prescribing decisions and promote evidence based care.

Quality use of medicines stresses the importance of patient-professional communication along with patient knowledge and understanding their medicines; thus along with our consumer education programs and campaigns, general medical practitioners (GPs) in primary care (ie primary care physicians) being the main prescribers for government subsidised medicines are an important audience for our programs. To achieve impact, we use strategies that achieve active rather than passive participation. The chosen strategies use a mix of interventions with a sound theoretical basis, informed by insights into the barriers and enablers for achievement of desired behaviour change. Interventions include educational materials, educational meetings, educational visiting (ie aca-

demetic detailing), audit and feedback, strategic use of opinion leaders, reminder systems and patient mediated strategies.

National educational visiting services using academic detailing techniques and facilitated peer group discussions are cornerstone activities for NPS MedicineWise programs. Academic detailing entails one-on-one practice-based visits involving a peer-to-peer interaction between two professionals (O'Brien, 2007). It applies behaviour change principles to provide education and information in an objective, service based approach (rather than a sales focus), that can be directly related to a health professional's clinical practice. This assists them in overcoming barriers to change and addresses not only knowledge and skills, but also beliefs and attitudes. NPS MedicineWise uses a skilled and highly trained health professional workforce to discuss key topics in a focused (approximately 30 minute) interaction in the general practitioner's clinic. The discussions centre on areas of clinical interest where there are known variations in practice, and provide a collegiate environment in which to address clinical controversy, decision dilemmas and opportunities for practice improvement.

Examples of programs

NPS MedicineWise has implemented four national programs in primary care to improve type 2 diabetes since 2001. For the 2008 diabetes program, over a third of all Australian GPs actively participated in activities including educational visits (academic detailing or peer group discussions), self-directed clinical audits and/or case studies (NPS MedicineWise, 2015). Key messages focused on encouraging lifestyle interventions, management of risk factors, first-line use of metformin and early initiation of insulin. Interrupted time series analysis was used to assess the association between GP participation in NPS MedicineWise programs and the prescribing of targeted medicines, using Pharmaceutical Benefit Scheme data on national prescribing rates. The program led to an estimated 7% relative increase in the modelled rate of prescribing of metformin (by defined daily doses per 1000 population per day). GP participation in the program was associated with a relative decrease of 19% in the modelled prescription volume of glitazones in the year following the program with consequent net savings from avoided government expenditure of AUD\$46 million on glitazones. An economic evaluation was conducted to model the economic impact of the program as a result of improved glycemic control through the increased use of metformin. The model estimated an impact on patient health outcomes over a ten year period, by preventing cases of lower extremity amputations, cataract extractions, major cardiovascular events, retinopathy and nephropathy. The model also demonstrated fewer cases of heart failure avoided attributable to the reduced use of glitazones. The

model predicted the 2008 diabetes program was estimated to have saved the health system \$7 per \$1 invested in the NPS MedicineWise program.

NPS MedicineWise has also delivered several programs on stroke and antithrombotics over the last decade. In 2009, NPS MedicineWise delivered a stroke prevention program targeting GP prescribing of antiplatelet and anticoagulant medications (NPS MedicineWise, 2015). The key messages for GPs were to systematically assess and re-assess the risk benefit of warfarin and antiplatelet agents, prescribe aspirin as the antithrombotic of choice in primary stroke prevention when cardiovascular risk is high, however most patients with atrial fibrillation require warfarin. About a third of GPs in Australia actively participated in NPS MedicineWise activities. In addition to the interventions previously described, individualised reports of recent prescribing history were distributed to all GPs in the country. Feedback reports focused on prescribing patterns for anti-thrombotic medications together with provision of program materials incorporating the key messages. An epidemiological study using linked data relating to people aged 45 years and above in New South Wales was used to evaluate the health outcomes associated with this program (Banks, 2011). The evaluation found that the 2009 program was associated with an increased initiation rate of prescribing of aspirin and associated with a decreased rate of hospitalisation for primary ischaemic stroke in people at a high risk of cardiovascular disease. In addition, based upon the program's key messages and an understanding of current prescribing practice, it was expected that inappropriate prescribing of clopidogrel would decrease. The results of the interrupted time series regression model demonstrated that GP participation in the program was associated with a relative decrease of 10% in prescribing of clopidogrel (defined daily doses per 1,000 population per day) with consequent

savings from avoided government expenditure of AUD\$46 million for the three years after the program on the Pharmaceutical Benefits Scheme.

Conclusion

The investments made by governments to provide affordable access to effective health technologies also need to be supported by policies, strategies and programs to ensure appropriate use of those technologies. Investing in nationally coordinated quality use of medicines programs can yield significant improvements in medicine use, better health outcomes and overall savings for the health system..

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