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Commitment questions targeting patients promotes uptake of under-used health services: Findings from a national quality improvement program in Australia

Nicole L. Pratt, Lisa M. Kalisch Ellett, Janet K. Sluggett*, Emmae N. Ramsay, Mhairi Kerr, Vanessa T. LeBlanc, John D. Barratt, Elizabeth E. Roughead

Quality Use of Medicines and Pharmacy Research Centre, Sansom Institute for Health Research, University of South Australia, GPO Box 2471, Adelaide, South Australia, 5001, Australia

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ABSTRACT

Rationale: Interventions asking patients to commit to speaking with their doctor about a health-related issue could be used to improve quality of care.
Objective: To evaluate the impact of commitment questions targeting patients on the uptake of recommended health services within a national quality improvement program (Veterans' MATES).
Methods: Patients targeted in the home medicines reviews (HMRs), dose administration aids (DAAs), renal function testing and diabetes interventions were posted educational information and response forms which asked whether they intended to talk to their general practitioner (GP) about the targeted service. Uptake of the service after each intervention was determined using health claims data. Log binomial regression models compared the monthly rate of service use in the nine months post-intervention among patients answering 'yes' to a commitment question with non-responders and patients answering 'no' or 'unsure'.
Results: Each intervention targeted up to 58,000 patients. The average response rate was 28%. Positive responses were associated with increased uptake of HMRs (rate ratio (*RR*) 2.64, 95% *CI* 2.39–2.92; $p < 0.0001$), dose administration aids (*RR* 2.53, 95% CI 2.29–2.79; $p < 0.0001$), renal function tests (*RR* 1.18, 95% CI 1.13–1.24; $p < 0.0001$), GP management plans (*RR* 1.30, 95% CI 1.14–1.48; $p < 0.0001$) and diabetes care plans (*RR* 1.47, 95% CI 1.24–1.75; $p < 0.0001$) compared to non-responders. Similar increases in uptake were also observed among positive responders when compared to patients responding 'no' or 'unsure' to the commitment question.
Conclusion: Positive responses to commitment questions distributed as part of national, multifaceted interventions were consistently associated with increased uptake of targeted services.

1. Background

The translation of evidence into clinical practice is challenging (Eccles et al., 2005; Scott and Glasziou, 2012), particularly for medicines use and related health services. Poor uptake of medicines recommended for secondary disease prevention has been well described (Giangregorio et al., 2006; Ogilvie et al., 2011; Winkelmayer et al., 2005; Yusuf et al., 2011). Among those who do receive recommended therapies, suboptimal use of related health services has also been reported (Lee et al., 2010; Roughead et al., 2008; Woodward et al., 2013).

Quality improvement activities targeting health professionals are widely used to transfer evidence into practice in healthcare (Grimshaw et al., 2012). However, behaviour is one of the main determinants of an individual's health status (Squires et al., 2013) and interventions to improve use of medicines and associated health services often require engagement with multiple stakeholders, including consumers, and the use of tailored messages to achieve behaviour change (Grimshaw et al., 2012; Roughead, 2006).

* Corresponding author.
E-mail addresses: Nicole.Pratt@unisa.edu.au (N.L. Pratt), Lisa.Kalisch@unisa.edu.au (L.M. Kalisch Ellett), Janet.Sluggett@unisa.edu.au (J.K. Sluggett), Emmae.Ramsay@unisa.edu.au (E.N. Ramsay), Mhairi.Kerr@unisa.edu.au (M. Kerr), Tammy.LeBlanc@unisa.edu.au (V.T. LeBlanc), John.Barratt@unisa.edu.au (J.D. Barratt), Libby.Roughead@unisa.edu.au (E.E. Roughead).

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The majority of interventions that target consumers receiving suboptimal care provide educational information to promote consumer behaviour change and improve communication with health care providers (Grimshaw et al., 2012).

Evidence from studies drawing on the principles of commitment and consistency suggest that interventions asking patients to commit to a specific behaviour could be used to improve the quality of their health care. Asking people to provide a written or public commitment to undertaking a specific activity has led to more positive attitudes toward human immunodeficiency virus (HIV) prevention (Perlini and Ward, 2000), improved attendance rates for medical appointments (Martin et al., 2012), improved follow-up after tuberculosis screening (Wurtele et al., 1980), a reduction in inappropriate prescriptions for antibiotics (Meeker et al., 2014) and increased rates of completion of antibiotic treatment (Kulik and Carlino, 1987; Putnam et al., 1994). Interventions grounded in the principles of commitment and consistency are thought to engage an individual's desire for their words, beliefs, attitudes and actions to appear consistent at all times (Cialdini, 2009). Acts that encourage an individual to appear consistent with their previous commitments are likely to be responded to in an automatic manner because an individual's sense of self dictates that consistency is maintained (Cialdini, 2009). Furthermore, once an initial commitment has been made, individuals are also more likely to agree with additional requests for behaviours that are consistent with that position, in order to maintain consistency (Cialdini, 2009).

There is a need for further testing of interventions drawing on the principles of commitment and consistency to determine if they are effective when applied at the population level. This paper assesses the use of commitment questions in consumer response forms, which ask a patient whether they will speak with their doctor about a specific health service, on the uptake of health services targeted by an Australian quality use of medicines program; Veterans' Medicines Advice and Therapeutics Education Services (Veterans' MATES). Veterans' MATES is a national quality improvement program funded by the Australian Government Department of Veterans' Affairs (DVA) and aims to improve medicine use for Australian veterans. As previously described (Roughead et al., 2013), the Veterans' MATES program was designed using the theoretical frameworks of social cognitive theory (Bandura, 1986), the transtheoretical model (Prochaska and DiClemente, 1986) and the health promotion model Precede–Proceed (Green and Kreuter, 2005). Under the program, a new intervention targeting a specific medicines-related problem is implemented every three months. The topic for each intervention is determined following consultations with stakeholder groups, medication-related analyses of administrative health claims data, and consideration of Australia's National Health Priority Areas. For each intervention, administrative health claims data are used to identify patients with the specific medicine-related problem and to generate patient-specific prescriber feedback. The prescriber feedback is mailed to the general practitioners (GPs) providing care for the patients together with supportive educational materials that encourage the GP to review therapy. The same educational materials are sent to pharmacists accredited to provide home medicines reviews (HMRs) and to community pharmacies. Four weeks after the health professional mailing, targeted patients are mailed an educational brochure developed specifically for consumers that describes the medicines-related problem and encourages them to seek advice from their GP or pharmacist. Health professionals and patients targeted by the Veterans' MATES program are asked to complete and return a one page 'tick box' response form provided with the intervention materials. All Veterans' MATES materials are evidence-based; the materials are developed in consultation with a clinical reference group, externally reviewed by expert clinicians and endorsed by a national editorial committee.

In accordance with the principles of consistency and commitment described by Cialdini (2009), the Veterans' MATES program has incorporated commitment questions into consumer response forms as an active strategy to facilitate behaviour change. To date, commitment questions have been included in the consumer response forms for four interventions aiming to increase use of health services, including HMRs (released November 2006), dose administration aids (DAAs) (September 2008), renal function tests (March 2012), and diabetes care plans (March 2013). Eligible patients can only receive these services after consultation with their GP. The aim of this study was to evaluate the impact of the commitment questions used in the Veterans' MATES consumer response forms, in conjunction with other interventional materials, on the uptake of targeted health services.

2. Methods

2.1. Data source and study population

Patients and GPs eligible for each intervention were selected using DVA's health claims database. This database contains details of claims for all DVA-subsidised pharmaceuticals and health services, including hospitalisations, GP and allied health services, and diagnostic tests. Client details including date of birth, residential status and date of death are maintained within the database. In December 2012, the DVA treatment population consisted of 228,266 veterans, war widows and widowers, of which 58% were male and the average age was 76 years (Australian Government Department of Veterans' Affairs, 2012).

2.2. Description of the interventions using commitment questions

The specific aim(s) of each of the four Veterans' MATES interventions and the criteria used to select targeted patients are described in Table 1. Veterans targeted in these interventions were posted an educational brochure with a consumer response form that included at least one commitment question. The commitment questions asked the patient whether they intended to talk with their GP about the targeted health service, with a prompt to consider the educational information provided before responding (Table 1). Patients were asked to respond to the question by marking the 'yes', 'no' or 'unsure' tick box and return the form using the pre-paid envelope provided. Response forms were printed with a unique patient number to identify respondents for analysis.

2.3. Statistical analysis

Administrative health claims data were used to determine the monthly rate of use of the recommended health service among patients targeted in the intervention. The monthly rate of use was determined by dividing the cumulative number of patients who had received the targeted health service since commencement of the intervention by the total number of targeted patients alive that month. Patients were categorised based on their responses to the commitment questions during the intervention period for the analysis. Monthly changes in the rate of use of the targeted health service in the nine months post-intervention among veterans who answered 'yes' to a commitment question were compared with non-responders and those who answered 'no' or 'unsure' using log binomial regression models, with adjustment for number of months since the intervention. Patients returning a response form with an error (such as ticking two answers for the same question) or without answering the commitment question were excluded from the analysis. Data were analysed using SAS version 9.4 (SAS