Sustainability of change with quality general practitioner education in adolescent health: a 5-year follow-up

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OBJECTIVE To determine whether improvements gained in general practitioners’ (GPs’) self-perceived competency, attitudes and knowledge after an intervention in adolescent health care designed with evidence-based strategies in continuing medical education, are maintained longterm, 5 years post intervention. The intervention was designed with evidence-based strategies in continuing medical education.

DESIGN We carried out a follow-up postal survey of the cohort of metropolitan Australian GPs trained in the intervention 5 years previously.

MEASURES Subsets of the original measures, used in the randomised controlled trial of the intervention, were selected to re-assess the GPs by postal survey. Self-perceived competency, attitude and knowledge were measured. Doctors were also asked about further training in adolescent health over the 5 years since the intervention and about self-reported practice.

RESULTS A total of 46 of 54 (85%) of the original intervention group returned a questionnaire. Scores at 5 years were all higher than at baseline ($P < 0.01$) and improvements were sustained in all measures from 12 months to 5 years after the intervention. In all, 25/46 (54%) doctors had received further training in related areas over the 5 years, but this did not improve sustainability. A total of 45/46 (98%) reported maintaining their clinical approach to youth and 22/46 (46%) reported maintaining practices to address systemic barriers to adolescent health care access.

CONCLUSIONS Quality education designed according to evidence-based strategies of effectiveness has advantages for longterm sustainability.

KEYWORDS education, medical, continuing/*standards; clinical competence/*standards; adolescent health services/*standards; evidence-based medicine/methods; questionnaires; Australia.

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INTRODUCTION

Continuing medical education derived from the evidence-base of effective strategies improves doctors’ practice and health outcomes in the short-term. Whether educational interventions bring sustained change in competency in the longterm is not yet clear. This information is important given the substantial financial investment made in continuing professional development for the health care sector.

Despite being the main primary health care providers for adolescents, general practitioners (GPs) internationally frequently express training needs in adolescent health. We previously reported a randomised controlled trial of a multifaceted educational intervention for GPs in adolescent health care principles using evidence-based continuing medical education strategies. The goals of the programme were to:
Overview

What is already known on this subject

Continuing medical education designed with evidence-based educational strategies is effective at changing doctors’ practice in the short term.

What this study adds

The effects of quality education on doctors’ knowledge, attitudes, self-perceived competency and self-reported practice with adolescents persist into the longterm.

Quality education can potentially address systemic barriers to health care access in general practice.

Suggestions for further research

Methods for continuing professional development to effectively address systemic barriers to clinical practice need further exploration.

Measurable patient outcomes in addition to sustained change in providers as a result of continuing professional development in adolescent health care principles are required for analysis of cost-effectiveness.

Self-perceived competency, knowledge of adolescent health and objective assessment of interviewing skills were assessed at baseline and 7 months after the intervention group had received their training. Measures improved in the intervention group relative to the control group 7 months post-intervention. The control group received the training after this 7-month assessment and so could no longer function as a control. The intervention group only was reassessed 13 months after training, with sustained improvements in post-intervention measures. This study re-assesses these doctors on self-perceived competency, knowledge and attitudes toward consulting with adolescents, now 5 years post-intervention.

METHODS

Participants

Intervention group GPs were invited to participate. Control group doctors were excluded, as there were no post-intervention measures for this group. A subset of original measures was selected, restricted to those GPs could answer in a brief, mailed questionnaire, and consistent with an observed change in clinical skill.

The questionnaire had 4 components, as follows.

1. Self-perceived competency was assessed with 4 sets of 10-point Likert items asking doctors to rate their (i) knowledge and skill, and (ii) comfort in dealing with process issues in consultation, such as discussing confidentiality (10 items), and substantive issues including depression, suicide risk assessment, eating disorders, substance use, sexual abuse and sexual history taking (11 items).
2. Enthusiasm for consulting with adolescents was assessed with a 10-point Likert scale (range 0 to +5).
3. Objective knowledge was assessed with 1 short answer question on critical elements of a confidentiality discussion, requiring knowledge about relevant medico-legal and practical aspects (scale 0–5). To aid brevity, we restricted assessment from the original 6-topic questionnaire to this 1 important area. Discussing confidentiality with adolescents has been shown to increase trust in doctors, willingness to disclose sensitive information and likelihood of returning for follow-up visits. Answers scored maximum points for including an explanation of confidentiality early in the consultation, the 3 common exceptions
(self-harm and suicide risk, public health risk and physical/sexual abuse) and adolescent involvement in contacting the ‘safe’ people if confidentiality needed to be broken.

Participants were also asked to indicate whether they had undertaken other education in adolescent health in the 5 years post-intervention (yes/no response) and asked to list any changes maintained in clinical practice.

The 4 sets of items assessing self-perceived competency had high Cronbach alpha coefficients (0.88–0.94) and were summed into 4 scales. Derivation of these scales has been described previously. Continuous measures on self-perceived competency, knowledge and enthusiasm were compared between baseline and 5 years, and between 13 months and 5 years, using paired $t$-tests. To ensure scoring consistency, the knowledge question was re-coded for each measurement phase using original criteria. Current scoring was consistent with all earlier assessments.

Possible confounding of sustainability by further training was assessed by comparing difference scores between 13 months and 5 years for those with and without training using $t$-tests for independent samples. Two-tailed $P$-values are reported.

**RESULTS**

Of the original 54 intervention group participants, 46 returned a questionnaire, 3 were untraceable, 2 did not respond, 2 refused and 1 missed the 13-month assessment and was therefore excluded.

All scores improved from baseline to 5 years and all score improvements were maintained between 13 months and 5 years except for self-perceived comfort with clinical process issues, which further increased, and objective knowledge on confidentiality, which decreased (Table 1).

A total of 25/46 (54%) of GPs reported having undertaken further education on some aspect of adolescent health since the original intervention, yet there was no evidence that further education improved sustainability (further training versus no training: all measures $P > 0.05$). Most (45/46; 98%) participants reported maintaining changes in clinical interview processes but only 22/46 (48%) participants continued to address systemic barriers to health care, such as billing or training of other clinic staff.

**DISCUSSION**

An education programme for GPs in adolescent health care, using evidence-based design and implementation strategies, produced positive changes in all areas of assessment in both the short-term and the long-term. Persisting changes were not confounded by further training undertaken by the doctors in this area of health care.

Whilst doctors’ self-report was positive for maintaining clinical processes, half continued to address...
systemic barriers. The limitations of self-reported practice include doctors overstating what they actually do. It was not feasible in this study to directly observe doctors’ clinical skills. However, social learning theory holds that self-efficacy, indicated here by self-perceived competency, is an important component of behaviour change. Although uncontrolled, our results are consistent with the original intervention having had a persistent effect on clinical practice.

These results support the medium to longterm benefits of an evidence-based approach to educational programme design and the potential for quality education to address the systemic barriers to health care for adolescents. This needs further exploration. Future work also needs to identify measurable health benefits for adolescent patients attending GPs trained in adolescent health care principles to enable analysis of the cost-effectiveness of the training.

Contributors: LS was the principal investigator for the design, management and implementation of this study, the lead writer of this paper and the guarantor of the study. CC acted as a co-investigator, provided advice on design, implementation and statistical analysis and contributed to the writing of the manuscript. GP and GB acted as co-investigators, advised on design and contributed to the writing of the manuscript.

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REFERENCES


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