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The GreenClinic pilot

Educational intervention for environmentally sustainable general practice

Background

GreenClinic was a pilot educational program developed by the Australian Conservation Foundation and Doctors for the Environment Australia. The program ran between October 2006 and March 2007 with the aim of informing and encouraging general practitioners to employ more environmentally sustainable practices in their clinics.

Methods

Twenty GPs attended an education meeting at the launch of GreenClinic in Melbourne in October 2006; 12 registered with the program and seven followed it to completion. An audit was undertaken before and after the intervention to determine the usual water and energy consumption and waste disposal practices of the participating clinics, and how these changed after the program.

Results

This evaluation suggested that GPs who participated in an environmental educational initiative were able to make changes toward sustainability in their practices.

Discussion

There are potential benefits to be gained from employing environmental educational interventions more widely in general practice and from evaluating their impact.

■ **There is an urgent need for our community to live and work within the capacity of our environment to supply our resources and absorb our wastes.¹ Human health is already affected by climate change: examples include the changing distribution of infectious diseases and allergens, and increases in heat related deaths.² If global temperature increases are to be curbed, we must take every opportunity to share our collective knowledge of how best to involve others in this challenge.**

The direct environmental benefits of employing sustainable practices in general practice clinics include decreased energy consumption and greenhouse gas production. There are increasing calls for doctors to assume a community leadership role in promoting environmentally sustainable practices³ and to model 'carbon literate' behaviour.⁴

General practitioners and practice managers are already under pressure to provide health care, run practices and meet bureaucratic requirements. Encouragements to take up sustainable practices in clinics therefore need to be straightforward and easy to implement, while having tangible and significant environmental outcomes.

The pilot of the GreenClinic program was launched in Melbourne in October 2006 with the support of Doctors for the Environment Australia (DEA) and the Australian Conservation Foundation (ACF). The program was based on the ACF GreenHome program and used a community based social marketing model to encourage sustainable behaviours. It involved a multimodal approach to behaviour change incorporating predisposing, enabling and reinforcing factors.⁵ In the GreenClinic program this involved a face to face educational meeting, a written GreenClinic guide, and follow up phone or email support.

Methods

General practitioners were invited to participate in the GreenClinic pilot program through advertisements placed in the weekly fax bulletin of The Royal Australian College of General Practitioners. Victorian members of DEA were invited by email.

Educational intervention

The educational intervention was held in Melbourne at the 60L Green Building, a building that showcases sustainable design and operation. The intervention featured presentations on current environmental issues, the roles of health care professionals, and a discussion of the 10 'Greening your clinic' tips outlined in the GreenClinic Guide supplied to participants (Table 1) and available electronically from the ACF website.⁶

Participants were invited to register for follow up and audit of the program. Registrants received three email updates about the program. An email address was provided to enable response to queries or concerns raised by participants.

Outcome tools

Participants completed a self reported baseline survey assessing water and energy use and waste disposal in their clinics within 3 weeks of the educational meeting. The surveys followed the format of the GreenClinic Guide and covered each of the 10 'Greening your clinic' tips (Table 2). The surveys were repeated 3 months later. Participants received up to four telephone reminders about completing the surveys.

Results

Twenty GPs attended the educational meeting. Of these, 12 agreed to register for the full program and seven completed both baseline and follow up surveys.

A descriptive comparison was made of baseline and follow up survey responses in relation to energy and water usage and waste management.

During the intervention period there were five enquiries from participants: one related to 'green power' suppliers, another to types of recycled paper, and two queries related to recycling services for clinics. There was one request for contact details of builders who observed GreenClinic principles. Available information relating to each of these enquiries was distributed to all participating clinics.

Changes in reported behaviours

Energy use

Reduction in travel was the most significant change in energy use. One clinic reported a reduction in the number of pathology pickups. Another clinic reported a change to the ways in which doctors and staff travelled to work, with a reduction of five car trips and an increase of bike trips amounting to a total saving of 100 km/week in motor vehicle transport.

Four out of seven clinics reduced lighting hours; the average reduction was 50 hours per week. One clinic switched to green energy. Between the seven clinics, a total of seven appliances usually on standby were turned off.

Water use

Three out of 50 taps checked in the clinics were found to be leaking; these were subsequently fixed.

Table 1. Contents of the 'action kit' distributed at GreenClinic educational intervention

- Copy of ACF *Habitat* magazine
- 'No junk mail' sticker
- Four minute shower timer
- GreenClinic guide
 - outline of program's aim
 - 'Top 10 tips for greening your clinic'
- Hints for promoting environmentally responsible and healthy lifestyles for patients

Waste management

Six out of seven clinics reported new policies and procedures to reduce paper consumption. Four clinics increased the amount of recycled paper items they purchased, with one moving from 50% recycled content to 100% recycled content. One clinic requested being removed from direct mailing lists and two clinics reported requesting that mail be sent to them via email when possible.

One of the clinics had no recycling service at baseline but introduced recycling after the intervention.

Discussion

The GreenClinic program engaged a number of GPs in working toward sustainable practices in the running of their clinics. There were improvements in the areas of water, energy use and waste minimisation.

Seemingly minor actions can, over time, produce significant environmental benefits. A tap leaking at a rate of one drip per second equates to approximately 230 litres per week. Fixing the three leaking taps found in our evaluation represented a saving of approximately 36 000 litres of water per year.⁷

Clinics that reduced lighting hours by 50 hours per week would be reducing their greenhouse gas production by 8.7 kg/week, or 450 kg/year. The clinic which reduced vehicle travel by 100 km/week would be saving approximately 40 kg of greenhouse gas emissions per week, or 2080 kg/year. Recycling and reducing consumption of raw materials can also have a positive effect; recycling one shopping bag full of containers per week reduces greenhouse gas production by 260 kg/year.⁸

While these figures may sound impressive, the activities of each Australian, on average, generates 25 000 kg of carbon dioxide per year, and it is estimated that this figure needs to be as low as 4000 kg/year before Australia achieves environmental sustainability.⁹ In this context, the changes reported in this study are modest.

Limitations

This study involved a self selected sample of GPs who were likely to already be interested in environmental sustainability. There was no control group and no opportunity to account for behaviour changes

Table 2. Changes in clinic practices measured against the Australian Conservation Foundation 'Ten tips for greening your clinic'

Tips	Changes in clinic practices following intervention
1. Install low energy lighting	No change in lighting type. Five clinics reduced the amount of time a light was in use; the average reduction for these clinics was 50 hours per week per clinic
2. Buy green power for the clinic	One clinic changed to green energy; two clinics were already using green energy
3. Turn off computers and appliances to save energy	Three clinics reduced the number of appliances left on standby. A total of seven out of 39 appliances were turned off
4. Energy efficient refrigerators	No change
5. Aim for a paper free office	Three clinics introduced new or additional policies and procedures to reduce paper use
6. Reduce car journeys	One clinic reduced pathology pickups by one trip. One clinic reduced staff car trips by five per week
7. Reduce junk mail	One clinic requested removal from direct mailing lists; two other clinics had already adopted this measure. Two clinics requested mail be sent to them electronically; four clinics had already adopted this measure
8. Recycle paper and plastics	A recycling system was introduced by the one clinic which did not already practice recycling
9. Buy recycled paper, stationery and toilet paper	One clinic increased its use of recycled paper, stationery and toilet paper from 50–100%. Three clinics started purchasing recycled toilet paper, and two started purchasing recycled paper towel
10. Save water in the kitchen, bathroom and consulting room	Three out of 50 taps were found to be leaking and were fixed

related to other influences, such as environmental reporting in the media.

The survey instruments relied on self reports, and claims for behaviour change were not verified. The number of respondents to the invitation was small, and not all initial registrants followed the program to completion.

However, the authors believe this is the first evaluation of such program in a general practice setting in Australia. Multiplying even these modest environmental improvements by the number of general practices in Australia suggests that this is an area worthy of further investigation. Previous educational interventions in the community, such as ACF's GreenHome program, have resulted in significant improvements in sustainable practices.¹⁰

Conclusion

This study identifies some useful lessons for future programs. Such programs would do well to involve practice managers. It is also likely that more incentives will need to be provided to engage general practice clinics in adopting environmentally sustainable practices. Such incentives might include the provision of products such as compact fluorescent light globes and tap aerators, or incentives for installing rainwater tanks or solar hot water heaters.

A more comprehensive evaluation strategy involving sample in depth interviews and focus groups would help identify the barriers and motivations for pro-environmental behaviour within a clinic setting.

The authors recommend that this program be taken up and developed by other medical organisations to integrate principles of sustainability in the running of general practice clinics. This will help to ensure that our profession is part of our community's transition to reducing its impact on the environment.

Conflict of interest: none declared.

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