

Evidence-based care: 4. Improving performance: How can we improve the way we manage this problem?

Evidence-Based Care Resource Group

The first step in improving physician performance when there are gaps between what physicians are doing and what they should be doing is to diagnose the causes of suboptimal care. This "diagnosis" then guides the selection of the most efficient and effective strategies to improve performance. Some behaviours may be easy to change, but the factors that cause suboptimal care often present formidable barriers. Physicians are most likely to improve their performance in these situations if they use a combination of strategies that predispose them to provide improved care, enable them to do so and reinforce these changes in behaviour. Feedback on progress is always important, to ensure that physicians adapt and to provide personal satisfaction and positive reinforcement when performance does improve. Individualized strategies are also important: there are differences in physicians' learning experiences, practice environments and needs. Therefore, each physician must tailor his or her methods for learning and improving performance to his or her individual clinical practice.

Lorsqu'il y a des écarts entre ce que font les médecins et ce qu'ils devraient faire, la première étape pour améliorer leur rendement consiste à en diagnostiquer les causes. Ce «diagnostic» oriente ensuite le choix des stratégies les plus efficaces et efficaces d'amélioration du rendement. Certains comportements peuvent être faciles à modifier, mais les facteurs à l'origine de soins sous-optimaux constituent souvent de formidables obstacles. Dans de telles situations, les médecins ont le plus de chances d'améliorer leur rendement s'ils recourent à une combinaison de stratégies qui les prédisposent à fournir des soins améliorés, leur permettent de le faire et renforcent les changements de comportement en cause. La rétroaction sur les progrès réalisés est toujours importante afin d'assurer que les médecins s'adaptent et de leur fournir satisfaction personnelle et renforcement positif lorsque leur rendement s'améliore. Les stratégies personnalisées sont aussi importantes : les expériences d'apprentissage, les contextes de pratique et les besoins des médecins diffèrent. Chaque médecin doit donc personnaliser ses méthodes d'acquisition du savoir et d'amélioration du rendement en fonction de sa pratique clinique particulière.

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This article is the fourth in a series of five that began in the Apr. 15, 1994, issue of CMAJ.

There are no magic bullets. Although physicians want to provide effective care, they often find discrepancies between what they should be doing, based on evidence,¹ and what they are doing.² There may be a variety of reasons for these discrepancies. Consequently, a variety of strategies are needed to change physician behaviour.

Knowledge of how a clinical problem should be managed is often insufficient to change behaviour. For example, physicians may feel pressured by patients to refer them unnecessarily,³ may order unnecessary diagnostic tests because of concern about liability⁴ or may feel compelled to practise according to local standards even when these are not consistent with evidence-based practice guidelines.⁵

A number of factors, of which scientific evidence is only one, influence clinical actions (Fig. 1). The importance of these influences and the difficulty encountered in changing behaviour vary, depending on which factors are involved and to what extent.

In this article we outline a general approach to identifying appropriate strategies for changing how a clinical problem is managed and for overcoming roadblocks to doing so.

Choosing an appropriate strategy

Green, Eriksen and Schor^{6,7} have shown that classifying behavioural influences into three categories — predisposing, enabling and reinforcing — is a useful conceptual framework to help physicians become more effective in counselling patients about health behaviour and in changing their own behaviour. This framework,

derived from the work of Green and associates⁸ in behavioural change in health promotion, has been used by Lawrence⁹ to assess strategies to improve the diffusion of practice guidelines for preventive services, and by Davis and collaborators¹⁰ to classify continuing medical education (CME) interventions.

Some principles of behavioural change proposed by Green and associates after they had applied this framework include educational diagnosis, multiple methods, feedback and individualization. These principles are supported by reviews of randomized controlled trials of CME and quality-assurance interventions.^{10,11} We have found them useful in deciding on strategies to improve our own behaviour when it is less than optimal.

Educational diagnosis

The first principle in changing behaviour is determining its causes in order to find the most efficient and effective combination of strategies to improve performance. Some examples illustrate this. Some of our colleagues found that their patients who should not have been screened for hypercholesterolemia often were and those who should have been screened often were not. A “diagnosis” of this problem suggested that an important underlying cause was the confusing information to which patients were exposed. This analysis led to the design of a simple questionnaire, based on evidence-based practice guidelines,¹² which was mailed to patients to help them determine whether they should have their blood cholesterol level measured. The effectiveness of this intervention is being tested.

Staff at the Hamilton Centre of Ontario Breast

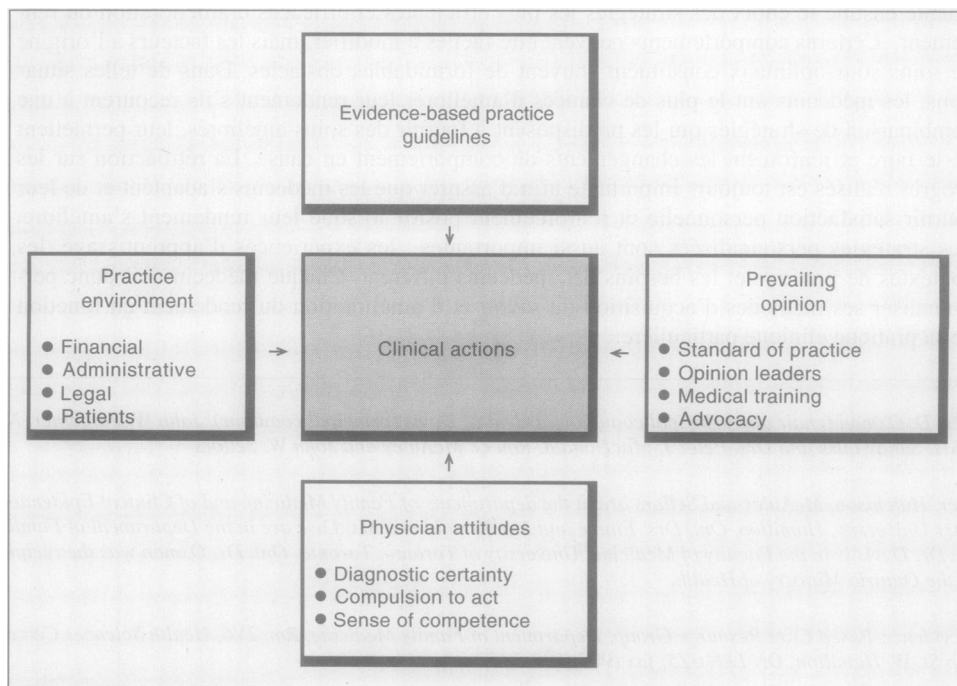


Fig. 1: Determinants of clinical action.

Screening “diagnosed” an important cause of poor compliance with practice guidelines: there was insufficient administrative help to contact the patients to arrange mammographic examinations. When administrative assistance to send letters to patients was provided, the proportion of women who booked mammograms increased from 11% to 73%.¹³

Other “diagnoses” we have made include the following.

- Residents have felt pressured by patients to prescribe drugs inappropriately. This suggested the need for patient education materials on antibiotics and upper respiratory infections and a clear clinical policy on narcotic analgesics and sedatives for chronic conditions.

- Residents felt pressured by staff in a hospital nursery to order serum bilirubin tests for newborns — a practice in conflict with a less aggressive approach adopted in the family practice. This suggested the need for communication with the neonatal consultants to try to change the expectations of the nursery staff.

- Physicians were uncertain about how to counsel menopausal women about hormone replacement therapy. This suggested the need for a tool to help communicate to women the benefits and risks of such therapy and to assist them in making a decision consistent with their own preferences.

As shown in these examples, the underlying cause of suboptimal care varies from problem to problem, and consequently the appropriate strategy for improving clinical performance should vary as well. We have identified all of the determinants of clinical actions (Fig. 1) as probable barriers to improving our performance at one time or another. We have frequently been unable to modify these determinants when they have influenced our practice adversely. However, even in these cases, a clearer sense of how these determinants limit our ability to improve our performance has helped guide our decision making and expectations.

Multiple methods

This principle follows from the diagnostic one. Because there are many causes for any behaviour, a combination of strategies is needed to change it. This principle also flows from the categorization of strategies as predisposing (information), enabling (facilitation) and reinforcing (reminders or feedback). For example, the results of trials of CME interventions provide good evidence that interventions involving strategies from all three categories are most likely to be effective in changing physician performance and patient outcomes and that those involving only predisposing interventions are least likely to be effective.¹⁰

Strategies in each of these categories are shown in Table 1. We have used this table as a “menu” from which to select an appropriate combination of strategies. In addition to the strategies identified in the table, phys-

icians should consider those aimed at reducing any barriers in the practice environment, prevailing opinion or physician attitudes that may impede efforts to change clinical behaviour. As a rule, clinical problems with large barriers to changing behaviour (Fig. 1) require an intensive combination of strategies. At the same time, given the limited resources available to physicians, to decide how intensively to focus on any particular problem physicians must weigh the potential benefits, in terms of the quality of care, against the costs, particularly in terms of time.

It would be misleading to suggest that we have made dramatic changes in our practices using the strategies in Table 1. However, we have made progress in developing feasible approaches, and we have reduced some of the gaps between evidence and practice.

Feedback

Although the evidence from randomized controlled trials shows that the process of audit and feedback by itself is not always effective,¹⁰ such feedback is critical to ensure that physicians adapt if their improvement is less than desired, that they are rewarded through personal sat-

Table 1: Strategies for improving clinical performance*

Predisposing (information transfer)
Medium for transfer of evidence-based information
Published material
Large-group presentation
One-on-one or small-group interactive exchange
Testing of knowledge
Informal interactive testing
Formal testing with individual feedback
Context
Outside the practice setting (e.g., traditional continuing medical education courses)
In the practice setting
Source of information
Local influential peer
Enabling (assistance with implementing desired behaviour)
Rehearsal of desired behaviour
Role playing
Hands-on experience
Facilitation of decision making
Simple decision-support devices (e.g., algorithms)
Automated decision support (e.g., computer system)
Patient education
Noninteractive materials (e.g., pamphlets)
Interactive materials (e.g., prescription pads used as an aid in discussing the patient's treatment)
Reinforcing (desired behaviour)
Follow-up
Repeated predisposing strategies
Reminders
Printed
From support staff
Computerized
Audit and feedback

*Modified from Davis and collaborators.¹⁰

isfaction when their performance does improve and that changes in behaviour are reinforced. It is not feasible to monitor physician progress continually every time he or she tries to improve the management of a problem. However, as we indicated in the first article in this series, after deciding how to improve performance physicians must come back to the first step in providing evidence-based care: reassessing the importance of the problem and deciding what follow-up, if any, is appropriate.

Individualization

This principle has been reinforced repeatedly for us: physicians have different learning experiences, practice environments and needs. To practise evidence-based care effectively, each physician must tailor his or her "lifelong learning" to his or her individual clinical practice.¹⁴ Otherwise, both physicians and patients will be shortchanged.

In the last article of this series we will summarize guidelines that we have found useful in teaching and learning some of the skills needed for lifelong learning and practising evidence-based medicine.

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June 22-24, 1994: 5th International Conference on Myopia (satellite meeting of the 27th International Congress of Ophthalmology)

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Sylvia N. Rachlin, Myopia International Research Foundation, Inc., 608-1265 Broadway, New York, NY 10001; tel (212) 684-2777, fax (212) 684-2888

June 22-24, 1994: International Society of Ophthalmic Pathology Meeting (satellite meeting of the 27th International Congress of Ophthalmology)

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June 22-25, 1994: Federated Corneal Societies Combined Meeting (including Canadian External Disease and Cornea Society, Castroviejo Cornea Society, Eye Bank Association of America, Inc., and Ocular Microbiology and Immunology Group; satellite meeting of the 27th International Congress of Ophthalmology)

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June 22-26, 1994: International Congress for Lung Cancer Athens, Greece

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June 23, 1994: Biomaterials in Ophthalmology 3rd Interdisciplinary Symposium (satellite meeting of the 27th International Congress of Ophthalmology)

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