Review: organisational change and patient involvement may increase the use of prevention cancer screening services

Stone EG, Morton SC, Hulscher ME, et al. ***Interventions that increase use of adult immunization and cancer screening services: a meta-analysis.*** *Ann Intern Med 2002 May 7;**136**:641–51.*

QUESTION: What approaches are most effective in increasing use of adult immunisation and cancer screening services?

Data sources

Studies were identified by searching (through February 1999) the Cochrane Effective Practice and Organization of Care Special Register (which includes searches of MEDLINE [from 1966], EMBASE/Excerpta Medica [from 1980], HealthSTAR [from 1975], and the Cochrane Controlled Trials Register [from 1996]), previous systematic reviews, and the Health Care Quality Improvement Projects database.

Study selection

Controlled clinical trials that assessed interventions to increase the use of immunisations for influenza and pneumococcal pneumonia, and use of screening for colon, breast, and cervical cancer in adults were selected for review.

Data extraction

Data were extracted on specific intervention components, study characteristics, and outcomes. Intervention components were classified as reminders to patients or providers, feedback to providers on performance of prevention activities, education of patients or providers, financial incentives to patients or providers, regulatory and legislative actions, organisational change, or mass media campaigns.

Main results

108 studies on immunisations (29 studies), mammography (33 studies), cervical cytology (27 studies), and colon cancer screening (19 studies) met the inclusion criteria. Of these, 95 were randomised controlled trials (RCTs) and 13 were controlled clinical trials. 81 studies included a control group and were eligible for meta-regression analysis. 25 of these targeted providers, organisations, or communities (22 of the 25 were randomised controlled trials). The table displays the effectiveness of intervention components on increasing the use of immunisation and screening services. Organisational change interventions, such as use of separate clinics aimed at screening and prevention services, use of a planned care visit for prevention, use of continuous quality improvement techniques, or designation of non-physician staff to do specific prevention activities, appeared most effective. Involving patients through patient financial incentives, reminders, education, and feedback also appeared to be effective.

Conclusion

Health care organisational change interventions and interventions involving patients through financial incentives, reminders, education, and feedback may be effective for increasing the use of adult immunisation and cancer screening services.

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Intervention components for increasing the use of immunisations, mammography, cervical cytology, or colon cancer screening

Intervention components	Ranges in adjusted odds ratios (95% CI)*
Organisational change	2.47 (1.97 to 3.10) to 17.6 (12.3 to 25.2)
Patient financial incentives	1.82 (1.35 to 2.46) to 3.42 (2.89 to 4.06)
Patient reminders	1.74 (1.58 to 1.92) to 2.75 (1.90 to 3.97)
Patient education	1.29 (1.14 to 1.45) to 1.53 (1.30 to 1.81)
Provider feedback	1.10 (0.93 to 1.31) to 1.76 (1.44 to 2.15)

*Adjusted odds ratios from meta-regression analysis. CI defined in glossary.

COMMENTARY

The value of preventive health care is well known. Delivering preventive health care, however, can be challenging, and physicians frequently underuse these services. This methodologically sound meta-analysis by Stone *et al* makes a compelling case for physicians to lead the way in changing how healthcare services are delivered. Stone *et al* found that patient-oriented and organisational approaches are most likely to be effective. Evidence exists that physicians, when provided with reminders, can be encouraged to provide preventive services more often.[1]

New models of care delivery, such as the Idealised Design of Clinical Office Practices (IDCOP) initiative,[2] have shown increased effectiveness in the management of chronic illness. The IDCOP model emphasises the use of information technology to enhance patient access, develop patient registries to manage populations as well as individual patients, and incorporate new knowledge into practice. Practising physicians in small groups could have difficulty implementing some aspects of the model because of financial constraints and expertise in information technology. However, 2 relatively simple changes that physicians in practice can make include designating a non-physician to implement preventive healthcare protocols and scheduling preventive healthcare visits.

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1 Dexter PR, Perkins S, Overhage JM, *et al.* A computerized reminder system to increase the use of preventive care for hospitalized patients. *N Engl J Med* 2001;**345**:965–70.
2 Idealized Design of Clinical Office Practices (IDCOP). www.ihi.org/idealized/idcop/index.asp.