Information technology and cancer prevention
Jimbo M, Nease D E, Ruffin M T, Rana G K

CRD summary
The authors concluded that the impact of information technology on the delivery of cancer preventive services in primary care offices was modest at best, and that further research is required. It is not possible to judge the robustness of these conclusions given the inadequate synthesis of the evidence, limited reporting of review methods, and absence of a validity assessment.

Authors' objectives
To assess the impact of information technology on the delivery of cancer preventive services in primary care offices.

Searching
MEDLINE (1980 to April 2005), CINAHL (1982 to April 2005), EMBASE (1988 to April 2005), the Cochrane CENTRAL Register (Issue 2, 2005) and the Science Citation Index (1980 to April 2005) were searched; some search terms were given. In addition, the references of identified studies were screened. The authors appeared to restrict inclusion to those studies reported in the English language.

Study selection
Study designs of evaluations included in the review
Inclusion criteria for the study design were not explicitly stated. However, reviews and opinion articles were excluded from the review. The included studies were randomised controlled trials (RCTs), controlled clinical studies, before-and-after studies and time series.

Specific interventions included in the review
Inclusion criteria for the interventions were not explicitly defined, but it was clear that studies evaluating information technology in primary care offices were eligible. Studies of new technologies were excluded from the review, as were studies of interventions employed in a health context not readily available in the USA. The included studies all employed the mailing of some form of reminder to either the patients or the providers. Control interventions included in the review were usual care, visit reminders, patient preventive health care questionnaire, more limited reminders, no prompting, manual flow sheets, staff education and financial recompense for expenses. All of the included studies used opportunistic screening rather than being limited to periodic or health maintenance appointments. The duration of the intervention in the included studies ranged from 6 months to 5 years. Over half of the interventions took place in academic settings or training sites.

Participants included in the review
Inclusion criteria for the participants were not defined. The included studies targeted breast cancer, cervical cancer or colorectal cancer, and focused primarily on either the patient or the provider.

Outcomes assessed in the review
Inclusion criteria for the outcomes were not defined. The included studies appeared to assess the take-up rate of tests for the condition targeted, but this was not explicitly reported in the review.

How were decisions on the relevance of primary studies made?
Three reviewers independently assessed the identified studies for relevance.

Assessment of study quality
The authors did not state that they assessed validity.
Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Effect sizes were presented for each study outcome, together with the level of statistical significance.

Methods of synthesis
How were the studies combined?
The characteristics of the included studies were summarised and the evidence of the effectiveness of the interventions was summed up in one sentence.

How were differences between studies investigated?
Some differences between the studies were highlighted in the narrative synthesis and were further apparent from the tables of included studies.

Results of the review
Thirty studies were included in the review, of which 23 were RCTs. No details of the number of patients involved were reported.

The authors stated ‘the effectiveness of the information technology on increasing cancer screening was modest at best’.

Authors’ conclusions
The effectiveness of information technology on increasing cancer screening was modest at best. Further research is required.

CRD commentary
The review question was broad and the inclusion criteria were not explicit. The search was adequate, although the authors did not report any attempts to identify unpublished studies; this might have increased the possibility that some relevant studies were not included in the review, as the authors acknowledged. In addition, the decision to limit the review to studies in contexts applicable to the U.S. health care system might also have increased the possibility that some relevant studies were not included in the review. The authors reported using methods to minimise bias and error in the selection of studies for the review, but not in the extraction of data. Study validity was not assessed, so the results from these studies and any synthesis may not be reliable. The textual synthesis of the effectiveness of the interventions was inadequate, being limited to one sentence. The inadequate synthesis of the evidence, limited reporting of review methods, and absence of a validity assessment mean it is not possible to judge the robustness of these conclusions

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated a number of implications for further research. In particular, the need for studies in heterogeneous community practice settings; an assessment of process outcomes, including the nature of clinical encounters; long-term effectiveness and viability, including cost-effectiveness and cost-benefit analyses; an evaluation of approaches other than prompts and reminders; the use of web-based and e-mail technology for communication; and the effect of the intervention on the process of the screening practice.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.