Do Internet interventions for consumers cause more harm than good: a systematic review.


Authors' objectives
To evaluate the effect of the consumers' use of Internet-based health information on a range of health care outcomes.

Searching
A range of electronic databases was searched for studies published between 1995 and March 2001. Details of the databases and search terms were reported in the paper. The searches were not restricted by language. Only studies published post-1995 were eligible for inclusion in the review. The authors justified this by stating that the Internet was not widely used by the general public before this time.

Study selection

Study designs of evaluations included in the review
Comparative studies, including controlled studies, before-and-after studies and interrupted time series, were eligible for inclusion in the review.

Specific interventions included in the review
Eligible health care interventions were those provided through the Internet, including services such as E-mail. The Internet interventions were compared with those delivered through other communication media. The included studies evaluated the effectiveness of the Internet in delivering a range of health promotion activities, behavioural and educational interventions, medication supply and patient support.

Participants included in the review
The studies needed to include consumers who had used the Internet to access health care information and services. The term 'consumers' referred to the general public rather than health professionals.

Outcomes assessed in the review
The pre-specified outcomes included consumer decision-making, attitudes, knowledge, satisfaction, health outcomes (unspecified) and health care utilisation.

How were decisions on the relevance of primary studies made?
One reviewer screened all of the citations retrieved by the searches. Two reviewers then independently assessed the full papers against the selection criteria and any discrepancies were resolved by discussion with a third reviewer.

Assessment of study quality
It was unclear whether a formal assessment of validity was undertaken. However, aspects of quality were discussed within the text and highlighted in the tables.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative summary.

How were differences between studies investigated?
Differences between the studies were briefly highlighted in the report.

Results of the review
Ten studies were included: three randomised controlled trials, four controlled clinical trials, one before-and-after study, one comparative survey and one retrospective analysis of patient records. The total number of participants was 1,053.

There was a lack of rigorous research demonstrating the effects of Internet use on health outcomes. The methodological quality of many of the studies was poor. There was some evidence that Internet-based healthcare materials might provide users with information and support in a timely manner to achieve positive health outcomes. The overall effectiveness of the Internet on health service utilisation outcomes was not clear.

Authors' conclusions
The reviewers concluded that there was a lack of evidence on the effects of Internet use on health outcomes, and that further research is urgently needed.

CRD commentary
The review was based on a defined question with pre-specified inclusion criteria for the study design, participants, interventions and outcomes. A range of databases was searched in an attempt to locate all relevant studies. It was unclear whether a formal validity assessment was conducted, which is particularly important when including study designs more prone to bias. Attempts were made to minimise bias by involving more than one reviewer in the study selection process, although it was unclear whether more than one reviewer extracted the data. Given the generally poor quality of the evidence located by the review, the reviewers appropriately highlighted the need for more rigorous research into this dimension of health care delivery.

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

Research: The authors stated that the effects of Internet use on health behaviour and status need to be determined, and the public health benefits and risks of online care examined. They advised that well-designed controlled studies are needed to help answer these research questions. The reviewers identified a need for further research into the consumers' use of the Internet to access health care information.

Bibliographic details

Indexing Status
Subject indexing assigned by NLM

MeSH
Consumer Behavior; Decision Making; Health Behavior; Health Education /methods; Health Knowledge, Attitudes, Practice; Health Services Needs and Demand; Humans; Information Services /utilization; Internet /utilization; Patient Participation; Treatment Outcome

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**Record Status**
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.