Authors' objectives
To identify controlled studies evaluating interventions that may affect informed decision making (the review also had a number of other objectives, which are not considered here).

Searching
The electronic databases MEDLINE, PsycLIT, and Social Science Citation Index (via BIDS) were searched for 1991 to 1996. The search strategy used for MEDLINE was presented in the text and information relating to the principles of the overall search strategy was presented in the appendix. The journals Medical Decision Making, Patient Education and Counseling, and Preventive Medicine were handsearched for 1986 to 1996.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs), non-randomised concurrent studies, historical studies, and same participants 'before and after' studies. Articles not published in English were excluded.

Specific interventions included in the review
Any intervention that could reasonably be expected to affect informed decision making, such as changes in information provision, cost, or service provision. Specific interventions included in the review were of information provision (301 studies), variation in the delivery of information (273 studies), provision of information feedback (208 studies), manipulation of the information in some other way (94 studies), prompted active patient participation (55 studies) and another intervention altogether (89 studies).

Participants included in the review
Any patient making a health decision about health care. Experimental studies on healthy student volunteers or studies of health professionals making decisions about another individual's care were excluded. The type of health domain reported by included studies were general medicine (251 studies), cancer (114 studies), genitourinary medicine (108 studies), primary care (61 studies), paediatrics (31 studies), mental health (15 studies), dentistry (10 studies), surgery (11 studies), genetics (7 studies), obstetrics and gynaecology, and midwifery (31 studies). The type of decision investigated by included studies were mainly life-style change (357 studies), screening decision (114 studies), treatment decision (107 studies), decision to participate in the consultation (51 studies), and any another type of decision (26 studies).

Outcomes assessed in the review
Observed or reported behavioural measure of the health decision made (which is a more inclusive category than informed decision). This incorporated many decisions including: smoking; adherence to medication; attendance for screening; and choices between treatments, such as chemotherapy or surgery. The type of measures evaluated by included studies were mainly demographic details (515 studies), knowledge (181 studies), decision-making measures (169 studies), measures of affect (69 studies), satisfaction (60 studies), self-efficacy (75 studies), personality trait (20 studies) and other variables (111 studies).

How were decisions on the relevance of primary studies made?
Abstracts were assessed and the articles retrieved if the review criteria were met. Final inclusion decision were made by the first author and verified by another member of the project group.

Assessment of study quality
Study designs were classified according to the hierarchy of the evidence (Cochrane handbook, no further reference details were provided). Other quality issues that were used to classify studies included the level of intervention used (i.e.
whether the unit of intervention was the individual or any other unit of allocation such as hospitals or communities),
recording of the sample approached (which included the appropriateness of sample used and the recording of the
numbers invited to participate), and any other causes for concern (e.g. confounds between group allocation), sample
size and the development/quality of the intervention material. Information relating to the final item was poorly reported
and it was therefore omitted from the final coding of the articles. Data extraction forms (which included a section on
the classification of the quality of the study) were completed by one reviewer and then sent to the first author to be
checked. Classification disagreements were resolved by discussion.

Data extraction
Data extraction was performed using coding forms by a member of the project group and checked by a team member,
with disagreement resolved by discussion. The type of data extracted included study design, underlying theory, the
domain of health care, the health decision, the comparison groups, other factors associated with the decision-making
process, reported measures and a summary of the findings.

Methods of synthesis

How were the studies combined?
Descriptive summaries and qualitative analysis were performed.

How were differences between studies investigated?
No statistical test for heterogeneity was undertaken. However, the authors note that the health domains and decisions
were too diverse for meaningful quantitative meta-analysis.

Results of the review
There were 336 RCTs, 114 non-randomised concurrent studies, 34 historical, and 63 'before and after' same-sample
studies included in the review.

Theoretical context:
A total of 206 studies referred to an underlying theory. Of these 101, referred to theories explaining decision making
such as expected utility theory, prospect theory or social cognition models.

Decision-making factors:
A total of 512 studies assessed actual rather than hypothetical decisions, 476 involved decisions affecting the participant
rather than a third party and in 525 studies the decision was made without time pressure. Only 26 studies explicitly
made patients aware of their involvement in the decision-making process.

Study quality:
Only 51 of the RCTs were classified as having a low risk of bias. A total of 267 studies claimed to have approached a
representative sample of participants, but only 243 reported the number invited to take part. Few studies provided
adequate descriptions of the intervention materials.

Overall findings:
Only five studies were theory driven, assessed measures associated with informed decision making, and used a low risk
of bias design. Although of disparate design, these five studies suggest that information and education are relatively
ineffective ways of facilitating informed decision making, compared with the context and social influences. Studies
reporting manipulation in information, and provision of feedback, were the most likely to report an effect.

Authors’ conclusions
There is a paucity of well-designed, theoretically driven and adequately operationalised research assessing informed
patient decision making. Given the small number of high-quality studies and the relatively slow increase in research in this area there is no need for the NHS to revisit this topic as a review for 5 years. Resources should be concentrated on better primary research. Future primary research should work under an explicit theory of decision making, record process measures to permit evaluation of whether the decision was informed and, if evaluating experimental interventions, use randomised trials with a low risk of bias.

**CRD commentary**

This was a fairly well conducted review. The authors reported clear objectives along with pre-specified inclusion/exclusion criteria. The literature search seems to have been comprehensive, although only the search strategy used for MEDLINE is presented. Only English language studies were included and therefore publication bias cannot be ruled out. The validity of included studies was assessed, although the findings were not extensively reported. The data extraction process is well reported and relevant details of the primary studies are presented in tables.

The authors decision not to conduct a meta-analysis was appropriate and their conclusions seem to follow from the results.

**Implications of the review for practice and research**

Practice: The authors do not state any implications for practice.

Research: The authors note that primary research is a priority in areas such as genetics, prenatal diagnosis and where decisions are often made by proxy, such as paediatrics and mental health. They also recommend that primary research is required to evaluate the following types of interventions: decision aids, such as graphical- and computer-based devices; and information manipulation, such as decision analysis, prompts and feedback.

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