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This Evidence Bulletin summarises an updated Cochrane systematic review.

In a systematic review the researchers aim to locate, quality appraise and synthesise all of the available evidence related to a specific research question.

Cochrane review authors adopt rigorous methods to minimise bias as a way of producing reliable findings with the ultimate goal of making the evidence more useful for practice. For more information see: http://cccrg.cochrane.org/about.

The intended audience of this Evidence Bulletin are health providers involved in supporting people making decisions about their health treatment or screening options.

Decision aids for people facing health treatment or screening decisions

Cochrane review summary

In this updated Cochrane systematic review, Dawn Stacey and colleagues answer:

> *What are the effects of patient decision aids for adults considering health treatment or screening decisions?* (The authors searched for new trial evidence.)
>
> *Are the effects different when the timing of exposure to patient decision aids is prior to (i.e. preparing for) or during the consultation?* (The authors conducted a new subgroup analysis.)

What are patient decision aids?

Patient decision aids are pamphlets, videos, or web-based tools to support active patient participation in decision making about health treatment or screening options. They outline the benefits and harms of specific options for treatment or screening and help patients clarify their personal values relating to the features and outcomes of the options.

Key findings

The authors of this updated review concluded that compared to usual care, people exposed to patient decision aids:

- Feel more knowledgeable (high-quality evidence);
- Feel better informed (high-quality evidence);
- Are clearer about their values (high-quality evidence);
- Probably have a more active role in decision making (moderate-quality evidence);
- Probably have more accurate risk perceptions (moderate-quality evidence);
- May achieve decisions that are consistent with their informed values (low-quality evidence).

The new subgroup analysis indicated improved knowledge and accurate risk perceptions when patient decision aids are used either within or in preparation for the consultation.

Full citation for this Cochrane review:

Stacey D, et al. Decision aids for people facing health treatment or screening decisions. *Cochrane Database of Systematic Reviews* 2017, Issue 4. Art. No.: CD001431. DOI: 10.1002/14651858.CD001431.pub5.

Detailed review information

Background

Sometimes determining the best choice between one health treatment (or screening) option over others is not straightforward. This may be because either the evidence is not available or it is not possible to differentiate a clear advantage between the known benefits and harms of two or more valid health treatment options. In such cases the decision is considered 'preference sensitive'. 'Preference sensitive' means the best choice depends also on the values and preferences of the patient. In these situations, patient decision aids may help an individual to consider the options from a personal viewpoint by clarifying how important the possible risks and benefits of the treatment options are to them.

Information about this review

Stacey and colleagues conducted a detailed search of studies published up to April 2015. Using pre-determined criteria they looked for:

Types of studies

- Randomised controlled trials (RCT) and cluster RCTs.

Participants

- Trials involving adults (aged 18 and older) who were making decisions about screening or treatment options for themselves, a child, or an incapacitated significant other.

Types of intervention

Drawing from the International Patient Decision Aids Standards, the review defined decision aids as evidence-based tools designed to help patients make specific and deliberated choices among healthcare options. Decision aids supplement (rather than replace) clinicians' counselling about options and typically contain the following features:

- Explicitly state the decision that needs to be considered;
- Provide evidence-based information about a health condition, the options, and associated benefits or harms;
- Help patients to recognise the values-sensitive nature of the decision and to clarify, either implicitly or explicitly, the value they place on the benefits and harms of each option.

Comparisons

- Decision aids versus usual care (such as general information, clinical practice guideline, placebo or no intervention).

Outcomes

Primary outcomes

Based on the International Patient Decision Aids Standards evaluation criteria:

- Attributes of the choice made (e.g. knowledge, accurate risk perceptions, values-choice congruence);
- Attributes of the decision making process (e.g. awareness that a decision needed to be made, felt informed about options and their features, felt clear about features that mattered most, expressed values with clinician and was involved in decision making);
- Other decision making process variables (e.g. decisional conflict, patient-clinician communication, participation in decision making, proportion undecided, satisfaction with the choice, with the process of decision making, and with the preparation for decision making).

Secondary outcomes

- Behaviour outcomes (e.g. actual choice implemented, if not reported, preferred option was used as a surrogate measure and adherence to chosen option);
- Health outcomes (e.g. generic and condition-specific health status and quality of life, anxiety, depression, emotional distress, regret and confidence);
- Healthcare system (e.g. costs or cost-effectiveness, consultation length and litigation rates).

Exclusions

The following were excluded:

- Trials comparing two different types of decision aids;
- Trials where information about the decision aid was not available or not adequately described;
- Trials where participants were making hypothetical choices;
- Trials of strategies focused on lifestyle changes, adherence, informed consent regarding a recommended option, clinical trial entry, general advance directives (e.g. do not resuscitate), or education not geared to a specific decision.

Main results

About the studies

This review included 90 RCTs and 15 cluster RCTs. In total, 31,043 people participated in the 105 trials. The majority of trials evaluated decision aids regarding prostate cancer screening or colon cancer screening decisions. Across the decision aid trials, other common topics included medication for diabetes or for atrial fibrillation, breast cancer genetic testing, prenatal screening, and surgery (mastectomy for breast cancer, hysterectomy, and prostate cancer treatment).

Trials were predominately conducted in the United States (50 trials), UK (16 trials), Canada (15 trials), Australia (10 trials) and Germany (6 trials). Two trials were based in (each of) Finland and the Netherlands and individual trials were based in China, Spain and Sweden. One trial included both Canadian and Australian participants.

Decision aids took different formats and comparisons included a variety of control interventions (e.g. usual care, general information, no intervention, guideline, placebo intervention). Due to inclusion criteria, all decisions aids provided information about the options and outcomes and at least implicit clarification of values. The majority of decision aids included information about the clinical problem as well as outcome probabilities. Just over half the decision aids provided guidance in the steps of decision making and/or provided explicit methods to clarify values. Less than half of the decision aids had examples of others' experiences.

In the majority of trials (89 trials), the timing of exposure to the patient decision aid was in preparation for (i.e. prior to) the consultation. In the remaining 16 trials, the timing of exposure to the patient decision aid was during the consultation.

Effects of interventions

There is high-quality evidence that compared to usual care, with decision aids people are more knowledgeable about options, feel better informed and clearer about personal values.

There is moderate-quality evidence that with decision aids people probably have more accurate expectations of the benefits and harms of options and probably participate more in decision making.

There is low-quality evidence that people who use decision aids may achieve decisions that are consistent with their informed values (evidence is not as strong; more research could change results).

There was no evidence of any adverse effects of decision aids on health outcomes or satisfaction.

The subgroup analysis identified that improvements for knowledge and accurate risk perception were similar irrespective of whether trial participants were exposed to the patient decision aid in preparation for or during the consultation.

What this review does not show

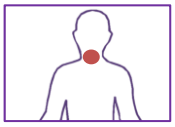
Studies are lacking that compare outcomes for patients at different levels of health literacy, or that compare cost effectiveness. Research is needed to assess if people continue with their chosen option (adherence) and also to assess what impact decision aids have on healthcare systems.

Due to revised exclusion criteria this review did not examine the effects of simple decision aids compared to detailed decision aids (see previous updates of this review).

Related Resources

The review abstract and plain language summary have been translated into Croatian; French; Spanish; Malay; Polish; Russian; Simplified Chinese and Traditional Chinese. The German translation is yet to be updated.

Australian shared decision making resources:



Patient decision aid – sore throat

Patient decision aid – acute bronchitis

Patient decision aid – middle ear infection

Related Cochrane systematic reviews

- Edwards 2013 Personalised risk communication for informed decision making about taking screening tests.
- Dwamena 2012 Interventions for providers to promote a patient-centred approach in clinical consultations
- Legare 2014 Interventions for improving the adoption of shared decision making by healthcare professionals
- Akl 2011 Using alternative statistical formats for presenting risks and risk reductions

Related Evidence Bulletins are available here

Results table: Decision aids compared with usual care (assessed soon after exposure to the decision aid, unless otherwise indicated)

Outcome	Impact with usual care	Impact with decision aids	Relative effect* (95% confidence interval)	No. of people (studies)	Evidence quality (GRADE)#	Comments
Knowledge improves with decision aids						
Standardised score range: 0 to 100; higher score indicates better knowledge	Mean knowledge score was 56.9 (ranged from 27.0 to 85.2)	Mean knowledge score was 13.27 higher (range: 11.32 to 15.23 higher)	–	13,316 (52 studies)	High ★★★★	46 out of 52 studies showed a statistically significant improvement in knowledge
Risk perceptions are more accurate with decision aids						
Accurate risk perceptions	269 people per 1,000	565 people per 1,000 (range: 447 to 716)	RR 2.10 (1.66 to 2.66)	5,096 (17 studies)	Moderate ★★★	–
Decisions are more consistent with informed values with decision aids						
Congruence between the chosen option and informed values	289 people per 1, 000	595 people per 1,000 (range: 422 to 841)	RR 2.06 (1.46 to 2.91)	4,626 (10 studies)	Low ★★	–
Feeling uninformed reduces with decision aids						
Decisional conflict, uninformed subscale: 0 to 100; lower scores indicate feeling more informed	Mean score for 'feeling uniformed' ranged from 11.1 to 61.1	Mean score 'feeling uniformed' was 9.28 lower (range: 12.20 to 6.36 lower)	–	5,707 (27 studies)	High ★★★★	Scores ≤ 25 associated with following through on decisions. Scores > 38 associated with delay in decision making
Personal values are clearer with decision aids						
Decisional conflict, unclear about personal values subscale: 0 to 100; lower score indicates feeling clearer about values	Mean score for 'unclear values' ranged from 15.5 to 53.2	Mean score for 'unclear values' was 8.81 lower (range: 11.99 to 5.63 lower)	–	5,068 (23 studies)	High ★★★★	Scores ≤ 25 associated with following through on decisions. Scores > 38 associated with delay in decision making
Participation in decision making increases with decision aids						
Clinician-controlled decision making - assessed soon after consultation with clinician	228 people per 1,000	155 people per 1,000 (range: 125 to 189)	RR 0.68 (0.55 to 0.83)	3,180 (16 studies)	Moderate ★★★	Patient decision aids aim to increase patient involvement in decision making; lower proportion of clinician-controlled decision making is better
There were no adverse effects on health outcomes or satisfaction, and no other adverse effects reported.						

* Relative effect is measured as mean difference (MD), or relative risk (RR) (see here for further explanation); # For more information about GRADE, see www.gradeworkinggroup.org; 95% CI = 95% confidence interval

What does this mean for health care in Victoria, Australia?

The broader policy and clinical context	The updated National Safety and Quality Health Service Standards have an increased focus on consumer participation. The revised 'Standard two: Partnering with Consumers' is more explicit about supporting consumer involvement in any aspect of their care, including shared decision making, when that is the patient's preference. The Australian Commission on Safety and Quality in Health Care is also taking the lead on initiatives to support shared decision making through the development of decision aids about antibiotic use in the context of (a) sore throat, (b) acute bronchitis and (c) middle ear infection. These particular decision aids assist parents when making decisions with their doctor about what is best for them or their child.
Relevance of settings and populations	The results of this review are highly relevant to the Australian health care context; the majority of studies were conducted in developed countries (11 trials included Australian populations). The review evidence covers a large range of health decisions and includes patient decision aids about major surgery and screening programs for a range of different cancers (prostate, colon and genetic testing). When designing decision aids for populations with lower health literacy, communication difficulties, multiple morbidities, complex health conditions or from culturally and linguistically diverse backgrounds consideration of the applicability of the evidence from this review is necessary due to too few studies including these populations as participants.
Implications for decision-makers	To influence and support the adoption of patient decision aids in routine clinical practice, the review evidence can be incorporated into clinical practice guidelines, relevant policy and organisational frameworks. The review provides evidence that patient decision aids increases patient knowledge and participation in the decision making process and decreases uptake rates for some elective procedures, particularly prostate specific antigen screening. The effects of decision aids on costs/resource use and consultation length are unclear due to too few studies. The Ottawa Hospital Research Institute provides a clear framework for policy makers to guide the implementation of decision aids including providing an online tutorial designed to train clinicians in the use of decision aids.
Implications for clinicians	The evidence from this review suggests patient decision aids are effective at facilitating *informed* decision making. Specifically, relative to usual care, people who used patient decisions aids reported feeling more informed of and being knowledgeable about screening and treatment options, and having accurate risk perceptions of screening and treatment outcome probabilities. Additionally, the review evidence suggests patient decision aids are effective at supporting patient preparation for *shared* decision making. Specifically, relative to usual care, with patient decision aids people reported feeling clearer regarding their personal values and had greater participation in the decision making process. Taken together the review findings provide support for the continued use or addition of patient decision aids in a number of clinical contexts.

This Evidence Bulletin draws on the format developed for SUPPORT summaries (for more information on SUPPORT summaries see www.supportsummaries.org).

Centre for Health Communication and Participation

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