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## The potential influence of small group processes on guideline development

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### Abstract

The authors discuss the important and often neglected role of psychosocial factors in guideline development. Such factors can influence the process by which guideline development groups interact, make decisions and achieve consensus, which may have important implications for the validity and reliability of the recommendations they produce. Particular attention is paid to the role of social influence within multidisciplinary groups and the importance of good chairmanship. Recommendations for participants, chairmen and guideline development bodies are given.

### Introduction

Clinical practice guidelines are 'systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances' (Institute of Medicine 1992). Although guidelines are not a new technology they have, in recent years, attracted increasing attention from professionals and policy makers as vehicles for promoting effective and efficient health care (Grimshaw & Hutchison 1995). This has coincided with greater emphasis on the use of rigorous guideline development methodologies.

A number of criteria for judging the quality of guidelines exist, including those related to their validity, comprehensibility and applicability and to the process by which they were derived. Table 1 shows the list of eight desirable attributes suggested by the Institute of Medicine (1992), augmented by Grimshaw & Russell's (1993) separation of reliability and reproducibility. Validity should be the guideline developers' primary concern, since invalid guidelines may lead to the provision of ineffective or potentially harmful treatments. To this end, much

attention has been paid to the need for systematic evidence-based approaches to guideline development, in contrast to other methods such as consensus of expert opinion.

While the growing emphasis on evidence-based methods has undoubtedly led to improvements in guideline validity (Cluzeau *et al.* 1999), less attention has been paid to the important role of what might be termed 'people and organizational issues' in guideline development. It is these issues which are the focus of this paper. Over the last few years, several authors have expressed a nagging suspicion that the reliability, reproducibility and, ultimately, validity of guidelines may be influenced by more than just the availability of good evidence (e.g. Grimshaw, Eccles & Russell 1995).

The methodological 'gold standard' proposed by bodies such as SIGN (Petrie *et al.* 1995) takes account of people and organizational issues to the extent that it includes, along with evidence-based derivation, development by a multidisciplinary group to ensure both the breadth of experience necessary to develop workable recommendations, and stakeholder participation which facilitates guideline acceptability

**Table 1 Desirable attributes of clinical guidelines\***

<i>Attribute</i>	<i>Explanation</i>
Validity	Guidelines are <i>valid</i> if, when followed, they lead to the health gains and costs predicted for them
Reproducibility	Guidelines are <i>reproducible</i> if, given the same evidence and methods of guideline development, another guideline group produces essentially the same recommendations
Reliability	Guidelines are <i>reliable</i> if, given the same clinical circumstances, another health professional interprets and applies them in essentially the same way
Representative development	Guidelines should be developed by a process that entails participation by key affected groups
Clinical applicability	Guidelines should apply to patient populations defined in accordance with scientific evidence or best clinical judgement
Clinical flexibility	Guidelines should identify exceptions to their recommendations and indicate how patient preferences are to be incorporated into decision making
Clarity	Guidelines must use unambiguous language, precise definitions and user-friendly formats
Meticulous documentation	Guidelines must record participants involved, assumptions made, and evidence and methods used
Scheduled review	Guidelines must state when and how they are to be reviewed (under two separate circumstances – the identification or not of new scientific evidence or professional consensus)

\* Source: Grimshaw & Russell (1993a), adapted from Institute of Medicine (1992).

and implementation. Another purpose of including members from different disciplines is to provide a conduit through which hard and fast scientific facts and figures can be translated into real clinical behaviour, taking account of all the limitations to its application (e.g. the evidence may suggest using equipment or drugs which are not available to potential users). Bearing in mind, however, that multidisciplinary groups are also multistatus groups, there is ample opportunity for psychosocial factors to intervene in this and in other aspects of the development process.

The aim of this paper is to highlight what we consider to be key psychosocial factors pertinent to guideline development and to examine the ways in which these may influence the development process and compromise the reliability and validity of the recommendations produced by the group. We emphasize that little research has been carried out on guideline development methods and the reader should be aware that this report is based upon a critical examination of the available literature and our own practical experiences (Grimshaw & Russell 1993; Grimshaw, Eccles & Russell 1995; Eccles *et al.* 1996a, 1996b).

### Deciding group composition

Most guideline development processes involve a panel, which may formally consider scientific evidence or position statements and/or bring their own expertise to bear. Discussion among the participants is almost always part of the process. When convening a guideline development panel, it is important to consider its composition carefully. There appears to be reasonable consensus that panels should be multidisciplinary and include representatives from all relevant stakeholders (Lomas 1993; Grimshaw, Eccles & Russell 1995; Eccles *et al.* 1996b). This has major implications for the development process, however, regarding the size of the panel, the amount of supplementary support required and the nature and content of group discussions.

When deciding on the composition of the panel, the organizing group should identify all potential stakeholders. These include health-care professionals who are directly involved in the clinical management of patients in different health care settings (for example, primary and secondary care), policy makers who may need to make decisions about resource utilization (for example, representatives of pur-

chasers and providers) and, ideally, patients. The organizing group then has to make a decision about which categories of participant to involve in the guideline panel, based upon the degree to which they are involved in management or resource allocation, the balance of disciplines required and the size of the group. Guideline developers often have to weigh the desire for wide representation (which will tend to increase the size of the group) against the need for a cohesive working panel. The optimum size for a small group is eight to 10 members (Scott & Marinker 1990); larger groups may lack cohesiveness and be difficult to lead, yet to ensure wide representation it may be necessary to expand the group above its optimum size. This may create management difficulties, which may only be resolved by introducing more structure and role definition into the process. An alternative approach is to involve non-essential stakeholders in a steering group which oversees the production of the guideline from a distance (e.g. checking the latest paper drafts and meeting minutes and reporting directly to the chairman between meetings). In addition to breadth of representation, it is essential to consider the balance of disciplines represented in the group. Below we discuss the potentially negative impact of top-heavy or uneven group composition on the guideline development process. To enable potential users of a guideline to determine whether all the stakeholders have been represented in its development, the names of panel members and their professional backgrounds should be reported in full.

### Small group processes

A range of psychosocial factors can influence the progress and content of panel meetings and it is important to be aware that dysfunctional group processes may result in the production of invalid or unreliable recommendations. Multidisciplinary groups are particularly at risk in this regard, since their members vary in professional status, in the nature or depth of their specialist knowledge and in their appreciation of the roles and *modus operandi* of their professional colleagues. While there has only been limited research into decision making in guideline development groups (e.g. Newton *et al.* 1992; Bond & Grimshaw 1995; Pagliari & Grimshaw 1997; Pagliari, Grimshaw & Walker 1999), there is a substantial body of pertinent literature from social psychology which may offer a useful guide to the types of factors which may influence this process.

### Group development and socialization

In order to produce a final set of recommendations, it can be necessary for guidelines development groups to meet many times over several months. While the explicit roles of individuals within a guideline group will, to a large extent, have been defined prior to the first meeting (e.g. 'chairman', 'patient representative'), it is important to recognize that the social development of such groups will follow certain characteristic patterns. Five key stages of group development and socialization (forming, storming, norming, performing, adjourning) are described in Table 2. Guideline developers need to be aware of

**Table 2 Stages of small group development (Tuckman 1984)**

i. Forming:	The group comes together, initial ground rules are established and members become acquainted
ii. Storming:	Members compete for attractive role positions within the group. (Role positions are the set of behaviours that individuals occupying specific positions within a group are expected to perform. These may be explicit (as in the title 'group facilitator') or implicit (as when one person comes to adopt a leadership role during the course of group discussions). An individual's role in the group may shift over time)
iii. Norming:	The group develops common perspectives, shared rules (norms) and feelings of attachment to the group (commitment)
iv. Performing:	The group concentrates on performing major tasks and moving towards shared goals
v. Adjourning:	The group attains its goals. Some members leave, others stay

these different stages and allow adequate time for them. For example, during the first few meetings of a group much attention may be paid to the development of good interpersonal relations, establishing group aims, developing norms of behaviour (e.g. agreeing to turn up at all meetings) and defining roles (e.g. if the literature review task is to be divided up, who is to co-ordinate each subgroup). Such group-related issues may have to be addressed before substantial progress can be made on the development of clinical recommendations. Leaders of guideline development groups should not be concerned if little apparent progress is made during initial meetings as long as the group appears to be successfully forming and defining its task (see Bond & Grimshaw 1995; for a case study of these issues).

### Stages of group decision-making

Group decision-making essentially involves three phases: *orientation* (defining the problem), *evaluation* (discussion of decision alternatives) and *control* (deciding which of the alternatives is to prevail) (Bales & Strodtbeck 1951). Each of these stages may be subject to bias resulting from the differing perspectives of individual panellists and the relative influence that they exert. Ideal conditions for group decision-making are those which enable the views of all parties to be expressed and considered before a recommendation that is acceptable to the majority is reached. This is not to say that all parties should comment on every decision, but that group norms should allow them the opportunity to do so freely. Within guideline development, it is important to recognize where there is a failure to achieve consensus and under such circumstances it is probably best to represent the differing views of the panel members rather than force a false consensus.

### Potential psychosocial influences in small groups

Social influence pressures affect all stages of group development and decision making, and guideline group chairmen should be aware of their impact and alert to their presence. We would like to consider several types of social influence which may affect how individuals interact in small groups and which

may subvert good group decision making. These are conformity, compliance, obedience and persuasion.

#### *Conformity*

Conformity is the tendency for individuals to adjust their behaviour to what they perceive is the group *norm* (informal rules regarding appropriate modes of conduct for members of the group). Public conformity (going along with the majority) does not always indicate private acceptance (agreeing with the majority view) and this should be borne in mind by the chairman when s/he is attempting to establish areas of agreement or disagreement. (It is not uncommon to hear individual panellists express their dissent *after* a meeting has taken place.) Chairmen should make strenuous efforts to ensure that all participants feel able to express their genuine opinions by establishing an atmosphere of support and by making active efforts to involve all members in discussions. They should also be alert to non-verbal expressions of unease.

#### *Compliance*

Compliance, in contrast, occurs where individuals follow a direct request. For example, a chairman might declare that a meeting is deadlocked and that a group decision must be reached one way or the other. Following a show of hands, those in the minority may be asked to shift their vote to that of the majority. While such procedures are inevitable in guideline development, there is a danger that compliance may lead to spurious consensus.

#### *Obedience*

Obedience occurs where the behaviour results from an explicit order from an authority figure. This type of influence is unlikely to be an important source of bias in guideline development meetings, since no one should be in a position to *tell* group members what their opinions should be. It may work in a more subtle fashion, however, such as where group members perceive that they will face sanctions if they do not comply with the views expressed by an individual in a powerful position.

#### *Status*

The status of group members (perceived or real) can have an important influence on patterns of conformity, compliance and obedience and can be prob-



lematic in multidisciplinary guideline development groups. The status differential between the source and target of social pressure is, perhaps, the most important predictor of conformity and compliance. Other factors may intervene, however, such as the gender of the sources and targets (unfortunately, in our society this can have implications for perceived status). Where obedience occurs, it is usually the case that the person whose orders are followed is in the more powerful position, although this power may take the form of a dominating personality rather than professional out-ranking. In composing and managing a group it is important to consider whether certain members of the panel are customarily in positions where they are expected to obey the commands of others (e.g. nurses and doctors). In such cases, the mere fact that a group member belongs to one or other category may be enough to elicit the tendency to comply or obey (or to dictate and pressurize), even though the context is different and members have been explicitly instructed to make their own sense of the information and voice their private views. Status may also affect the degree to which participants contribute to group discussions (e.g. Vinoker *et al.* 1985; Ng & Bradac 1993; Pagliari, Grimshaw & Walker 1999), influencing the proportion of time devoted to certain topics and potentially distorting the consideration of evidence.

### *Persuasion*

Persuasion can be thought of as the process by which the attitudes of target individuals or groups are changed as a result of the communication of a persuasive message. Research on communicator characteristics is perhaps most relevant to guidelines development groups, since it may help to explain why certain individuals are more easily able to sway others to their point of view. The types of communicator characteristics associated with attitude change are also associated with other forms of social influence. For example, one of the most obvious ways to gain compliance to a direct request is through ingratiation, and this tends to be easier for an attractive communicator (Chaiken 1979). Attractiveness has little effect, however, when the aim of the persuader is to change deeply held attitudes or when the message is cognitively demanding (as in the consideration of scientific evidence). In this case, the degree

to which the communicator is perceived to be credible, expert and trustworthy has more of an impact (see Zimbardo & Leippe 1991, for a detailed discussion of these issues). Such findings are important to bear in mind when considering guideline development, particularly when the strength of evidence favouring one type of intervention over another is unclear. In this case, group members may be unduly influenced by the most confident participant, or the member who is considered to have most expertise in general.

### Minority influence

Although majority pressure is usually seen as the main source of social influence in groups, it is possible for a single dissenter, or a minority, to sway the majority to their point of view. Minorities are most persuasive when they are consistent in their opposition to majority pressure, appear committed to their viewpoint and are flexible enough to acknowledge the perspectives of other group members (Moscovici 1976). Minority influence may work by capitalizing on the subtle and/or tacit divisions within a group, inspiring those with ambivalent feelings to change their view.

For these and other reasons, decisions reached by groups are very often different to those which might have been predicted from the opinions expressed by individual members prior to group deliberations.

### Group polarization

A commonly observed tendency is for group decisions to be more extreme than individual ones (group polarization). Two explanations have been proposed for group polarization: social comparison and persuasive arguments. According to the social comparison explanation (Festinger 1954), people are strongly motivated by the desire to be 'right' and to be perceived positively by others. During a group discussion individuals will assess the predominant position (norms) regarding a particular issue which, in most cases, will be the one they favour. The individual will then seek to espouse the most extreme form of this socially defined 'correct' position, so as to differentiate themselves positively from other members. Since many individuals may shift in this direction as a result

of normative social influence, majority decisions will tend to become more extreme after group discussion. According to the persuasive arguments theory (Stasser 1992) group discussion elicits a pooling of ideas, most of which favour the dominant viewpoint. These ideas may include persuasive arguments that some group members had not previously considered (informational influence). These may help to strengthen the conviction of those who hold the same views and change the attitudes of those who are ambivalent. Active verbal participation in the group discussion magnifies this effect, since voicing a view suggests commitment to the stance. It should be pointed out that it is the views of individuals in the group that become stronger following group discussion, rather than the views of all group members. These individuals may become more strongly opposed to one another (or polarized) at the end of the meeting. Where a collective decision has to be generated, however, the views of one 'side' (usually the majority) will tend to carry more weight, hence the 'group decision' becomes the most popular decision which – by the end of the meeting – is more extreme.

It is easy to see how a shift to a more extreme position may have negative outcomes if the decision to be reached by the group involves a clinical recommendation. It is important to bear in mind, however, that group polarization will not necessarily result in more risky decisions; indeed, the shift may be towards a more conservative intervention, assuming that the majority initially favours caution. Group polarization may be ameliorated by using multidisciplinary groups, since a wide range of views and perspectives are likely to be expressed. This may account for the observation that multidisciplinary groups are more conservative than unidisciplinary groups (see Scott & Black 1991; Leape *et al.* 1982).

### Groupthink

A more complex and potentially disastrous problem for decision-making groups, is groupthink – defined as 'a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when their members' strivings for unanimity override their motivation to realistically appraise alternative courses of action' (Janis 1972). Put simply, in groups

which are very cohesive, value consensus highly and have a very dominant leader, the realistic appraisal of evidence can take second place to the maintenance of good social relations and/or the reinforcement of decisions which the group has previously taken. While guidelines development groups are highly unlikely to have the cult-like characteristics which precipitate groupthink, it is important to bear in mind that the dominance of consensus as a prerequisite for the acceptance of their recommendations may discourage members from voicing dissenting opinions. Furthermore, because guidelines are usually developed over the course of several meetings, it is possible that poor decisions taken early on will be defended and reinforced, rather than abandoned, since the latter course of action may threaten the esteem of group members and reduce group cohesiveness.

### Moderating the effects of social influence

#### Leadership

The issue of leadership is bound up with that of social influence; indeed, it has been defined as 'the process through which one member of a group influences other group members toward the attainment of specific group goals' (Yukl 1989). Two types of leader tend to emerge when a group is going through the process of socialization and role definition: one who is primarily concerned with task accomplishment and the other with the maintenance of good social relations. Socio-emotional leaders tend to be liked more than task-orientated leaders, but the latter are more effective in terms of ensuring that the group achieves its goals (Wilke & Van Knippenberg 1988). The managerial style of a group leader may have a profound influence on the process of group deliberation and decision making. In guideline development, for example, an overly controlling and directive chairperson may fail to listen to the views of all parties, thereby alienating individual group members and inhibiting discussion, potentially leading to the production of unworkable recommendations. At the other extreme, an excessively non-directive leader may fail to establish clarity on the group's objectives or remit, resulting in circuitous discussions and

laboured development of possibly ambivalent recommendations.

Under ideal circumstances a decision-making group will include leaders with both task-orientated and socio-emotional-orientated qualities and it may be possible to identify a single individual who can accommodate both roles. Given the complexity of small group processes in large, multidisciplinary panels, however, we would suggest that guideline developers should consider separating these roles. This was recognized in the North of England Evidence Based Guidelines Project (Eccles *et al.* 1996b), where the guideline groups were chaired by an experienced small group leader who had explicit responsibility for guarding the small group processes (ensuring that the group functioned satisfactorily) and a facilitator who had explicit responsibility for ensuring the task (the development of the guideline) was completed.

In all cases of social influence, the effects of power and status are moderated markedly by the presence of a source of social support. Just having one other ally who dissents from the majority may be enough to eliminate conformity behaviour in a person whose private views differ from those of the majority. Interestingly, this seems to happen whether or not the other dissenter shares the same views (e.g. Allen & Levine 1971). Similarly, merely witnessing a 'disobedient model' will discourage an individual from blindly obeying orders with which he/she does not agree (e.g. Milgram 1965). This suggests that social influence pressures in guideline development groups may be reduced if the group includes more than one member from each category of participant or if each participant is matched with another from the same layer of the status hierarchy. A common problem in guideline development groups is top-heavy composition, whereby those of lowest status (and therefore influence) have fewest sources of peer-support, exacerbating the impact of status on social influence. The chairman of the guideline development group can help to moderate social influence by influencing the group norms (for example, he might establish a strong role for members of each professional category at an early meeting) or by forming strategic alliances with individual group members to allow their opinions to be expressed in the context of specific decisions.

### Social decision schemes

The subtle influence of such factors as conformity, compliance and obedience may, to some extent, be ameliorated by formalizing the procedures for generating a decision at each stage of the guideline development process. Social decision schemes are the explicit or implicit rules by which members combine their individual preferences to create a collective decision. Examples include voting, averaging, delegating and consensus formation. Within guideline development groups the explicit rule for the acceptance of a recommendation is that it has consensus agreement among group members. As alluded to earlier, however, uniform agreement is seldom possible in group discussions, particularly when the issue to be decided upon is very complex and/or the evidence upon which to base a decision is ambiguous. In such cases, other social decision schemes are likely to come into play, such as the taking of votes and the acceptance of the majority view as the group view which, in turn, may be characterized as indicating 'consensus'. The decision rules may also be modified by the social influence processes described earlier. For example, while the explicit rule in a decision-making group may be to accept the majority view, the implicit rule might be to assess the views of the highest status members, and to emulate them in such a way that the final, 'majority' decision, in fact, reflects that of the high-status minority. The decision rules are also likely to be affected by the nature of the topic under discussion: rules such as majority-wins or averaging may be inappropriate when the decision to be reached is very specific and one member has particular expertise in that field. Furthermore, expertise may take precedence over status in such cases. Because of the difficulty of adhering to one explicit rule it would be useful, when presenting each guideline recommendation, to report the actual decision strategy used in its generation. Formal consensus development methods, such as the RAND Appropriateness Method, have been used successfully to derive clinical recommendations where time is limited (e.g. Shekelle & Schriger 1996). Contained within this process is a measure of consensus for each recommendation. Not only is this useful as a means of targeting areas for further discussion, it provides a record of consensus across the guideline develop-



ment process. Organizers of long-range multidisciplinary development panels should consider using such anonymous Delphi-type methods with individual group members prior to guideline release, to trouble-shoot areas where apparent consensus may disguise disagreement. Despite their potential advantages, such methods remain prone to psychosocial confounding. For example, panel composition may influence group ratings of appropriateness (e.g. Leape *et al.* 1992; Coulter *et al.* 1995; Kahan *et al.* 1996). Furthermore, discussions surrounding recommendations receiving low objective consensus may put considerable pressure to bear on outliers, whose anonymity may be revealed in defending their position. (See Murphy *et al.* 1998; for a discussion of factors affecting decision making in formal consensus development groups.)

### Summary

In this paper, we have considered the role of group composition and small group processes in guideline development. There appears to be reasonable consensus that guideline development groups should be multidisciplinary and include representation of all key stakeholders; however, this has major implications for the size, functioning and leadership of guideline development panels. It may be necessary to exceed the optimum group size to ensure adequate representation. Inherent professional hierarchies within multidisciplinary groups and mutual ignorance of different professionals' skills and modus operandi may distort group processes. Under these circumstances, the appropriate management of the group dynamics will be essential for successful decision making. Attention should be paid to both group-orientated and task-orientated styles of leadership and chairpersons should be aware of the psychology of small groups. At present, few guidelines provide explicit details about small group processes (partly because it is difficult to describe important aspects of small group processes adequately). This makes it difficult for a potential user of a guideline to determine whether poor small group processes may have threatened its validity. Guideline developers can help in this regard by explicitly reporting the methods used to determine consensus and pointing out clearly

those issues on which consensus could not be reached.

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