

DEBATE

Beyond evidence—to ethics: a decision-making framework for health promotion, public health and health improvement[†]

ANDREW TANNAHILL*

NHS Health Scotland, Elphinstone House, 65 West Regent Street, Glasgow G2 2AF, Scotland, UK

*Corresponding author. E-mail: andrew.tannahill@health.scot.nhs.uk

[†]This paper has been developed from a presentation given by the author at the international conference 'Setting an Ethical Agenda for Health Promotion', held at the University of Ghent, Belgium from 18 to 20 September 2007 and organized by the University of Ghent (Institute for Law, Ethics and Society, and Department of Public Health) and the Flemish Institute for Health Promotion.

SUMMARY

Echoing the rise of 'evidence-based medicine', the concept of evidence-based policy and practice in the inter-related fields of health promotion, public health and health improvement has attracted increasing attention over the past two decades. More recently, again with roots traceable to biomedical thinking, there has been growing interest in ethics in relation to these fields. This paper links these two topical themes in a practical way. It explores the extent to which policies and activities 'on the ground' can and should be based on evidence, and considers the relative places of

evidence and ethics in decision-making. It goes on to present the 'decision-making triangle', a framework that gives primacy to a set of ethical principles—with available evidence and plausible theory being used to inform the application of these. After introducing the concept of 'ethical logic modelling', the paper concludes by suggesting an 'ethical imperative' for health promotion, public health and health improvement: to make decisions based on the explicit application of ethical principles, using available evidence and theory appropriately.

Key words: ethics; evidence; decision-making; health promotion; public health; health improvement

INTRODUCTION

In establishing the role of Head of Evidence for Action in Scotland's national health improvement organization, I have sought to place evidence in a fuller context. In particular, I have been keen to promote a shift in focus from narrow, excessively 'evidence-centric' visions of 'knowledge transfer' or 'knowledge translation' to the notion of 'making good decisions in good faith'. That has led me to consider how two prominent themes of discussion and debate—evidence and ethics—can usefully be brought together.

Taking evidence on effectiveness as its starting point, this paper goes on to offer a decision-making framework for health promotion, public health and health improvement that has a set of ethical principles at its pinnacle. By starting from an effectiveness evidence perspective, I am by no means implying that ethical principles should only be given a place as a result of limitations to the contributions that can be made by such evidence: I recognize that ethical considerations are important in their own right, and that an action for which there is strong evidence of effectiveness may not be considered appropriate

or seen as a high priority when viewed from an ethical standpoint. Rather, my intention is to demonstrate how even a professional remit primarily concerned with effectiveness evidence can, and in my opinion should, take one ‘beyond evidence—to ethics’.

The composite reference to ‘health promotion, public health and health improvement’ above accommodates differences in terminology across the world, and varying conceptions of the relationship between health promotion and public health. Instead of rehearsing the semantic issues here, I shall simply state that I consider the decision-making framework and ethical principles described to be of relevance to what I understand health promotion and public health to be and to population health improvement (whether conceived as a goal, a field of activity or both). In keeping with developments in Scotland and the rest of the UK, I mainly use the term health improvement in the remainder of this paper. It should be remembered, however, that I view the central ideas as being applicable also to health promotion and public health.

INITIAL QUESTIONS

I take as a convenient starting point the proposition from the field of evidence-based medicine that ‘the use of the latest and best medical research findings’ is ‘a moral imperative for ethical decision making’ (Borry *et al.*, 2006).

Thinking about that proposition in the context of health improvement led me to pose two questions.

- (1) To what extent can and should health improvement action (policies, and activities ‘on the ground’) be based on evidence?
- (2) What should be the relative places of evidence and ethics in health improvement decision-making?

In addressing these questions, I found it useful to start by highlighting three issues relating specifically to effectiveness evidence for health improvement: demand, skewing and inadequacy.

ISSUE 1: DEMAND FOR EFFECTIVENESS EVIDENCE

The demand for evidence relating to the effectiveness of health improvement action is huge, with a large number of subject categories and subject areas competing for attention. Figure 1 shows five subject categories of health improvement action, each containing a number of subject areas. All of these can give rise to demands for effectiveness evidence.

The demand is compounded by the fact that, for any given health improvement topic, action is possible at a number of levels. Moving outwards from the centre circle in Figure 2, health improvement action is possible with individuals, with families and other groups, with communities, on specific aspects of the environment

Subject categories	Subject areas
Health topics	E.g. cardiovascular disease/cardiovascular health, cancer, overweight/obesity/healthy weight, mental health and wellbeing, sexual health and wellbeing, dental/oral health, general health and wellbeing
Behaviour (‘lifestyle’) topics	E.g. tobacco, alcohol, drugs, food and nutrition, physical activity
Stages in the lifecourse (lifestages)	Preconception, pregnancy, birth and neonatal period; early years; middle to late childhood; teenage transition; working age and middle years; later life
Settings	E.g. schools and other educational institutions; the workplace; health care and social care settings; community and voluntary sector settings
Cross-cutting themes	Life circumstances/social determinants of health/environmental factors (e.g. socio-economic disadvantage and deprivation, education, employment and transport, cultural influences); inequalities/equity and diversity; public/community engagement/involvement; partnership working; organizational issues (e.g. relating to design and delivery of services, and the way agencies work); ‘upstream’ versus ‘downstream’ action

Fig. 1: Subject categories and areas for health improvement action and evidence.

Key to action levels

- (1) Individuals
(‘high risk’ or
general population)
- (2) Families/other groups
- (3) Communities
- (4) Specific aspects of environment
(e.g. tobacco control)
- (5) Wider health determinants
(socio-economic etc)
- (6) Culture (influenced by 1–5,
and influences 1–5)

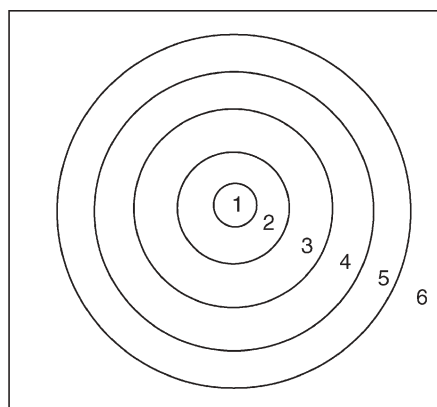


Fig. 2: Levels for health improvement action and evidence: the ‘health improvement onion’ and culture.

(such as tobacco or alcohol control measures), and on wider health determinants (such as socio-economic factors). What happens at each of these levels, or layers in the ‘health improvement onion’, is affected by—and contributes to—cultural context.

ISSUE 2: SKEWING OF EFFECTIVENESS EVIDENCE

The conventional approach to reviewing, assessing and synthesizing evidence, imported from the territory of clinical treatment, uses a hierarchy of research study designs that gives primacy to randomized controlled trials (RCTs) and systematic reviews of RCTs. There is a very substantial body of literature on the pros and cons of RCTs and that sort of hierarchy, and it is beyond the scope of this paper to go into the debates in any detail. Amidst the strongly expressed arguments and counterarguments, there appears to be a growing support for the following position: there is no ‘one-size fits all’ method for health improvement effectiveness evidence; RCTs have their place but also their limitations; other study designs are the best available for some actions (notably including many policies); and complex, multifaceted evaluations (which may include RCT components) are needed for complex, multifaceted interventions. However, practice in evidence reviewing has yet to catch up fully with the implications of such thinking, and in any case the conventional approach has left a legacy of skewing of the search for, and supply of, effectiveness evidence towards interventions relating

to specific health or risk factor topics, and the ‘inner layers’ of the health improvement onion.

ISSUE 3: INADEQUACY OF EFFECTIVENESS EVIDENCE

It is often said that there is a lot of effectiveness evidence around and there is. However, a good deal of the evidence we would like to have to help guide health improvement action (and, even more strikingly, action to reduce health inequalities) is simply not there to be found. Much time, effort and money can be invested in evidence searching and reviewing for little practical return—and with perpetuation of the skewing of available evidence and underlying thinking. And while lack of evidence of effectiveness may reflect true ineffectiveness, it can also be due to inadequate or inappropriate evaluation, failure of implementation (Rychetnik *et al.*, 2002), or simply lack of evaluation.

Importantly, there is a dearth of evidence on cross-cutting themes, and even within evaluations of actions on specific topics there has been insufficient attention to comparing effectiveness across socio-economic and other equality/diversity groups. One consequence of the skewing of available evidence, and a problem that would be likely to persist to an extent even if there were no such skewing, is that actions and types of action for which evidence is strongest are not necessarily the most important for achieving population health gain and reducing health inequalities. There is a limit to the extent to which the evidence gaps can be remedied by undertaking or

commissioning more reviews: reviews can only capture what is there from primary evaluative studies. And even if we were to have as much evidence on the effectiveness of individual policies or interventions as we could reasonably hope for, what about the ‘big picture’?

Health improvement is often likened to a jigsaw, with different pieces of action joining together to make up the big picture (Tannahill, 2003). Potential actions aimed at health improvement can be compared with a pile of jigsaw pieces, some of which belong to the jigsaw while the others do not. In building a jigsaw in such circumstances, there is a risk of discarding pieces that do not seem useful when looked at individually—only to find later, when more pieces are in place, that parts of the picture are missing. We run a similar risk in evaluating individual pieces of health improvement action one by one.

Perhaps, an even better analogy for health improvement is that of a mosaic. Pieces of a mosaic can be deployed flexibly, combined in a variety of ways to produce different desirable pictures. Moreover, the cement in the mosaic is an integral part of the picture and instrumental in linking the pieces and holding the overall picture together—just as cultural and other environmental contexts in which interventions are embedded are important in health improvement.

For me, an inescapable conclusion is that, in building effectiveness evidence for health improvement, ‘more of the same’ is not good enough. More fully fit-for purpose approaches to effectiveness evidence are needed for what is a highly complex, multilevel, multifaceted and interacting area of endeavour.

More fundamentally there will, quite simply, never be effectiveness evidence on everything for which we would wish to have it. And regardless of the amount of evidence available, it alone would not be a sufficient base for health promotion decision-making. For example: some important effective actions would still not reach the evidence base; we need to be able to innovate, using theory; and action for which there was evidence of effectiveness might not be considered desirable on ethical grounds.

SOME IMPLICATIONS OF THE ISSUES

It follows logically from the limitations exposed in the foregoing account that we should think of evidence-*informed* health promotion action, not

evidence-*based*. That is my short answer to the first question posed early in this paper: ‘To what extent can, and should, health promotion action be based on evidence?’ The longer answer would include detailed reference to the issues raised above. In a nutshell, we need a broader base for health improvement decision-making than evidence alone. The term ‘evidence-informed’ is not new (see, for example, Nutley *et al.*, 2002; Harrison, 2003; Bowen and Zwi, 2005; Speller *et al.*, 2005; Labonte, 2007), but ‘evidence-based’ continues to predominate—and in my view mislead.

My second initial question was ‘What should be the relative places of evidence and ethics in health improvement decision-making?’ My response to that is that health improvement decision-making should involve the appropriate use of available evidence—and plausible theory—to inform the application of a set of ethical principles. That proposition has given rise to the decision-making framework, or triangle, described later in this paper.

Before considering the decision-making triangle and ethical dimension in detail, it is helpful to consider the question of what should count as evidence, and to look in more detail at the place of theory.

WHAT SHOULD COUNT AS EVIDENCE?

Different people define or interpret the term ‘evidence’ in different ways. For example, Kemm (2006) described it in the contexts of policy making and health promotion as covering ‘all types of reasoned enquiry’. Citing Hicks (1997), Learmonth and Watson (1999) referred, in relation to evidence-based health care, to giving due weight to ‘all valid, relevant information’. McQueen and Anderson (2001) quoted Butcher (1998) as stating, ‘A piece of evidence is a fact or datum that is used, or could be used, in making a decision or judgement or in solving a problem. The evidence, when used with the canons of good reasoning and principles of valuation, answers the question why, when asked of a judgement, decision or action.’ This helpfully alludes to a need to view evidence in the context of what is required to make good judgements or decisions, as distinct from something that should unquestioningly be translated into policy or practice, a theme to which I return later in this paper.

Evidence-strand — evidence relating to:	Types of priorities on which light is shed
Health issues	Priority issues and determinants for addressing — the 'whats'
Causation, preventable risk factors, promotable health enhancing/protective factors	Priority actions — the 'hows'

Fig. 3: Evidence strands and their place in shedding light on health improvement priorities.

Loughlin (2006) cited Goodman (2003) as defining evidence as ‘information that provides a “conceptual warrant” for some conclusion’. The type of evidence on which the focus tends to be in discussions of ‘evidence-based’ policy and practice is that relating to effectiveness. However, evidence relating to effectiveness—and to risk of harm—is but one of three strands of information that may provide a “conceptual warrant” for deciding on health improvement action. The other two are: evidence on health issues (nature, scale, population patterns, and time trends); and evidence on causation, preventable risk factors, and promotable health enhancing and protective factors (determinants of good health and ill-health: nature, causal relationships, scale, population patterns and time trends). The latter two strands shed light on priority health issues and determinants for addressing (the ‘whats’). The effectiveness/risk of harm strand informs priority actions (the ‘hows’) (see Figure 3).

To many, effectiveness evidence still seems to be more or less synonymous with that which rates highly according to the conventional hierarchical approach taken from evidence-based medicine. However, the nature of health improvement is such that one needs to be able to obtain, weigh up and use information of various sorts from a range of sources. Building on a critique of the RCT in health promotion, Tones (1997) proposed a ‘judicial review’ approach to evidence. He described assessment of a health promotion programme as involving the accumulation of (valid) evidence from a variety of sources by a process of ‘triangulation’, arguing that ‘if the resulting data all point in the same direction, it is reasonable to assume that a programme has been successful’. The use of triangulation in health promotion evaluation has also been advocated by Nutbeam (1998). In the context of public health policy, Petticrew *et al.* (2004) have referred to a prevailing ‘mixed economy’ of evidence in which different types of experimental and non-experimental evidence are brought to bear.

Arguably, the judicial review/triangulation approach can be used in taking a ‘mixed economy’ overview across available evidence from evaluations, systematic reviews and other sources, such as purposefully captured ‘testimony’ based on the experiences and expertise of, for example, health and other professionals, and participants in interventions. The use of the ‘testimony’ here fits with Tones’s ‘judicial principle’ of assembling evidence ‘which would lead to a jury committing themselves to take action even though 100% proof is not available’. That in turn appropriately reflects the complexity and uncertainty of the real world of health improvement action—complexity and uncertainty that need to be recognized and accommodated rather than swept under the convenient carpet of oversimplification.

Picking up on Tones’s (1997) line of argument, McQueen and Anderson (2001) pointed out: ‘Evidence presented in a western legal setting, however, is often a mixture of stories.... In short, it frequently comes from multiple sources and people of widely varying expertise. In this sense, determining the value of evidence requires the interpretation of accounts.’ Returning to the above point about complexity, more work is required to develop widespread agreement on how to interpret and weigh up different types of evidence. That does not mean rejecting the conventional type of evidence hierarchy. It does, however, involve being clear about the extent to which, and the circumstances in which, it is appropriate, while supplementing it with other necessary frameworks and tools.

THE PLACE OF THEORY

There are six points to be made here. First, evidence on the effectiveness of health improvement action arises essentially from the application and testing of a theory or theories, whether explicitly postulated or implicit. Next,

the impossibility of securing all the evidence we would like to have to inform action makes it reasonable to use plausible theory, weighed up alongside available evidence, in health improvement decision-making. If decisions were only to be based on available strong evidence of effective actions, the result would often be a very small number and range of actions, with a risk of achieving less population health gain and less of an impact on health inequalities than would be achieved through a fuller set of measures devised on the basis of theoretical plausibility as well as evidence of effectiveness. Thirdly, the case for applying theory in the face of insufficient evidence is heightened where a large scale or severe threat to health makes action urgent. The fourth point is that even in less immediately pressing situations it may be that a decision to do nothing because of a lack of effectiveness evidence will be less desirable than to do something based on theory. Fifthly, and related to the second point, comprehensive packages of actions can generally be expected to have more impact on population health than a narrower approach, but available effectiveness evidence largely relates to single interventions evaluated in isolation and does not shed enough light on the extent to which particular policies or other actions (even including some that appear ineffective when looked at in isolation) might have an impact when used in combination. Against that background, there is a place for using theory to inform the assembly of coherent combinations of interventions where value is added to those actions for which there is strong evidence of significant effectiveness. Lastly, evaluation of applied theories adds to the body of evidence available to guide future decision-making.

To advocate the use of theory in these ways is not to reject or ignore the important potential pitfalls of acting on ‘good intentions and received wisdom’ identified by Macintyre and Petticrew (2000). However, it can be argued on the basis of the points made above that not to supplement available evidence with theory would result in more losses than gains.

ETHICAL PRINCIPLES FOR HEALTH IMPROVEMENT

Having considered the place of evidence and theory, I turn now to the notion of applying ethical principles in deciding what, and what

not, to do in the pursuit of improved population health. The idea of identifying a set of ethical principles to apply in health improvement decision-making was inspired by pioneering work in the Highlands of Scotland, largely in relation to health care services (NHS Highland, 2002a, b; McLean *et al.*, 2004; Devlin and Magill, 2006). That work had its foundations in well-established general ethical theories and four classical principles of biomedical ethics—respect for personal autonomy, non-maleficence (not inflicting harm on others), beneficence (acting for the benefit of others) and justice (distributive and social) (Devlin and Magill, 2006).

Figure 4 shows the set of 10 ethical principles that has been developed by NHS Health Scotland, taking account of the classical principles of biomedical ethics, foundation principles of health promotion and principles of corporate governance. The set reflects discussions involving the Board and senior management of NHS Health Scotland and has been tested and adopted for dialogue with stakeholders. The identified principles are offered here as a possible or illustrative, rather than definitive, set that it is desirable for other organizations and partnerships to agree on their own ethical principles, in dialogue with relevant others. For ease of reference and cross-reference, notes of relevance to applying the ethical principles are presented in Figure 4, as are examples of related terms.

The principles can be categorized as follows:

- three fundamental to the main health outcomes pursued by NHS Health Scotland—‘do good’, ‘do not harm’, ‘equity’;
- six to do with how the organization goes about its business (visible and behind-the-scenes), and linked to ‘intermediate outcomes’—‘respect’, ‘empowerment’, ‘sustainability’, ‘social responsibility’, ‘participation’ and ‘openness’
- the principle of ‘accountability’ as a public sector organization.

Debates on ethics in health improvement tend to hinge largely around attitudes to autonomy. Some people view it as paramount. I suggest that ‘empowerment’, accompanied by ‘respect’, is a preferable principle for health improvement. There are serious limitations to the concept of free choice in health-related behaviour and health (Tannahill, 1984, 1987; Downie *et al.*, 1996). For instance,

Ethical principles	Notes
Do good Related terms include: beneficence, effectiveness, quality, utility	<ul style="list-style-type: none"> ▪ Relates to health improvement in populations, not just individuals. ▪ In assessing the likely population health improvement benefits of given action, consideration is given to the importance (scale and degree) of the issue or issues concerned (e.g. health problem, risk factors); the causation and potential preventability/promotability of the issue or issues (e.g. mental health problems/mental wellbeing); effectiveness of the action (including percentage of those exposed who are likely to be benefit, degree of likely benefit, and any variations in these between population groups); transferability (of findings from evaluations in different circumstances); feasibility of delivering the action; and achievable 'reach' of the action. An action for which there is evidence of a high level of effectiveness in a particular location, at a particular point in time, may not be as effective in other circumstances, and may not even be feasible; and the amount of benefit that can be expected from an intervention 'on the ground' depends on the extent to which it can reach those who stand to gain from it. ▪ An important consideration is whether efficacy demonstrated in the controlled circumstances of research studies translates into effectiveness in 'real life'.
Do not harm Related terms include: non-maleficence, safety, quality	<ul style="list-style-type: none"> ▪ Application of this principle together with 'Do good' is a key to the discharging of responsibility for 'health governance' (comparable to clinical governance in health care); see also 'Accountability'. ▪ Action might lead to benefits for some people and harm for others — e.g. preventive drugs may have side-effects, and benefits in terms of prevention of ill-health might have costs in terms of impaired wellbeing. There may be a need to judge on an acceptable balance between good and harm in populations. ▪ Actions to mitigate any potential harm should be identified as feasible.
Equity Related terms include: fairness, equality, justice, cohesion, solidarity	<ul style="list-style-type: none"> ▪ To do with fairness. Tackling unfair health inequalities is very high on the health improvement agenda, rooted in social justice and linked to distributive justice. ▪ Equity may involve pursuing equality of health outcomes through unequally applied actions (e.g. targeting of interventions towards disadvantaged groups). ▪ Fundamental to the equality and diversity dimension of health improvement efforts.
Respect Related terms include: diversity, equity, autonomy, acceptability, consent, consensus, mutuality, self-esteem	<ul style="list-style-type: none"> ▪ Includes respect for others (individuals, families, other groups, communities and populations) in what organizations or partnerships do, and how they do it. ▪ Fundamental to the equality and diversity dimension of health improvement efforts. ▪ Also covers the protection and promotion of self-respect and self-esteem among individuals, groups and communities, as part of both promoting a sense of wellbeing and protecting against unhealthful influences and behaviours.
Empowerment Related terms include: autonomy, enabling, health literacy, self-efficacy, community development, solidarity, cohesion, mutuality	<ul style="list-style-type: none"> ▪ About helping individuals, families, other groups, communities and populations to have more control over their health. ▪ Includes promoting life circumstances, individual and collective knowledge and skills, and opportunities conducive to good health. ▪ An important aspect is enabling people to be free of addictions or habit-forming behaviours, rather than acting as though behaviour is simply a matter of personal freely exercised personal choice. ▪ May require action to limit the power of individuals and corporate entities to expose others to risk of harm.
Sustainability Related terms include: effectiveness (long-term), environment, citizenship, accountability	<ul style="list-style-type: none"> ▪ Three dimensions: <ul style="list-style-type: none"> — making sure that health improvement actions are sustainable for as long as they need to be — recognition, in all aspects of business (including administrative policies and processes as well as health improvement projects and programmes) that sustainable health improvement in populations requires safeguarding and conservation of resources and the physical environment; see also 'Accountability' — environmental governance — ensuring that healthful changes (e.g. in 'lifestyle' behaviours) brought about by policies and actions 'on the ground' are maintained.
Social responsibility Related terms include: collectivism, solidarity, citizenship, environment, community, mutuality, accountability	<ul style="list-style-type: none"> ▪ Demonstrating social responsibility through organization's own actions. ▪ Fostering social responsibility, in the interests of improving population health and tackling health inequalities, among businesses, other organisations, communities, groups and individuals.
Participation Related terms include: engagement, empowerment, citizenship, community development, mutuality, ownership, solidarity	<ul style="list-style-type: none"> ▪ A cardinal principle of health promotion — doing things with people, not just for them or to them. As far as possible, people should be involved in identifying health issues and solutions, and in taking action for better health. ▪ Relevant even where legislative controls are being considered or implemented, as seen, e.g. in consultation on controlling smoking in public places, and in widespread participation in making ensuing legislation work.
Openness Related terms include: transparency, engagement, mutuality, consent, consensus, trust, accountability	<ul style="list-style-type: none"> ▪ Explicit application of the set of ethical principles using the decision-making triangle itself contributes to openness. ▪ Documenting judgements made in applying the ethical principles using the decision-making triangle is of value both in consultation and in facilitating continued constructive dialogue after decisions have been made.
Accountability Related terms include: governance, effectiveness, quality, value for money (including efficiency, cost-effectiveness), openness, trust, mutuality, environment	<ul style="list-style-type: none"> ▪ Being accountable for: <ul style="list-style-type: none"> — actions and outcomes — making good use of/fostering/safeguarding/conserving financial, human and other resources/the environment — operating in accordance with ethical principles. ▪ Involves 5 dimensions of governance: <ul style="list-style-type: none"> — health governance — financial governance — staff governance — environmental governance — ethical governance.

Fig. 4: Ten possible ethical principles for health promotion, public health and health improvement, and some related terms.

with the place of evidence in a wider context as described by Armstrong *et al.* (2006). So too may judgements on the extent to which the other ethical principles are satisfied, and indeed on what the ethical principles should be and on the levels of priority to be attached to particular principles in a given situation. I suggest that the decision-making triangle provides a framework for such considerations to be made explicit.

Evidence and theory relating to ‘effectiveness’ should serve the full range of ethical principles, not just ‘do good’. They should help us answer such questions as: ‘What effects would an intervention as proposed (whether universally applied or targeted) be likely to have on health inequalities (the principle of ‘equity’)?’ and ‘What reason do we have to believe that it would help empower people (‘empowerment’ principle)?’ Generating evidence capable of answering these sorts of questions is a challenge for evaluation.

The need to apply the ‘do not harm’ principle with care and attention warrants emphasis. Macintyre and Petticrew (2000) cited from the field of social and public health interventions a number of examples of ‘well meaning interventions with adverse effects’. The possibility of such effects does not negate the case made in this paper for using theory in health improvement decision-making. Moreover, theory has a part to play in identifying possible harms and actions to mitigate them, and all the more so given that a further challenge for evaluation is to pay more attention to detecting potentially hidden harm (for example to wellbeing, or confined to certain population groups).

The triangle is principally designed to be used at two broad levels of decision-making: in assessing possible improvement actions in their own right (with the assessment of potentially favoured options being captured in a rationale or business case); and in weighing proposals thus selected against each other and deciding what should and should not be incorporated into an overall portfolio. Depending on the organization, partnership or working arrangement concerned, the ‘overall portfolio’ level may involve two or more stages—for instance, arriving at the recommended content of a specific coherent programme of work (for example, relating to tobacco, schools or the early years of life), and then deciding on the business plan of an organization or partnership as a whole.

The ethical principles will not necessarily all be given the same or equal weight in relation to all possible health improvement actions. For example: a programme may involve a mutually reinforcing combination of highly participative activities and less participative policy measures; and a business plan for a health improvement agency is likely to reflect a need to combine targeted and tailored action to tackle health inequalities with more universal provision of advice and support.

As shown in Figure 4, explicit use of the triangle, with transparent application of the ethical principles, has a valuable part to play in fulfilling the principles of openness and accountability. Documenting judgements can be of value both in consultation and in enabling continuing constructive dialogue after decisions have been made. Others may disagree with decisions made by an organization, but they should at least be able to understand how and why the decisions were arrived at; and they have the opportunity to make a case for a different decision that makes explicit reference to the identified ethical principles.

In addition to being applicable at the two decision-making levels described above, I suggest that the triangle would be of use in formulating action recommendations in guidance development processes, such that systematically gathered and synthesized evidence on effectiveness would be filtered through an appropriate set of ethical principles.

Not shown in Figure 5, because of a desire for clarity in showing the flow for evidence and theory through ethical principles to decisions, is the two-way relationship between evidence and theory. As referred to earlier, the application and testing of theory adds to the evidence base. In addition, evidence can give rise to new theories or the modification of existing ones.

FROM LOGIC MODELLING TO ‘ETHICAL LOGIC MODELLING’

Reference was made earlier in this paper to the assembly of comprehensive packages of interventions. There has been an explosion of interest in the use of logic modelling in health improvement policy making, planning, monitoring and evaluation. A logic model is a systematic and visual way of presenting and sharing one’s understanding of the relationship between the resources

available for a programme, the planned activities, and the changes or results one hopes to achieve (W.K. Kellogg Foundation, 2004). Logic modelling has potential across the spectrum from setting out the rationale for a single intervention to the bigger picture of health improvement policy and strategy across topics, settings, agencies and sectors.

If we accept the principle of applying ethical principles in decision-making, informed by evidence and theory, it makes sense to widen the concept of logic modelling to 'ethical logic modelling', using the decision-making triangle rather than evidence and theory alone to judge what actions should and should not be included and implemented.

AN ETHICAL IMPERATIVE FOR HEALTH IMPROVEMENT

Early in this paper I cited a 'moral imperative' that has been mooted for evidence-based medicine. I conclude by proposing the following as an 'ethical imperative' for health improvement, with implications for accountability:

- to make decisions based on the explicit application of ethical principles, using available evidence and theory appropriately to inform judgements.

FUNDING

This paper was developed in the course of paid employment with NHS Health Scotland. No specific funding was allocated for its production.

ACKNOWLEDGEMENTS

I am grateful to the Board Members and fellow senior managers of NHS Health Scotland for contributing to the development and testing of the ethical principles set out in this paper; to Mr Brian Devlin for inspiration and guidance; to Ms Lindsay MacHardy for her championing role; to Dr Sanjeev Sridharan and Prof Angus Dawson for encouraging me to share my thinking; and to Dr Sridharan and Dr Laurence Gruer OBE for commenting on draft material. Opinions expressed in the paper are those of

the author and do not necessarily reflect the views of NHS Health Scotland.

REFERENCES

- Armstrong, R., Doyle, J., Lamb, C. and Waters, E. (2006) Multi-sectoral health promotion and public health: the role of evidence. *Journal of Public Health*, **28**, 168–172.
- Borry, P., Schotsmans, P. and Dierickx, K. (2006) Evidence-based medicine and its role in ethical decision-making. *Journal of Evaluation in Clinical Practice*, **12**, 306–311.
- Bowen, S. and Zwi, A. B. (2005) Pathways to 'evidence-informed' policy and practice: a framework for action. *PLoS Medicine*, **2**, e166.
- Butcher, R. B. (1998) Foundations for evidence-based decision making. *Canada Health Action: Building on the Legacy. Volume 5. Evidence and Information*. Multimondes, Quebec, pp. 259–290. Cited by McQueen and Davies (2001).
- Devlin, B. and Magill, G. (2006) The process of ethical decision making. *Best Practice & Research Clinical Anaesthesiology*, **20**, 493–506.
- Downie, R. S., Tannahill, C. and Tannahill, A. (1996) *Health Promotion: Models and Values*. 2nd edition, Oxford University Press, Oxford.
- Goodman, K. (2003) *Ethics and Evidence-based Medicine: Fallibility and Responsibility in Clinical Science*. Cambridge University Press, Cambridge, Cited by Loughlin (2006).
- Harrison, T. (2003) Evidence-based multidisciplinary public health. Chapter 14. In Orme, J., Powell, J., Taylor, P., Harrison, T. and Grey, M. (eds), *Public Health for the 21st Century; New Perspectives on Policy, Participation and Practice*. Open University Press/McGraw-Hill Education, Maidenhead.
- Hicks, N. (1997) Evidence based health care. *Bandolier*, **4**, 8. Cited by Learmonth and Watson (1999).
- Kemm, J. (2006) The limitations of 'evidence-based' public health. *Journal of Evaluation in Clinical Practice*, **12**, 319–324.
- Labonte, R. (2007) Globalization and health promotion: the evidence challenge. Chapter 12. In McQueen, D. V. and Jones, C. (eds), *Global Perspectives on Health Promotion Effectiveness*. Springer/International Union for Health Promotion and Education, New York.
- Learmonth, A. M. and Watson, N. J. (1999) Constructing evidence-based health promotion: perspectives from the field. *Critical Public Health*, **9**, 317–333.
- Loughlin, M. (2006) A platitude too far: 'Evidence-based ethics'. Commentary on Borry (2006), Evidence-based medicine and its role in ethical decision-making. *Journal of Evaluation in Clinical Practice*, **12**, 306–311. *Journal of Evaluation in Clinical Practice*, **12**, 312–318.
- Macintyre, S. and Petticrew, M. (2000) Good intentions and received wisdom are not enough (Editorial). *Journal of Epidemiology and Community Health*, **54**, 802–803.
- McQueen, D. V. and Anderson, L. M. (2001) What counts as evidence: issues and debates. *WHO Reg Publ Eur Ser*, **92**, 63–81.
- McLean, S., Williamson, L., with Devlin, B. and Blair, A. (2004) *Ethico-Legal Decision-Making in Healthcare*. University of Glasgow, Glasgow.

- NHS Highland (2002a) *Ethical Decision Making: a Framework for Ethical Governance*. NHS Highland, Inverness.
- NHS Highland (2002b) *Using the Ethical Decision Making Framework*. NHS Highland, Inverness.
- Nuffield Council on Bioethics (2007) *Public Health: Ethical Issues*. Nuffield Council on Bioethics, London.
- Nutbeam, D. (1998) Evaluating health promotion—progress, problems and solutions. *Health Promotion International*, **13**, 27–44.
- Nutley, S., Walter, I. and Davies, H. (2002) *From Knowing to Doing: A Framework for Understanding the Evidence-into-practice Agenda. Discussion paper 1*. Research Unit for Research Utilisation, University of St Andrews, St Andrews.
- Petticrew, M., Whitehead, M., Macintyre, S., Graham, H. and Egan, M. (2004) Evidence for public health policy on inequalities: 1: The reality according to policymakers. *Journal of Epidemiology and Community Health*, **58**, 811–816.
- Rychetnik, L., Frommer, M., Hawe, P. and Shiell, A. (2002) Criteria for evaluating evidence on public health interventions. *Journal of Epidemiology and Community Health*, **56**, 119–127.
- Speller, V., Wimbush, E. and Morgan, A. (2005) Evidence-based health promotion practice: how to make it work. *IUHPE—Promotion & Education Supplement 1 2005*, 15–20.
- Tannahill, A. (1984) Health promotion—caring concern. *Journal of Medical Ethics*, **10**, 196–198.
- Tannahill, A. (1987) Editorial—health education and health promotion (Letter with references). *Journal of Medical Ethics*, **13**, 223.
- Tannahill, A. (2003) Promoting health in Scotland. Chapter 3. In Woods, K. and Carter, D. (eds), *Scotland's Health and Health Services*. The Nuffield Trust/The Stationery Office, London.
- Tones, K. (1997) Beyond the randomized controlled trial: a case for 'judicial review' (Editorial). *Health Education Research*, **12**, i–iv.
- W.K. Kellogg Foundation (2004) *Logic Model Development Guide*. W.K. Kellogg Foundation, Battle Creek, Michigan.