The social determinants of health: Developing an evidence base for political action

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APPENDICES

The social determinants of health: Developing an evidence base for political action

i Political briefing

- The health of individuals and of populations is determined to a significant degree by social factors.
- The social determinants of health produce widespread inequities in health within and between societies.
- The poor and the disadvantaged experience worse health than the rich and powerful, have less access to services and die younger in all societies.
- The social determinants of health and illness and health inequities can be described and measured although this is a complex process.
- The measurement of the social determinants provides evidence which is the basis for political action which may change the action of the determinants of health.
- Evidence is not the only basis for political action, although evidence constituted of experience or media reports might be.
- Evidence is generated and used in a continuous cycle involving evidence production, guidance and policy development, implementation, and then learning from the implementation to inform the evidence base.
- Evidence on the effects of policies and programmes on inequities can be measured and monitored and can provide an evidence base on the effects of interventions.
- Evidence about the social determinants of health is insufficient to bring about change on its own; political will combined with the evidence offers the most powerful response to the negative effects of the social determinants.

ii Abstract

This report begins by identifying six problems which make developing the evidence base on the social determinants of health potentially difficult. These are: lack of precision in specifying causal pathways; merging the causes of health improvement

with the causes of health inequities; lack of clarity about health gradients and health gaps; inadequacies in the descriptions of the axes of social differentiation in populations; the impact of context on interpreting evidence and on the concepts used to gather evidence; and the problems of getting knowledge into action. In order to overcome these difficulties a number of principles are described which help move the measurement of the social determinants forward. These relate to defining equity as a value; taking an evidence based approach; being methodologically diverse; differentiating between health differences, health gaps and health gradients; clarifying the causal pathways; taking both a structural and a dynamic approach to understanding social systems; and explicating potential bias. The report proceeds by describing in detail what the evidence based approach entails including reference to equity proofing. The implications of methodological diversity are also explored . A framework for developing, implementing, monitoring and evaluating policy is outlined. At the centre of the framework is the policy-making process which is described beginning with a consideration of the challenges of policies relating to the social determinants. These include the multi-causal nature of the social determinants themselves, the fact that social determinants operate over the whole of the life course which is a considerably longer time frame than most political initiatives, the need to work intersectorally, and the removal of the nation state as the major locus of policy-making in many parts of the world. The ways to make the case for policies are described and appropriate entry points and communications strategies are identified. The next four elements of the framework are outlined in turn: (a) evidence generation, (b) evidence synthesis and guidance development, (c) implementation and evaluation, and (d) learning from practice. Finally the report describes the principal ways in which policies relating to the social determinants may be monitored.

iii Structure of this report

This report first looks at a series of over-arching principles and issues relating to monitoring and evaluation in the social determinants of health. These are covered in the first three sections: *The challenge of measurement and evidence about the social determinants of health*; *Taking an evidence based approach*; and *Gaps and gradients*. We outline in section 4 a *Framework for developing, implementing, monitoring and evaluating policy.* In sections 5 – 9 we look at each of the five parts of this framework in turn: *Getting social determinants on the policy agenda – making the case*; *Generating evidence for policy and practice*; *Evidence synthesis and action*;

Effective implementation and evaluation; and *Learning from practice*. We then look at *Monitoring*, which underpins the whole framework. We consider some issues which have been raised by this report and the work of the MEKN, we draw our conclusions, and finally we make some recommendations to policy makers and practitioners.

At the end of each section is a list of case studies (included in appendix II) which illustrate the points in that section. There is an introduction to the work of MEKN in appendix I and a list of abbreviations in appendix III.

This report has three principal audiences: policy makers, researchers and practitioners. At the beginning of each section we have identified the target audience(s) for that section.

1 The challenge of measurement and evidence about the social determinants of health

Primary audience:	Researchers
Secondary audience:	Policy makers, practitioners.

The social determinants of health (SDH) must be addressed through effective policies based on sound global and local evidence. Generating, synthesizing and interpreting evidence on the SDH is feasible but a challenge. Equally, implementing programmes to affect SDH and monitoring their impact is possible but also difficult. This section outlines approaches to overcoming these obstacles. First, six conceptual and theoretical problems relating to measurement and evidence are outlined. Second, eight principles for solving these problems are described.

1.1 Conceptual and theoretical issues

1.1.1 Causal pathways

The precise ways in which the social determinants of health operate is an area of considerable research interest. Much is known. It is clear that there are social determinants of health inequities because at population and individual level poor health is linked to social and economic disadvantage. The unequal distribution of the social and economic determinants of health such as income, employment, education, housing and environment produce inequities in health (Graham, 2000). The determinants are therefore systematically associated with social disadvantage and marginalization (Braveman, 2003). However, while the general relationship between social factors and health is well established (Marmot & Wilkinson, 1999; Solar & Irwin, 2007), the relationship is not precisely understood in causal terms (Shaw et al., 1999). Consequently the policy imperatives necessary to reduce inequities in health are not easily deduced from the known data. However, although the precise causal pathways are not yet fully understood, enough is known in many areas, and the evidence is good enough, for us to take effective action.

At least four groups of theories have been proposed to explain inequities in health across socioeconomic position. The *materialist/ structuralist* theory proposes that inadequacy in individual income levels leads to a lack of resources to cope with

stressors of life and thus produces ill health (Goldberg et al., 2003; Frohlich et al., 2001; Macintyre, 1997). The *psycho-social* model proposes that discrimination based on one's place in the social hierarchy causes stress which causes a neuroendocrine response that produces disease (Karasek, 1996; Siegrist & Marmot, 2004; Evans & Stoddart, 2003; Goldberg et al., 2003). The *social production of health* model is based on the premise that capitalist priorities for accumulating wealth, power, prestige and material assets are achieved at the cost of the disadvantaged. The *eco-social* theory brings together psycho-social and social production of health models, and looks at how social and physical environments interact with biology and how individuals 'embody' aspects of the contexts in which they live and work (Goldberg et al., 2003; Krieger, 2001). It builds on the 'collective lifestyles' approach and the neo-Weberian theory that lifestyle choices are influenced by life chances defined by the environment in which people live (Frohlich, 2001; Cockerham, 1997).

Because of the uncertainty about the precise causal mechanisms and the theoretical differences in explanations, there is little guidance available internationally to assist policy makers and practitioners to incorporate and act upon the full range of social determinants of health. Still less are there easily available tools and techniques for integrating equity considerations into policy and programme design or into the collection of data and evidence (Oxman et al., 2006).

1.1.2 The difference between the causes of health and the causes of health inequities

The factors which lead to general health improvement – improvements in the environment, good sanitation and clean water, better nutrition, high levels of immunization, good housing – do not always reduce health inequity. This is because the determinants of good health are not necessarily the same as the determinants of inequities in health (Graham & Kelly, 2004). It is necessary to distinguish therefore between the causes of health improvement and the causes of health inequities. As was noted in the previous section, inequities are linked to social disadvantage. If generalized health improvement is not linked to questions of social disadvantage, while everybody's health overall may be improving (although at different rates across the social spectrum) inequities may remain.

The reason for this is that the factors which improve overall health have differential effects on the population with the better off always benefiting disproportionately when universal interventions are applied (Kelly et al., 2006a). Sometimes there is a catching up effect with the less well off making up ground later, but a differential remains (Antonovsky, 1967; Victora et al., 2000). It may be argued that the widening differential does not matter as everyone is benefiting to some degree, so the differential is not a reason not to carry out general health improvement. It is important however, not to define universal and targeted approaches as simple opposites. Hybrid policies which contain elements of, for example, universal actions with targeted follow through, will sometimes be most appropriate.

Where equity is the explicit focus there are two potential policy implications: (a) a clear description of the social structure is required in order to target and tailor interventions and to nuance universal interventions appropriately, and (b) there must be a focus on the determinants of the inequities. The causes and the dynamics whereby different groups respond differentially to health initiatives and the ways in which health damaging effects operate need to be specified in any intervention (NICE, 2007). The 'causes of the causes' of inequities, as they are sometimes referred to, are located in the divisions of labour within and between societies, the lifecourse and lifeworlds of individuals and the interaction between them (NICE, 2007; Kelly et al., 2006a).

1.1.3 Accuracy of descriptions of the social structure

To tackle the social determinants of health, the social structure of societies and the populations within them must be precisely described – sociologically, geographically and economically. There are key axes of social differences in populations – class, status, education, occupation, income/ assets, gender, race, ethnicity, caste, tribes, religion, national origins, age and residence. These factors intersect, interact, overlap and cluster together in their effects. Some of these factors may also change independently of each other. They vary in their salience in different societies at different stages of economic development. While some factors are almost always associated with disadvantage (e.g. poverty), others depend on context (e.g. occupation, ethnicity). Standards of social justice change over time and between cultures.

These social inequalities are the building blocks of differences in health and in health inequities. As well as the conventional tools of social epidemiology, the kinds of population and social structure descriptions which modern mapping and computer based accounts of populations permit should be pressed into service wherever possible (Burrows & Gane, 2006). This will allow the categories of class gender and so on to be used more effectively and forcefully and will allow a better understanding of the way they interact with each other.

1.1.4 Context

Context is very important. By this we mean the country, area or population group to which the data apply. There are some important considerations which need to be borne in mind when dealing with the different contexts of discussions about health inequities and their social determinants. There are two main dimensions to this.

First, much of the data are country or locality/ region specific. This raises a question about the transferability of the findings to other contexts. This has three elements:

- External validity – whether that which has been observed under controlled circumstances still applies without strict scientific control in ordinary settings
- Replicability – the extent to which the findings from one setting would be replicated if carried out in a different context
- Epistemological framework – the degree to which the cultural context has generated the conceptual structure of the original studies and their subsequent interpretation.

For example literature on health inequities generated in Western Europe, the USA, Canada, Australia and New Zealand reflects the specific concerns of those societies. UK studies, for instance, tend to derive from very long standing interests in social class in that country. In the USA on the other hand, the focus has been rather more on issues of race and and/or socioeconomic groupings. Indeed the use of the words *inequity* or *inequality* reflects the cultural differences, with inequality being the preferred term in Anglo-Saxon influenced societies and inequities or even disparities being the preferred usage elsewhere. These preoccupations reflect the history, culture and politics of those societies and the dominant academic discourses in them. The concepts associated with the social determinants are not universal (for example, class, status and religion mean different things in different societies) so some caution

is required especially in using concepts originating in high income societies in low and middle income ones.

Second, some data are global in the way that they are collected, meaning that they operate at a relatively high level of generality. The finer grained detail required to make things happen on the ground is lost.

1.1.5 Nature of health inequity gradients

The difference in health experiences between the top, middle and bottom of the socioeconomic hierarchy varies considerably between countries. For example in Nordic countries there are relatively small disparities in health across the population compared to the UK and the USA (Davis et al., 2007). In middle income and rapidly developing income countries the health differences may be very great with a mix of relatively good health among the well to do and extremes of low life expectancy and high infant mortality among the very poor. The policy implications will therefore vary considerably depending on the nature of the health gradient in particular societies. In any event reaching the poorest and most disadvantaged requires specific actions (Tugwell et al., 2006). More and better cross-cultural studies are required to help clarify the underlying social and economic differences in different countries and the ways these map against health disparities, especially beyond high income countries (European Science Foundation, 2004).

1.1.6 Translation of knowledge into action

It is important to acknowledge that there are three distinct activities and three distinct knowledge bases relating to knowledge translation. There are wide gaps between the discourses and the personnel engaged in each. First is knowledge generation. This is the principal scope of science and research. Second is the activity of using knowledge generated in this way, combining it with other learning and turning it into policy. Third, policy has to be turned into practice and action. The evidence on its own does not provide a complete recipe for success, nor an imperative for action. The evidence needs further refinement if it is to be useful in everyday practice. This requires an understanding of local contexts and circumstances; an understanding of the knowledge bases, and commitment and engagement of local professions; and a detailed assessment of the particular population at whom the intervention is aimed

(Kelly et al., 2004). All of this presents a considerable set of challenges for the social determinants approach.

Generating evidence, turning it into policy and turning policy into action and practice all involve different actors. The players do not necessarily inter-relate at all, and even if they do it will not be in a linear or even cyclical fashion. They inter-relate in iterative and uneven ways, which involve elements of knowledge transfer, of political process, of opportunism, of serendipity and of power influence (Petticrew et al., 2004; Pittman & Almeida, 2006).

1.2 Eight principles for developing the evidence base

In the light of the problems listed above, the MEKN developed a set of principles for developing the evidence base (Kelly et al., 2006a). These principles provide some of the ways of dealing with the challenges just outlined and provide a means of describing solutions.

Principle 1: A commitment to the value of equity

The Commission on Social Determinants of Health has defined health equity as: 'the absence of unfair and avoidable or remediable differences in health among social groups' (Solar & Irwin, 2007), adapted from Margaret Whitehead's definition of health equity (Whitehead, 1992). Health inequity is therefore defined as unfair and avoidable or remediable differences.

The explicit value underpinning the development of a methodology for working on the social determinants of health is that the health inequities that exist within and between societies are unfair and unjust. This is not a scientifically or rationally derived principle; it is a value position which asserts the rights to good health of the population at large. It stands in contrast particularly to the value position that argues that differences in health are a consequence (albeit an unfortunate consequence) of the beneficial effects of the maximization of individual utility in a relatively unfettered market. It is important to note that individual and collective utilities may be at odds with the rights to health (Macintyre, 1984).

Therefore there is and will be political opposition to the core value of health equity. Addressing health inequalities will sooner or later involve trade-offs with those in positions of power. Scientific argument will be marshalled by opponents in support of the anti-health equity position and even where there is political support for equity there is still a need to 'sell' policies that have been identified as effective (Solar & Irwin, 2007).

Principle 2: Taking an evidence based approach

The second principle is a commitment to an evidence based approach. It is taken as axiomatic that an evidence based approach offers the best hope of tackling the inequities that arise as a consequence of the operation of the social determinants. Further it is assumed that the evidence will provide the basis for understanding and the basis for action (Greenhalgh, 2001).

There are a number of difficulties associated with an evidence based approach. These are developed further in section 2. However, the ways of identifying the best evidence can be based on well established principles. The means of determining the best empirical evidence are well rehearsed and formulated within the principles of evidence based medicine (see e.g. Egger et al., 2001; Gomm & Davies, 2000). However there are other very important types of evidence which are generally excluded from evidence based medicine but are vitally important in considering the social determinants of health. These require different approaches. For example in the case of non quantitative empirical evidence the issues are highly contested, but guides such as Dixon Woods et al., 2004 and Pope et al., 2007 provide useful discussions of the issues involved. They consider ways of determining what constitutes good evidence drawn from competing qualitative paradigms, and ways to synthesize different types of evidence.

Theoretical and empirical evidence or propositions are still more difficult to deal with, not least in the social sciences because of their inherent potential ideological content. Nonetheless they can be appraised on the basis of their empirical testability and falsifiability, their internal logic and their fit with evidence and observation from other sources (for an example of this approach see NICE, 2007). (This is developed further in section 6.4.)

It is important to note that evidence on its own, derived from whatever source or method, frequently provides apparently simple answers. The task of those charged with making sense of the evidence and of drawing up evidence based recommendations is to determine the overall story the evidence tells and make a judgement about the certainty with which conclusions can be drawn and how they might be applied in real world settings. The task is to reach a balanced judgement on the basis of what is known from the evidence, as opposed to what is uncertain in the world where the evidence based policy or recommendation is to be implemented (Kelly et al., 2004; Petticrew et al., 2004; Lomas, 2005). This issue is developed further in section 6.

Principle 3: Methodological diversity

The third principle is of methodological diversity: no single approach to the generation of evidence or data is to be favoured over others. Evidence should not be appraised and evaluated on the basis of adherence to a single evidence hierarchy in which a particular method is to be given priority. Appraisal of evidence should be on the basis of whether the research method used is appropriate for the research question being asked and the knowledge being collected, and the extent to which in terms of its own methodological canon it is considered to be well executed. Some evidence will be more useful than others, but all sources of evidence may make a contribution to understanding how social factors influence health outcomes. This principle is developed further throughout this report.

Principle 4: Gradients and gaps

There are conventionally three different ways in which the inequities are described: health disadvantage, health gaps and health gradients (for a full discussion of this see Graham, 2004a; 2004b; 2005; and Graham & Kelly, 2004). Health disadvantage simply focuses on differences, acknowledging that there are differences between distinct segments of the population, or between societies. The health gaps approach focuses on the differences between the worst off and everybody else, often assuming that those who are not the worst off enjoy uniformly good health. The health gradient approach relates to the health differences across the whole spectrum of the population, acknowledging a systematically patterned gradient in health inequities.

The fourth principle takes an holistic approach to the question of health equity which embraces the whole of the socioeconomic gradient within societies or populations. In

general (Graham & Kelly, 2004), an approach which considers the whole of the gradient in health equity in a society should be the starting point for an analysis of the structure of health inequities in that society. This is in contrast to considering *only* the most disadvantaged groups in the population. While in some circumstances targeting policy or interventions towards the most disadvantaged groups may be the best and most appropriate action, a whole system or whole gradient approach is the premise from which to begin, but not to complete, a discussion of equity. This principle is developed further in section 3.

Principle 5: Causes: determinants and outcomes

The fifth principle is a commitment to attempting to identify the causal pathways whereby the social determinants operate. The differential patterns of health across populations and the unequal experience of mortality and morbidity are the consequence of the operation of social and biological factors interacting with each other at population and individual levels. As noted above, some parts of the causal pathways are well understood with respect to some social groups and other parts of the causal mechanisms are less well defined. Although all the parts of the causal arrangements cannot be identified with complete certainty, any analysis should seek to help to explain them.

Principles 6 and 7: Social structure and social dynamics

Principles six and seven are linked together. Principle six lays out the imperative of seeking to describe social structures adequately and principle seven acknowledges the dynamic nature of that social structure. Clearly social structures and systems can be described in a variety of ways. The ways in which social structures are described are not theory- or value-free. We need to consider: what is the model of social structure, if any, in the evidence? This means considering the extent to which the evidence is sensitive to the relations between groups and individuals and in particular the social variations and differences in the population. The important axes of differentiation include the dimensions of age, gender, ethnicity, race, caste, tribes, religion, education, occupation, income, place of residence, mobility, status grouping and class membership, and also the dynamics of the technical and social divisions of labour, the stage of development and the power structures in given societies.
Thus it is very important to build social structure into any consideration of the evidence and to articulate where possible the value position which informs the model of social structure embedded in the evidence.

Principle seven states the imperative to ensure that descriptions of social structure do not become ossified. Societies and their component parts are not static objects. They are constantly changing and therefore the relationships which give rise to health inequities and differences are themselves also changing in terms of their force and their salience at any given moment. The capture of the evidence needs to lend itself to that dynamic quality. Social dynamics (that is, how social structures are changing through time) must be a key part of the analysis.

Principle 8: Explicating bias

The eighth and final principle is about explicating bias. All writing and all science are socially constructed and therefore subject to bias. Forms of bias stemming from the particular methodologies used or from the political value position of the writer will be more or less present in all data and evidence. The solution is to acknowledge this fact and to seek to make the biases explicit, even if the writer has sought to conceal their own prejudices. This is an imperfect science, but is workable in two stages. The first is to describe any political bias that is inherent in the argument, and the second is to seek to determine whether the political biases have influenced the selection and interpretation of the evidence. This is not to imply that there is some underlying truth free of bias which would emerge if we could eliminate the bias. It is instead to acknowledge that biases and perspectives of many kinds inhere in scientific work. Our task is to be aware of them as far as we can and to see past them in our efforts to tackle the inequities deriving from the social determinants.

2 Taking an evidence based approach

2.1 The evidence based approach

Primary audience:	Researchers
Secondary audience:	Policy makers, practitioners.

Taking an evidence based approach means finding the best possible evidence about the social determinants (NHMRC, 1999). The most advanced search strategies and systematic review procedures should normally be used as a starting point where appropriate (Glasziou et al., 2004; Jackson & Waters, 2005a, 2005b), along with other forms of rigorous scholarship. The definition of best evidence and best practice should be made on the basis of their fitness for purpose and their connectedness to research questions (Glasziou et al., 2004), not on the basis of *a priori* notions about the superiority of particular types of evidence or method or placement in an evidence hierarchy. In SDH the key is matching research questions to specific problems and using evidence derived from an appropriate methodology rather than assuming the superiority of a method or a theoretical approach (Petticrew & Roberts, 2003). Taking an evidence based approach does *not* mean relying on or privileging only one kind of method, such as the randomized controlled trial. It does *not* mean that there is only one hierarchy of evidence, and it does *not* mean an epistemological rejection of subjective positions or methods. The evidence based approach to SDH categorically rejects the notion of a single hierarchy of evidence. There will instead be a number of hierarchies of evidence, and placement within the hierarchies will be dependent on the rigour, transparency and potential bias of specific pieces of work.

The search for evidence should be broad and may embrace grey literature, case studies, and qualitative evidence, theories and models. Search strategies should be reported and be reproducible. The issue is fitness for purpose and being able to explain why particular evidence has been selected. The principles for determining how evidence has been appraised must be explicit and transparent, the means of taking account of bias must be clear, and the thresholds of acceptability which have been used to accept or reject evidence should be open to external scrutiny. Where different hierarchies of evidence have been used these should also be described. The strength of evidence, of whatever kind, is not sufficient as a basis for making policy (NHMRC, 1999; Harbour & Miller, 2001). This will be determined by salience, and the extent to which the evidence is transferable. It is possible to have very good

evidence about unimportant problems and limited or poor evidence about very important ones. Therefore a distinction must be drawn between absence of evidence, poor evidence and evidence of ineffectiveness. Linking evidence to health policy requires sensitivity to the needs and circumstances of the groups who are the intended beneficiaries of the policy (Rawlins, 2005; Briss, 2005).

2.2 'Equity proofing'

Primary audience:	Practitioners, policy makers
Secondary audience:	Policy makers.

Although the evidence base is limited in the various ways described here, 'equity proofing' provides a solution that, while evidence based, can proceed without waiting on the result of future studies and better conceptual apparatus. Equity proofing is key to the effective implementation of policies and programmes which seek to address the social determinants of health and health equity, as well as to the sustainability of an overall approach to improving health equity. Solutions to tackling health inequities cannot be universally applied to all contexts (country, socio-political, economic etc) and therefore it is important to review proposed policy and programme approaches in context. Also the best intentions in any policy or major programme can go astray in the implementation. Therefore any policy or programme development process needs to include the opportunity to identify, assess and address its potential health equity impacts (positive and negative, intended and unintended), so as to maximize the potential health equity outcomes and minimize any potential harm. It is essential that policies aiming to address the social determinants of health are equity proofed to ensure the gaps in health experience are not inadvertently increased.

The equity proofing approach should be applied not only to policies and programmes with an explicit equity objective but also to policies or major programmes without a stated equity focus. This is particularly important for policies outside the health sector where there may have been no consideration of any potential health impacts (not to mention health equity impacts) and such impacts (positive as well as negative) could potentially be significant.

A recommended approach to equity proofing is a health impact assessment (HIA). This is a structured process for assessing the potential health impacts of a proposal (positive and negative, intended and unintended) and making recommendations for

improving the proposal (Simpson et al., 2005; Quigley et al., 2005). An equity-focused HIA provides a systematic approach to consideration of equity in each step of an HIA (Simpson et al., 2005; Mahoney et al., 2004). Both health impact assessment and health equity auditing are treated in more detail in section 8.1.

See the following illustrative case study for an example of the challenges of an evidence based approach:

- No. 1 – UK: Acheson inquiry

See the following illustrative case studies for examples of the need for equity proofing:

- No. 2 – Brazil, Peru, United Republic of Tanzania: Failure to equity proof programme for childhood illnesses
- No. 3 – Bolivia: Evaluation of Social Investment Fund

3 Gaps and gradients

Primary audience:	Policy makers, researchers
Secondary audience:	Practitioners.

As noted above, there are conventionally three different ways in which health inequities are described: health disadvantage, health gaps and health gradients (for a full discussion of this see Graham, 2004a; 2004b; 2005; and Graham & Kelly, 2004). Health disadvantage simply focuses on differences, acknowledging that there are differences between distinct segments of the population, or between societies. The health gaps approach focuses on the differences between the worst off and everybody else, often assuming that those who are not the worst off enjoy uniformly good health. The health gradient approach relates to the health differences across the whole spectrum of the population, acknowledging a systematically patterned gradient in health inequities. The principal focus for MEKN is the gradient approach because it allows for a focus on all members of society and recognizes the importance of considering and taking a societal wide approach to the issue.

3.1 Health gaps

Conceptually, narrowing health gaps means raising the health of the poorest, fastest. It requires both improving the health of the poorest and doing so at a rate which outstrips that of the wider population. It is an important policy goal. It focuses attention on the fact that overall gains in health have been at the cost of persisting and widening inequalities between socioeconomic groups and areas. It facilitates target setting. It provides clear criteria for monitoring and evaluation. An effective policy is one which achieves both an absolute and a relative improvement in the health of the poorest groups (or in their social conditions and in the prevalence of risk factors).

However, focusing on health gaps can limit the policy vision. For instance, Daniels (2006) comments: ‘How much should this consideration of the injustice of the baseline outweigh our concern that we are not achieving best outcomes in the aggregate? Some may object that if we single out some groups as ‘more deserving’

because they were wronged, then we are abandoning the principle that in medical contexts we ought to focus only on need.'

3.2 Health gradients

This is why the health gradient is also important. The penalties of inequities in health affect the whole social hierarchy and usually increase from the top to the bottom. Thus, if policies only address those at the bottom of the social hierarchy, inequities in health will still exist and it will also mean that the social determinants still exert their malign influence. The approach to be adopted should involve a consideration of the whole gradient in health inequities rather than only focusing on the health of the most disadvantaged. The significant caveat is that where the health gap is both large and the population numbers in the extreme circumstances are high, a process of prioritizing action by beginning with the most disadvantaged would be the immediate concern.

This approach is in line with international health policy. The founding principle of the WHO was that the enjoyment of the highest attainable standard of health is a fundamental human right, and should be within reach of all 'without distinction for race, religion, political belief, economic or social condition' (WHO, 1948). As this implies, the standards of health enjoyed by the best-off should be attainable by all. The principle is that the effects of policies to tackle health inequities must therefore extend beyond those in the poorest circumstances and the poorest health. Assuming that health and living standards for those at the top of the socioeconomic hierarchy continue to improve, an effective policy is one that meets two criteria. It is associated with (a) improvements in health (or a positive change in its underlying determinants) for all socioeconomic groups up to the highest, and (b) a rate of improvement which increases at each step down the socioeconomic ladder. In other words, a differential rate of improvement is required: greatest for the poorest groups, with the rate of gain progressively decreasing for higher socioeconomic groups. It locates the causes of health inequity, not in the disadvantaged circumstances and health-damaging behaviours of the poorest groups, but in the systematic differences in life chances, living standards and lifestyles associated with people's unequal positions in the socioeconomic hierarchy (Graham & Kelly, 2004).

3.3 Shape of health gradients

When analysing low and middle income country inequality patterns it is important to be aware that gradients can have different shapes. This can be a critical factor when selecting the social policy approach to reach different populations.

The differences are well illustrated by Victora's evaluation of coverage of preventive child-survival interventions in nine low income countries of Africa, Asia and Latin America (Victora et al., 2005). Figure 1 shows the distribution of children according to the number of preventive interventions they received in relation to the socioeconomic group they belong to.

Figure 1

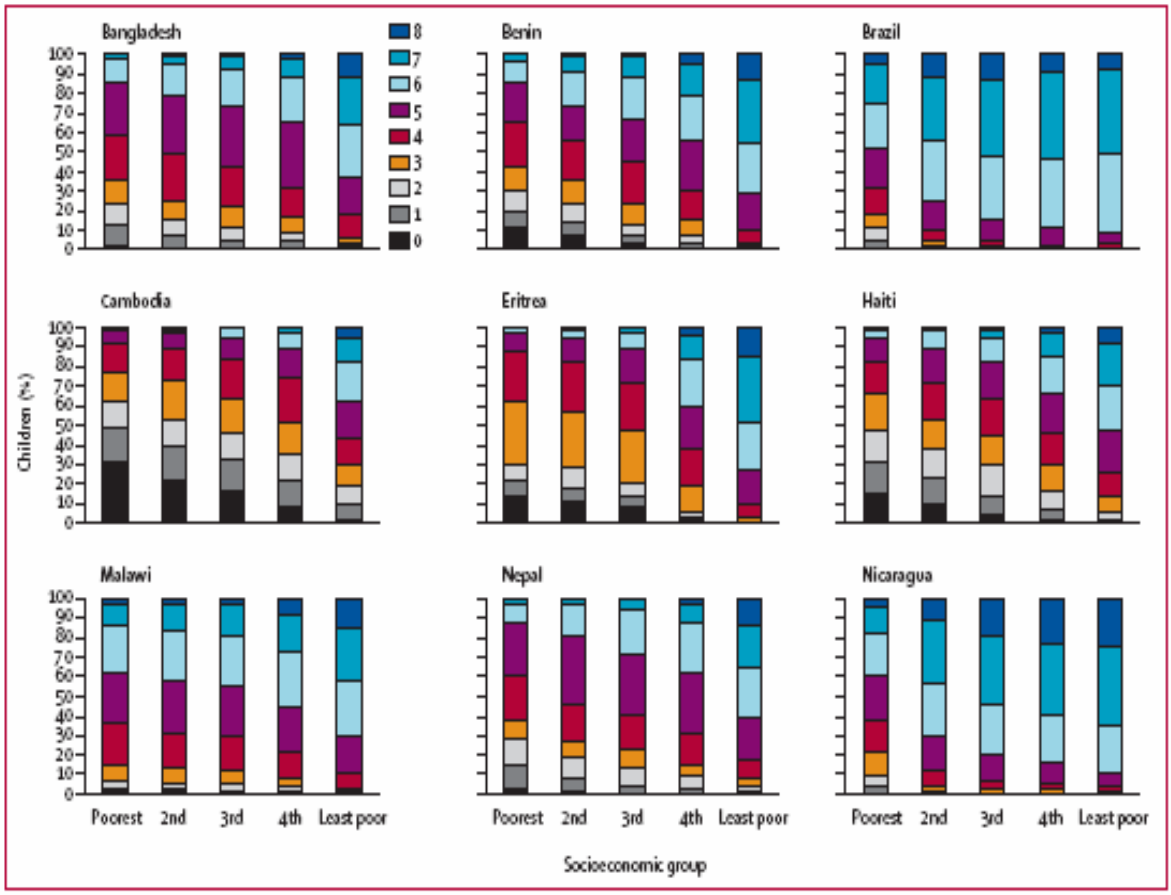


Figure 1: Percentage of children age 1–4 years according to the number of child-survival interventions received, by socioeconomic group and country

Source: Victora et al., 2005.

In their analysis, the researchers identify three inequity patterns: linear, top and bottom. The 'linear inequity' corresponds to the classic gradient situation. Although

their steepness varies, Bangladesh, Benin and Nepal represent this pattern. The 'top inequity' pattern corresponds to countries where the great majority does not receive interventions and a disproportion of benefits is concentrated in the higher socioeconomic groups (Cambodia, Eritrea, Haiti and Malawi). Finally, the 'bottom inequity' pattern is found where most children do have access to interventions, but there is a clear group which lags behind. Here this is the case of Brazil and Nicaragua and it is in turn a common feature in many Latin American countries.

Situation analysis may be useful for understanding why there are particular patterns of inequity in particular societies and where to focus action. Such analysis might include:

- Mapping the country-specific proximal and distal determinants of health inequities to encourage political action
- Assessing financing for health care services (e.g. universal coverage, user fees) and resources for health
- Mapping the public health systems within which action can take place so that the roles and responsibilities of different actors can be made explicit.

See the following illustrative case study for an example of health gaps:

- No. 4 – Brazil: Infant mortality in Ceará state

Having considered in the three previous sections various over-arching issues and principles relating to measurement and evidence, we now turn to the practicalities of finding, assessing and using the evidence.

4 Framework for policy development, implementation, monitoring and evaluation

Primary audience:	Policy makers
Secondary audience:	Practitioners, researchers.

There is a range of tools and techniques available to policy makers, researchers and practitioners to support them in addressing the social determinants of health. This section seeks to highlight some of the most important and describes how they might be utilized in the process of evidence generation and synthesis, translation of that evidence into effective practice, and policy review.

Successful action on the social determinants of health relies on our ability to organize a wide range of different types of knowledge, to apply it effectively to policy development, and to learn continually from our experience in the implementation of those policies. In this context, the Measurement and Evidence Knowledge Network (MEKN) proposes the use of a framework for policy development, implementation, monitoring and evaluation (see figure 2) which can support the policy-making and review cycle (MEKN, 2006b). This framework supports the systematic collection, collation, dissemination and use of knowledge that can promote the need for action on the social determinants, and the development of effective, equitable interventions on these determinants.

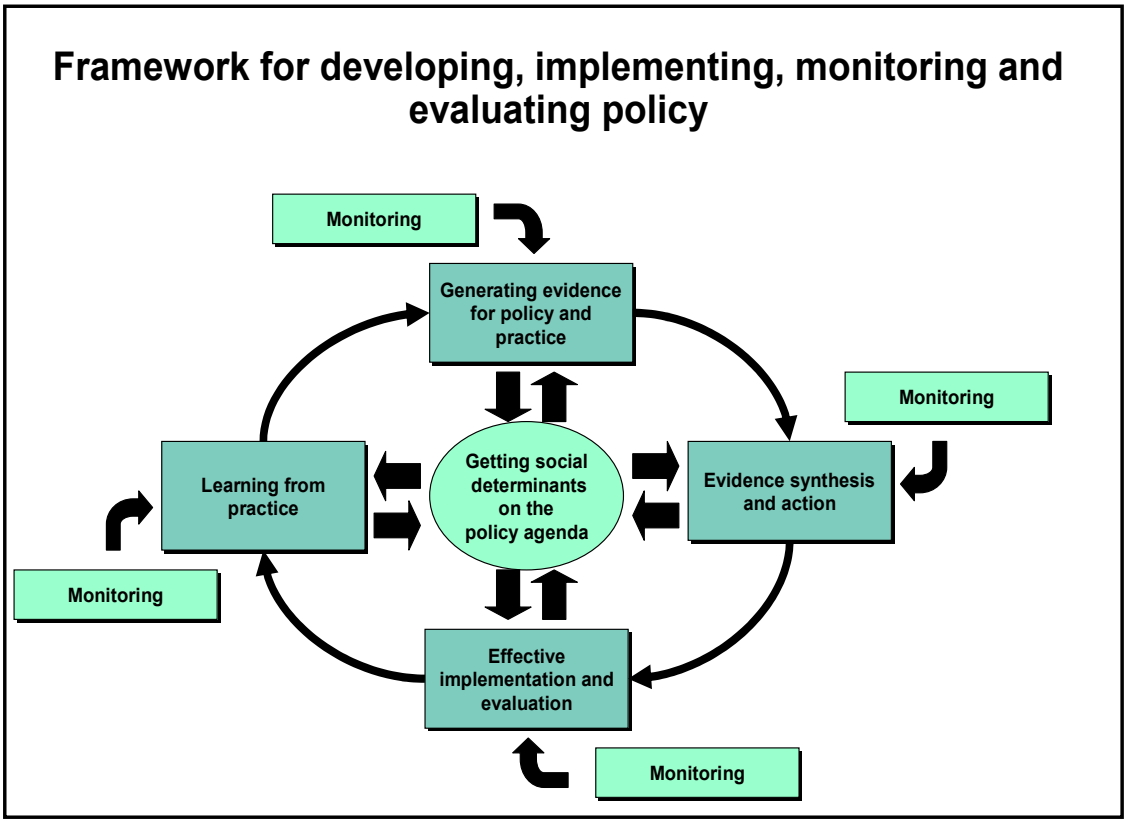
4.1 Purpose of a policy monitoring and evaluation framework

The purpose of the framework is to support policy makers, researchers and practitioners develop a systematic and transparent approach to taking action on the social determinants of health. Used in conjunction with the principles set out in section 1.2 of this report it can help countries to:

- Assess the priority associations between social determinants of health and health inequities in their own contexts
- Highlight the social determinants of health which should be prioritized
- Stimulate societal debate at national, regional and local level on the opportunities for acting on the social determinants of health

- Apply and evaluate policy proposals and their likely success, and learn from the experience of implementation.

Figure 2



The framework relies on a commitment both in policy and research terms to build an evidence base using multi-methods of research which draw on a variety of disciplines, methods and evaluations designed to accommodate the complex nature of social interventions and their long term impact.

This framework will allow methodological diversity in the development, consideration and use of the evidence base. The framework can be seen as generic to any evidence based public health issue, not just SDH. Although, as previously outlined in this report, SDH poses unique challenges to policy makers and practitioners, this does not mean that such a framework must be unique to SDH. However the information that is gathered and the evidence that is generated at each stage will of course be SDH-specific.

4.2 Using the framework

In general terms, the four phases of the framework set out in figure 2 are applicable to any evidence based approach to population health. However the framework highlights the most appropriate use of different tools and approaches which support the development and review of social approaches to health development and the reduction of health inequities. In doing so it helps to make explicit when and how to use different evaluation techniques to answer particular research questions, avoid the potential misuse of evaluation in certain contexts, and create knowledge for decision-making when formal evaluation is not possible.

The cyclic nature of the framework allows countries to assess their position so that they can most effectively build a systematic evidence based approach to SDH.

For example in some countries policies required to address the social determinants of health may not yet be in place and therefore more emphasis will be required on 'Making the case'. On the other hand, where equity focussed policies already exist, countries will need to equip themselves with an evidence base on how best to implement these policies and with the necessary structures and systems for successful implementation. It may not however be appropriate to start at the top of the circle ('Generating evidence for policy and practice'). A country or region with SDH already on the policy agenda and with substantial grassroots experience of implementing programmes may find it more useful to start with 'learning from practice'. It is important to note that all phases are important; they are not mutually exclusive and all countries will probably already be active in all phases to some degree or other.

The framework forms the structure for the remainder of this report. The remaining sections work their way round the framework, starting in the middle with 'Getting social determinants on the policy agenda – Making the case' and finishing with 'Monitoring'.

5 Getting social determinants on the policy agenda – making the case

Primary audience:	Researchers
Secondary audience:	Policy makers, practitioners.

In public health and related interventions, culture, human behaviour and social differences in the population play a greater mediating role than in clinical interventions. Different forms of data and evidence will be called into play, external validity will be inherently problematic and the time from intervention to outcome will generally be long term (Briss, 2005). Evidence is an essential *but not sufficient* basis for policy action. Several other ingredients besides evidence are involved in the policy-making process, including:

- Problem recognition and definition
- The formulation of solutions, including transferability of evidence into appropriate social strategies
- Scalability into different contexts and settings
- Political will.

To complicate matters the policy-making process is often poorly understood by researchers (Petticrew et al., 2004; Whitehead et al., 2004; Lomas et al., 2005) so the dialogue between the two is sometimes characterized more by mutual incomprehension than by joint working. Researchers are often low on the list of people with whom policy makers and politicians wish to consult.

Whilst there are many examples of national governments developing comprehensive strategies, programmes and initiatives to tackle inequities (Morgan & Ziglio, 2007; Benzeval et al., 2000), different countries vary in their awareness and commitment to take action (Mackenbach & Bakker, 2002). It is recognized that in some countries there is still a job to be done in making the case to policy makers about the need to tackle health inequities. Different strategies and actions may be required in different countries depending on where they are in the process of developing policies aimed at addressing the social determinants of health. This section looks at the policy-making process and how best to make the case to influence that process.

5.1 SDH and the policy-making process

Primary audience:	Researchers, policy makers
Secondary audience:	Practitioners.

It is possible to identify several distinguishing features of SDH that affect the ways in which policies towards SDH are formulated and implemented (see also Kirby, 2002). These features may not necessarily be apparent in all policies in all countries; rather, they need to be applied and interpreted in specific contexts. Collectively, these make SDH a 'wicked problem' (Rittel & Webber, 1973) – one which is not easily resolved (if at all) through the traditional policy infrastructure. Some of these issues have been identified above but are repeated here because of their particular relevance to the policy process.

First, SDH are multi-faceted phenomena with multiple causes. Whilst conceptual models of SDH are useful, they do not necessarily provide policy makers with a clear pathway towards policy development and implementation. As specific policy initiatives tend to be targeted to a specific (population) group in certain circumstances and for prescribed time-periods, they can neglect the wider context within which the social determinants are generated and re-generated.

Second, recent studies of SDH have emphasized the significance of the life-course perspective (Blane, 1999). Such a perspective poses serious challenges to policy-making processes whose timescales are rarely measured over such long periods. The tenure of elected or appointed officials is measured in months and years rather than decades. Moreover, coalitions of interests in support of the SDH policy may be unsustainable over the time periods necessary to witness significant change. There have been some exceptions to this especially in the field of public pension policies, but the general problem of timescales remains important.

Third, SDH necessarily implies policy action across a range of different sectors. It is increasingly recognized that action beyond health-care is essential and, as such, intersectoral partnerships are critical to formulating and implementing policy towards SDH. However, there is a significant body of evidence which shows that partnerships are hampered by cultural, organizational and financial issues (Sullivan & Skelcher, 2002). Traditionally, government agencies have been organized vertically according to service delivery (Bogdanor, 2005; Ling, 2002). However, such 'silo' or 'chimney'

approaches are not well equipped to tackle issues that cut across traditional structures and processes.

Fourth, policy towards SDH must be viewed as only one of several competing priorities for policy makers' attention and resources. Economic policy or foreign policy might at different times take precedence over SDH. More specifically, SDH may be over-shadowed in the policy-making process by healthcare itself. However, this *healthcare* focus is often to the neglect of *health* and *SDH per se*. This focus reflects the medicalization of (Western) society. As a result, attention tends to be on the short-term rather than the long–term and on discrete interventions rather than coordinated, collaborative ones.

Fifth, the cause-effect relationships within some aspects of SDH are not readily apparent. Knowing and understanding causal pathways is a first step in devising appropriate policies but the question of attribution remains. As Deaton (2002) argues, 'policy cannot be intelligently conducted without an understanding of mechanisms; correlations are not enough' (p.15). In circumstances where a clear cause-effect relationship cannot be linked with a discrete policy intervention, there may be a case for relying more heavily on a value-based approach.

Sixth, in order to identify, monitor and analyse epidemiological changes over time, not least to inform the policy-making process, routine data need to be available. Just as one cannot fly a modern aeroplane without a large number of sensors and measurements (dials and meters), one should not expect to manage a nation's population health, including the variety of disparities therein, without a comprehensive health information system.

Seventh, processes of globalization have been undermining the role of the nation state in policy-making. Governments' ability to shape and mould the SDH with the goal of improving their population's health is becoming limited as many of the 'causes of the causes' no longer fall within their responsibility. There is a parallel argument that decentralization processes to regions and cities have had a similar effect on the policy-making capacity of national governments.

5.2 Conceptual models to inform policy-making

Primary audience:	Researchers
Secondary audience:	Policy makers, practitioners.

It may be useful to consider some conceptual models of policy-making in order to determine the best approach in a particular situation.

5.2.1 'Policy streams' model

The policy streams model (Kingdon, 1995) is concerned with how issues get onto the policy agenda and how proposals are translated into policy. This is the prelude to implementation. Kingdon uses the notion of policy streams to explore the ways in which opportunities for implementation are created. He argues that policy 'windows' open (and close) by the coupling (or de-coupling) of three 'streams': problems, policies and politics.

- *Problem stream:* Conditions or issues only become defined as problems when they are perceived as such. Often, only problems which are amenable to policy remedies are recognized
- *Policy stream*: Insofar as there are multiple potential issues (which may or may not become defined as policy problems), there are also multiple strategies and policies proposed not just by civil servants or professionals but also by interest groups
- *Politics stream:* This stream refers to the lobbying, negotiation, coalition building and compromise of local, national and international interest groups and power bases.

These three streams may remain separate until they are coupled by chance factors, political (e.g. elections) or organizational cycles (e.g. staff turnover), or by the actions of a policy entrepreneur. The policy entrepreneur facilitates the coupling process by investing their own personal resources (namely reputation, status and time).

A successful policy therefore is likely to comprise clear objectives, a mechanism that achieves those objectives and the resources to facilitate the process (Powell & Exworthy, 2001). Failure to connect these streams will lead to failure of the policy.

5.2.2 Network models

Given that the policy process is a pluralistic activity which involves multiple stakeholders, each with their own interests and motivation, it is recognized that policy development rarely operates in isolation but in networks of these stakeholders. These networks involve interactions between communities of interest. Whilst networks might develop high degrees of trust and dependence, they can equally exclude others from the decision-making process. Close network relations can also foster learning and development as they are grounded in practical experience. As such, networks can foster bottom-up policy developments.

From these broad principles emerge two main 'network' models: (a) policy and issue networks, and (b) the advocacy coalition framework (Hudson & Lowe, 2004).

a) Policy and issue networks

The distinction between policy networks and issue networks revolves around the degree to which stakeholders are involved directly in the policy process.
Policy networks comprise civil servants, politicians and co-opted members (for example, academic experts). These networks involve stable relationships among a limited group of stakeholders with shared responsibility and high degree of integration. By contrast, issue networks oriented around specific issues (such as aspects of SDH) tend to comprise loose, open connections amongst a shifting group of stakeholders.

In the field of SDH there are often issue networks seeking to raise attention to the problem, promoting solutions and lobbying policy makers. The SDH policy network, by contrast has traditionally been less well developed as it implies cross-departmental working. Across any government, there are potentially several policy networks relating to SDH. These networks will inevitably involve trade-offs, say between public health and health-care, between ministries, between SDH programmes and routine service delivery, and between equity and other principles.

b) Advocacy coalition framework (ACF)

Sabatier's (1991) ACF model views the policy process as a series of networks which are composed of all the organizations and stakeholders with a particular interest in that policy sphere. These networks comprise a coalition of advocates and are termed sub-systems. They are defined by a set of core values and beliefs which are resistant

to changing ideas and new policies. Although sub-systems are constantly involved in examining and learning about their policy environment, change is only likely to occur when a significant number of those values are challenged successfully.

5.2.3 Policy failure model

Wolman (1981) offers a 10-part model which seeks to explain why policies might fail. Rather than assuming that implementation is the most likely outcome, he argues that policy failure is common and needs to be analysed. His work is useful in highlighting the multiple locations of policy process and the potential causes of failure (Exworthy & Powell, 2000).

Dahlgren and Whitehead (2006) offer an account of potential policy failure in relation to SDH. They argue that there is often a significant gap between policy statements to reduce social inequities in health and the actions needed to reach this objective. Very few in-depth analyses have been carried out to identify the main reasons for this gap.

5.2.4 Stages of policy development

Some commentators have offered analyses which identify stages of the policy process. Whilst it is often difficult to identify a linear progression through these stages, they can help us to understand the evolution of policy. An interesting use of stages has been by Health Policy Monitor (www.hpm.org) which has been used in international health policy comparisons.

5.3 Making the case

Primary audience:	Practitioners, policy makers
Secondary audience:	Researchers.

Having outlined the policy process and the policy challenges specifically affecting SDH, we need to consider how interested parties can go about making the case for change. Three practical steps are considered to be useful in helping stakeholders to get social determinants on the agenda of policy makers where such policies do not exist (MEKN, 2006a).

5.3.1 Carry out a situation analysis

Different strategies and actions will be required in different country contexts depending on where they are in the process of developing policies aimed at addressing SDH. A situation analysis is useful to understand what strategies need to be employed. For example, the strategies required to get the issue of health inequities on the agenda will be different to those which are required to overcome the barriers to making existing policies work in practice.

A situation analysis could include:

- Mapping the policy picture, focusing on both the macro and micro policy gap
- Analysis of resources
- Making explicit the drivers for policy
- Assessment of the current political willingness to act, which provides the context for the most implementable actions
- Mapping of the public health systems within which action can take place so that the roles and responsibilities of different actors can be made explicit
- Stakeholder analysis and mapping.

5.3.2 Identify entry points

Getting a better understanding of the policy-making processes allows the identification of opportunities to influence the policy process (entry points).

Identifying these entry points may involve:

- Identifying the chain of actors (often with different motives) who take part in the policy-making process
- Analysing the resource flows to understand how to optimize the opportunities for implementation success. For example: what percentage of resources goes to different levels? Does resource allocation include funds for training and human resource development? What are the decision-making capacities and autonomy at different levels?
- Identifying policy windows of opportunity. What opportunities exist to combine these windows? Who are the national and local policy

entrepreneurs who could facilitate this? What factors threaten to close the window of opportunity?

5.3.3 Develop a communication strategy including use of the media

Evidence is usually only one ingredient in the policy-making process. Stakeholders also need to develop effective communication strategies.

Such strategies could include:

- Use of experiences of civil society in creating stories about successful programmes and initiatives
- Reinforcing the need for civil society to be involved in partnership
- Mobilizing stakeholders for intersectoral action and community involvement
- Developing provocative statements which can highlight the costs of doing nothing
- Working with and training journalists to promote public health messages (including use of graphics and photographs to translate research into plain language).

See the following illustrative case studies for examples of making the case:

- No. 4 – Brazil: Infant mortality in Ceará state
- No. 5 – Thailand: Use of locally-defined health determinants to push for change, Mun River dam
- No. 6 – Canada: National children's policies
- No. 7 – Mexico: Reform of national health system
- No. 8 – Thailand: Introduction of universal health coverage

In the next sections of the report the focus moves from policy development to implementation. The report goes through each of the four stages identified in the framework in turn.

6 Generating evidence for policy and practice

Primary audience: Policy makers, researchers *Secondary audience:* Practitioners.

6.1 Status of the evidence base on the social determinants of health

Decades of primary research have accumulated a strong evidence base to confirm that social factors, which are shaped by an individual's relative position in society, account for the bulk of health inequities that exist between and within countries (Solar & Irwin, 2007). There are also many examples at an international and national level of syntheses of this evidence to highlight the role that public policy can have in shaping the social environment in ways that are conducive to health (Acheson, 1998; King, 2000; Marmot & Wilkinson, 2003). There is therefore enough evidence available for all countries to take some action to address the social determinants of health (see recommendations from other themed knowledge networks).

However there are two main deficiencies with this evidence base. Firstly, some authors argue (Graham, 2003) that the evidence base available to policy makers is largely based on an understanding of the social determinants of health rather than the social determinants of health inequities. This distinction is important at a policy level since the actions required to address the social determinants of health are not the same as the actions required to address the social determinants of health inequities.

Secondly, it is well recognized that whilst there is much evidence available to help us describe the inequities that exist in different country contexts, there is much less available to tell us what to do about them.

In part, overcoming these deficiencies requires investment in large scale research using new approaches which take account of the complexity of interventions aiming to address the social determinants. However, there is a job to be done at national

and local level in different country contexts to maximize what we already know. This can be achieved by ensuring that:

- The key questions that need answering are made explicit, particularly being clear about who is asking them and for what purpose
- Methodological diversity is achieved by matching the key questions to the most appropriate research method
- The evidence is generated based on the same principles as those used in evidence based public health to assess the quality and rigour of research appropriate to the design and methods being used.

These three points are developed below.

6.2 Getting the questions right

Generating evidence for effective action involves bringing together knowledge which is useful both in formulating policy and in understanding how best to implement it. Whitehead et al. (2004) identify this multi-faceted evidence base as the 'jigsaw' required to build a coherent picture of the most effective policies, the most appropriate interventions and the most cost effective solutions. This jigsaw recognizes that evidence is produced for different purposes, including mobilizing political will, getting buy-in from the public, demonstrating success, predicting outcomes and monitoring progress.

In this context the framework aims to help maximize the evidence that is available by drawing on a wide range of evidence. In doing so, it promotes a move away from ranking the quality of evidence based on study design (e.g. hierarchies of evidence based on the randomized controlled trial) towards asking 'what is the appropriate evidence given the question being asked?' (Glasziou et al., 2004). It recognizes that the definition of evidence must refer to any type of observation, whether gathered through qualitative or quantitative methods, and that in reality evidence alone is an essential but not sufficient basis for policy action. As previously indicated, other ingredients include political will, transferability of evidence into appropriate social strategies, and scalability into different contexts and settings (Kawachi, 2005).

In general terms, the evaluation framework proposed by Wimbush and Watson (2000) is helpful in making explicit the specific needs and perspectives of a full range of stakeholders involved in the development and implementation of programmes aiming to address the social determinants of health. The framework helps to determine the types of question to be asked and the appropriate methods to answer them.

For example, policy makers and strategic planners are more interested in higher level questions of what works (questions of effectiveness) and what are the best buys (questions of cost effectiveness), in order to be able to make decisions about the most efficient and effective deployment of resources. In relation to the social determinants, they may also ask additional questions such as 'What are the benefits of investing in a social determinants approach?', 'Is there a particular social factor that will give the biggest impact on reducing health inequities?' or 'What is the relative impact of implementing macro level policies compared with efforts that can be made by local practitioners?'. *Impact evaluations* of this sort need to be large scale and take account of the long term nature of social interventions, measuring a range of short-, medium- and long-term outcomes. They are also likely to be carried out by professional evaluators.

On the other hand, practitioners who are responsible for the operation and running of community projects need to understand the practicalities of implementing interventions in real life situations. They might ask 'What are the biggest barriers to implementation and how can these barriers be overcome?' or 'What are the best ways of building effective partnerships to take action on the social determinants of health?' These are *process evaluations*. Those implementing social interventions need to be clear about the roles and responsibilities of particular sectors.

In addition the population likely to benefit from the service or programme will be concerned with the quality of service provision, the extent to which it meets their needs, and the extent to which the process has been participatory or consultative (*experience evaluations*).

The framework requires all evaluations to adhere to the principle of 'commitment to equity'. All questions developed through this process should therefore take account of the variations in the target community according to age, gender, ethnicity and social circumstance and other dimensions of health inequities.

6.3 Achieving methodological diversity

By nature, addressing the social determinants of health involves a wide range of stakeholders and actions which cut across sectors. Generating the evidence required to build the knowledge base about the most effective ways of taking action is also a multi-disciplinary concern. In collating the evidence base, researchers will draw upon work from sociological, psychological, anthropological and medical traditions, to name but some. Within each of these areas exist various epistemological positions, many of which will be in direct philosophical conflict with others in generating the evidence base on the social determinants of health. Some of the gaps in the evidence base on how best to tackle the social determinants of health are in part due to the disagreements among researchers about the most appropriate research methods and designs for building a robust evidence base. For example, there are long standing arguments within this field about the role of the randomized controlled trial – whether it is inappropriate or impractical, or only provides part of the picture in a multi-level intervention.

Getting the questions right will help to ensure that various sources can be brought together in such a way as to create the 'evidence jigsaw' described by Whitehead et al. (2004), which helps policy makers take appropriate action on the social determinants of health based on the best available evidence. By drawing on a broad range of evidence (including quantitative and qualitative research, grey literature, case studies) we are more likely to be able to find out not only what works to address the social determinants of health, but also how and in what circumstances.

It is not possible or desirable in this report to provide a comprehensive list of all the different types of study which could be used to generate a multi-disciplinary, multi-method evidence base on the social determinants of health. The framework recommends that policy makers, researchers and practitioners assess the appropriateness of particular methods and evaluation techniques in their own country contexts. There are many standard text books to help them in this task.

However, with respect to policy-making, the five types of evidence put forward by Whitehead et al. (2004) are recommended as a useful starting point. These are:

- **Observational evidence** showing the existence of a problem. This is most useful when the intervention to tackle the issue is then fairly obvious. However this type of evidence becomes more complicated when there are multiple causes of the problem.

- **Narrative accounts** of the impacts of policies from the household perspective. These might include a combination of descriptive studies (reporting on household budgets and analysing expenditure on the prerequisites for health for families living in different socioeconomic circumstances) and qualitative studies of decision-making in families – exploring why one course of action was chosen over another.

- **Controlled evaluations**. Whitehead helps to dispel the myth that controlled experiments are inappropriate all of the time by identifying examples of studies that have had a direct effect on policy-making. An example is in Africa where rigorous evaluations were made of the effects of Vitamin A on mortality and of rehydration for diarrhoeal diseases. This research led to changes in worldwide policy and practice after recommendations from WHO. It is important to note however that much could be done to improve the design of randomized controlled trials (RCTs) to take account of the social determinants of health (Oakley et al., 2006). Current designs generally fail to incorporate the necessary variables to assess the effectiveness of social approaches and the random allocation of whole populations is often difficult and/or unethical.

- **Natural policy experiments**. Petticrew et al. (2005) put forward solid arguments for the use of 'natural experiments' as a source of evidence for both investigating the determinants of health inequities and for identifying effective interventions. Such 'experiments' may overcome the barriers of executing RCTs in the field of social determinants and can offer 'good enough' evidence on how best to act to tackle health inequities. Natural experiments go some way towards overcoming the issue of attribution when random allocation is not possible. Whitehead et al. (2004) also suggest that evidence from other countries or regions could inform debate if it provided concrete information on what happens when a particular

policy currently under consideration in one place has already been introduced elsewhere.

- **Historical evidence**. Evidence from the past can be influential in the process of policy-making. Whitehead et al. (2005) give the example of the Rowntree Poverty Surveys of 1901 and onwards which painted a vivid picture of life in the slums of Britain's industrial cities. This was shocking to the general public, changed attitudes to poverty and underpinned the building of the post-war welfare system.

Section 7 describes some of the ways in which these different types of evidence can be brought together to give an understanding of how best to act on the social determinants of health. However there is a need to ensure that future attempts to generate this evidence base use mixed method approaches in primary research. There is also a need to redress the balance and ensure that studies embed process evaluation into research design to provide meaningful information on outcomes.

One promising advance which combines process and outcome is the 'realistic evaluation' approach, which attempts to provide answers not only about what interventions work to address SDH, but also how they work and in what context. These types of evaluations can help us to understand the mechanisms of change and can make explicit the underpinning theories upon which programmes are based. Pawson and Tilley's (1997) notion of realistic evaluation is helpful as it promotes theory-driven evaluations which help to capture the linkages between the context (the necessary conditions for an intervention to trigger mechanisms), the mechanisms (what it is about a particular intervention that leads to a particular outcome in a given context) and the outcomes (the practical effects produced by causal mechanisms being triggered in a given context).

6.4 Assessing the quality of the diverse evidence base

Expanding the scope of 'admissable' evidence in the field of the social determinants does not mean sacrificing rigour (Kawachi, 2005). It is important that all knowledge used to generate evidence should be assessed for quality, particularly making clear any biases that might affect the knowledge used. This follows the principle of 'explicating bias' set out in section 1. The methodological task is then to find a means

of evaluating research from whatever tradition it comes, according to agreed criteria of acceptability, and regardless of its theoretical or methodological origins.

The work of the Cochrane Collaboration is often dismissed by those working in the social determinants field as the methods and processes used to construct evidence seem too narrowly focused on the field of bio-medics. In fact, much of the Cochrane Collaboration's work is relevant to assessing the quality of the study designs required to develop the social determinants evidence base. The criteria have been developed primarily for the production of systematic reviews, which synthesize large amounts of material to reach a consensus about the most effective approaches to promoting health and tackling health inequities. However, the more the principles set out in the guidelines produced by this organization are used at the primary research stage, the more likely it is that this research can be used at the appraisal and synthesis stage by organizations collating the best available evidence (Jackson & Waters, 2005b).

Whilst the checklists have primarily been used to assess the quality of individual research designs, It is possible to use them to derive common quality standards to apply to all study types and methodologies relevant to the development of the social determinants evidence base. All studies attempting to answer questions about the social determinants of health should adhere to the following criteria (usually used to assess the quality of studies during evidence synthesis):

- Reporting of what the researchers did and why and how they did it (*transparency*)
- Applying a consistent and comprehensive approach (*systematicity*)
- Assessing how applicable the study is to different populations and in different contexts (*relevance*).

(Swann et al., 2003)

Combining these criteria with the principles described in section 1 can help to improve the quality of the evidence base on the social determinants of health.

Transparency

It is important to assess whether there is sufficient information about what the researchers did and why they did it . Greater transparency of method means a higher quality piece of work. In relation to the social determinants agenda, it is particularly important that all the forms of bias that might be present in the study are made

explicit, either those stemming from the particular methodologies used or from the political value position of the writer.

Systematicity

It is important that a consistent methodological approach is applied to all aspects of a study. Given the complex nature of interventions required to address the social determinants of health, it is not possible for any one research study to answer all the questions relevant to this endeavour – it is therefore important for studies to contextualize their research in a broader theoretical framework (causes, determinants and outcomes). This allows the reader to understand which aspects of the social determinants agenda are being investigated and what aspects of the 'jigsaw' the research hopes to complete.

Relevance

The context (social structures and social dynamics) within which the study is being carried out should be stated along with a view on how generalizable the findings might be to population groups across the dimensions of inequity.

This is not to say that any study which does not meet the three criteria above should immediately be discarded. Rather, policy makers and practitioners need to make a judgement about when the evidence can be used for decision-making, keeping in mind that the conclusions of a poor quality study are less likely to be reliable than those of a higher quality work.

See the following illustrative case studies for examples of generating evidence:

- No. 4 – Brazil: Infant mortality in Ceará state
- No. 5 – Thailand: Use of locally-defined health determinants to push for change, Mun River dam
- No. 7 – Mexico: Reform of national health system
- No. 8 – Thailand: Introduction of universal health coverage
- No. 10 – Uganda: Community-based monitoring

Countries which are just starting to construct this evidence base have an opportunity to ensure that the richest evidence possible is gleaned from multi-method and multi-disciplinary primary research and that by following the principles and criteria set out in this report the quality of that research can be improved. The next section looks at what can be done with the evidence once it has been gathered.

7 Evidence synthesis and action

Creating evidence based guidance is one way of helping to prioritize actions to address the social determinants and improve the standards of professionals working in this area. It represents the second phase in the framework outlined on page 27 and involves two main stages: synthesizing the available evidence and then turning that evidence into prioritized recommendations, i.e. evidence based guidance. There are a number of national and international organizations who are engaged in one or both of these tasks (see for example www.cochrane.org ; www.campbell.org ; www.cdc.gov ; www.nice.org.uk). The synthesis of evidence and production of evidence based guidance is resource intensive. There is therefore a need to collaborate at an international level to ensure that the task of producing evidence based guidance is not duplicated unnecessarily. The Cochrane Collaboration has already begun by setting up a project to assess global priorities for systematic reviews. Some areas relevant to the social determinants of health have already been identified. They include:

- Community building interventions (designed to build a sense of community connectedness, cultural revival and social capital) to improve social and mental health
- Transport schemes to increase use of maternal and newborn health services, and increase community support and action for maternal and newborn health populations.

These topics reflect the shift in emphasis of the Cochrane Collaboration and are an example of where systematic reviewing can include topics of relevance to the social determinants agenda.

Countries should judge the relevance of products like these and assess whether they can use and /or adapt them to develop effective programmes for action in their own country contexts.

7.1 Synthesizing complex and diverse data

Primary audience: Researchers *Secondary audience:* Practitioners, policy makers.

The questions decision-makers ask are complex, questions that go beyond 'What works?' and include 'When?' 'How?' and 'Why?', as well as 'For which people in which circumstances?' Often the answers to these questions are located in a variety of research and non-research sources, and some of the answers may come from unpublished as well as published materials. Review and synthesis offer a way of understanding and using these diverse sources of evidence.

Evidence synthesis encourages broadening the scope of what 'counts' as evidence in the kind of reviews and reports which are designed to inform decision-making. Evidence can be quantitative and qualitative research findings, as well as data from stakeholder surveys or the views and values of experts and users. The inclusion of diverse sources of evidence in reviews does not mean abandoning the rigour of systematic reviews, but it does mean judging the quality of evidence in context and defining evidence as relevant to answering specific questions, rather than defining some forms of evidence as intrinsically and universally of lower quality than others.

Policy makers are more likely to take note of evidence presented from a robust and transparent synthesis that gathers evidence from multiple studies, rather than results from reviews of single interventions. Systematic reviews are seen to be particularly helpful in this process because they bring together in one place the findings from many studies and attempt to ascertain what the collected knowledge means to people who do not have the time or expertise to cope with what are often vast and confusing bodies of evidence.

Many methods for the synthesis of diverse data are still in their formative stages and most were developed for the synthesis of either qualitative or quantitative data, rather than synthesis of the two. This section looks briefly at practical ways that synthesis of different types of evidence can be carried out. The information presented summarizes material from the book by Pope, Mays and Popay, *Synthesising qualitative and quantitative health evidence. A guide to methods* (Buckingham: Open University Press, 2007) which was developed from an overview of methods for synthesizing qualitative and quantitative evidence (Mays et al., 2005).

7.1.1 Systematic reviews of effectiveness

A systematic review has an explicit, transparent and therefore reproducible method, less open to research bias or subjectivity than, for instance, a literature review. A systematic review generally has to meet the following criteria:

- Has a review protocol to guide the review process
- Has a comprehensive pre-defined literature searching strategy
- Includes a critical appraisal of studies and grading of evidence
- Has explicit (transparent) inclusion and exclusion criteria
- Has an explicit (transparent) method of data extraction and statistical analysis.

7.1.2 Evidence synthesis

Synthesis is the point at which findings from the review process are combined and conclusions are drawn. It entails organizing and summarizing relevant evidence from a range of selected studies and then finding some way of bringing it together. Reviews designed to support policy- and management decision-making will typically adopt a broad narrative based approach: they will tell a story. We will look at three broad techniques for synthesizing evidence:

- Quantitative synthesis, involving transforming evidence into numbers which can be represented numerically or statistically
- Qualitative or interpretative synthesis
- Mixed approaches which incorporate diverse evidence to inform policy- and management decision-making, including the combination of separate syntheses.

We will concentrate more on the last point as this is felt to be most useful to readers of this guide, as well as being less detailed in the existing literature. Whilst quantitative approaches are useful for indicating the overall effectiveness of a specific intervention, qualitative studies add insight, offering deeper understanding into the reasons why individuals may react in particular ways or hold certain opinions which impact on effectiveness.

7.1.3 Quantitative approaches to evidence synthesis

Quantitative methods of synthesis all involve the conversion of data, whether qualitative or quantitative, into quantitative (i.e. numerical) form. This can then be used either for simple counts or more sophisticated statistical analyses, as well as for use in logical (Boolean) analysis. Qualitative findings are transformed into numbers by identifying themes, which can then become variables that can be quantified, either as frequency counts or in binary form. The method allows data from different points in time to be summarized and compared. It can also provide supporting evidence when it is deemed unfeasible to repeat original research. The danger however is that the depth and meaning of the original research can be easily lost.

There are six main quantitative approaches:

- Content analysis. Categorization of data into themes or categories and counting how often each category occurs.
- Quantitative case survey. Statistical comparisons are drawn across a range of discrete case studies (Yin & Heald, 1975; Larsson, 1993).
- Cross-design synthesis. Data from studies with different quantitative research designs are pooled (e.g. RCTs and non-randomized experiments).
- Bayesian approaches which enable the pooling and statistical analysis of quantitative studies.
- Meta-analysis. Statistical pooling of the results of quantitative studies with the same or very similar designs (Cooper & Hedges, 1994).
- Qualitative comparative analysis (Ragin, 1987) where data from multiple studies are summarized and compared using a set of algorithms based on Boolean logic.

7.1.4 Qualitative approaches to evidence synthesis

Qualitative research takes on a number of forms and is guided by a range of theoretical perspectives: phenomenology, hermeneutics, ethno-methodology, grounded theory, etc. The different theoretical perspectives draw on different disciplines and approaches to research such as anthropology, sociology, social policy, political science, psychology, history and economics. Studies tend to be small and are not concerned with statistical generalizability but with conceptual and

theoretical development and the explanation of phenomena. Data produced from such studies tend to be contextually rich and provide analytical depth.

Much qualitative research is interpretive; it centres on an empathetic understanding of meaning and is directed towards generating new conceptual understandings and theoretical explanations. There are two approaches to qualitative synthesis that take this interpretive approach:

- Grounded theory (Glaser & Strauss, 1967). Using the 'constant comparative method' to generate theory from data in a systematic fashion.
- Meta-ethnography. Re-interpretation and transformation (translation) of concepts provided by individual studies into one another.

7.1.5 Mixed approaches to evidence synthesis

Such methods are able to accommodate diverse evidence: quantitative and qualitative, research and non-research, etc. They can be less codified and make fewer pre-specified demands on the reviewer. Whilst this gives flexibility and freedom, it demands high levels of skills to produce a robust, transparent piece of research. Moreover, the newness of the methodologies and shortage of good case studies means that these methods are to some extent still in development.

There are three main mixed approaches:

- Thematic analysis. Identification and tabulation of main, recurrent or most important issues or themes in a body of literature.
- Realist synthesis. Testing the causal mechanisms or theories of change which underlie an intervention or programme.
- Narrative synthesis. Juxtaposition of findings from a diverse range of studies along with some integration or interpretation where evidence allows.

7.1.6 Combining separate syntheses: the EPPI approach

The approach developed by the Evidence for Policy and Practice Information and Coordinating Centre (EPPI) at the Institute of Education in the UK typically involves a very broad review question from which separate sub-questions are developed. These then form the focus of two or more parallel systematic syntheses. These parallel syntheses may, for example, focus on sub-questions about effectiveness,

appropriateness, barriers and enablers to implementation, and the perspectives of the group targeted by the intervention. The results of the separate syntheses are then combined into a so called 'meta-synthesis', aiming to address the review question in its entirety. It is argued that because the EPPI approach aims to address review questions that include, but are not restricted to, the effectiveness of a specific intervention or programme, they are more appropriate to the needs of policy makers and managers than the conventional Cochrane-style effectiveness reviews.

The EPPI approach includes all of the standard stages of a systematic review. However, the approach has two innovative features:

- Rather than a tightly structured search strategy, the EPPI approach begins with a comprehensive mapping and quality screening exercise to identify and describe all studies falling within the broad remit of the overall review question. Results from this mapping are then used with stakeholders (including funders) to look again at and check the appropriateness of the review question
- At the final 'meta-synthesis' stage results from the parallel syntheses are juxtaposed on a matrix rather than integrated.

7.2 Producing guidance for action

Primary audience: Researchers, practitioners *Secondary audience:* Policy makers.

Detailed processes and methods for producing evidence based guidance are available from a number of well known agencies to ensure that guidance is appropriate, supported and effective. For example, the National Institute of Health and Clinical Excellence (NICE) in England and the Centre for Disease Control and Prevention in Atlanta, USA, have developed robust methodologies to ensure that guidance is based on the best available evidence (NICE, 2006; CDC, 2005) and that it is tested by a range of stakeholders responsible for implementing it.

An essential part of producing guidance is the distillation of the most important findings from the scientific evidence base into a set of implementable actions. This involves assessing the strength of the evidence (the degree of certainty about 'what works'); its generalizability and transferability; whether change is realistic; whether the actions identified are amenable to change in the long, medium or short term;

whether it is cost effective; and what impact it will have on health inequities (NICE, 2006).

In particular a guidance production process should:

- Support the further development of the evidence 'jigsaw' by bringing in other types of evidence not already retrieved by the formal synthesis of published research. These should be combined with contextual information about the country or area and the structures and systems in place to support the implementation of guidance.
- Further assess the evidence from synthesis to understand the strength of evidence, in particular by distinguishing between absence of evidence, poor evidence and evidence of ineffectiveness (Rawlins, 2005; Briss, 2005). This is important for prioritizing action as it is possible to have good evidence about unimportant problems and limited or poor evidence about important ones. It may not therefore be appropriate to act based on strength of evidence alone.
- Ensure that prioritized actions are based on a full assessment of the needs of particular groups across the dimensions of inequities described earlier in this report.

Ultimately, producers of guidance aim to move from isolated examples of best practice to improved standards of practice for all those engaged in improving the health of populations. Applying the principles proposed by the MEKN and set out in section 1 will ensure that guidance prioritizes actions which can have the greatest impact on health inequities by addressing SDH.

The National Institute for Health and Clinical Excellence (NICE) in the UK applies the MEKN principles by ensuring that it draws its evidence base from a range of disciplines including clinical medicine, epidemiology, health economics, health psychology, medical anthropology, sports science, nursing, education and health promotion. It also questions the evidence base to seek to understand not just what works but also how it works and in what circumstances. Equity proofing is a central component of the public health guidance production process to ensure that it prioritizes actions for disadvantaged groups based on the burden of ill health. In the public health work at NICE this is done by involving a wide range of stakeholders who have an opportunity to engage with all stages of the process. Stakeholders work with NICE to test the transferability of draft recommendations into practice., in

particular testing them to ensure they do not disadvantage those population groups who suffer worst health. Working together in this way helps to ensure that solutions to potential problems are identified at the guidance production stage and that ownership of the guidance is established with all those it aims to benefit.

The case study in appendix I has more information about NICE's approach.

The Centre for Disease Control and Prevention (CDC) uses a 'logic framework' to illustrate the broad links between the social, environmental and biological determinants of a particular issue. This is then used to develop an analytic framework to demonstrate the relationship between particular interventions and their intended outcomes. The development of logic models allows a more systematic approach to developing the most appropriate research questions and therefore the best research design to answer those questions.

In middle income countries (e.g. Brazil) evidence based guidance is largely generated by national academics interacting with the Ministry of Health (or other ministries), with a subsidiary role played by WHO, UNICEF and other international (but not bilateral) agencies. In low income countries this role is primarily played by WHO, UNICEF, the World Bank or bilateral agencies that invest in programmes of their choice. Thus the development of evidence based guidance may depend on who is paying for implementation, and on what their priorities are. This may also affect equity if an organization prefers to direct its funds to a particular area, regardless of whether or not this is the most equitable approach (Victora, personal communication, 2007).

Robust, evidence based guidance on the scale of NICE or CDC may not be available and/or it may not be appropriate to attempt to produce such guidance. Stakeholders could use guidance from sources such as NICE or CDC and adapt it to their own country context. Such guidance is normally freely available on the internet. There are risks to this approach as it may not be obvious to what extent the particulars of the guidance are country or situation specific. Alternatively stakeholders may find it more relevant to use the less formal approaches to gathering and assessing evidence outlined in section 9 on learning from practice.

See the following illustrative case study for an example of evidence synthesis:

- No. 11 – Various countries: Synthesis of qualitative data on treatment of tuberculosis

See the following illustrative case study for an example of producing evidence based guidance:

- No. 12 – UK: National Institute for Health and Clinical Excellence

8 Effective implementation and evaluation

Primary audience:	Practitioners, policy makers
Secondary audience:	Researchers.

It has already been established in this report and by the work of the knowledge networks that effective solutions to addressing the social determinants of health and reducing health inequities need to cut across sectors to take account of the broader social, cultural, economic, political and physical environments which shape people's experience of health and well-being.

It is also recognized that whether governments are applying a health gap or health gradient approach to reduce health inequities, some of the biggest impacts will be seen by taking action at the macro level of policy. Often well intentioned policies fail because of an under-emphasis on redistributory macroeconomic policies and an over-emphasis on community based initiatives. Nonetheless, locally based solutions can make a significant contribution to the implementation of policies on SDH. If these contributions are to be realized, concrete action plans are required which support individuals, workplaces, structures and systems to develop and change in ways that make a social determinant approach to health a normal everyday occurrence.

A lack of attention to follow-through in well intentioned policies and programmes with sophisticated action plans for implementation often leads to the expectations of governments, professionals and the general public being undermined (CIHR, 2006; Morgan & Ziglio, 2007). Successful action plans at a minimum must:

- Pay attention to the need for adequate performance monitoring and review (*health equity auditing and needs assessment*)
- Support effective integration between policy sectors at national and local level, to avoid contradictions between health inequities and other policy imperatives (Exworthy et al., 2002) (*health impact assessment*)
- Foster effective leadership and management to ensure there is organizational capacity to support local implementation (*organizational development and change management*)
- Identify the different sectors involved and plan for their involvement *(readiness for intersectoral action)*

- Provide for appropriate involvement of local communities in the decision-making processes that lead to action (Gillies, 1998) (*involvement of local communities)*
- Support effective evaluation to ensure that learning from practice happens, in particular learning about the barriers and solutions to effective implementation (*programme evaluation*).

These six points are dealt with in more detail below.

8.1 Health equity auditing, needs assessment and impact assessment [1]

Programmes designed to reduce inequalities often fail due to the time and resources available to carry them out and a lack of evidence about what works across different segments of the population. Increased policy commitment internationally to tackle health inequalities has led some governments to introduce mandatory systems for assessing need against all aspects of health inequalities.

8.1.1 Health equity auditing

In England for example, health equity auditing (HEA) was introduced to ensure that local community plans for health and development prioritize those with greatest need (UK Department of Health, 2002). HEA identifies how fairly services or other resources are distributed in relation to the health needs of different groups and areas, and what the priority actions are to provide services relative to need (UK Department of Health, 2003). Unlike some needs assessments, health equity auditing is not complete until something changes to reduce health inequalities, for example resource allocation, commissioning, service provision or health outcomes.

Health equity audit provides a framework for systematic action. It highlights the need to think about inequalities in terms of age, gender, disability, and geography as well

[1] Based on extracts from: Morgan, A. 'Needs Assessment' in MacDowall, W., Bonnell, C. and Davies, MW. (2006). *Health Promotion Practice. Understanding Public Health*. London: Open University Press

as socioeconomic status. A health equity audit will consider the health needs of particular groups taking account of at least one of these dimensions against the provision of services and resources for good health.

The UK Department of Health (2003) identifies six main stages to be followed in the process of health equity auditing:

Stage 1 – Agree priorities and partners
Stage 2 – Do an equity profile, identify the gap
Stage 3 – Agree high impact local action to narrow the gap
Stage 4 – Agree priorities for action
Stage 5 – Secure changes in investment and service delivery
Stage 6 – Review progress and assess impact.

The overall process of health equity auditing is not dissimilar to the process of a 'gold standard' needs assessment. Some argue it is just a new fashionable way of describing needs assessment processes with a particular emphasis on health inequalities. Hamer et al. (2003) admit that health equity audit is not new and that National Health Service (NHS) organizations, local authorities and other agencies have been working for many years to identify and reduce inequalities in the health and wellbeing of different groups in their communities. She stresses that the difference now is that tackling health inequalities is integrated into mainstream planning and service delivery within the NHS and partner agencies (Hamer et al., 2003) and has become mandatory in England.

There are a number of ways in which a health equity audit can assess equity in service delivery across sectors. This can include a review of:

- Equal access for equal need: such as greater availability of free fruit in schools in the most deprived areas
- Equal use for equal need: such as greater use of smoking cessation services among low-income smokers
- Equal quality of care for all: such as culturally appropriate and relevant maternity services for black and minority ethnic communities
- Equal outcomes for equal need: such as greater reductions in coronary heart disease mortality among lower socioeconomic groups.

8.1.2 Health impact assessment

Health impact assessment (HIA) is also used as a tool for decision makers to address health inequalities in local populations. The purpose of HIA is to identify the potential health consequences of a proposal on a given population and to maximize the positive health benefits and minimize the potential adverse effects on health and inequalities (Taylor & Blair-Stevens, 2002).

Mindell et al. (2004) distinguish it from other tools used to aid decision making as:

- It focuses on complex interventions or policy and their diverse effects on determinants of health
- It requires evidence on the reversibility of adverse factors damaging to health
- It involves a diversity of evidence in terms of relevant disciplines, study designs, quality criteria and sources of information
- It involves a broad range of stakeholders
- It is often required within short timescales and limited resources
- It involves a degree of pragmatism to assemble information to inform decision makers regardless of the quality of the evidence.

One of the first international position statements on health impact assessment states that the purpose of HIA is to measure the potential impacts of policy decisions in one sector on another sector. The paper argues that social, economic and other policies in both the public and private sectors are so closely interrelated that proposed decisions in one sector may impact on the objectives of other sectors. HIA provides a useful means therefore of improving knowledge about the potential impact of a policy or programme, which can inform decision-makers and those who might be affected. It can facilitate adjustment of the proposed policy in order to mitigate the negative and maximize the positive impacts (WHO,1999).

In this approach, in addition to promoting the maximum health of the population, four values are particularly important for HIA:

- *Democracy*: emphasizing the right of people to participate in a transparent process for the formulation, implementation and evaluation of policies that affect their life, both directly and through elected political

decision makers

- *Equity*: emphasizing that HIA is not only interested in the aggregate impact of the assessed policy on the health of a population but also on the distribution of the impact within the population, in terms of gender, age, ethnic background and socioeconomic status
- *Sustainable development*: emphasizing that both short-term and long-term as well as more and less direct impacts are taken into consideration
- *Ethical use of evidence*: emphasizing that the use of quantitative and qualitative evidence has to be rigorous, and based on different scientific disciplines and methodologies to get as comprehensive assessment as possible.

HIA has been in existence much longer than the concept of health equity auditing in its formal sense and is gaining increasing importance on the international stage as a key tool for health promotion decision making.

Quigley et al. (2005) compare the similarities and differences of health equity auditing and health impact assessment along with other techniques such as integrated impact assessment and race equality impact assessment. In doing so, he attempts to highlight their unique contribution to assessing health needs, informing decisions and assessing impact. The commonality between these approaches is that they are all used as planning tools to promote decision making to ensure effective public health services, in both the health and non health sectors, and that they all work best when they involve a wide variety of stakeholders, building new ways of working together and ensuring joined-up planning – at a project, programme, strategy or policy level (Quigley et al., 2005).

8.2 Organizational development and change management

Creating the supporting conditions that are required for effective implementation is a complex endeavour. We know that the solutions required for reductions in health inequities need to cut across sectors, involve a range of macro and micro

interventions, and involve a wide range of professionals working together to effect change in the short, medium and longer term.

Evidence based guidance provides us with the starting point for change but alone will not improve the practice of individual professionals, nor will it secure the necessary structural and systems change required to overcome some of the inevitable barriers to implementing effective programmes and initiatives.

Kelly et al. (2004) identify a number of steps to support individual professionals take effective action derived from evidence based guidance. These are:

- Translating knowledge from research about the most effective and implementable action
- Providing policy advice to support effective practice
- Increasing access to quality-assured information on what to do and how to do it
- Creating and sustaining networks for knowledge transfer
- Finding ways of supporting changes in practice at local, regional and national levels.

(Kelly et al., 2004)

Organizations also need to be supported to set the necessary conditions for effective implementation. Equipping managers with the skills they need to operate in the challenging social determinants agenda is essential if they are to balance multi-stakeholder interests, understand complex accountabilities and manage for social outcomes (Hunter & Killoran, 2004). There is much to be learned from the business sector to help to manage change in this complex environment (Ackerman, 1997; Weick & Quinn, 1999).

The New South Wales (NSW Health, 2001) capacity building framework provides a useful model of the complex system changes that are required to secure effective implementation. They propose five areas that need to be considered in order to ensure that evidence from research can be effectively translated into action and can be sustained. These are workforce development, organizational development, resource allocation, partnerships and leadership.

Some of the key questions that should be asked against the five areas are:

1. *Workforce development:* Who are the front line practitioners? Do such 'practitioners' think of themselves as such? What are the key irritations experienced by front line staff in getting the work done? Are there examples of good local practice where problems have been solved on the ground either because of or in spite of policies and initiatives? Are there local initiatives, which are the products of local development accessible to others, such as examples of local training sessions? Are front line staff/ providers able to identify negative but unintended consequences of recent policy initiatives and management strategies in the field?
2. *Organizational development:* How are current services provided? What is the organizational framework that defines the delivery of services? What are the typical structures and are they universal nationally or do they vary locally?
3. *Resource allocation:* Who organizes it? Who manages it? Who funds it? Is there any statutory framework that governs the activity or aspects of it?
4. *Partnerships:* Are there networks of practitioners that have been/ could be utilized? What are the links to other sectors and other professionals?
5. *Leadership:* Is local leadership important? Do local champions have a role?

The answers to these questions should provide an initial mapping of the territory where the barriers and conduits to change are readily identified. It is also effective in identifying the roles and responsibilities of the key actors required to take action on the social determinants of health.

8.3 Readiness for intersectoral action

Sustainable strategies for reducing health inequities can only be brought about if there is a recognition that policies need to be long term and that intersectoral action is required. There needs to be less of an expectation that outcomes can be generated in the short term. Without policies in place that outline the importance of a multi-faceted approach to tackling health inequities, little is likely to change.

Many of the solutions to addressing the social determinants lie outside the health sector. The ability of stakeholders to reduce health inequities therefore relies on building strong and durable partnerships with a range of other sectors and agencies. These include health care, social security, education, housing, security, labour market, environment, transport, agriculture, industry and energy.

Intersectoral collaboration will only be brought about if there is a political commitment to ensure that health is everybody's business. Even when integrated decision-making processes have been signed up to, health champions or policy entrepreneurs will still need to help other sectors understand why they should get involved in health and health inequities action (see also section 5 on Making the case). It is helpful to provide support to other sectors on actions they can take that will have a positive impact on health.

Policy champions can help to ensure long term sustainable action on the social determinants of health. Stakeholders nationally, regionally and locally should identify, nurture and support a critical mass of policy champions who can act as catalysts and provide linkages with the chain of actors responsible for the policy-making process and who can support the process of effective implementation (MEKN, 2006a).

There is also a need for the health sector to look at its own practices in employment, estates strategies, effects of cross border agreements, etc.

Stakeholders should find ways of:

- Ensuring that the health care system sets a good example as an employer and purchaser of services and contributes to the development of local healthy communities and local economies
- Enabling the health sector to support other sectors to address health-related issues (e.g. integrated health impact assessment)
- Measuring the impact of health sector policies and initiatives on health and health inequities
- Ensuring that other sectors develop policies which are the most beneficial to health development, particularly for disadvantaged groups
- Measuring and evaluating intersectoral programmes, partnerships or experiences (WHO, 2005).

8.4 Effective ways of involving local communities [2]

It is well recognized and increasingly accepted that successful implementation is more likely through the use of participatory processes in health development. Although there is a dearth of rigorous evaluations of social interventions aimed at reducing health inequalities, reviews have identified certain characteristics of successful approaches (Gillies, 1997; NHS Centre for Reviews and Dissemination, 1999):

- Local assessment of needs, especially involving local people in the research process itself
- Representation of local people within planning and management arrangements – the greater the level of involvement, the larger the impact
- Design of specific initiatives with target groups to ensure that they are acceptable (i.e. culturally and educationally appropriate), and that they work through settings that are accessible and appropriate
- Training and support for volunteers, peer educators and local networks, thus ensuring maximum benefit from community-based initiatives
- Visibility of political support and commitment
- Re-orientation of resource allocation to enable systematic investment in community-based programmes
- Policy development and implementation that brings about wider changes in organizational priorities and policies, driven by community-based approaches
- Increased flexibility of organizations, so supporting increased delegation and a more responsive approach.

Most people working with local populations realize that good community capacity is a necessary condition for the development, implementation and maintenance of effective interventions and this is reflected in an increasing number of strategy documents setting out a social determinants approach to reducing health inequities. However, Jordan et al. (1998) argue that whilst the nature and extent of public involvement in determining health needs has increased, the quality of consultation remains questionable. One reason for this is that policy makers under heavy pressure to achieve very specific national policy targets may feel that the involvement of the

[2] Based on extracts from: Morgan, A. 'Needs Assessment' in MacDowall, W., Bonnell, C. and Davies, MW. (2006). *Health Promotion Practice. Understanding Public Health*. London: Open University Press

community is time consuming and that they can suffer a loss of control. This can lead to community involvement activities becoming tokenistic and separated from the main decision-making processes of professionals.

Another problem associated with poor community involvement is that professionals tend to define communities by their needs. These needs are often translated into deficiency-orientated policies and programmes which rightly identify the problems and try to address them. A possible downside to this approach is highlighted by Kretzmann and McKnight (1993), who claim from their work with communities that many low-income urban neighbourhoods have become environments of service where behaviours are affected because residents come to believe that their well-being depends upon being a client. They therefore suggest that rather than focus on deficits an alternative approach would be to develop policies and activities based on the assets, capabilities and skills of people and their neighbourhoods.

Stakeholders should promote effective community involvement by:

- Analysing the resources available for community involvement
- Learning the best methods of engagement in different contexts
- Working out how best to get tacit knowledge into the evidence base for reducing health inequities
- Building capacity with local communities to take effective action
- Releasing the capacity of local communities by involving them in all stages of the process of development, implementation and evaluation of interventions.

8.5 Evaluation

Section 6 has already described the importance of a range of evaluative approaches to generate the evidence required to develop equity focused policy, and to provide answers to broad questions of effectiveness. The latter is supportive of producing evidence base guidance to improve practice. Wimbush and Watson (2000) distinguish this evaluation as that done by ‘professional evaluators’ who tend to engage with evaluation as a knowledge building exercise to improve understanding of the relationship between an intervention and its effects. Implementation-level evaluations tend to be carried out by local practitioners (sometimes supported by

professional evaluators) to gain a more in-depth understanding of how to strengthen programmes and a deeper understanding of how things work.

The distinction is made here to illustrate the different types of evaluation required at different points in the cycle of policy development, implementation, monitoring and evaluation. However these evaluation efforts are not mutually exclusive. There is a need for better integration and understanding of the relationship the two and better collaboration to ensure that efforts are not duplicated. This is particularly important as practitioners may sometimes feel they are being asked to evaluate everything, when this is not always required.

Better coordination of evaluation efforts at the national and local level, and between professional researchers and local practitioners, can go some way to ensuring the often limited resources available for evaluation are maximized. Policy makers have a key responsibility to provide sustained investment in a wide range of evaluation efforts and to provide theoretical frameworks for evaluation which make explicit what types of evaluation need to be carried out by whom and for what purpose.

It has been argued that evaluating complex social interventions is hard because of their size and their need to address multiple problems, often with shifting political environments (Coote et al., 2004). Given the importance of evaluation in the implementation of programmes, Hill (2004) offers pointers that should be considered for improving the quality of evaluations of community initiatives and gaining credibility with researchers and policy makers:

1. Their *utility* is made explicit (e.g. Who is asking the question and for what purpose? Have the views of the community have been taken into account)
2. Their overall *feasibility* (e.g. Are the resources available commensurate with the expectations of all stakeholders? Has the methodology taken context into account?)
3. An explicit *propriety* (Has the evaluation strategy got a similar value base to the programme being evaluated?)
4. The *methodology* promotes quality and transparency of process (Where and by whom should the quality criteria for non experimental methods be debated?)
5. The expectations of *evaluation commissioners* is realistic (e.g. bridging the gap between impossible questions and complex interventions)

6. *Dissemination and utilization of results* (increasing more published research in this area).

There are hundreds of text books which provide detailed instructions on the basic principles of evaluation and the range of evaluative approaches which are useful in the field of SDH. Two well established approaches to evaluation are worthy of mention here, to illustrate the possibilities of producing quality knowledge about local programmes of action which can improve the evidence base.

The first is realistic evaluation (already described in section 2) developed by Pawson and Tilley (1997) and described by them as

> trying to break down the lazy linguist habit of basing evaluation on the question of whether 'programmes' work. In fact it is not programmes that work but the *resources* they offer to enable their subjects to make them work. This process of how subjects interpret the intervention strategy is known as the programme '*mechanism'* and it is the pivot around which realistic evaluation revolves.

The second, 'Program Evaluation' (PE) developed by CDC, is a systematic set of practices to improve and account for public health actions and to forecast a range of 'plausible futures' stemming from policies (Kawachi, 2005). The foundation of PE consists of a well described sequence of steps:

- Engaging stakeholders
- Describing the programme, including the use of logic models
- Focusing the evaluation design
- Gathering credible evidence
- Justifying the conclusions
- Ensuring the use and sharing of lessons learned.

Further details of the Program Evaluation framework can be found at http://ctb.lsi.ukans.edu/ctb/c30/progEval.html.

These two examples are particularly important for supporting evaluation of local programmes as they follow a number of the principles set out in section 1. In particular they encourage the use of a wide range of methods, they take account of context by trying to understand the systems and structures within which programmes are being implemented, and importantly they embed the values of 'commitment to equity' in their approach.

See the following illustrative case study for an example of effective implementation:

- No. 4 – Brazil: Infant mortality in Ceará state

See the following illustrative case studies for examples of health impact assessments:

- No. 5 – Thailand: Use of locally-defined health determinants to push for change, Mun River dam
- No. 9 – Slovenia: HIA of national agricultural policy

See the following illustrative case study for an example of intersectoral action:

- No. 14 – Sweden: Intersectoral action

See the following illustrative case studies for examples of evaluation:

- No. 2 – Brazil, Peru, United Republic of Tanzania: Integrated Management of Childhood Illness programme
- No. 3 – Bolivia: Evaluation of Social Investment Fund
- No. 10 – Uganda: Community-based monitoring
- No. 13 – Mexico: *Oportunidades* programme

9 Learning from practice

Primary audience:	Practitioners, policy makers
Secondary audience:	Researchers.

Mainstream evidence based practice does not currently make best use of 'non scientific' knowledge that does not find its way into the published literature. Often the richest sources of data on how things work in the real world can be found by tapping into the tacit knowledge of those working most closely with the targeted communities, and the tacit knowledge of the communities themselves. Indeed, if it were made more widely available, some of the tacit knowledge found in community based programmes in low and middle income countries could be helpful for those countries where social determinants are already on the policy agenda. It could help them understand the essential ingredients for the successful implementation of their policies.

By definition tacit knowledge is knowledge which is held in people's minds and is difficult to access. There are many ways in which tacit knowledge can be used to inform policy development and to ensure that evidence based guidance is rooted in real life circumstances. For example, communicating local experiences of successful programmes and initiatives through the media can provide a powerful impetus for policy action in areas where policy does not exist. Also, as was described in section 7, involving stakeholders in developing and testing evidence based guidance helps to elicit knowledge about the transferability and generalizability of recommendations and helps improve the take up of guidance once produced.

The learning from practice phase in this framework is an explicit attempt to document some of the tacit knowledge about how best to intervene to address the social determinants of health. Otherwise when people eventually leave the systems set up to sustain action on the social determinants of health, their knowledge is lost and the evidence base remains poor. This section outlines some of the methods currently available to ensure that this tacit knowledge is more systematically collected, mainly through case study development. This will improve our ability to learn from examples of the success of best practice in different country contexts.

It is important to note, however, that it will never be possible or desirable to systematize all knowledge. The approach set out here focuses on ways of mainstreaming tacit knowledge so that it becomes part of the evidence base and hence improves our understanding not only of what works but also of how it works in different circumstances.

This phase of the development of the evidence base is necessary to fill some of the gaps in the published evidence base and to help better inform future research, particularly in relation to ensuring the success of policies. In addition insights can be gained into the sorts of things that do not work and where well intentioned policies have actually done harm.

It is rather ironic that this section, about the need not to lose tacit knowledge about effective local interventions, is not illustrated by any case studies. The authors were unable to find relevant examples relating to SDH in the published literature.

9.1 Why do we need to collect knowledge from practice?

Without policies in place that outline the importance of a multi-faceted approach to tackling health inequities, little is likely to change. However, policies that do not invest substantial time and effort to understand what is required to work in practice might at best have no effect on inequities or at worst contribute to increasing the gradients in health experience that already exist (Kelly et al., 2004; Speller et al., 2005).

Evidence generated through well-resourced experiments can only provide a guide or signpost towards the kinds of things that might be successful in real life. It is crucial therefore to add information that comes from practice, both to understand the barriers to effective implementation and to create innovative ways of overcoming them (Glasgow et al., 2003).

However, many practitioners do not follow systematic planning processes when designing and delivering interventions. This is often because they lack the necessary training and because there is no recognized system or standard for accumulating knowledge from practice that matches the principles of organizations such as the Cochrane and Campbell collaborations which are responsible for collecting, collating and synthesizing knowledge from published research. As Hill (2004) argues in her

review of community level interventions ‘there was a failure of many evaluation reports to include sufficient information for the reader to make an informed judgement about the intervention being evaluated or how it might be replicated’. While this finding calls for improved processes and methods of formal evaluation (see the previous section), much can be gleaned from the tacit knowledge of practitioners about how things work by supporting them to document the processes that lead to effective delivery of social interventions.

Given that most of the examples of what appear to be effective local interventions are never written up or published in academic journals, the tacit knowledge of practitioners needs to be captured and shared in a systematic way so that it can be combined with scientific research to improve the chances of policy goals being delivered effectively.

A key goal of learning from practice systems is to provide policy makers, planners and practitioners with guidance that is as robust as possible. Given the incomplete and often patchy state of the formal evidence base that can be derived from reviews of published accounts of interventions, such systems can help to fill in some of the gaps in our knowledge. Until such time as quality research and evaluation projects have derived unambiguous results to inform decision-making, these systems can provide complementary streams of intelligence gathering in a systematic way. This practical experience and knowledge can inform how resources should be used.

Learning from practice systems can be used to:

- Improve practice locally, regionally and nationally by sharing experience of innovations that have been seen to have impact but have not been written up in a formal way
- Build a network of practitioners who are working in similar areas who can learn from others’ experience, either by finding similar practitioners who are working with similar populations and contexts and/or by using the principles of effective practice and adapting it to specific contexts
- Encourage better quality reporting and serve to train local practitioners about the principles of research methodology
- Improve the scientific evidence base in the longer term by feeding into the future design and evaluation of larger scale studies.

- Support the ‘making the case’ phase of the cycle by ‘story telling’ about local successes and the potential impact of community based projects.

There is no consensus on the models or tools that can be used to provide a logical and relevant framework for quality assurance in health promotion. However there are some examples of international projects (Gillies, 1998; Aro et al., 2005; WHO, 2004) which provide ideas as to how the systematic collection and collation of evidence from practice can be achieved.

Collecting evidence from practice can play a significant role in the production of guidance on the best ways of addressing the social determinants of health in three ways. First, it can be used to supplement the evidence base derived from the scientific literature and to produce guidance on best practice. Second, it can be used with different stakeholders to inform implementation processes. Third, it can be used to inform revised guidance and support better informed primary research.

9.2 What do we know about the features of an effective system for learning from practice?

A number of attempts have been made to establish comprehensive and effective practice collections of health promotion and public health interventions. However these attempts have often failed due to the lack of clarity about the boundaries of what is collected, insufficient resources required to sustain them over long periods of time, and no attempts made to synthesize general conclusions about the evidence held within the practice collections (Marks, 2002).

This experience has provided useful learning about the essential features of a learning from practice system:

- The effort needed to maintain the accuracy of the data in the collections should not be underestimated. Piloting of systems is therefore essential to ensure that the resources available match the requirements of the system in terms of its ongoing maintenance

- Collections of effective practice will not of themselves change practice, unless commitment is given to the ongoing training of local practitioners and to the building of the infrastructures required to support them
- Effort is required to market the system to ensure that effective networks of practitioners can be built
- The requirements for synthesis should be well articulated up front to ensure that appropriate information is collected from projects
- Collecting data from projects should not just be seen as a paper exercise and should be complemented by workshops, conferences and other means of face to face exchange
- Longer terms goals should be to encourage the writing up of individual or groups of projects to share information in peer reviewed journal articles or through web communications
- The general principles of research methodologies should be used to ensure the credibility of the projects as they are written up
- Systems should aim to evolve so that they can improve the standards for collecting evidence of effective practice
- Creating change in practice in complex areas is most successful when it involves creating ownership of the problem and active involvement in finding solutions
- The collection of examples of effective practice should not be seen as an end in itself and should be linked to other ways of improving and promoting best practice. The goal is for this best practice to be mainstreamed eventually
- More effective 'learning from practice' systems tend to be those which are broad enough to give good coverage of key variables but are small enough to allow for rapid collation and synthesis. Limiting the number of examples and having a time-limited life span are more likely to succeed than trying to be more comprehensive and ongoing (French, 2003).

9.3 What sorts of information should be collected?

Criteria can be developed to select and generate knowledge from known successful projects to ensure that this knowledge can be utilized by others and be synthesized to produce transparent and explicit evidence about how that success was achieved.

The following criteria for gathering information have been derived from what is known already about the characteristics of effective interventions aiming to address the social determinants of health (French, 2003). These criteria can be used to select projects for a learning from practice database. They can also be used to revisit projects that are known to be successful but require support in order to understand what made them a success:

1. Whether a prior local assessment of need was carried out using such techniques as health equity auditing and therefore whether examples from practice can be defined in terms of the dimension of inequality being addressed (e.g. age, gender, socioeconomic group etc)
2. Details of the methods used to ensure effective engagement of local communities in needs assessment, target setting, delivery and evaluation
3. Where multifaceted interventions were carried out, details of how these interventions worked together to produce the desired outcome
4. How practitioners were trained and supported to deliver the intervention
5. How ownership of the goals of the projects was built up between the deliverers and the community receiving support
6. What political and managerial commitment existed that contributed to the success of the project
7. Whether there is a clear theoretical perspective that is congruent with the form and focus of the intervention
8. How success was measured and through what forms of evaluation (this could include story telling).

A learning from practice system completes the cycle by improving the reporting of local experience so that it feeds back into the evidence generation phase. This allows us to continually improve the quality, breadth and depth of the evidence base on how best to act to address the social determinants of health.

Having considered the four parts of the tools and techniques framework we now turn to monitoring, which underpins the whole framework.

10 Monitoring

Primary audience: Practitioners *Secondary audience:* Policy makers, researchers.

Monitoring of health inequities is important for a number of reasons:

- Data can be used to attract policymakers' attention, for example by benchmarking exercises comparing one country or area to another
- Data can be used to identify entry-points for policy. For example, inequalities in cause-specific mortality may provide insights into the main diseases contributing to health inequities
- Data can be used to assess the impact of policies.

(Kunst et al., 2001)

Countries around the world are in different stages of development of health monitoring systems. Some countries have very little routinely collected health data. Other countries have routine health information systems but these do not monitor health inequities. Still other countries measure health inequities regularly but lack data on the determinants of health inequities.

10.1 Use of data to monitor health inequities

In many countries three types of data form the core of a monitoring system for health inequities:

- Nationally representative, individual-level data on mortality according to socioeconomic indicators and other social stratifiers
- Nationally representative data from health interviews or multi-purpose surveys
- Nationally representative data from routine health records.

Additional data sources may be available for monitoring inequalities in specific health problems.

When nationally representative data are not available, regional or local studies may be used as long as the restriction to specific regions or areas is explicitly recognized, and extrapolation to the country as a whole is done only if representativeness has been confirmed. Another alternative is to use 'ecological' studies in which mortality or morbidity indicators are linked to socioeconomic indicators at the level of small areas, as long as the potential for bias is recognized.

The classic core indicators for measuring socioeconomic status are education, occupation and income (including income defined as expenditure/ consumption or wealth/ assets). At least two of these three core indicators should be used if data sources permit. As outlined below, in low and middle income countries (LMIC) it is likely that appropriate data will not be available about occupation and hence the remaining two indicators must be relied on. It is also important to consider the appropriateness of a particular indicator for the population concerned.

The first step in making sense of the data is to create insightful tabulations. Health measures should be standardized for age in such a way that comparisons can be made not only between socioeconomic groups, but also between periods and countries (if applicable). It is important not only to look at rates of health problems but also at the distribution of the population over socioeconomic groups, as the size of the relatively disadvantaged groups will determine the impact of health inequities.

The data should be evaluated and interpreted with caution to avoid creating biased estimates of the magnitude of health inequities. There are three general approaches:

- Carrying out in-depth descriptions of health inequities
- Comparing inequalities in health outcomes to inequalities in health determinants
- Relating inequities in health to contextual factors.

10.1.1 Measuring the magnitude of health inequities

When the purpose of the analysis is to determine whether the magnitude of health inequities has changed over time, or differs between countries, the tabulated data needs to be summarized in one or more indices. It is important however to always check the summary indices against the patterns that are visible in the basic tabulations.

Table 1 outlines the most commonly used summary indices of the magnitude of health inequities. The choice of whether to use absolute or relative measures can affect the assessment of whether a health inequity exists and its magnitude. Sometimes a disparity on the relative scale (i.e. the rate ratio of a health outcome between a low and a high socioeconomic status group) may not appear to be a disparity on the absolute scale (i.e. the rate difference between the two groups). It is critical that researchers and policy-makers are clear about which type of measure they are using. The choice of measure is also relevant for the discussion about the distinction between health gaps and health gradients (see section 3).

Table 1. Overview of summary indices of the magnitude of health inequities

		Summary index (with example of an interpretation)	
		On the absolute occurrence of health problems	On the relative occurrence of health problems
Indices that compare two contrasting groups	Compare extreme groups	**Rate Difference** e.g. the absolute difference in mortality between professionals and unskilled manual workers	**Rate Ratio** idem, but the *proportional* mortality difference
	Compare broad groups	**Rate Difference** e.g. the absolute difference in mortality between non-manual and manual classes	**Rate Ratio** idem, but the *proportional* mortality difference
Regression-based indices that take into account all groups separately	Based on absolute SES	**Absolute effect index** e.g. the absolute increase in health associated with an income increase of 100 US dollars	**Relative effect index** idem, but the *proportional* increase in health
	Based on relative SES	**Slope Index of Inequity (SII)** e.g. the health difference between the top and bottom of the income hierarchy	**Relative Index of Inequity (RII)** idem, but the *proportional* health difference
Total impact indices that explicitly take into account population distributions	The PAR perspective (equality by levelling up)	**Population Attributable Risk (PAR)** e.g. the total number of cases that would be avoided if everyone had tertiary education	**PAR (%)** idem, but as a *proportion* of all cases (of death, disease, etc) in the total population
	The ID perspective (equality by redistribution)	**Index of Dissimilarity (ID)** e.g. the total number of cases to be redistributed between groups in order to obtain the same average rate for all groups	**ID (%)** idem, but as a *proportion* of all cases (of death, disease, etc) in the total population

Source: Kunst et al., 2001.

We recommend, where possible, using both relative and absolute measures of health inequities (i.e. both rate ratios and rate differences comparing two contrasting

groups) to ensure that inequities are identified. Other more sophisticated measures can also be used to gain more insight into the patterns of health inequities, e.g. Gini coefficient or concentration index (Alleyne et al., 2002; Schneider et al., 2002; 2005).

10.2 Sources of health data

The basic instruments of any health monitoring system are vital statistics, censuses, population-based surveys and health records. These are found in all countries although they differ greatly in their coverage, quality and frequency.

10.2.1 Vital statistics

Vital registries are core instruments of a health monitoring system, providing continuous information on births and deaths by age and sex, and cause of death. *Birth registrie*s provide diverse health indicators such as birth weight, delivery assistance, teenage fertility, and health relevant indicators like mother's education level. They also give statistics on live births, which are used to calculate infant mortality rates. *Death registries* give useful information on gender, age, education, occupation and residence. In the case of infants under one year old, information on the mother and father is collected in most countries. *Cause of death registries* enable monitoring of age-specific and age-standardized death rates for total and cause-specific mortality, allowing calculation of specific rates according to social stratifiers such as social class, gender, ethnicity or place of residence.

10.2.2 Censuses

Population and housing censuses are a rich source of data, providing useful information on most stratifiers (age, gender, education, occupation, ethnicity, residence) although by and large they do not gather information on health or income.

Since censuses provide information on fertility, mortality and migration, they are the basis for (a) *population projections*, vital for mortality rates calculations as they provide the rates' denominator, and (b) *life tables,* which allow life expectancy to be calculated and therefore represent a key component of monitoring systems.

Although they are not the preferred way of monitoring mortality, in many low and middle income countries with vital registries coverage below 90%, censuses are an essential instrument in measuring mortality, especially infant and child mortality (Vapattanawong et al., 2007), and even maternal mortality in some countries (Stanton et al., 2001).

10.2.3 Population-based surveys

Population-based surveys including health interview surveys, epidemiological studies, longitudinal studies and small area studies can provide information for monitoring health outcomes and health equity.

In many low and middle income countries such surveys are conducted at regular intervals to examine trends in health, and like censuses, they are a useful source when vital registries lack appropriate coverage. There is a wide range of such surveys and the best known are: the *Demographic and Health Surveys* (from ORC Macro), the *Multiple Indicator Cluster Survey* (Unicef), the *World Health Surveys* (WHO), the *Demographic Surveillance Systems* (INDEPTH) and the *Core Welfare Indicators Questionnaire* (World Bank). These surveys provide information on recent illness episodes in relation to access to care, maternal and child health practices, health knowledge, sexual behaviour, anthropometric measures, and biological testing for HIV, anaemia and malaria. In many countries they also represent the main source of data on mortality; some of them even provide information on causes of death through verbal autopsies (Soleman et al., 2006, 2005; Setel et al., 2005; Korenromp, 2003).

In addition, in most countries there are routine multi-purpose household surveys which contain health modules. These include *Living Measurement Standards Surveys*, *Integrated Household Surveys*, and household income and expenditure and consumption surveys.

Multi-purpose household surveys are increasingly being used to monitor health inequities since the data from their health module (e.g. self-reported health status, out of pocket health expenditure, access and utilization of health services) may be analysed according to diverse equity stratifiers. The added value of such surveys is that they provide data on individuals and populations outside the institutional

registries, e.g. the population outside the labour force, children who have never enrolled in school or those who have abandoned the formal educational system, people who do not access health services, etc.

10.2.4 Health records

There is a range of routine data such as disease surveillance (e.g. notifiable conditions), health care utilization registries, health services statistics and administrative records, which provide information for monitoring health status (e.g. nutritional status) and health outcomes (e.g. morbidity and mortality) by social determinants. However, these records only provide information on individuals who seek health care. Furthermore, in some LMIC these records are often poor and incomplete.

10.3 Issues in interpreting key equity stratifiers

Equity stratifiers describe group differentiations in societies. The main groups of equity stratifiers are:

- Socioeconomic stratifiers: education, occupation, income (consumption/ expenditure, wealth/ assets)
- Gender
- Ethnic groups: ethnic, racial, tribal, caste, religious and national origin groups
- Place of residence: urban vs. rural, northern vs. southern regions.

Many high income countries have regular health interviews or multi-purpose surveys to collect population-wide data on health and the above stratifiers, particularly socioeconomic indicators. However, measurement and classification of these main social and economic indicators is far from straightforward, whether in high income countries or in LMIC.

10.3.1 Education

Where possible, a distinction should be made between elementary, lower secondary, upper secondary and tertiary education (based on Unesco's International Standard

Classification of Educations, 1997). When no information on *educational levels* is available, a substitute measure is the number of *years of school attended*. Additionally in many low and middle income countries, a category of 'no education' needs to be included. It is also highly recommended to distinguish between complete and incomplete educational levels, given their differential impact on health outcomes and health equity. Moreover in LMIC illiteracy is also a necessary indicator, and it is recommended to gather data on illiteracy in age specific and/or gender specific terms.

Education seems the most straightforward of the socioeconomic variables. However, it is highly interactive with other variables like income, occupation, gender, age and place of residence. A higher *income* family will assure its children a higher level of education, which in turn will affect the child's income once he/she becomes an adult. *Gender* affects the educational level attained in the first place and it is also interactive with income since at the same educational level women and men do not usually receive the same income. On the other hand, *age* should be considered as a confounding factor: younger populations are expected to have more education than older ones since the highest level of education is constantly increasing. This reveals the dynamic social nature of education: while its absolute value increases, its relative value decreases and new generations require greater education for similar occupations.

10.3.2 Occupation

There are several ways to classify people by occupation. The main approach in many European countries is the 'class structural' approach. Distinctions are made between people who have structurally different positions in the labour market and who, as a result, differ in terms of income, privileges, life styles and characteristics like voting behaviour. The resulting groups of people are usually referred to as 'occupational classes' or 'social classes'.

However in many low and middle income countries 'occupation', as collected in vital statistics or censuses, is not an adequate stratifier. Firstly, the question is not usually asked consistently and hence the data are unreliable. Secondly, in LMIC occupation is highly dependent on working conditions: the same occupation might have quite different income levels and health effects depending on whether the person works in the formal or in the informal sector. Thirdly, there are significant levels of under- and

non-paid employment (e.g. unpaid family workers).. Finally, there are high levels of economic inactivity, particularly in the female population.

'Occupational classes' is not a useful alternative concept since there are no studies where these have been classified taking into account position and income variables.

10.3.3 Income

The *income level* of a person can be used in two ways: to indicate the socioeconomic status of the income recipient, with higher personal income indicating a better labour market position, or to indicate access to scarce material resources, where measurement of household equivalent income is more appropriate.

Income level may be measured in different ways: *income per se*, *consumption*/ *expenditure*, or *wealth/ assets*. All these concepts may be expressed in terms of quintiles or deciles, which classify the population by aggregating households into groups of equal number according to the household equivalent per capita autonomous income, per capita expenditure, per capita consumption or per capita wealth/ assets.

This information is also aggregated around the poverty/ indigence line which may be defined in absolute or relative terms. In most low and middle income countries poverty is measured in absolute terms, that is, in relation to the level necessary to cover feeding and non-feeding needs. On the other hand, a frequently used relative poverty line in high income countries is 50 percent of the nation's median income.

Although household income is used as an indicator more than household expenditure, simply because it is easier to measure and household surveys on income are more frequent than ones on household expenditure, Dachs argues that total household expenditure per capita is considered to be 'less biased, less prone to seasonal variations, particularly in rural areas, and is considered a better indicator of household economic status overall' (Dachs, 2002: 337).

The Wealth Index (Rutstein & Johnson, 2004), introduced by the Demographic and Health Surveys, provides an important alternative to standard measures (such as income, education and occupation) for measuring social inequalities in health in LMIC. The index is calculated using easy-to-collect data on a household's ownership

of selected assets, ranging from a fan to televisions, bicycles or a car, materials used for housing construction such as flooring material, types of drinking water source and sanitation facilities, and other context specific characteristics related to wealth status.

It is important to recognize that the most appropriate measures of socioeconomic position are context specific. No single measure can be applied universally in the study of social inequalities in health, especially in countries with large disparities in wealth and economic opportunity. Policy-makers and researchers interested in developing monitoring systems to examine social inequalities in health need to think carefully about the most appropriate measures of socioeconomic position in their country or region.

10.3.4 Gender

Gender as an equity stratifier presupposes the need for distinguishing between sexes when collecting and processing data. However, since gender is a relational concept, to analyse by gender means more than distinguishing the data between men and women or boys and girls. It means to use indicators than allow comparisons between both genders.

One such instrument is the Gender Parity Index (GPI), developed by UNESCO, which gives the 'ratio of female-to-male value of a given indicator. A GPI of 1 indicates parity between sexes; a GPI that varies between 0 and 1 means a disparity in favour of boys; a GPI greater than 1 indicates a disparity in favour of girls' (UNESCO, 2006). In education, for instance, one could asses literacy in terms of the number of literate women per thousand literate men.

10.3.5 Ethnicity/ race/ caste/ tribe/ religion

Ethnic groups, race, caste, tribe and religion are also stratifiers that reveal inequities in health, particularly in low and middle income countries (Anderson et al., 2006; Montenegro & Stephens, 2006; Ohenjo et al., 2006; Stephens et al., 2006).

At first sight, ethnicity might seem a simple issue to identify. Nonetheless there are problems of under representation and differences within and between the groups that need to be properly addressed in the data sources.

There are two main approaches to identifying ethnicity: *self-identification* and *language*. In some cases, self-identification has problems of under representation, especially among young people (ECLAC, 2006). It is also potentially unstable in repeated surveys.

When language is used as an indicator, as well as identifying the native language it is also important to assess whether people are *monolingual* or *bilingual*, since this is a key issue in determining access to and utilization of health services.

Another relevant aspect is to distinguish between dominant (primary and secondary) and not dominant groups, e.g. tribes (Moyo 2004; Wirth et al., 2006).

10.3.6 Place of residence

As well as the classic rural/ urban distinction, place of residence also implies administrative units (villages, municipalities, provinces, regions or states) and geoclimate areas. Disaggregation is needed not only in the interest of following up inequities as such, but also to allow decision-making at the local level.

Recently, geographic software programs have enhanced our ability to carry out *spatial analysis.* This allows research on the influences of climatic parameters (rainfall, aridity, farming systems, length of growing season, the stability of malaria transmission) and geographic parameters (population density, urban proximity, coastal proximity, distance to roads) to explain differences in health outcomes, e.g. in child mortality. The use of these diverse geographic variables has the potential to go beyond the traditional urban/ rural dichotomy towards analysis based on an ‘urban/ rural continuum’ (Balk et al. 2003).

10.4 Special issues in low and middle income countries

10.4.1 Measuring socioeconomic position and other social constructs

As outlined above, the most commonly used measures of socioeconomic position are individual income/ assets, education and occupation. At other times, social class measures (which focus on occupational categories) are used. Both of these measures are useful in understanding social inequalities in the distribution of health and disease, but in many settings these standard measures will not provide adequate sensitivity in quantifying degrees of wealth or poverty.

Alternative measures of socioeconomic position may be required in conducting research on health inequities in LMIC. One of the most commonly used approaches is to examine individual and household wealth based on ownership of material goods and access to key services.

10.4.2 Sources of data on social inequalities in health

In many parts of Europe and North America, routinely collected health data contain variables that can be used to monitor social inequalities in health. However the situation in many low and middle income countries is very different, as routine population-based health statistics are not always available. When these data are available they are often incomplete, with information regarding the most marginalized groups such as rural communities or urban slums – precisely those who are of greatest interest in understanding social inequalities in health – subject to the greatest missing data.

There are several options which may be used to help overcome the lack of routine population-based data. As mentioned previously, population-based surveys may be conducted at regular intervals to examine trends in health. The best-known are the Demographic and Health Surveys (DHS) which have been undertaken in more than 75 low and middle income countries around the world. DHS are designed to collect nationally-representative data and may not be ideal for examining local variations in health (such as within a single district or community). In these instances, health

facility statistics represent an important alternative data source that may be of use in collecting information about social inequalities. Health facility reporting data can be analysed both to examine the burden of disease in local populations served by particular facilities, and to compare geographic patterns in morbidity and mortality between communities. Care must be taken however as data may be confounded by SES and health-seeking behaviour.

10.4.3 Interpreting data on social inequalities in health

In low and middle income countries a wide range of measures of socioeconomic position may be employed by different studies within a single country. In such cases it is the responsibility of the policy maker or researcher to synthesize the data and interpret it appropriately (see section 7 of this report for guidance on evidence synthesis). Proxy measures of socioeconomic position may have been used because the ideal measures are not available. As a result, policy makers and researchers must be careful to avoid inferring causal associations when the data simply describe social inequalities in health. This is particularly important when interpreting associations between health status or health-related behaviours and gender or race/ ethnicity. While gender or race/ ethnicity can be useful proxies for socioeconomic position in describing social inequalities, it is generally incorrect to interpret gender or racial/ ethnic differences in health as being due to innate biological or genetic factors except in a handful of specific health conditions.

10.5 Improvements in monitoring systems

Low and middle income countries urgently need to collect information on the key equity stratifiers examined above, and in a consistent manner within the country so that data are comparable. This requires programmes oriented towards improving the production, dissemination and utilization in policy-making of vital and health statistics. The aim should be to support countries to improve (a) coverage (including representation of diverse groups and non registration); (b) quality (consistency, sampling and estimation methods, and statistical techniques); (c) timeliness; (d) frequency; (e) geographical disaggregation; (f) stratifiers collected; and (g) accessibility of micro databases.

Although many international agencies have developed data collection instruments as well as data bases on which most LMIC are highly dependent, there is a need for (a) better coordination among them; (b) greater standardization of definitions, indicators and sources, between countries and agencies as well as among the different agencies; and (c) increasing incorporation of social determinants of health and equity dimensions in these databases.

In middle and high income countries the need is for routine and consistent collection of key information relating to social determinants, health outcomes and health determinants. We propose the development of 'multilevel surveillance systems'. In such a system a number of steps can be distinguished:

(a) Identification of health determinants which should be included in the monitoring system (in addition to socioeconomic status indicators and health outcomes)
(b) Specification of the data which are necessary to measure these health determinants (e.g. operational definitions, data collection modes, classification by socioeconomic status)
(c) Identification of sources of population prevalence data (e.g. health or multipurpose surveys) and final selection of indicators
(d) Development of analytical approaches which help to link health determinants information to information on socioeconomic inequalities in health (e.g. ecological comparisons, mathematical and simulation modelling)
(e) Testing a pilot system for its usefulness to inform policy makers.

The Netherlands is developing such an approach, which is outlined in case study 16.

See the following illustrative case studies for examples of monitoring:

- No. 3 – Bolivia: Evaluation of Social Investment Fund
- No. 7 – Mexico: Reform of national health system
- No. 8 – Thailand: Introduction of universal health coverage
- No. 10 – Uganda: Community-based monitoring
- No. 13 – Mexico: *Oportunidades* programme
- No. 14 – Sweden: Intersectoral action
- No. 15 – Kenya: Grassroots monitoring
- No. 16 – Netherlands: Multi-level surveillance system

11 Further issues for consideration

Primary audience: Policy makers, researchers *Secondary audience:* Practitioners.

This chapter considers some of the issues and technical matters that remain at the end of the programme of work of the MEKN. While the MEKN carried out its work, some new issues emerged. In this chapter some of the questions and the future directions for research and investigation are highlighted.

11.1 Attribution of effects and outcomes

Much has been written in this report about the causes of health inequities and the manner in which the social determinants lead directly to health outcomes. There is another important sense in which cause or attribution is significant. It is linked to, but is conceptually separate from, the way in which the social determinants' causal pathways operate. This is the relation between the intervention, the action or the policy on the one hand, and the outcome on the other. It is linked to the causal pathways of the social determinants because an accurate understanding of the proximal and distal causes of health inequity will in due course demonstrate the links between the social and the biological.

The critical problem is that in much of the social determinants approach to policy and interventions, the causal chain is assumed to exist rather than being demonstrated. Whether it is the assumption that particular policies will have particular outcomes or that specific interventions will have demonstrable consequences, the link between the two is assumed to exist, to be self evident or to be a given. Such assumptions are dangerous because so much of the detail of the causal pathway is unaccounted for.

There are two important contributions which help to articulate these relationships, both of which originated in the attempt to understand better the process and methods of evaluating complex interventions, particularly community interventions. These are the work of Weiss (1995) and Pawson (2006). Weiss (1995) contributed the idea of theories of change and Pawson (2006) developed the idea of programme theory. At

the heart of both authors' arguments is the exhortation to be as explicit as possible about the way actions/ interventions/ activities/ engagement are thought to work. In both cases this is what they mean by theory. The theory helps to develop a logic model or causal pathway between the action and the outcome.

In order to demonstrate this argument we distinguish here between four different types of theory to help expose these underlying mechanisms: general theories, theories of change, micro theories or programme theories, and tacit knowledge theories.

11.1.1 General theories

First there are general theories about the nature of human behaviour and society which provide broad explanatory principles about humans and their relationship with society. Disciplines such as sociology, psychology, economics and philosophy all provide different and competing examples of this type of theory. Such theories are often highly formal; they may or may not be testable; but they provide broad epistemological, ontological and often methodological frameworks for organising knowledge, actions and learning, and for producing and understanding data and evidence. Well known examples of such theories are the maximisation of utility in economics, functionalism in sociology, and the transtheoretical model in psychology. They also include such diverse theories as psychoanalysis, Marxism, positivism, post modernism, Catholicism, Aristotelian ethics and so on.

11.1.2 Theories of change

Second, and often explicitly or implicitly derived from the first type of theory, are theories about how a particular action or activity works. These are often causal type ideas, assumptions or beliefs, in which one set of actions is linked to a set of outcomes. An example would be: 'If we introduce a local food cooperative scheme in a disadvantaged community, it will lead people to eat more healthily'. Another example would be: 'If we develop local credit unions for disadvantaged female workers in particular developing countries, they will enjoy a greater degree of self determination and this will lead to their greater empowerment which in turn will have beneficial health effects'. These types of theories are sometimes explicitly used in helping to frame the objectives of interventions (e.g. 'To improve dietary outcomes by introducing a food cooperative'). This type of theory is sometimes, although not

invariably, referred to in the literature on complex community interventions as “a theory of change” (Weiss, 1995). Weiss and others make the point that many interventions do not make clear to themselves or others what their theory of change is, and consequently evaluation of the intervention is difficult. Weiss therefore recommends making the objectives of an intervention crystal clear, being precise about the link between actions and outcomes, and making the theoretical link between them completely explicit. A theory of change is therefore a statement that describes a direct causal link between an action and an outcome and the reason why that link should exist.

However the last element – why there should be a link – is often either missed out or assumed to be self evident. The proponents of the food cooperative might be drawing on economic ideas of supply and demand by believing that if healthy food is cheap and easily accessible, people will consume it and benefit from that consumption. The problem is that neither do they make that theoretical link clear nor do they consider the complications in the link that they assume exists.

Proponents of the theory of change approach suggest that in complex community interventions, objectives should define what the action or intervention consisted of, what its intended measurable outcome was, and what the causal link between the two was. If articulated *a priori* such theories provide the basis for planning interventions and their evaluations. A key problem is often that because theories of change have not been made explicit at the outset of interventions it is difficult to tell retrospectively whether or not they have been successful, and if they have not, why not.

11.1.3 Micro theories or programme theories

To work properly for evaluation or planning purposes, the causal link must be explored. This is where the third type of theory comes in. For convenience these will be referred to as micro theories or programme theories. These are the atoms in the causal chains describing how the different elements in an intervention relate to one another. Theories of change define the causal link between action and outcome. Micro theories or programme theories unpick the link still further.

Pawson (2006) makes the point that all interventions, policies or actions are theories. He argues that as well as being collections of people, resources and equipment,

interventions are conjectures or hypotheses which state that ‘if we deliver a programme in this way, or we manage services in that way, then it will bring about an improved outcome’. In this sense it is similar to a theory of change. Such conjectures are grounded in assumptions (theories) about what happens and why, and perhaps suggested remedies to the social arrangements into which the intervention was originally placed. However in programme theory there is another step. This can be illustrated by the food cooperative example above.

In the case of the food cooperative and healthy eating in the community, the programme theory would begin with a series of statements. For example:

- The best setting for the cooperative is a traditional shop.
- The shop should resemble commercial retail outlets and not charity provision.
- Its range of goods should be displayed attractively.
- People will come to the store in preference to their normal way of buying groceries.
- The consumers will know what to buy.
- The consumers will know how to prepare the food that they buy.
- The people for whom the food is prepared will want to eat the new diet rather than their habitual one.
- There will be a sufficient change in the nutritional status as a consequence to produce beneficial health effects.

Each of these statements must be accompanied by the word ‘because’ in order to expose the programme theory. Taking the statement ‘People will come to the store in preference to their normal way of buying groceries’, there is a series of micro theories in answer to the ‘because’ question: ‘because they will prefer it’, ‘because they will recognize the potential benefits’, ’because they will find it attractive’, ‘because it is accessible’, etc.

In turn each of these statements will have counter reasons why the opposite may be true and the project may not work in the way intended. Thus ‘People will not come to the shop’… ‘because they prefer to buy food from the mobile shop which comes to the front door, is more accessible, offers credit, and sells contraband tobacco and illegal drugs’.

The aim of the micro theory is both to lay bare the elements in the process and to help identify the counter arguments in a systematic way. In the programme theory one of the critical steps is identifying the mechanisms which are intended to have effects. Mechanisms are the engines of explanation. So we seek to understand the mechanisms which supposedly work and ask how they work.

Mechanisms are not universal in their effects. They work under certain conditions or contexts. A key research and development objective is to describe these conditions in detail. There are a range of contexts – pre-existing, concurrent and future – which will affect the mechanisms. Contexts determine and constrain the choices and opportunities of the people who are the subject of the activity and of the people implementing it. Knowing how things work involves tracing the limits of when and where they work. Causal connections are established via three things: context, mechanisms, and outcomes – or, put more simply, what works for whom and under what circumstances? (Pawson 2006)

Programme theories outline the implicit theoretical ideas about the relationships between things which are usually tacit and taken for granted. Interventions carry many theories. The success of an intervention depends on the cumulative success of entire sequences of theories. This is the implementation chain. Most implementation chains are non linear. This is because along the chain, individual actors reason in various ways, which makes the change happen. Human volition is touched by the intervention and through interpretive processes the changes occur. Many actors will be involved in any one intervention chain, each bringing their own understandings and interpretations to the situation. Interventions are embedded in complex social systems. There are several layers of influence – individual capacities, interpersonal relationships, institutional settings and the wider infrastructural setting. Interventions will also change the context and in turn will be affected by the changing context (Pawson, 2006).

11.1.4 Tacit knowledge theories

The people involved in an intervention may or may not be fully aware of the theories which govern their actions and the expectations they have of the outcomes. This brings us to the final type of theory. These are the theories or ideas in the heads of those involved in commissioning, delivering and receiving interventions – sometimes called tacit knowledge. These usually come in the form of taken for granted

assumptions about the world, which all human beings have in their minds. This is the territory that social constructionists, phenomenologists, ethnomethodologists and grounded theorist practitioners have conventionally been most interested in. Clearly these link to micro and programme theories, not least because the micro links often involve trying to determine what is in the mind's eye of the actors and anticipating their actions. A phenomenological or grounded theory type of approach would provide an understanding of these things, and would be better than guessing, but would be largely meaningless without the theoretical architecture of the other three types of theory. However in practical terms these theoretical ideas are likely to be highly varied across all the actors involved.

11.1.5 Priorities for action

It is important to note that these four types of theory are not discrete and distinct. They merge and overlap and influence each other. An urgent research and development priority is to get much better at articulating and describing these theories as they apply to the social determinants. The whole enterprise of arresting the negative effects of the social determinants of health depends on being able to do so.

In summary it is important to specify three things with respect to any intervention, action or policy. First, be as specific as possible about its content in its application on the ground. Second, clarify what is to be done, to whom, in what social and economic context, and in what way. Third, articulate the underlying theories which make explicit the assumed causal links between actions and outcomes (Davidson et al., 2003; Pawson 2006; Weiss 1995). It is very important to be clear about the behaviours that need to be changed, any relevant contextual changes that need to be made, and the level at which the intervention will be delivered (individual, community or population) (NICE, 2007).

In other words it is important to specify the ways in which things are supposed to work. The logic model or causal pathway is invaluable and is an urgent requirement for future research and development to underpin the social determinants approach. As Pawson argues, once such pathways are specified and once such theories are drawn up, it becomes possible to develop a better understanding of the mechanisms which make interventions and policies successful or otherwise. It is all too easy to focus on the characteristics of the population or the characteristics of the intervention

in seeking to understand why it works or the degree to which it is more or less effective. However, the critical path through which an intervention is implemented is as much a part of the equation as the population and the intervention itself. The configuration of delivery mechanisms, the actions of the individuals who work in these organisations, and the ways both interact with each other and with the target populations are absolutely critical. The tacit knowledge of such actors influences the causal chain. An urgent research and evaluation priority is to articulate these causal chains in more and precise detail. It is all too easy to blame global capital or distant shadowy forces as responsible for the general state of inequity which, as we have said, remains stubbornly resistant to change. Yet the actions of health economies of different jurisdictions are in the hands of actors who can change them. For various institutional reasons, systems remain as much a part of the problem as they are potentially part of the solution.

11.2 The challenge of policy

In chapter 5 above we have outlined the problems attaching to the policy process and to some extent that chapter prefigures the arguments in the previous section here. Too often policy is detached from detailed understanding of its implementation and of the issues we have just argued are significant for understanding attribution. In addition to that there is another important question: to what degree is there something specific to health policy and consequently to the social determinants of health beyond the general issues described in chapter 5?

There are several points. First, health policy is often policy about provision of acute and chronic care, rather than about prevention and about health improvement. Second, health equity is affected by a great deal more than policies on the provision of acute and chronic medical care, although inequity within provision of services is important. The vexing issue is how to bring these other dimensions of health into the policy arena and particularly how to get the finance and economic ministries involved. It is usually difficult because, with some notable exceptions often grounded in very particular historical circumstances, finance and economic ministries have as their imperatives very different goals to that of a typical health ministry. They may be still more distant from concerns about disease prevention and health improvement, let alone the question of health equity.

Almost all policy initiatives across all levels of government will have health consequences. Health impact assessment allows some degree of assessing this. We strongly argue for the development and use of health impact and equity impact tools which specifically and explicitly use the stages of change approach and the realistic evaluation approach outlined elsewhere in this report. In other words, rather than simply estimating the likely effect of policy, logic models showing the implementation chain falling out of policy are urgently required as the basis for health impact and health equity assessments.

11.3 Hierarchies of evidence

One of the key questions which is left incomplete at the end of this project is how to use hierarchies of evidence. The idea of a single hierarchy of evidence is a powerful one. To recap, it is based on the straightforward premise that only the best evidence should be used to determine whether a clinical intervention is effective. At the top of the hierarchy sit meta analysis of randomized controlled trials, systematic reviews of the randomized controlled trials and randomized controlled trials themselves. Then in descending order come non randomized trials, case control studies, cohort studies, controlled before and after studies, interrupted time series studies and correlation studies. Non analytic studies, expert opinion and formal consensus are at the bottom. There is no place for qualitative or theoretical evidence in such a hierarchy. The principle is that the further up the hierarchy, the greater the chance of eliminating bias. The focus on bias relates to the internal validity of the evidence, meaning the degree of certainty about the evidence presented and conclusions drawn from it. The principle is a sound one where the question is one of clinical effectiveness. The development of this method as a way of determining the efficacy and the effectiveness of clinical interventions has been an important milestone in the foundation and development of evidence based medicine.

The issue at the heart of this report however is that in public health and in the social determinants of health the clinical trial is seldom either available or appropriate. As this report has shown, the range of evidence that needs to be considered is extensive and the questions that the research has sought to answer are much broader than just those of clinical effectiveness. We have argued that taking an evidence based approach does *not* mean relying on, or privileging, only one kind of method, such as the randomized trial, it does *not* mean that there is only one

hierarchy of evidence, and it does *not* mean an epistemological commitment to objectivity above subjective positions or methods.

We have argued for multiple methods, diverse epistemologies and a broad church of data. We have argued for methodological diversity. We have argued that no single approach to the generation of evidence or data is to be favoured over others. Evidence should not be appraised and evaluated on the basis of adherence to a single evidence hierarchy in which a particular method is given priority. Appraisal of evidence should be on the basis of whether the research method used is appropriate for the research question being asked and the knowledge being collected, and the extent to which in terms of its own methodological canon it is considered to be well executed.

There do not presently exist agreed hierarchies for dealing with the full range of evidence. Because of this we have used the term ‘fitness for purpose’. This encapsulates a number of different ideas. We are not in a position at the moment to point to a hierarchy of evidence for qualitative studies, for theoretical evidence, or for the many other types of evidence that we argue are potentially admissible. We believe that the development of such hierarchies is an urgent methodological priority. Even an organisation such as the National Institute for Health and Clinical Excellence in England, which has made a commitment to taking a very catholic approach to the evidence in its public health work, does not have a complete set of procedures to deal with all the possible evidence types.

Fitness for purpose therefore means determining the answer to several questions. First, has the research question been spelled out clearly, or if not, has a hypothesis been specified or the relationship between two variables clarified? Second, is the chosen method going to answer the question? Is the tool the right one for the task in hand? This is vital. So often, research methods are chosen by researchers on the basis of philosophical predilection rather than fitness for purpose. Third, the appraiser of the evidence needs to turn their mind to the idea of the fatal flaw. In a randomized controlled trial for example, if the researchers and the subjects were not blind to the random allocation and if an intention to treat analysis had not been carried out, one would have serious concerns about the level of bias that might creep into the results. The absence of random allocation and intention to treat are fatal flaws in design. It is difficult to be as prescriptive with other forms of evidence, but in determining fitness for purpose the appraiser should consider what sort of flaw would lead one to

seriously doubt the reliability of the data and to assume that the strong possibility of bias should be considered. In a qualitative investigation if the author does not report how the respondents were recruited, how they were chosen as informants and how the particular extracts of the conversations with key informants were selected and on what grounds, we would have good reason to suppose that the possibility of bias was high. These would constitute fatal flaws. In an economic model if the parameters were not known because they were not reported, and thus no sensitivity analysis could be undertaken, this would constitute a fatal flaw.

11.4 Equity: relative or absolute?

Equity is a political concept and it is used in various ways by a variety of protagonists to justify and rationalize different political positions. It is also a scientific concept. One of the vexatious elements of the question of equity concerns absolute and relative differences between groups and individuals. It is frequently misused politically in this regard.

We have rehearsed the argument at length in the text and have argued for the use of both absolute and relative measures of equity. This is important because using one or the other measure alone can be misleading. When the focus is on the whole health gradient of the population following an intervention, we might see overall improvement for the whole population group. In high income countries it is also quite likely that in such circumstances we will see the uppermost groups improving more quickly than the rest. The result is that the health inequities measured in relative terms are getting worse because those at the bottom of the gradient are not improving at as fast a rate as those at the top. However in absolute terms those at the bottom may be better off that they were previously and may therefore show absolute improvement. It could be argued that the issue of equity is less relevant than the argument in favour of overall improvement. In the case of extreme disparities this is compelling. Our view is that it is important to use both sets of measures in order to reflect the range of societies involved, the variations across and within societies, and the differential effects of interventions across populations.

11.5 Where further research and development is required

At the end of this project we know what we do not know more clearly than we did at the beginning. There are several important areas where more detailed work is required. The tools to measure the impact of the social determinants based on the appropriate causal pathway need to be developed. Given the complexities of the causal pathways from determinants to health outcomes, the best and most sensitive measures of such outcomes need further attention. Standard epidemiological measures of mortality and morbidity are clearly a starting point, but robust measures of quality of life across cultures, of well-being, of social cohesion, of community integration and of social capital for example require detailed further work. In some of these areas there are considerable literatures, but the linkages back up the causal chain to the social determinants and down the chain to specific health indicators remain a considerable research and development task. Every effort should be made to support and fund such important developmental work.

We have laid strong emphasis on equity proofing in this report. But we must acknowledge that this tool is still in its infancy, compared to what we know about technologies like the randomized trial. Again there are areas of considerable development and expertise here but it is still early days. These are very important tools and once again we would encourage development and support in these areas. The linkage of equity proofing to questions of absolute and relative equity referred to above also requires close attention.

Another important area of work which we signalled in the text is the cross cultural research comparisons between different country and cultural contexts. The health gradient is made up of two axes, the actual health disparities and the degree of social inequality in society. Social inequity is itself made up of a number of sub axes related to gender, ethnicity, disability, geography, caste, and social class for example. A programme of research is urgently required to explore the degree to which these axes of social differentiation overlap, interact and cluster together, and the impact of these on heath disparities cross culturally.

Another important area for further work is on the synthesis of evidence across the different research traditions. The multiple potential hierarchies of evidence and the threshold judgements which may be used to consider them will in time give rise to

bodies of evidence which will require evidence syntheses. Once again this is an area where much useful work is already in train. But in scientific terms it is early days – although we have drawn in this report on some of the leading work on the synthesis of data and evidence, there is still quite a long way to go. The Cochrane and the Campbell Collaborations have moved some things on within part of the evidence base. But the requirement remains to synthesize theoretical evidence, models and qualitative and quantitative information.

In the final analysis the report leaves open detailed questions about the methods and tools for measuring causes and pathways and linking the material together. This constitutes a research agenda of its own which should be able to build upon the work undertaken here and provide future generations of scholars with the tools they will need to finish the job.

12 Conclusion

Primary audience: Policy makers, practitioners, researchers *Secondary audience:*

The fact that health inequity is socially determined is one of the most important problems and challenges for global health policy. In due course, precise causal pathways describing the links between the social factors and the human biology may be able to be described. This will allow policy to be targeted with a precision we lack today. It will also help to create ways to bring the macro social and economic determinants of health into the policy foreground. However, the fact that it is not yet possible to describe the causal pathways precisely, should not and must not be an excuse for inaction. Much is known about the social factors which affect health. What is known is not universal in its applicability. It must therefore be read through a lens which deals with its salience, meaning and relevance in particular local contexts. It must also be equity proofed (i.e. a policy or programme needs to identify, assess and address its potential health equity impacts so as to maximize the potential health equity outcomes and minimize any potential harm). However, as this report demonstrates, it is possible to describe comprehensively what can be known and how it can be interpreted. It is also clear how it can be linked to policy and what can be done to get those policies, and guidance deriving from them, implemented and monitored.

There is no such thing as value neutral science. The Commission on the Social Determinants of Health has a specific commitment to equity and to taking action to reduce socially determined health inequities. Equity is normative; it is based on a value judgment. This will generate political opposition. The value of equity is not a universal one in spite of being located in a discourse of human rights – the right to good health. It is also important not to use the problem of values nor the problem of the complexity which bedevils population health as excuses for inaction. This report has identified ways of confronting the difficulties and finding workable solutions with the evidence and data that are available now and of being clear and transparent about values

The social determinants of health inequities is truly a field which is extensive in its coverage, diverse in its ways of formulating the problem, full of good ideas, and

replete with suggestions as to what might be done to help to improve things, along with various political solutions. And yet the problem of health inequity remains stubbornly ubiquitous in spite of all these efforts. The world remains an unequal place in which the damaging effects of the inequity itself and the health consequences of those inequities remain as sharp as ever. In spite of all this knowledge it sometimes seems that we are powerless in the face of the problem. This report takes a pragmatic approach and shows how it is possible to begin to marshal evidence in such a way that it may be effective. While it would be foolhardy to suggest that the work reported here will solve all these problems, the establishment of the Commission on the Social Determinants of Health by WHO and the scientific work it has sponsored mark an important watershed. Likewise it would be naïve to imply that this guidance will provide solutions to all the scientific and methodological problems. But the work undertaken by the WHO Commission and the methodological thinking which has informed this has helped to map the territory. No doubt the map will improve and in due course the methodological questions will be better defined and formulated than the current authors have been able to do in this report.

This report is a starting point which intellectually establishes the case that an evidence based approach is the one most likely to offer the hope of success, that the evidence comes in many shapes and forms, and that we must get smarter about synthesizing and appraising that evidence. We must move well beyond sterile debates about the superiority of particular disciplinary or epistemological positions. The unnecessary suffering and death wrought on the population by inequity is simply too big a problem to be brought to a standstill by the philosophical indulgences of academic solipsism. The world of political power needs to be engaged in ways that will be effective and will produce the necessary changes.

13 Recommendations for policy makers and practitioners

1. Actions to tackle the social determinants of poor health and health inequities must focus on the causes of health inequities rather than general health improvement. Attention should be drawn to the difference between the social determinants of health and the social determinants of health inequities.

2. Actions to tackle the social determinants of health must focus on the whole spectrum of the population, taking account of the needs of different groups. This must be based on accurate descriptions of the social structure and must recognize the dynamic nature of that social structure.

3. Actions to tackle the social determinants of health must be evidence based. That evidence may be drawn from a variety of disciplines and methodological traditions. There should be no hierarchy of evidence – the quality of the research is more important than the type of research.

4. Where evidence based policies or actions are developed they must be equity proofed prior to implementation using, health equity impact assessment and during implementation using health equity audits or other equity proofing tools.

5. Where evidence based policies and actions are to be developed, due regard must be taken of the difficulties of getting evidence into practice and into policy; specifically the barriers to the use of evidence need to be understood.

6. Actions on the social determinants of health must involve sectors other than health and must involve meaningful partnerships.

7. Situation analysis to determine entry points and communication strategies must precede all interventions and actions.

8. Evaluation and monitoring of the impact of actions must be an integral part of any intervention or action. This should be informed by a model of evaluation in which the theoretical causal link between the intervention and the outcome is articulated in advance and explicitly.

9. It is vital to continue to develop evidence bases about the social determinants. These should be rich in terms of the methods used. There are a variety of ways of collecting and synthesizing evidence. Best practice suited to the method should be used. The evidence base should include the tacit knowledge of all involved, especially the planned beneficiaries of the interventions or actions. These data should also include routine data sets.

10. Cross cultural and cross national research is required to allow comparisons to be made between the links between social and economic disadvantage and health disparities.

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Appendix I – Measurement and Evidence Knowledge Network (MEKN) and its methods

In March 2005, as part of the launch of the Commission on Social Determinants of Health (CSDH) in Santiago, Chile, the World Health Organization (WHO) sponsored an expert consultation on measurement which set out some initial parameters for the work of the Measurement and Evidence Knowledge Network (MEKN). Participants at this consultation represented a broad range of constituencies involved in the evaluation of knowledge and the application of diverse sources and types of evidence to policies. They began discussions about developing an expert consensus on the sources of evidence for the social determinants of health and health inequities (Kawachi, 2005).

MEKN was established in late 2005 and based on two organizational co-hubs: the National Institute for Health and Clinical Excellence (NICE), UK, and the Universidad del Desarrollo (UDD), Santiago, Chile. MEKN's first task was to set up the knowledge network with members from different geographical areas and backgrounds.

MEKN's co-hub members were:

- National Institute for Health and Clinical Excellence (NICE), UK:
  Prof. Mike Kelly and Mr. Antony Morgan.
- Universidad del Desarrollo, Chile:
  Dr. Josiane Bonnefoy, Dr. Liliana Jadue, Ms. Vivian Bergman, and Ms. Francisca Florenzano.

MEKN's members were:

- Francisco Espejo, UN World Food Program, Italy
- Mark Exworthy, University of London, UK
- Gao Jun, Ministry of Health, China
- Ichiro Kawachi, Harvard University, US
- Johan Mackenbach, Erasmus University, The Netherlands
- Landon Myer, University of Cape Town, South Africa
- Thelma Narayan, Community Health Cell, India
- Jennie Popay, Lancaster University, UK
- Peter Tugwell, University of Ottawa, Canada

- plus two representatives from the CSDH Secretariat:
  Ms. Sarah Simpson (WHO/CSDH – Geneva) and Ms. Tanja Houweling (University College London)

The main objective of MEKN was to collect, assess and synthesize global knowledge on existing methodologies to evaluate the effectiveness of policies, interventions and actions on social determinants of health which are aimed at improving health outcomes and health equity. MEKN's work had two different audiences:

- The thematic knowledge networks (KN) of the Commission – MEKN was set up as a cross-cutting KN since its methodological work applies to all KNs
- Policy makers, practitioners and policy-oriented researchers around the world.

MEKN's main deliverable was guidance which set out state of the art recommendations on how best to measure the social determinants of health and the most effective ways of constructing an evidence base which provides the basis for translating evidence into political action. This final report summarizes the information in the guidance.

The MEKN did its work through network meetings, email / teleconference discussions, participation in the work of the themed knowledge networks and the participation of MEKN members in wider networks and projects. The key issues that arose during the process were audience, monitoring and evaluating policies addressing the social determinants of health, and opportunities and barriers for effective implementation.

The first stage in developing the guidance was informed by the MEKN scoping paper (Kelly et al., 2006a) (see below) and two key papers produced from the first meeting of the network on 'Evaluation Methodologies' and 'Implementation - Barriers and Opportunities'. These papers have been used in constructing the guidance and the final report.

MEKN published the following papers:.

1. *The Development of the Evidence Base about the Social Determinants of Health* (Kelly et al., 2006a) (the scoping paper). This discussion paper describes a series of methodological, theoretical and epistemological principles that should inform the development of the evidence base about the social determinants of health. It was directed mainly to the work of the other thematic knowledge networks. It includes a commitment to finding the best possible evidence about the social determinants. It develops the principle that a variety of types of evidence are required for policy-making. This discussion paper was written in consultation with Commissioners, other KNs and Commission stakeholders. The key principles from this paper are summarized in section 1 of this report.

2. *Guide for the Knowledge Networks for the Presentation of Reports and Evidence about the Social Determinants of Health* (Kelly et al., 2006b). This was prepared by the MEKN co-hubs and the Secretariat of the Commission in collaboration with MEKN members and in consultation with KNs. The purpose of the guide was to help facilitate inclusion in the KNs' work of a broad scope of evidence gathered using a coherent approach, and to assist in presenting the output of the work of the KNs.

The guidance on which this final report is based has not yet been published.

Appendix II – Illustrative case studies

The following case studies have been chosen to illustrate one or more of the points in this report. They feature SDH themes although they do not always describe interventions specifically to address SDH (there is little available in the literature). These case studies are intended for illustrative purposes only; they have not been critiqued and may be subject to the biases of the original author(s).

Sections illustrated:

2 – Evidence based approach

3 – Gaps and gradients

5 – Getting SDH on the policy agenda; making the case

6 – Generating evidence for policy and practice

7 – Evidence synthesis and action

8 – Effective implementation and evaluation

9 – Learning from practice

10 – Monitoring

Section illustrated **Case study**	**2**	**3**	**5**	**6**	**7**	**8**	**9**	**10**
1. UK – Acheson inquiry	x							
2. Brazil, Peru, United Republic of Tanzania – Failure to equity proof	x					x		
3. Bolivia – evaluation of social investment fund	x					x		x
4. Brazil – Infant mortality in Ceara		x	x	x		x		
5. Thailand – Mun river dam			x	x		x		
6. Canada – National children's policies			x					
7. Mexico – National health system			x	x				x
8. Thailand – Universal health coverage			x	x				x
9. Slovenia – Health impact assessment						x		
10. Uganda – Community-based monitoring				x		x		x
11. Various countries – Synthesis of data on tuberculosis treatment					x			
12. UK – National Institute for Health and Clinical Excellence					x			
13. Mexico – Oportunidades programme						x		x
14. Sweden – Intersectoral action						x		x
15. Kenya – Grassroots monitoring								x
16. Netherlands – Multi-level surveillance system								x

Case study 1: UK – Using evidence to inform health policy: the Acheson inquiry

Illustrates: Evidence based approach

This case study was written by the Evaluation Group of the *Independent Inquiry into Inequalities in Health* (the Acheson Inquiry), which was established to help the British government formulate policy to reduce health inequalities. The case study reports on the quality of the evidence used to support the inquiry's 39 major recommendations. The case study was slightly edited for inclusion in this report.

In 1997, the Minister for Public Health commissioned Donald Acheson, the former Chief Medical Officer for England, to review the latest available information on health inequalities and to identify, in the light of scientific and expert evidence, priority areas for future policy development. The Inquiry reported in 1998. It presented both evidence about the *problem* (health-related effects of particular determinants and the possible link between the health effect and determinants) and evidence about the *effectiveness of interventions* to address the problem.

The members of the Inquiry's Evaluation Group developed a matrix of criteria against which they believe policy recommendations should be judged for priority setting (see box below), but found that they were unable to use the criteria because the proposals lacked sufficient information. For example, submissions did not adequately describe methods and there was little empirical evidence of effectiveness. Where evidence for effectiveness was cited, it was usually clearer for more specific 'downstream' proposals such as medical interventions focused on individuals than for macro level 'upstream' proposals such as social, economic or educational interventions aimed at whole communities.

Criteria used by the Evaluation Group of the Acheson Inquiry to evaluate policy recommendations:

- Supported by systematic, empirical evidence
- Supported by cogent argument
- Scale of likely health benefit
- Likelihood that the policy would bring benefits other than health benefits
- Fit with existing or proposed government policy
- Possibility that the policy might do harm
- Ease of implementation
- Cost of implementation

The Group notes that their observation of the lack of empirical evidence does not mean that they thought the Inquiry should not propose policies formulated on the basis of logic and common sense or that they thought interventions aimed at whole communities are not effective. Rather it reflects the paucity of good quality studies of these more ‘upstream’ interventions.

The Evaluation Group acknowledges that even their own recommendations for health equity are ‘quite medical' in nature because they are the kind of interventions that often have evidence behind them. For this reason, an editorial in the British Medical Journal (Davey Smith et al., 2001) criticized the Evaluation Group's assessment of the evidence because ‘health differentials between social groups, or between poor and rich countries, are not primarily generated by medical causes and require solutions at a different level’.

In 2001 England's then Health Development Agency examined the approach to gathering evidence of effectiveness of both the Acheson Inquiry and the country’s new Social Exclusion Unit. The paper concludes that, given a favourable political environment, the ‘logic and equity' used in the Acheson Inquiry are important factors in decision-making.

While the Social Exclusion Unit draws extensively on research and external expertise, it also relies on good practice and promising ideas, and members of the Unit visit and consult widely with local authorities, business, the voluntary sector, faith groups and other agencies, and people who have a direct experience of social exclusion. The Health Development Agency concluded that a pragmatic rather than doctrinaire approach to evidence of effectiveness is key to the process of developing healthy public policy.

Source: Public Health Agency of Canada, 2001b.

Case study 2: Brazil, Peru and United Republic of Tanzania – Failure to equity proof interventions for children in low and middle income countries

Illustrates: Equity proofing; Evaluation

The need for equity proofing is evidenced even in initiatives which by their essence are expected to reduce health inequities within and between countries.

The **I**ntegrated **M**anagement of **C**hildhood **I**llness (IMCI) strategy was designed by WHO and UNICEF to reduce infant mortality and the incidence and seriousness of illnesses that affect children under five, as well as improving their growth and development. It is one of the key strategies for meeting the Millennium Development Goals with greater equity.

Victora et al. (2006) looked at the implementation of IMCI in three countries – Brazil, Peru and the United Republic of Tanzania. The objective was to assess whether the strategy was implemented in the areas with greatest child health needs.

The study was carried out through interviews with key stakeholders at the national and district levels, as well as an ecological study of factors associated with health worker training in IMCI. The baseline mortality rates in children under five years old before IMCI implementation were assessed. Also included were district characteristics (population, distance from the capital or main city, urbanization rate), environmental variables (water supply), and socioeconomic indicators (literacy, income and Gross Domestic Product (GDP)). The district Human Development Index, which combines data on GDP per capita, education (weighted average of adult literacy rate and gross school enrolment ratio) and life expectancy at birth was calculated.

In Brazil, IMCI was less likely to be implemented in municipalities with low scores on the Human Development Index, low per capita income, small populations and located further away from the state's capital. Indicators of literacy, urbanization, water supply and baseline under five mortality rate (U5MR) were not associated with IMCI implementation. In Peru, no significant correlations were found between coverage of training of health workers in IMCI and any of the indicators studied. Though

correlations were weak, IMCI coverage tended to be lower in departments with higher values of the Human Development Index, larger populations and poorer water supply. In Tanzania, the only significant correlation was the earlier introduction of IMCI in districts that were close to Dar es Salaam. None of the other correlations, including the baseline U5MR, were statistically significant.

Though WHO recommended clear criteria for selecting districts for early implementation, these did not include equity considerations (e.g. mortality levels). This incentivized the initial selection of districts that were close to the national capital or main city, with a strong experience in previous vertical child health programmes, managed by motivated teams and with sufficient funding available. In the expansion phase, IMCI tended to be adopted by other districts with similar characteristics. However, as the authors highlight, 'these characteristics are likely to be found in districts where the U5MRs are lower than the national average'.

Nonetheless, the authors stress that IMCI 'should not be singled out as the only strategy without explicit pro-equity implementation guidelines... Until recently, equity considerations were seldom addressed in international child health initiatives aimed at low and middle income countries... Unless pro-active efforts are made to deploy interventions where they are most needed, inequalities in child health may widen as a result of new programmes'.

Source: Victora et al., 2006.

Case study 3: Bolivia – Evaluating Bolivia's Social Investment Fund

Illustrates: Equity proofing; Evaluation; Monitoring

Project description

The Bolivian Social Investment Fund (SIF) was established in 1991 as a financial institution promoting sustainable investment in the social sectors, notably health, education and sanitation. The policy goal is to direct investments to areas that have been historically neglected by public service networks, notably poor communities. SIF funds are therefore allocated according to a municipal poverty index, but within municipalities the programme is demand-driven, responding to community requests for projects at the local level. SIF operations were decentralized in 1994, enhancing the role of sector ministries and municipal governments in project design and approval. The Bolivian SIF was the first institution of its kind in the world and has served as a prototype for similar funds that have since been introduced in Latin America, Africa and Asia.

Impact evaluation

Despite the widespread implementation of social funds in the 1990s, there have been few rigorous attempts to assess their impact on poverty reduction. The Bolivian SIF evaluation, carried out jointly by the World Bank and SIF, began in 1991 and at time of writing (2002) was ongoing. The study features baseline (1993) and follow-up (1997) survey data that combine to allow a before-and-after impact assessment. It includes separate evaluations of education, health and water projects and is unique in that it applies a range of evaluation techniques and examines the benefits and drawbacks of these alternative methodologies.

Evaluation design

The evaluation programme includes separate evaluations of education, health and water projects that assess the effectiveness of the programme's targeting to the poor. It also assesses the impact of its social service investments on desired community outcomes such as improved school enrolment rates, health conditions and water availability. It illustrates best-practice techniques in evaluation using baseline data in impact analysis. The evaluation is also innovative in that it applies two alternative evaluation methodologies – randomization and matched comparison – to the analysis

of education projects and contrasts the results obtained according to each method. This is an important contribution because randomization (random selection of programme beneficiaries within an eligible group) is widely viewed as the more statistically robust method, and yet matched comparison (using a non-random process to select a control group that most closely 'matches' the characteristics of programme beneficiaries) is more widely used in practice.

Data collection and analysis techniques

The 1993 baseline and 1997 follow-up surveys were applied to both the institutions that received SIF funding and the households and communities that benefit from the investments. Similar data were also collected from comparison (control group) institutions and households. The household survey gathered data on a range of characteristics, including consumption, access to basic services, and each household member's health and education status. There were separate samples for health projects (4,155 households, 190 health centres), education projects (1,894 households, 156 schools), water projects (1,071 households, 18 water projects) and latrine projects (231 households, 15 projects).

The household survey consisted of three sub-samples: (a) a random sample of all households in rural Bolivia plus the Chaco region (one province); (b) a sample of households that lived near the schools in the treatment or control group for education projects; and (c) a sample of households that would benefit from water or latrine projects.

To analyze how well SIF investments were actually targeted to the poor, the study used the baseline (pre-SIF investment) data and information on where SIF investments were later placed to calculate the probability that individuals would be SIF beneficiaries conditional on their income level. The study then combined the baseline and follow-up survey data to estimate the average impact of SIF in those communities that received a SIF investment, using regression techniques. In addition to average impact, it explored whether the characteristics of communities, schools, or health centres associated with significantly greater than average impacts could be identified.

In education, for which SIF investments were randomly assigned among a larger pool of equally eligible communities, the study applied the 'ideal' randomized experiment design (in which the counterfactual can be directly observed). In health and sanitation

projects, in which projects were not assigned randomly, the study used the 'instrumental variable' method to compensate for the lack of a direct counterfactual. Instrumental variables are correlated with the intervention but do not have a direct correlation with the outcome.

Results

SIF II investments in education and health resulted in a clear improvement in infrastructure and equipment. Education projects had little impact on school dropout rates, but school achievement test scores among sixth graders were significantly higher in SIF schools. In health, SIF investments raised health service utilization rates and reduced mortality. SIF water projects were associated with little improvement in water quality but did improve water access and quantity and also reduced mortality rates.

A comparison of the randomized versus matched-comparison results in education showed that the matched-comparison approach yielded less comparable treatment and comparison groups and therefore less robust results in discerning programme impact. In illustration of this finding, evidence of improvements in school infrastructure (which one would clearly expect to be present in SIF schools) is picked up in the randomized evaluation design but not in the matched-comparison design.

Finally, the results showed that SIF II investments were generally not well targeted to the poor. Health and sanitation projects benefited households that were relatively better off in terms of per capita income, and there was no relationship between per capita income and SIF education benefits.

Policy application

The results on targeting reveal an inherent conflict between the goal of targeting the poor and the demand-driven nature of SIF. Bolivia introduced a popular participation law in 1994. Sub-projects then had to be submitted through municipal governments. The targeting results suggest that even in a highly decentralized system it is important to monitor targeting processes. In the Bolivian case, it appears that better-off, more organized communities, rather than the poorest, are those most likely to obtain SIF investments. In the case of SIF sanitation projects in particular, the bias against poorest communities may be hard to correct. Investment in basic sanitation is most efficient in populated areas that already have access to a water system so that the project can take advantage of economies of scale.

The fact that SIF investments have had no perceptible impact on school attendance has prompted a restructuring of SIF interventions in this sector. Rather than focusing solely on providing infrastructure, projects will provide a combination of inputs designed to enhance school quality. Similarly, disappointing results on water quality (which showed no improvement resulting from SIF projects compared with the pre-existing source) have generated much attention, and project design in this sector was changed to include training of personnel.

Lessons learned about evaluation process

Effectiveness of the randomization technique. The randomized research design, in which a control group is selected at random from among potential programme beneficiaries, is far more effective at detecting programme impact than the matched-comparison method of generating a control group. Randomization must be built into programme design from the outset in determining the process through which programme beneficiaries will be selected, and random selection is not always feasible. However, when programme funds are insufficient to cover all beneficiaries, an argument can be made for random selection from among a larger pool of qualified beneficiaries.

Importance of institutionalizing the evaluation process. Evaluations can be extremely complex and time consuming. The Bolivia evaluation was carried out over the course of seven years in an attempt to rigorously capture project impact, and achieved important results in this regard. However, the evaluation was difficult to manage over this length of time and with the range of different actors involved (government agencies and financing institutions). Management and implementation of an evaluation effort can be streamlined by incorporating these processes into the normal course of local ministerial activities from the beginning. Further, extensive evaluation efforts may be best limited to only a few programmes – for example, large programmes in which there is extensive uncertainty regarding results – in which payoffs of the evaluation effort are likely to be greatest.

Evaluation costs and administration

Costs. The total estimated cost of the Bolivia SIF evaluation to date (2002) is $878,000, which represents 0.5% of the total project cost. Data collection represents a relatively high proportion of these costs (69%), with the rest being spent on travel, World Bank staff time and consultants.

Administration. The evaluation was designed by World Bank staff and financed jointly by the World Bank, the KfW banking group, and the Dutch, Swedish and Danish governments. Survey work was conducted by the Bolivian National Statistical Institute and managed by SIF counterparts for the first round and later the Ministry of Finance for the second round.

Sources: Baker, 2002; Newman et al., 2002.

Case study 4: Brazil – Use of survey data to determine and refine state-wide policies and programmes; persistent inequities between rich and poor

Illustrates: Gaps and gradients; Making the case; Generating evidence for policy and action; Effective implementation and evaluation

Early in the 1980s the infant mortality rate (IMR) in the state of Ceará, in the poor northeastern area of Brazil, was higher than 100 per 1000 and malnutrition was very common. In 1986 the new state government requested UNICEF support to help improve child health and a state-wide survey of child health and nutrition was commissioned. More than 4,500 children under three years old were surveyed in 8,000 families in 40 different municipalities. Based on the survey conclusions, new health policies were implemented, including **G**rowth monitoring, **O**ral rehydration, **B**reastfeeding promotion, **I**mmunization and vitamin-A supplementation (known as the GOBI strategy). Since lack of access to health-care facilities was a major problem, a large new programme for community health workers was established and another programme for traditional birth attendants was expanded. Responsibility for health services was decentralized to rural municipalities which were the ones with the worst health indicators. A social mobilization campaign for child health was implemented, which included the use of the media and small radio stations to broadcast educational messages.

Similar surveys were repeated again in 1990 and 1994 and after each one the results were incorporated into health policy. This process was sustained by four consecutive state governors who all gave high priority to improving child health. The experience in Ceará drew international attention and in 1993 the State received the Maurice Pate Award, the annual UNICEF prize for successful progress towards child health and well-being.

Considerable advances in the population coverage of the four GOBI interventions had been made by 1994. The use of oral rehydration solution had increased to more than 50% in children with diarrhoea; nearly all children had a growth chart and a half had been weighed within the previous three months; immunization coverage was 90% or higher; and median breastfeeding duration – a difficult indicator to improve – had apparently increased from 4.0 to 6.9 months.

Disease frequency and mortality outcome indicators for the whole population also showed considerable improvement between 1987 and 1994. The prevalence of low weight-for-age fell from 13% to 9%, low height-for-age from 27% to 18%, and reported episodes of diarrhoea in children in the previous two weeks from 26% to 14%.

Infant mortality was estimated at 39 per 1000 in 1994, a 37% reduction on the estimated 63 per 1000 in 1987.

Immunization rates improved remarkably in all income groups, with the inequity gap between rich and poor closing as the wealthy reached near universal coverage. For both growth monitoring and use of oral rehydration solution, the inequity gap was also narrowed. Assessment of breastfeeding duration showed that in 1987 it was longer among the poorest, whereas by 1994 the gap between rich and poor had narrowed in favour of the wealthier – an interesting 'trickle up' phenomenon, since health messages had been primarily directed to the poorest people.

Despite the progress achieved in improving coverage for public health interventions, inequity between rich and poor for disease frequency and infant mortality remained largely unchanged between 1987 and 1994. The proportions of children in the extreme categories of family income remained almost the same in both years, showing that income inequalities had persisted and remained largely unchanged. Cases of diarrhoea remained about 60% higher among the poor.

In Ceará, despite the implementation of child health interventions for the poorest families, inequities appeared to remain largely unchanged for four health status impact indicators – weight, stunted growth, prevalence of diarrhoea, and infant mortality. Despite an overall improvement in health, the inequity ratio between rich and poor remained the same. An explanation is that wealthy families had made greater and earlier use of both public sector and private services to protect their children's health.

The conclusions from Ceará suggest that, even with public-health programmes targeted at the poorest, it is difficult to close the inequity gap if the rich have not yet achieved high levels of vaccination coverage and consequently low levels of morbidity or mortality.
Source: Victora et al., 2000.

Case study 5: Thailand – Use of locally-defined health determinants to push for change, Mun River dam

Illustrates: Making the case; Generating evidence for policy and action; Health impact assessment; Evaluation; Monitoring

In 1994, a dam was built on the Mun river in Thailand 5.5 kms before it reaches the Mae Kong river. This Pak Mun dam obstructs fish migration from the Mae Kong to the Mun. The fishery resource has thus been greatly reduced, leading to sharp reductions in income for the local fishery households. A health impact assessment (HIA) was set up to provide evidence based information to advocate for a change in public policy in managing the dam, with the support of other related studies.

After long protest and negotiations, the Thai government decided in 2001 to open the dam gate for four months (later for one year) in order to conduct a study on the 'Approach to restoration of ecosystem, livelihood and culture'. This provided a good opportunity to gather evidence based information to be used for public decision-making.

The big debate was about the impact of the dam on fishery resources, income and compensation. However, other issues also related to the health of the local population. To avoid too narrow a scope for the HIA, the local definition of health and determinants of health were identified. For the villagers health was '*living happily and peacefully together with the family and community, and within the natural environment, which can ensure their secure livelihoods and community culture*'. The villagers also identified six factors for healthy living: having enough food, secure livelihood, happy family, healthy body, peaceful spirituality and a generous community. The local population put great emphasis on: natural resource security, food security, economic security and social environment. Changes in these things resulting from opening the dam gates were analysed. Data collection and analysis were carried out using a participatory approach. Table 1 shows the health impact of both the dam construction and the opening of its gates.

Table 1: Health impacts of dam construction and opening of dam gates, according to four determinants of health.

Health aspects	Effects of dam construction	Effects of opening dam gates
Physical Health	Food insecurity, due to the loss of local food sources.	Much better due to improvement in fishery and other resources.
	Skin rashes from low water quality.	Much better because of better water quality.
	Disorders due to high tension.	Better but still anxiety about long-term government decisions.
	Accidents due to broader river.	Lower risks but still some incidence.
Mental Health	Pressure due to economic hardship and insecurities.	Much better due to better economic situation and food security.
	Anxiety due to various insecurities.	Better but still anxiety about long-term government decisions.
	Conflicts based on different standpoints about dam issue.	Still exists but people start to join and share the same fishing grounds.
	Oppression due to negative response from government.	Still exists but people feel more confident to come up for their own rights.
Social Health	Loss of togetherness due to the emigration and hardships.	Much better especially for fishery households.
	Weaker supportive relationship due to conflict on dam issue.	Still exists but people start to join and share the same fishing grounds.
	Broader social networks to support their movement.	Still the same.
Spiritual Health	Losses of spiritual infrastructure, especially those related to the river and rapids.	The holy places and ceremonies gradually returned.
	Loss of shared activities, especially those related to fishing.	The shared activities gradually return, but remaining conflict obstructed their progress.
	Deterioration of conducive environment due to hardship and conflict.	The hardship was reduced. More donation and spiritual practices were expected, but the remaining conflict may affect the progress.

Although the impact assessment studies recommended the Thai government should keep the dam gate open as the main way to restore the ecosystem, livelihood, health and local culture, the government decided to open the dam gate only for a period of four months a year. The unsuccessful influencing of government decision-making in this case may have occurred because of incomplete integration of knowledge management, civic empowerment and political involvement. The process of impact assessment studies was successful in terms of civic empowerment, since it allowed both local NGOs and local people to participate. Knowledge management improved at the local level, although this needs further improvement. However the weak point in this study was political involvement. Since this was not adequately and properly designed, the impact assessment studies failed to convince policy makers to follow their suggestions. The future of the Mun river and the health of its people are still insecure.

Source: Sukkumnoed et al., 2003.

Case study 6: Canada – A decade of children's policies based on evidence (1990-2001)

Illustrates: Making the case

The case study explores how evidence influenced the development of national policies to enhance children's health and well-being in Canada over the previous decade (1990-2001). The goal of national child development policies in Canada is optimal well-being for all children while recognizing special needs and disadvantage when resources are scarce.

Evidence was successfully used to influence policy decisions. Key ingredients in this success were:

- The weight of evidence on healthy child development was compelling
- The evidence was consistent with the context and values of the time
- The nature of the evidence on the determinants of health helped rally various stakeholders to create mutually acceptable goals.

Base decisions on evidence

In a population health approach, evidence on health status, the determinants of health and the effectiveness of interventions is used to assess health, identify priorities and develop strategies to improve the health of the entire population and reduce inequities in health status among population groups. The case study highlights Canada's success in presenting the evidence on children's health status and the determinants of healthy child development to the public and decision makers. This success resulted from:

- *Accurate recording and monitoring of health status through population-based surveys, surveillance and record keeping* which showed that while the majority of Canadian children and youth enjoyed very good health, disparities existed, such as those related to income. As well, Aboriginal children and their families fared poorly in almost all health and social indicators, compared to the general population. The National Longitudinal Study on Children and Youth (NLSCY), initiated in 1994, looks at physical and emotional health, behaviour, income, learning, social well-being, and parental and community involvement. The NLSCY data showed that by

kindergarten age (age 4-6), a socioeconomic gradient in readiness for school had emerged in Canada.

- *Credible interdisciplinary research groups,* both inside and outside of government which carried out child development research that took into account all the determinants of health. For example, investigators in the Canadian Institute for Advanced Research (CIAR) persuasively summarized the evidence on brain development from neurobiology and developmental psychology.

Collaborate across sectors and levels

The weight of evidence on healthy child development helped to answer the question of who is responsible for making things better. The fact that health, well-being and competence have essentially the same principal determinants (e.g. a healthy pregnancy, secure attachment, safe neighbourhoods, stable income, preschool stimulation) means that the objectives of a wide variety of government departments and levels of government can be met by working in concert.

Assess contextual conditions, characteristics and trends

In addition to gathering evidence, a population health approach scans the prevailing context and trends to assess current conditions. As this case study points out, evidence is only one factor in decision-making. Two other key factors are: the values that politicians, the public and interest groups hold on any issue; and the policy context in which the evidence is considered. Important contextual pieces that underlay the development of child policy work in Canada in the 1990s include:

- After the fiscal restraint in the early to mid 1990s, the Canadian public was anxious to re-invest in health and social policy. In a 1998 national opinion poll, Canadians included ‘better support and nurturing for children’ among their top priorities for national action
- The evidence linking a healthy childhood to a healthy, skilled adulthood resonated with the growing political need to develop a strong knowledge-based economy. It made sense that ‘investing’ in young children *now* would lead to a healthy, prosperous and productive society in the future
- The adoption of a population health framework by many governments in the mid 1990s set the stage for the acceptance of early childhood development as a primary determinant of health and prosperity for adults, as well as for children.

Increase upstream investments and apply multiple strategies

Research on the determinants of healthy child development showed that investing in children and youth requires a mix of policies dealing with income, education, health and the environment. Evidence also showed that all levels of society have an effect on child development. While parents, caregivers and family have the primary role, neighbourhoods, communities, governments, private industry and the voluntary sector all have a part to play. These findings underscored the importance of a multi-level strategy with a focus on upstream investments. The following list of selected policy initiatives in Canada reflects an integration of economic, social and health policy at different levels to improve children's health and well-being.

Some Key Policy Initiatives to Enhance the Well-Being of Children in Canada, 1991-2001

1991 **Ratification of the Convention on the Rights of the Child**

1992 **Community-Based Initiatives :** Community Action Program for Children; Aboriginal Head Start; The Canada Prenatal Nutrition Program; Fetal Alcohol Syndrome/Fetal Alcohol Effects Initiative

1993 **School Net:** connects all Canadian public schools and public libraries to the Internet

1998 **National Child Benefit:** a tax benefit policy to prevent and reduce child poverty

1999 **National Children's Agenda:** a cooperative effort by all governments to ensure that all children have the best opportunity to develop to their fullest potential.

1999 **Social Union Framework Agreement:** a collaborative framework for social policy in Canada with an emphasis on children in poverty

2000 **Health Accord and Early Childhood Development Initiative (ECD):** affirmed a commitment by all governments to invest in early childhood development.

2001 **Employment Insurance:** maternity and paternity benefits doubled from six months to one year; adoptive leave tripled from 10 weeks to 35 weeks; commitment to **'family friendly' workplaces** in federal jurisdictions

Demonstrate accountability for health outcomes

Population health focuses on health outcomes and on determining the degree of change that can actually be attributed to interventions. In the national policies to enhance children's health and well-being in Canada, accountability mechanisms are built in and agreed to by all levels of government. For example, the Early Childhood Development Initiative, agreed to at the First Ministers meeting in 2000, commits all governments to reporting publicly on their efforts and the results.

Lessons learned

The case study concludes with lessons learned for successfully turning knowledge into policy. One key strategy recommended is to use credible experts as messengers and champions. For instance Dr. Fraser Mustard, an early development expert and researcher with the CIAR, managed to gain audiences with key politicians in every level of government.

Lessons learned were to:

- Use credible experts as champions
- Build the weight of the evidence
- Value evidence from various sources
- Invest in effective research transfer strategies
- Popularize research results
- Form partnerships and formal links between researchers and decision makers
- Share intersectoral data
- Find win-win in intersectoral collaboration
- Support independent interdisciplinary research groups.

Source: Public Health Agency of Canada, 2001a.

Case study 7: Mexico – Use of evidence to reform national health system

Illustrates: Making the case; Generating evidence for policy and action; Monitoring

Since 2000 Mexico has been immersed in a process of transformation of its health system that may hold important lessons for other developing nations. Mexico is a heterogeneous middle-income country with a population of more than 100 million. Its high degree of social inequality means that it represents the gamut of health problems affecting the world.

In the design, implementation, and evaluation of its reform, Mexico has made intensive use of the best available evidence, which has been derived from national analysis and knowledge-related global public goods, such as systematic comparisons of the experiences of other countries, measurement methods, and conceptual frameworks. In particular, Mexico has assimilated lessons from innovations introduced in many other countries around the world, while making its own experiences available to other countries.

In Mexico, as in many other developing countries, the health system had been unable to keep up with growing financial pressures. Although social insurance was introduced in 1943, it had been limited to salaried employees in private firms or in public-sector institutions, and to their families. This arrangement excluded the self-employed, the unemployed, and those who were out of the labour market or worked in the informal sector of the economy. The net result was that by 2000, half of Mexican families, most of them poor, had no social protection against the financial consequences of ill health.

Empowerment through evidence

The reform of the Mexican health system invested heavily in the generation and application of relevant knowledge, in what the author feels is probably a textbook case of evidence based policy. For instance, the calculation of national health accounts showed that more than half the total expenditure in Mexico was out-of-pocket since about half the population had no health insurance. Furthermore, out-of-pocket expenditures were shown to be regressive, since they represented a higher proportion of income in poor households than in richer ones.

These findings were unexpected, because the Mexican health system was generally assumed to be based on public funding. Instead, the analysis for 2000 revealed that in one trimester almost 1.5 million households had an economic catastrophe, were driven below the poverty line, or were forced deeper into poverty by out-of-pocket spending. In this way, sound evidence made the public aware of a reality that had hitherto been outside the policy debate – namely, that health care itself could become a direct cause of impoverishment.

The WHO framework for the assessment of health-systems performance also helped to make the local case for reform. This framework highlighted fairness of financing as one of the intrinsic goals of health systems. As a result of its high degree of out-of-pocket spending, Mexico did very poorly on the international comparative analysis of fair financing. Instead of generating a defensive reaction, this poor result spurred detailed country-level analysis in 2001 that showed that catastrophic expenditures were concentrated in poor and uninsured households. Such analysis was based on data from the national income and expenditure surveys for Mexico. These surveys are produced by many countries in the world, and provide homogeneous datasets that are very valuable for cross-national comparisons, but they have not been fully exploited for health-policy formulation.

From evidence to action

Major legislative reform was undertaken to establish a system of social protection in health and was approved by a large majority from all political parties in the Mexican Congress. The new public, voluntary scheme called Popular Health Insurance or *Seguro Popular* came into effect on 1 January 2004. It will expand at the rate of 1.7 million families per year until achieving universal coverage is achieved in 2010. The *Seguro Popular* has elicited an enthusiastic response from the population, so that by the end of 2006 it will have enrolled the targeted 5.1 million families (about 22 million people).

Insurees are entitled to a specific package of benefits. An antecedent to this approach was the *Oportunidades* programme which aimed to enhance the basic capabilities of families living in extreme poverty

Expanded coverage by the *Seguro Popular* has already offered more financial protection for poor families. Comparisons between several rounds of the national income and expenditure surveys show reduction by a third in the number of

households from the poorest 20% of the population affected by catastrophic health-care payments.

Results can also be assessed through two national health and nutrition surveys, carried out in 2000 and in 2005-06. During the period between the two surveys there was a major increase in the use of early detection services for several non-communicable diseases, most notably hypertension (52% increase in blood-pressure measurement) and breast cancer (71% increase in the use of mammography).

The assessment experience gathered by the *Oportunidades* programme is being applied to the current health system reform. In addition to its technical aspects, rigorous evaluation has political value to assure the continuity of innovations through changes in administration. In the case of *Oportunidades*, scientific evidence persuaded the government not only to continue with the programme, but also to expand it. The encouraging results shown by the continuing assessment of *Seguro Popular* will hopefully serve once again to maintain the reform through the change of government scheduled for the end of 2006.

A hallmark of the Mexican experience has been a substantial investment in research to design the reform, monitor progress towards its implementation, and assess its results. This is a clear example of the possibility of use of science to promote social change by harmonizing two core values of research: scientific excellence and relevance to decision-making.

The path is clear: sound evidence must be the guiding light for designing, implementing, and evaluating programmes in national governments, bilateral aid agencies, and multilateral organizations. This is the path that will lead to more equitable development through better policy-making for health.

Source: Frenk, 2006.

Case study 8: Thailand – Introduction of universal health coverage

Illustrates: Making the case; Generating evidence for policy and action; Monitoring

Use of research to support policy development

By early 2002 Thailand had achieved universal coverage (UC) of healthcare by introducing a tax-funded health insurance scheme to 47 million people (73% of the population) who were not already covered by the other schemes available. The UC programme was characterized by clear policy goals, limited participation, strong institutional capacity and very rapid implementation (one year).

An important factor in early policy formulation was the extent to which national research provided evidence to support development of the policy. The effective interface between the research community and policy makers was a key factor in evidence based policy development. While the agenda for UC was set by the Prime Minister after a landslide electoral victory in January 2001, policy formulation was led by civil servants supported by key policy entrepreneurs (known as reformists) and researchers who continuously generated evidence and proposed policy options. This was possible due to initiatives such as:

- The Health Systems Research Institute (HSRI) supported the development of National Health Account, a tool for monitoring financial flows. Researchers were able to maintain and continually update it
- The International Health Policy Program (IHPP) and its predecessor the Senior Research Scholar programme continuously built up capacity in health policy and health systems research through apprenticeships and long-term fellowships
- Strong research programmes and institutional collaboration had developed between the Health Planning Division of the Ministry of Public Health, IHPP and London School of Hygiene and Tropical Medicine
- Partnership working has developed over the last decade between the Ministry of Public Health and the National Statistics Office.

Close relationships were observed between politicians and reformists, and between reformists and researchers, which undoubtedly helped with the speed of development and implementation of the policy. The reformists had a bridging role

between the technical capacity to produce sound evidence and the political will. Politicians, reformists and researchers were mostly of the generation of student activists who protested against the military government in the 1970s. Many student leaders also became civic movement leaders and civil society was mobilized in support of the UC bill.

Use of research to support programme design

Researchers and policy makers were able to learn from previous experience with existing non-universal health schemes, in particular the Civil Service Medical Benefit Scheme (CSMBS) introduced in 1963 and the Social Health Insurance scheme introduced in 1990. Experience with and evaluation of these two schemes directly affected the design of the UC programme. Notably:

- Cumulative experience of fee for services in the CMBS resulted in a consensus between reformists that such a model would not be appropriate for the UC scheme
- The capitation payment method and purchaser-provider were adopted from the SHI scheme
- The UC scheme has proper referral processes and better use of primary care than SHI.

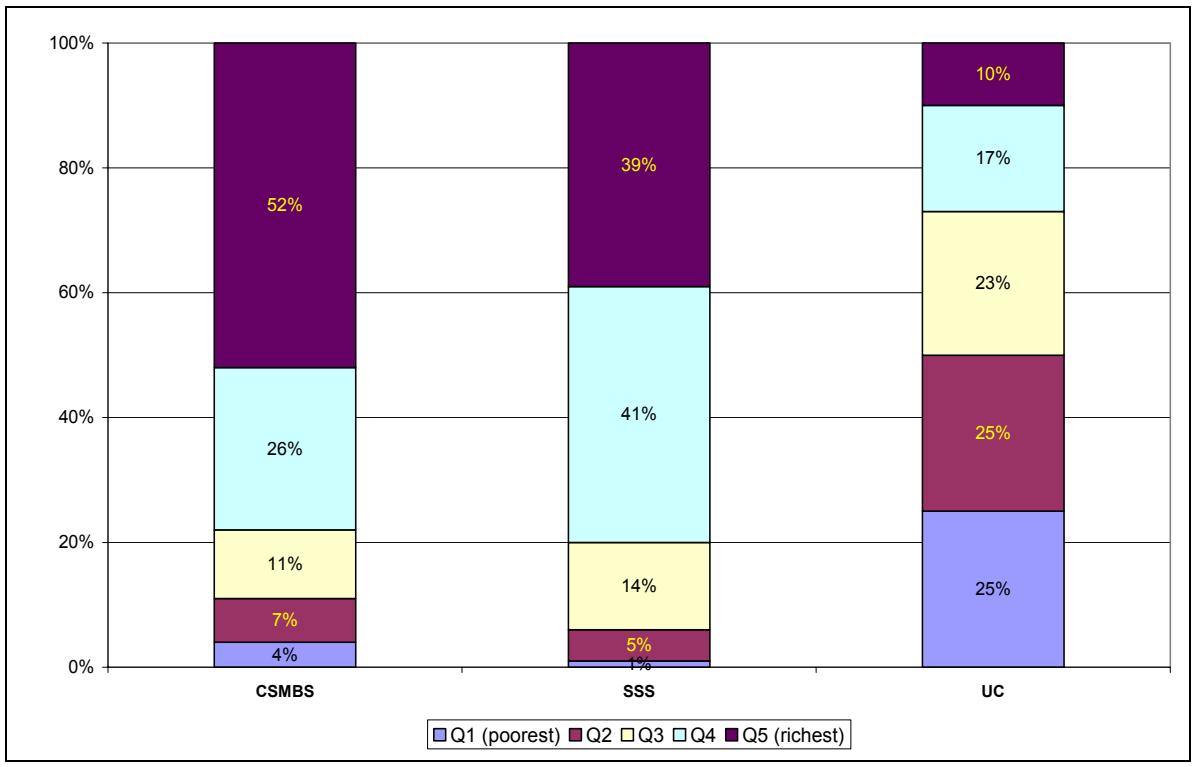
Results

Direct taxation was chosen as the funding mechanism for pragmatic reasons because of the desire for speedy implementation. It has since been assessed as an equitable funding model in comparison with social insurance or other contributory schemes.

The National Statistics Office conducted a health and welfare survey in 2004 which assessed coverage of the UC scheme. This indicated that the beneficiaries of the scheme are principally in the low income groups, unlike the two other main health insurance schemes (see figure 1).

The scheme has also resulted in a reduced incidence of catastrophic health expenditure from 5.4% to 2.8-3.3%.

Figure 1 Scheme beneficiaries by income quintiles, 2004



Source: NSO Health and Welfare Survey 2004, cited in Tangcharoensathien, 2007.

The Ministry of Public Health and the National Statistics Office are working on developing and deepening the data available from such surveys and intend to use the data to continue to monitor the impact of the UC scheme on health inequities.

Source: Tangcharoensathien, 2007.

Case study 9: Slovenia – Health impact assessment of agriculture, food and nutrition policies

Illustrates: Health impact assessment

Background

In December 2001 the Slovenian Ministry of Health and the WHO European region proposed to undertake a health impact assessment (HIA) of agriculture, food, and nutrition policies. The HIA project in Slovenia was conducted as a pilot project to develop both the methods of HIA and the evidence base, with the aim that the outputs and lessons learnt could be used by other countries.

The Republic of Slovenia is a small country of approximately two million inhabitants, and is bordered by Austria, Croatia, Hungary and Italy. Formerly a constituent part of Yugoslavia, Slovenia declared its independence in 1991. Although agriculture contributes only 3.2% of gross domestic product (GDP), main industries include food and beverage manufacture. The agricultural sector is dominated by dairy farming and animal stock, with the main crops being corn, barley and wheat.

The most important stimulus for the HIA was Slovenia's application to join the European Union (EU), and the influence that adoption of the Common Agricultural Policy (CAP) legislation would have on national agricultural policy. However, there were also national Slovenian concerns and priorities that supported development of the HIA work. For instance, the State Secretary for Health had been concerned that there were marked differences in standardized mortality rates between the regions in the east and west of Slovenia. The reasons for the differences had not been explained, but the north-east region, Promurje, which has the highest all-cause mortality, is also the region with the largest agricultural sector in the country.

HIA methods

The HIA followed a six-stage process:

1. Policy analysis
2. Rapid appraisal workshops with stakeholders from a range of backgrounds
3. Review of research evidence relevant to the policy
4. Analysis of Slovenian data for key health-related indicators

5. Report on the findings to a cross-government group
6. Evaluation.

Stage 1. Policy analysis

The major difficulty in the initial stages of the HIA was clarifying the policy options to be assessed. It was decided that the main focus of the HIA should be on the broad effects of the CAP adoption. The authors also looked specifically at the effects of some of the regimes for specific commodities including the fruit and vegetable, wine and dairy sectors, and the policy instruments for rural development.

Stage 2. Workshops with stakeholders

The most important part of a HIA is identifying and collecting information for health impacts that a policy might create. It had been decided that the HIA approach taken in Slovenia would involve national and regional stakeholders. The first HIA workshops were held in March 2002 in the north-east region of Promurje. A total of 66 people participated, including representatives of local farmers, food processors, consumer organizations, schools, public health, nongovernmental organizations, national and regional development agencies, and officials from several government ministries. The participants were asked to identify potential positive and negative health impacts of the proposed agricultural policies. They were asked to identify which population groups would be most affected by each policy area. The main issues identified by stakeholders are summarized in the box below.

Box 1. Key determinants of health potentially affected by agricultural policy development in Slovenia

- Changes in income, employment, housing, and issues of social capital in rural areas
- Changes in the rural landscape and cultural impacts
- Increased food imports and effects on exports
- Nutritional value and food safety of produce and food products
- Environmental issues: farm intensification leading to water and soil pollution
- Potential benefits of organic agriculture and food
- Barriers to increasing organic production or small-scale on-farm industries (including knowledge of farmers and absorption capacity for European Union money)
- Occupational health of farm workers and food processors
- Capacity of local services and institutions, including employment, education, health, and social services.

Stage 3: Evidence review

The next step was the evidence review. An expert meeting was held to assess the strength of the evidence for the links between the policy issues identified in the workshops, and health determinants and health outcomes. Unsurprisingly, for several key areas the evidence was found to be patchy or not available in an up-to-date, easily synthesisable form. Evidence reviews were therefore commissioned that linked relevant agriculturally-related health determinants and health outcomes for six policy topics that had been key issues in the stakeholder workshops. These policy topics were: environmentally friendly and organic farming methods; mental health and rural communities; socioeconomic factors and social capital; food safety; occupational exposure; and issues of food policy including price, availability, diet and nutrition.

Stage 4: Analysis of Slovenian indicators

The next aspect of the project collected health and social indicators in Slovenia (see box below). These indicators are determinants of health and were used in the HIA as measures of intermediate health outcomes. As with many HIAs, the uncertainty of the extent of policy change meant that for many indicators the authors were unable to quantify the health outcomes precisely and could only predict the direction of the effect.

Box 2. Categories of indicators collected in Slovenia at the national and regional level

- Levels of food production
- Methods of food production, including extent of agrochemical use, organic food or environmentally friendly food production
- Environmental pollution in agricultural areas
- Levels of food imports and exports
- Working conditions and occupational health of those in the food and agricultural industry
- Socioeconomic factors in rural communities, including employment by sectors, unemployment statistics
- Access of consumers to food – food retailing, prices
- Patterns of food consumption
- Food safety statistics
- Food processing, including on-farm processing
- Agro-tourism development.

Stage 5: Report

The final results of the HIA were presented to the Intergovernmental Committee on Health at the launch of the National Food and Nutrition Action Plan in Slovenia in May 2003. This report presented the results and recommendations for the government of Slovenia on a range of agricultural issues including the fruit and vegetable, grain and dairy sectors, and rural development funding.

Stage 6: Evaluation

A retrospective evaluation of the HIA was planned at time of writing (2003).

Intermediate outcomes and lessons learnt from the HIA process

As far as the authors are aware, this was the first time that any project had set out to estimate specific national health impacts of incorporating the CAP, and it was the first HIA attempted of national agricultural and food policy.

Several important learning points arose:

- This is such a complex policy area that it was essential to have effective cross-governmental working at a national and regional level to tackle agricultural policy issues.
- In common with many HIAs at project or policy level, this HIA was limited by pressures of time and human resources.
- At the start of the work most people in Slovenia were unfamiliar with the methods or aims of HIA. A two-day HIA training course was developed and run jointly between the WHO European region, the London School of Hygiene and Tropical Medicine, and the Slovenian Institute of Public Health. This need for HIA capacity building was addressed six months after the work had begun. In hindsight, it would have been preferable to conduct training in advance of the HIA starting.
- Even though this was planned as a pilot project feeding into national policy development, the political timeframes created pressure to provide support for the Slovenian government during the negotiations on the CAP subsidies.
- The process of conducting the HIA had some important intermediate outcomes that were not initially foreseen. The health and agricultural sectors began to support each other in the types of agriculture and food policies that they wanted implemented in Slovenia after EU accession. The EU negotiations were very successful and Slovenia was allocated

much more in relative terms than other accession countries. They will potentially have much more diversification in the rural economy, support smaller-scale environmentally friendly farming, and maintain local production systems. It is obviously difficult to specify the exact influence of the HIA in this.

- The experience of HIA of agriculture and food polices in Slovenia is similar to that found in other countries and other policy contexts. The major benefits seem to be in strengthening policy makers' understanding of the interactions between health and other policy areas, and in creating new opportunities for improving intersectoral relationships.
- It is still not clear when is the best time to conduct a HIA of a policy. In the HIA of agricultural policy in Slovenia, as has been the experience in the Netherlands and Wales, if a HIA is attempted at too early a stage the policies are still too vague or change too frequently to make a strong definitive assessment possible. Conversely, if the HIA feeds into the decision-making too late it will have little or no ability to effect change.

Source: Lock et al., 2003.

Case study 10: Uganda – Community-based monitoring and evaluation of Poverty Action Fund

Illustrates: Generating evidence for policy and action; Evaluation; Monitoring

The Uganda Debt Network (UDN) is a civil society organization monitoring the Poverty Action Fund (PAF) set up in 17 districts. The PAF was to be used for five sectors, including health. In May 2000, the UDN established PAF Monitoring Committees in each of the 17 districts with the objective of enabling community members to monitor the functioning of PAFs and to check for corruption. However, these district level structures were found to be inaccessible by members of the community.

The UDN then decentralized the monitoring further through a community based monitoring and evaluation system (CBMES). The CBMES monitors PAF at not only district level but also sub-county, parish and village levels. The CBMES was piloted, along with the Kamuli District PAF monitoring committee, in eight villages in two sub-counties. The initial meetings to select participants were held in public spaces accessible to all, with approximately 33% of the participants being women. Of these participants, 80 were selected for training, with women constituting nearly 40% of those selected.

The participants in the training programme identified the following indicators for monitoring health:

- Number of medical personnel in health centres, their time of reporting and hospitality
- Availability of medicines, syringes, gloves and cotton wool
- Waiting time for services
- Distance of health centre
- Availability of immunization services
- Number of beds.

The participants were trained in collecting and recording data on these indicators and in interacting with government officials. The findings were fed back to the district officials, chairperson and members of the sub-counties, members of the press and local radio, government officials and members of the communities. During these

feedback meetings, the members of the other CBMES committees (beyond the pilot phase) were selected and the indicators for monitoring were refined.

The following changes were reported in the health services in the pilot area due to the CBMES:

- Removal of user fees (one county)
- Improvement in stock of medicines and supplies (one county)
- Establishment of immunization outreach services (one country)
- Increase in beds in general ward and in labour ward (both counties).

However, problems remain:

- The availability of beds and drugs was far from adequate
- In one county, treatment for HIV/AIDS continued to be unavailable
- Corruption and long distances to reach health care services continued to pose problems.
- Inadequate resources to cope with increase in demand after the improvement in infrastructure and removal of user fees led to a slight deterioration in quality of service.

Lack of adequate resources for travel and other costs incurred by monitors posed problems in replication.

Source: Murthy, 2007.

Case study 11: Various countries – Synthesis of qualitative studies of effectiveness of tuberculosis treatment

Illustrates: Evidence synthesis and action

Introduction

Asking people to visit a health worker, or other appointed person, to receive and be observed taking a dose of medication is called 'directly observed therapy' (DOT). The implementation of DOT has received much commentary as it appears to contravene notions of patient autonomy, self-care and the right to privacy.

In 1997, Volmink and Garner (1997) published a Cochrane systematic review of randomized controlled trials (RCTs) involving DOT as an intervention to improve adherence to TB regimens. The review showed an absence of any evidence for or against DOT compared with people treating themselves at home. The authors undertook a systematic review of qualitative research focusing on lay experiences and perceptions of TB treatment to see whether these studies could help explain the results of the RCTs

This case study looks more at the methodology used to select and synthesize the evidence than at results of the research.

Methods

As far as possible the work followed the main steps identified in the methodological literature on the conduct of systematic reviews (see Cochrane, 2006). Predictably, however, because the work involved a systematic review of qualitative research, important aspects of accepted systematic review methodology could not be directly translated. These issues will be explained in further detail below.

The review addressed two broad questions:

- What does qualitative research tell us about the facilitators and barriers to accessing and complying with TB treatment?
- What does qualitative research tell us about the diverse results and effect sizes of the RCT included in the quantitative systematic review?

Search strategy

All principal researchers involved in the six RCTs were contacted and relevant qualitative studies that were associated with, or conducted alongside, the RCTs were obtained and where necessary translated. A systematic search of the wider English language literature was undertaken and a variety of sources were searched to minimize bias. The timeframe was 1990 to December 2005 as DOT was not used before this period.

The authors searched Medline, CINAHL, HMIC, Embase, British Nursing Index, International Bibliography of the Social Sciences, Sociological Abstracts, SIGLE, ASSIA, Psych Info, Econ lit, Ovid, Pubmed, the London School of Hygiene and Tropical Medicine database of TB studies, and Google Scholar. Reference lists contained within published papers were also scrutinized. A network of personal contacts was also used to identify papers.

The search produced over 2500 records. Lack of specificity is a recognized and common problem with qualitative reviews and makes reproducibility of the search strategy difficult.

Quality appraisal

Unlike with a Cochrane systematic review of RCTs, the authors decided to appraise studies but not exclude any due to quality. At the end of the synthesis, they undertook an analysis of whether anything substantially different was found in weaker studies, which it was not.

Data extraction and synthesis

The framework for data extraction consisted of two main domains: information about the study focus and methods, and findings illuminating the factors that shape decision-making about treatment for TB. Data extraction and synthesis was thematic – akin to the approach to analysis in much qualitative research. The thematic framework evolved as the data extraction and synthesis proceeded rather than being constructed before the process began and remaining unchanged throughout the review. Papers were reviewed in chronological order, with the oldest first. An initial set of themes began to emerge. As subsequent papers were reviewed, new themes were identified or existing themes refined until no further new themes emerged.

A narrative summary approach was used to explore the facilitators and barriers to accessing and complying with treatment, and to consider the implications of this for understanding the outcomes of the RCTs included in the Cochrane review.

Findings

What does qualitative research tell us about the facilitators and barriers to accessing and complying with treatment?

Five themes emerged:

- Socio-economic circumstances, material resources and individual agency
- Explanatory models and knowledge systems in relation to TB and its treatment
- The experience of stigma and public discourses around TB
- Sanctions, incentives and support
- The social organization and social relationships of care.

Socioeconomic circumstances, material resources and individual agency

The most prominent theme to emerge across all the included studies, regardless of the country in which the research was based or the social group on which they focused, was the dominance of poverty and disadvantage as both a risk factor in contacting TB and as a barrier to early diagnosis and effective treatment. In this respect, the social groups mirror those in the RCTs.

The ways in which poverty and disadvantaged circumstances mediate decisions about diagnosis and treatment appear to be both numerous and complex. They include the inability to give up work or risk the loss of earnings in order to participate in treatment regimes; the cost of transport to services, which can prohibit access entirely or disrupt treatment episodes; inability to pay for drugs where this is necessary or for extra food when treatment results in increased appetites; and the risks of drugs being stolen in homelessness shelters or other insecure accommodation.

Another prominent finding in many studies was the creativity and perseverance of individuals seeking treatment for TB, despite the often overwhelming barriers they faced. Such actions included: going without food or selling land to pay for TB drugs; initiating self-medication because of fear of infecting others; and placing considerable

value on ‘staying well’ and following treatment regimes as far as finances and other pressures allow.

Explanatory models and knowledge systems in relation to TB and its treatment
Many of the studies reviewed pointed to the importance of understanding the knowledge people have about the causes of TB and the effects of the drugs involved in treatment when designing and delivering prevention and treatment programmes. There were instances when the information that people with TB had about the causes of the disease or the effects of the drugs used in treatment – which would affect uptake – could be considered problematic or incorrect.

The experience of stigma and public discourses around TB
Across many – albeit not all – cultures and social groups there is a widespread stigma associated with TB, which means that people will be reluctant to seek a diagnosis or to be seen to be receiving treatment or alternatively may keep the diagnosis secret. Public discourses around TB in rich and poor countries alike reinforce the associated stigma, and stigmatizing views may be held and articulated by people providing services.

Sanctions, incentives and support
Across studies, findings suggest that punitive sanctions associated with TB treatment – intended or not – may be an important barrier to uptake in rich and poor countries alike. In contrast, some studies pointed to the way in which positive incentives could increase people’s willingness to take up treatment and follow guidance.

The authors identified relatively few studies that explored the nature of support that people with TB received or would wish to receive. The limited evidence that is available, however, suggests that the financial and social support of family members or friends may be pivotal in determining whether people are able to access and follow treatment regimes.

The organization and social relationships of care
There is good evidence across countries and cultures that the way in which TB treatment services are organized is a major factor in the decisions people make about seeking and following treatment regimes. In general, the research suggests

that services were rarely designed with users' needs in mind and often did not fit readily into the tempo of people's lives, making it difficult, for example, to combine work with treatment regimes or to retain confidentiality. I

What does qualitative research tell us about the diverse results and effect sizes of the RCTs included in the Cochrane quantitative systematic reviews?

The meta-analysis of trials did not show statistically significant differences between DOT and self-supervision, thereby suggesting that it is not DOT per se that has led to an improvement in treatment outcomes.

What does qualitative research add?

The variants of DOT differ in important ways in terms of who is being observed, where the observation takes place and how often observation occurs. The synthesis of qualitative research suggests that these elements of DOT will be crucial in determining how effective a particular type of DOT will be in terms of increased cure rates. In addition, the qualitative review has highlighted the key role of social and economic factors and physical side effects of medication in shaping behaviour in relation to seeking diagnosis and adhering to treatment.

More specifically, a predominantly inspectorial approach to observation is not likely to increase uptake of service or adherence with medication. Inspectorial elements may be needed in DOTS packages, but when the primary focus of direct observation was inspectorial rather than supportive in nature, observation was least effective. Direct observation of an inspectorial nature had the most negative impact on those who had the most to fear from disclosure, such as disadvantaged women, who experienced gender-related discrimination. In contrast, DOTS packages in which the emphasis is on person-centred support are more likely to increase uptake and adherence. The review also provided some insights into the type of support that people with TB find most helpful. Primarily, the ability of the observer to add value depended on the observer and the service being able to adapt to the widely-varying individual circumstances of the person being observed (age, gender, agency, location, income, etc.). Given the heterogeneity amongst those with TB, findings support the need for locally tailored, patient centred programmes rather than a single world-wide intervention.

Source: Noyes et al., 2007.

Case study 12: UK – Development of evidence based guidance

Illustrates: Evidence synthesis and action

The National Institute for Health and Clinical Excellence (NICE) in the UK ensures that evidence collected and collated to produce its public health recommendations takes account of inequalities by asking the following sub-set of questions as well as questions of general effectiveness:

- How does the effectiveness of the intervention vary according to age, gender, ethnicity and other dimensions of social inequality?
- Is there any differential impact on inequities in health between different population groups?
- What are the adverse or unintended outcomes?

NICE produces its public health guidance in 4 distinct phases: scoping; reviewing evidence and drafting recommendations; testing the recommendations through fieldwork; internal validation and publishing. Stakeholders (including the professionals who will have a responsibility to implement the guidance and the general public who may be targets of it) have opportunities to contribute to the development of the guidance during the first three phases of the process.

NICE public health recommendations are not graded, but they are formulated and prioritized based on:

- Strength (quality and quantity) of the supporting evidence and its applicability to the populations and settings in question
- Importance of the outcomes (including impact on inequalities)
- Size of effect and potential impact on individual and population health
- Cost effectiveness
- Any other considerations (e.g. risks to health, implementability).

Recommendations are drafted based on the suitability of the evidence to answer the key questions from the scoping phase. If the evidence is very strong (i.e. it is consistent and of good quality), it is directly applicable and there is good evidence to

suggest the intervention is implementable, then it is translated into a recommendation.

Although there is no formal procedure or established method for prioritizing guidance, NICE provides some criteria to take into consideration:

- The anticipated impact on improving health and/or reducing inequities in health
- How much change is required in practice to implement the recommendations (if possible, NICE avoids recommending action which is already underway)
- The cost effective use of resources
- The balance of risks and benefits

Source: National Institute for Health and Clinical Excellence. More information is available from www.nice.org.uk/publichealth.

Case study 13: Mexico – Use of monitoring and evaluation to continuously improve the Oportunidades *programme*

Illustrates: Evaluation; Monitoring

The human development programme *Oportunidades* (Opportunities) was designed to improve the educational, health and nutrition conditions of people in extreme poverty in Mexico. The programme started in 1997 in rural areas; in 2001 it was expanded to semi-urban areas and in 2002 to urban areas. In 2005 it covered 5 million families or approximately 25 million people, one fourth of Mexico's total population.

The programme combines traditional cash transfers with incentives on education, health and nutrition. These require active family participation in taking care of their education and health. In order to receive food benefits, family members must (a) receive a preventive health check; (b) monitor the weight and height of children under five years old; (c) breastfeeding mothers must take care of their nutrition; and (d) pregnant women must attend ante-natal care. To receive the cash benefits for education, families must be responsible for their children's school enrolment and must ensure a minimum annual attendance of 85%. The subsidy is not given twice for the same grade, thus it is lost in case of grade repeats.

One of the programme's salient features is that right from the start it incorporated an evaluation component to identify and measure the programme's impacts. This includes both quantitative and qualitative evaluations, which are carried out by well-known national and international research and academic institutions.

Rigorous and continuous evaluations have not been a characteristic of Latin America. The evaluation component of *Oportunidades* has become a benchmark in social policy in the region. In the words of the former Mexican Undersecretary for Social Development, Fernando Medina, 'there is no turning back after the evaluation experience of *Oportunidades'*. Furthermore, the need for evaluation has permeated the highest decision-making levels. According to Medina, senior officials have become conscious of the need for valid and timely programme evaluations to follow up on processes and the impact on the target population.

The evaluation methods themselves are continuously adjusted in terms of design and implementation. The four main areas of evaluation are: (a) measurement of short, medium and long term results and impacts; (b) identifying results and impacts which may be attributed to the programme and distinguishing them from other individual, family or community contextual factors; (c) analysing the indirect effects of the programme; and (d) providing continuous feedback to improve the programme.

Besides its diversity of methodologies and sources, the evaluation of *Oportunidades* has been characterized by the wide variety of factors it assesses, especially on gender issues. Some of these issues are:

Education: School enrolment, nutrition and scholastic achievements, extracurricular development, educational expectations, transition rates to secondary education.

Health: Health services utilization, morbidity and health status, obesity, chronic illnesses, reproductive health.

Nutrition: Nutritional status, child development, language acquisition in urban children.

Social and economic aspects: Rural and urban consumption, effects on rural micro-enterprises, demographic and migration effects, child and young labour, female participation in the labour force, gender equity.

In addition to measuring the impacts directly relating to the programme's objectives, the evaluation also assesses some indirect effects like its impact on family relations, both within the couple and between parents and children. Since the cash transfers are received by women directly, there was a particular concern in assessing its potential impact on the violence of the male partner (psychological, physical, sexual and economic), one of Mexico's major public health problems.

Sources: Escobar & González, 2005; Espinosa, 2004; Gertler, 2001; Maldonado et al., 2005; Medina, 2001; Rivera et al., 2005; Todd et al., 2005.

Case study 14: Sweden – Use of evidence to develop the intersectoral National Public Health Strategy and the challenges of monitoring its implementation

Illustrates: Effective implementation and evaluation; Monitoring

Developing an evidence based strategy

In the 1980s, health inequity was identified and prioritized as a key area for research and intervention in Sweden. In the 1990s, this focus was linked to a social determinants framework, with an overt intersectoral action on health (IAH) component. In 1997 a National Public Health Commission was appointed. The Commission was composed of experts and political representatives. It followed a 3-stage process for setting national targets: (a) developing a framework and starting a public discussion; (b) ethical values, scientific facts and priority-setting; and (c) finalizing the strategies with input from key stakeholders and a knowledge base update. The National Public Health Strategy proposed by the Commission was adopted in 2003.

The strategy aims to create social conditions for good health on equal terms for the entire population, via eleven domains of objectives. These are:

1. Participation and influence in society
2. Economic and social security
3. Secure and favourable conditions during childhood and adolescence
4. Healthier working life
5. Healthy and safe environments and products
6. A more health-promoting health service
7. Effective protection against communicable diseases
8. Safe sexuality and good reproductive health
9. Increased physical activity
10. Good eating habits and safe food
11. Reduced use of tobacco and alcohol, a society free from illicit drugs and doping and a reduction in the harmful effects of excessive gambling.

All of these domains relate to major public health determinants (both structural and lifestyle) and this enables IAH to be located at the core of the policy. IAH is reflected in the strategy through various content and process areas, including: prioritizing

health determinants; gathering scientific evidence; attaining political buy-in; and ensuring public participation and awareness-raising.

The development of the strategy was underpinned by a strong call for scientific evidence to support its claims. Nineteen background papers were commissioned from expert groups and fed into the strategy proposal. From the outset, this emphasis on scientific evidence ensured a solid basis and credibility for an IAH-centred strategy. It also mobilized the research community in an intersectoral way and allowed for a multi-disciplinary research approach to health determinants.

Monitoring and evaluation

Accountability is central to the strategy: the government is tasked with reporting on its progress to the Riksdag (parliament) once every election period and the Swedish National Institute of Public Health is charged with co-ordinating the national monitoring and evaluation of intersectoral public health efforts; overseeing the comprehensive evaluation of the overall public health aim; and presenting a Public Health Policy Report to the government every 4th year.

The limited information that is available on the implementation of the policy illustrates the logistical challenge of co-ordinating IAH, with an estimated 50 or so government agencies working towards the domain of objectives. Although Sweden's National Public Health Strategy governs IAH and creates the enabling structures and mechanisms for its implementation, monitoring and evaluation, health care delivery is a sub-national (rather than national) responsibility borne by the county councils, which also operate locally through the municipalities. There are 21 county councils and 290 municipalities across Sweden.

Finding a set of methodologies for monitoring and evaluating (M&E) the IAH component of the National Public Health Strategy promises to be a challenging exercise. The Swedish National Institute of Public Health has been tasked with an explicit M&E function. Such co-ordination and centralization will allow for lesson-learning across IAH projects. But it is important that M&E functions are not restricted to the Institute only as this could result in their marginalization within IAH projects themselves.

More generally, an absence of planning for, and incorporating, practical M&E steps directly into a new IAH project (particularly while the strategy is still in its initialization stage and involves the key players) could represent a missed opportunity. For example, if M&E is not practically structured into the workplan and design of intersectoral actions from the outset, there may not be enough funding/ capacity to ensure these activities take place at the end of the implementation phase, and baseline data will not be available for comparison. Similarly, if pilot IAH projects are not thoroughly evaluated (due to funding/ capacity shortages), then future interventions may not be as effective or relevant as they might with M&E. It is important that the monitoring and evaluation of projects is not restricted to the design and implementation of project activities but also that IAH financing is carefully reviewed, and that the impact on the various dimensions of equity remains a key indicator of success.

Source: Harris, 2006.

Case study 15: Kenya – Impact of grassroots involvement in gathering data on successful introduction of change

Illustrates: Monitoring

Closing the information-utilization gap is one of the main objectives of PIMIRA (Program-linked Information Management by Integrative-participatory Research Approach), carried out as part of the Kenya Partnership for Health (KPH) programme and implemented in the Trans-Nzoia district in the Rift Valley province. PIMIRA's purpose is to develop community-based health information management on the social, cultural, political and economic determinants of health and its utilization in decision-making.

KPH's Healthy Villages Initiative (HVI) defines a healthy village as an administrative area where there is a minimal public health requirement to prevent malaria and diarrhoea diseases. PIMIRA has developed community based health surveillance through routine data collection on reported malaria and diarrhoea, expecting to include HIV/AIDS and the Child Health Essential Services package in the future.

The PIMIRA model's underlying principles are (a) that 'people have beliefs about the causes of diseases which may or may not be consistent with the scientific explanations of the disease'; and (b) that 'no lasting change in people's behaviour may occur without awareness, understanding and believing in the change'. The first principle appeals to what has been called 'popular epidemiology' or 'lay epidemiology'. The second one relies on the empowerment of the community around its lay knowledge.

The programme has developed a community-based toolkit which includes (a) *pocket charts* to collect and tabulate data on where people defecate and where they collect water; (b) *community maps* showing available water supply resources, permanent mosquito breeding sites and disease distribution by lay definitions; (c) *resource maps* showing the community's income generating activities; (d) *flow charts* showing possible water and food contamination routes; (e) *matrix classifications* on common causes and barriers to health and communication, based on pictures to communicate epidemiological concepts to the community; (f) *Venn diagrams* to collect information on traditional and modern organizations involved in managing local water resources

and information systems; (g) *community surveillance tally cards* with representations of the main signs of water-related diseases and routine activities related to malaria; (h) *facility morbidity tally sheets* to record village-specific water-related diseases and malaria; and (i) *historical analytic charts and seasonal calendars* to record how the community has traditionally handled certain diseases.

This information was later used by the community for eliminating mosquito breeding sites and protecting the communal water springs. Information on the use of safe water was extended to the household level to avoid contamination of water coming from protected springs.

Due to increased awareness of the impact of clean water on health through the community-owned health surveillance, the number of protected springs maintained and repaired by the community increased and spring committees were created. An influence has also been observed in neighbouring villages which are now demanding these preventive measures.

This initiative has resulted in the lack of a malaria outbreak in this district since 2001 and in a reduction in the number of diarrhoeal cases reported.

Source: Solomon, 2005.

Case study 16: Netherlands – Introduction of a multi-level surveillance system for monitoring health inequalities

Illustrates: Monitoring

A government advisory committee in the Netherlands proposed a set of quantitative targets for tackling health inequalities (e.g. targets on disparities in income, working conditions, smoking, health care utilization). These targets have been used for the development of a monitoring system which covers social determinants, health outcomes and relevant health determinants.

The committee decided to base its strategy on a number of quantitative targets because these can help in plotting a clear policy course and can function as milestones for interim assessments of the strategy. The committee took the World Health Organization target as its starting point and reformulated it for the Netherlands as: 'By the year 2020, the difference in healthy life expectancy between people with a low socioeconomic status and people with a high socioeconomic status should be reduced from 12 to 9 years, due to a (greater) increase in healthy life expectancy in the lowest socioeconomic groups.'

Major efforts are required to attain such an ambitious goal if only because the trends of the latter decades have shown an increase rather than a decrease in socioeconomic inequalities in health. Although it was considered unwise to give up on the ambition laid down in the 'inspirational' target above, the strategy focused on a set of intermediate targets that seemed feasible in the near future (see table 1 below). These targets were chosen to represent each of the main entry-points for reducing socioeconomic inequalities in health, and were limited to intermediate outcomes for which quantitative data for the Netherlands were available.

Table 1. Quantitative policy targets proposed by Dutch government advisory committee on tackling health inequalities

Targets relating to socioeconomic disadvantage

- Percentage of children from lower social class families who enter secondary education to be increased from 12% in 1989 to 25% or higher in 2020.
- Income inequalities in the Netherlands to be maintained at the level of 1996 (Gini coefficient = 0.24).
- Percentage of households with an income below 105% of the 'social minimum' to be reduced from 10.6% in 1998 to 8% or lower in 2020.

Targets related to health-related selection

- Disability benefit for total work incapacity due to occupational health problems to be maintained at the level of the year 2000.
- Percentage of chronically ill persons between the age of 25 and 64 who are in paid employment to be increased from 48% in 1995 to 57% or higher in 2020.

Targets related to factors mediating the effect of socioeconomic disadvantage on health

- Difference in smoking between lower and higher educated persons to be halved by decreasing the percentage of smokers among those with primary school education only from over 38% in 1998 to 32% or lower in 2020.
- Difference in physical inactivity between lower and higher educated persons to be halved by decreasing the percentage of physically inactive persons among those with primary school education only from over 57% in 1994 to 49% or lower in 2020.
- Difference in obesity between lower and higher educated persons to be halved by decreasing the percentage of obese persons among those with primary school education only from over 15% in 1998 to 9% or lower in 2020.
- Difference in heavy physical labour between lower and higher educated persons to be halved by decreasing the percentage of persons with complaints resulting from physical labour among those with primary school education only from 53% in 1999 to 43% or lower in 2020.
- Difference in control in the workplace between lower and higher educated persons to be halved by increasing the percentage of persons who control the execution of their work among those with primary school education only from 58% in 1999 to 68% or higher in 2020.

Targets related to accessibility and quality of health care services

- Differences in utilization of health care facilities (consultations with GPs, medical specialists and dentists, hospital admissions, prescribed drugs) between lower and higher educated persons to be maintained at the level of the year 1998.

Based on these targets, the National Institute for Public Health and the Environment developed a surveillance system (see table 2), which is now regularly generating data on trends in inequalities of important health determinants. One of the main findings in its first years was the lagging behind of lower socioeconomic groups in smoking cessation. Because of the importance of inequalities in smoking as a determinant of health inequalities in high income countries like the Netherlands, the National Institute for Public Health and the Environment carried out a mathematical

modelling exercise to calculate the potential impact of reducing smoking prevalence in lower socioeconomic groups on health inequalities.

Table 2. Content of the 'health inequalities monitor' in the Netherlands

Independent variables

Socioeconomic status

- Education
- Income
- Geographical SES indicator based on postcode

Socio-demographic background characteristics (confounders or stratifiers)

- Gender
- Age
- Ethnicity.

Dependent variables

Health-related selection

- Income while working as disabled
- Labour market position of chronically ill

Health outcomes

- Mortality
- Self-assessed health
- Healthy life expectancy
- Mental health
- Disabilities and chronic conditions
- Overweight

Health-related behaviours

- Smoking
- Physical exercise
- Alcohol consumption
- Diet

Environmental factors

- Working conditions
- Material and financial situation
- Recreation facilities and access to green spaces
- Social support and social networks
- Safety

Health care utilization

- General practitioner
- Medical specialist
- Hospital stay
- Paramedical consultations.

Source: Mackenbach & Stronks, 2002.

Appendix III – List of abbreviations

CDC	Centre for Disease Control and Prevention (Atlanta, USA)
CIHR	Canadian Institutes of Health Research
CSDH	Commission on the Social Determinants of Health, WHO
DHS	Demographic and Health Surveys
ECLAC	Economic Commission for Latin America and the Caribbean
EPPI	Evidence for Policy and Practice Information and Coordinating Centre, UK
GEGA	Global Equity Gauge Alliance
GDP	gross domestic product
GPI	Gender Parity Index
HEA	health equity auditing
HIA	health impact assessment
HIC	high income countries
HIV/AIDS	human immunodeficiency virus / acquired immune deficiency syndrome
IAH	intersectoral action on health
IHS	Integrated Household Surveys
IMCI	Integrated Management of Childhood Illness
IMR	infant mortality rate
KN, KNs	knowledge network(s)
LMIC	Low and middle income countries
MEKN	Measurement and Evidence Knowledge Network, CSDH
NGO, NGOs	non-governmental organization(s)
NHMRC	National Health and Medical Research Council (Canberra, Australia)
NHS	National Health Service, UK
NICE	National Institute for Health and Clinical Evidence, UK
NSW	New South Wales, Australia

PAHO	Pan American Health Organization (WHO)
PE	Program Evaluation
RCT, RCTs	randomized controlled trial(s)
SDH	social determinants of health
UCL	University College London, UK
UDD	Universidad del Desarrollo, Chile
UK	United Kingdom
UNESCO	United Nation Educational, Scientific and Cultural Organization
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USA	United States of America
U5MR	under five mortality rate
WHO	World Health Organization
WHS	World Health Surveys