

# Implementation of a Health Impact Assessment (HIA) tool in a regional health organization in Sweden—a feasibility study

DAVID FINER<sup>1</sup>, PER TILLGREN<sup>2,3</sup>, KARIN BERENSSON<sup>2,4</sup>,  
KARIN GULDBRANDSSON<sup>2</sup> and BO J. A. HAGLUND<sup>2</sup>

<sup>1</sup>Karolinska Institutet, Department of Public Health Sciences, Division of International Health (IHCAR), Norrbacka, Stockholm, Sweden, <sup>2</sup>Karolinska Institutet, Department of Public Health Sciences, Division of Social Medicine, Norrbacka, Stockholm, Sweden, <sup>3</sup>Mälardalen University, Department of Caring and Public Health Sciences, Box 883, Västerås, Sweden and <sup>4</sup>The Swedish Association of Local Authorities and Regions, Stockholm, Sweden

---

## SUMMARY

During the last decade, Health Impact Assessment (HIA) has been discussed worldwide as being an important tool for the development of healthy public policy. In Sweden, the Swedish Federation of County Councils and the Swedish Association of Local Authorities have taken the initiative to and are responsible for the development of an HIA tool concerning proposed policy decisions at local and regional levels. The HIA tool was developed as three different templates to be adapted to local conditions and needs: the Health Question, the Health Matrix and the Health Impact Analysis. In this paper we present a feasibility study of the experiences of implementing this HIA tool at regional level in a Health Care District (SWHCD) of Stockholm County Council, based on an inductive approach and on principles of data triangulation. The main findings include the need for continuous revision of the HIA templates during the pilot

period. The following factors were instrumental in successfully using the HIA tool in local policy making and management: political consensus, agreement between politicians and public officials on political intentions, a clear-cut decision from management, and offering an opportunity for training. Respondents felt that all public officials should use the HIA as part of their normal work routines. In conclusion, the HIA tool has to be locally adapted and the implementation process has to include close collaboration between politicians and public officials and be followed by continuing education, providing possibilities for a dialogue around the HIA tool, in order to ensure the quality of the instrument. Implications of the study are that the process of developing the tool has worked well but that the possible impacts of its use in this case remain an open question. However, this was not the focus of our study.

*Key words:* feasibility studies; health governance; Health Impact Assessment; HIA; implementation of HIA

---

## INTRODUCTION

National governments and international organizations often find themselves at a disadvantage in the face of health sector reforms, involving globalization and privatization, replacing old forms of governance with new ones. In adapting to these changes, decision-makers have recognized the

need for more effective coordination and team working in policy development (Maeland and Haglund, 1999; Haglund *et al.*, 2000; Mittelmark, 2001). These needs have spawned new concepts, e.g. Health Impact Assessments (HIA), Investments for Health and Local Welfare

Management (Mcintyre and Petticrew, 1999; Watson *et al.*, 2000; Ziglio *et al.*, 2000; Mahoney and Morgan, 2001), which emphasize the importance of focusing on equitable outcomes, and on explicitly targeting disadvantaged groups.

The Ottawa Charter identified healthy public policy as one of the five key health promotion areas (WHO, 1986). Healthy public policy has been defined as a policy that is characterized by an explicit concern for health and equity in all areas of policy. Advancement of healthy public policy requires that the health consequences of policy should be correctly foreseen, and that the policy process should be influenced so that *those* health consequences are considered. HIA is one of the approaches facilitating evidence-based policymaking and building healthy public policy.

In a 1999 review of implemented and published Health Impact Assessments, McIntyre and Petticrew found only 20 studies (Mcintyre and Petticrew, 1999). They conclude that the existing HIA evidence base is currently small though it is expected to grow rapidly in the next few years, as planned HIA studies are completed. In his review article on HIA, Kemm (Kemm, 2001) claims that feasibility studies are strongly needed in the current development of the HIA tool, especially at local level, since most HIA testing experiences have focused on health or environmental effects mainly at the national level. Studies should focus on the transition of policies from national strategies to local action.

This paper describes a feasibility study on a HIA tool, developed by the Swedish Federation of County Councils (SFCC) and the Swedish Association of Local Authorities (SALA) (Berensson, 2000). The HIA tool was implemented at regional level in a health care district of Stockholm County Council in Sweden. Thus, one aim of this study is to focus on local HIA action.

## METHODS

### Rationale for HIA in a Swedish context

In Sweden, HIA development began in 1996 to place public health issues on the political agenda, help reduce health inequality and vitalize political work (Berensson, 2000). Local municipalities are responsible, e.g. for schools, social services, care of the elderly and the environment, while county councils are responsible for health care, public transportation and regional development. An HIA tool was produced with three parts,

representing different levels of ambition: the *Health Question*, the *Health Matrix* and the *Health Impact Analysis*. The key question in each version was ‘How is the health of different groups affected by the proposed policy decisions?’

### Setting for the feasibility study

At the time of this study, the South West Health Care District (SWHCD) within the Stockholm County Council was responsible for health care and public health in a region of 360 000 inhabitants. The health care administration spent over five billion Swedish Crowns per year (1 SEK about 0.118 EUR in the year 2000). A medical care committee with directly elected politicians bore the main responsibility for the organization. One of the main aims of the Health Care Board was to decrease inequality in health. In 1998–1999, the organizational idea was to ‘Improve and equalize differences in the health of the population through effective health promotion, prevention of disease, and efforts towards good quality in health care’.

### Implementation of HIA

When the SFCC and the SALA presented a new tool for HIA, the SWHCD authority decided to participate as a test area. For the Board of SWHCD the two major aims were to decrease inequality in health and to elevate the public health issue higher on the political agenda.

The autumn of 1998 was spent rallying support for the project among politicians, managers and public officials within the organization. During the spring and summer of 1999, politicians and public officials were given opportunities to learn more about HIA. An internet-based educational program, focusing on health determinants, was used for both groups. Furthermore, the public officials were introduced to the HIA tool developed by the SFCC and SALA and trained in the practical use of the Health Matrix. A start-up conference was held in August 1999 with the management group and the public officials. Since then, HIAs have been carried out on the proposals referred to the Board.

The Health Matrix is designed to clarify the health impacts of proposed political decisions, so that health aspects can be weighed against other interests of local authorities and county councils. The tool has undergone four steps of development, always in collaboration with the main

users. The original version, the Health Matrix, could be described as a grid for summarizing positive and negative assessments of various health-related aspects of political proposals. Subsequent versions were attempts to adapt the tool to local conditions. The fifth and final version was a checklist based on determinants of health and structured according to the titles of health promotion, disease prevention, health care and rehabilitation, and overall objectives and resources, respectively. Thus, the tool trajectory has evolved from a matrix to open text supported by a checklist. All proposals to the Board had to be assessed according to the HIA checklist.

### **Applied strategies and methods**

Data collection and analysis was conducted incrementally using an inductive approach. Knowledge successively acquired founded the basis for new interpretations and analytical choices, a methodology influenced by principles of grounded theory (Charmaz, 2000).

A systematic description of the implementation process by the two project leaders constituted a central starting point for the feasibility study. Two data collection methods were used: content analysis of printed documents and interviews with key persons, based on the principle of method triangulation (Patton, 1990). The results of the ongoing study have also been discussed with involved stakeholders, who commented on the written results.

### **Document analysis**

The thematic content analysis (Kvale, 1996) comprises all written minutes of the Board of the SWHCD as well as underlying documents (official reports, etc.), from September 1999 to December 2000. Two individuals have separately read and preliminarily coded the minutes and the official reports, after which a consensus was reached regarding the final coding. Basic information from the official reports has been entered and processed in a Microsoft Access database. The corresponding methodology has also been used in terms of the minutes of the Board. In the analysis, we particularly focused on the following questions: Who are the key persons? What are the types of decisions? What is being described? How has the basis for decisions been formulated? Which arguments are brought up? On what kinds of facts are decisions being based?

### **Interviews**

Twelve semi-structured interviews (Morse and Field, 1996) were made by O.F. during March–April 2001. Ten interviews were tape-recorded, whereas two interviews were made over the telephone with the interviewer taking notes. All the interviews were transcribed in their entirety. The questions were based on a 19-question guide concerning the practical application of the tool. Five questions were connected to the politicians' and public officials' respective roles in terms of decision-making and preparation of items. During the interview, certain answers were spontaneously followed-up by new questions in the form of probes.

## **RESULTS**

### **Document analysis**

The content analysis of statements and minutes produced by the public officials encompasses the period from September 1999 through December 2000, i.e. when the HIA tool started being used in the political process of response and decision-making. During that period, the Board of SWHCD held ten meetings, processing in all 201 cases, recorded in the minutes. Of these, 80 cases resulted in decisions being taken, and the HIA tool was applied in 67 cases.

Nine regular politically elected members and the same number of substitutes from five political parties participated in the meetings and took part in the decisions. Of the regular members, 76% were present, and of the substitutes, 71%. Fifteen public officials on various levels in the administration took part in the preparation of cases. The number of cases per public official varied from 1 to 20 with an average of 9 for the main responsible officer and with a range from 5 to 19 HIA cases.

Of the 67 cases, where the Board had made a final HIA assessment, 53 (79%) cases were considered by the public officials to require an HIA. Two cases were delegated by the Board to the presiding administrative officers for a decision because of inadequate health consequence descriptions.

In order to get an idea of the kind of cases, that have been the object of HIA, the 67 cases have been categorised according to type. This analysis yielded five different categories of cases. The most common types of cases in which HIA was applied

**Table 1:** Number and type of cases decided by the SWHCD Board and which were subject to HIA assessment ( $n = 67$ )

Case category	Subject to HIA assessment		$(n)$
	Yes	No	
I. Economic policy decisions, e.g. budget and external allocations	3	1	4
II. Statements regarding specific areas of activity, e.g. strategy documents and guidelines	4	5	9
III. Contracts regarding supportive systems, e.g. information technology and R&D	3	0	3
IV. Contracts regarding health care delivery (within the county council and with municipalities)	20	5	25
V. Contracts regarding health care delivery (external health care services)	23	3	26
<b>Total</b>	<b>53</b>	<b>14</b>	<b>67</b>

were those involving an external tendering process for purchasing health care services (23 cases) and in connection with health care agreements with other county council agencies or with municipalities (20 cases) (Table 1).

The types of cases mirror the responsibilities that rest upon the Health Care Board and the implemented HIA cases are highly relevant, as they throw light upon short- and long-term consequences for the health care development of the population in the catchment area. The implemented HIA cases also refer back to the political goals underlying all activities.

In the 14 cases where the administration did not consider a HIA necessary, explanatory comments have been made in 11 cases, justifying the decision. Such comments employed arguments such that the case in question was already being implemented, or merely involved a technical fine-tuning of a decision already taken by the Board, or that it was simply an extension of current activities, already subject to HIA assessment, or essentially simply a report on follow-up of decisions taken.

In the first four versions of the HIA tool, the statement was to mention that the case had undergone HIA and the reader would be referred to a special appendix containing the completed form. In the beginning, a few HIA statements consisted of no more than a bold-faced headline

without any further text. However, the kind of HIA presentation, which was subsequently implemented, presents the text describing and justifying the HIA in a uniform format, although of course the content varies.

In the analysis of the cases for decisions, five different categories were identified, described previously in Table 1. The following is an example of how HIA is described in relation to the budget of the Health Care Board (case type I):

The proposal is in accordance with the political goals, i.e. in terms of the proposed strengthening of primary care. The extension of the health care services in the immediate vicinity and the collaboration with municipalities and other actors may be expected to support a positive health development both for at-risk populations as well as the population at large. Health care inputs will remain unchanged. No additional resources will become available short term but the proposal can be realised within the current budgetary limits of the health care area in question. In the long term, resources can be mobilized by way of the proposed reduction of emergency somatic care in favour of primary care and health care in the immediate geographical vicinity of people's homes.

For type IV cases encompassing health care agreements/contracts within the county council or with municipalities, the corresponding description reads like this:

In these cases, the content of the HIA is different due to the special nature of the services, which are mainly made up of mandatory health care interventions. In such cases, the patient usually lacks any personal interest in obtaining care. The hope is that the care given will create improved opportunities for the patient to change his or her lifestyle habits.

The most common case type found in the text-based HIA descriptions are number V, which include tenders for purchasing external health care services via decisions of health care agreements. The following text provides an example of how HIA has been described in the public official statements:

In this case, a description of health consequences is called for. The proposal is in accordance with political goals. The objective of the activities in question is to provide the local inhabitants with high quality health care within the field of general practice. Activities are geared towards health promotive, preventative, curative and rehabilitation measures. The agreement may with time lead to a reduction in the costs of emergency care.

The texts described relate closely to the nature of the decision to be taken and provide the reader/decision-maker with a general description of the relationship to the underlying HIA analysis, carried out with the aid of the checklist. However, we noticed that the wording of the texts in several cases from the second half of the year 2000 was almost identical.

### Interviews

In Table 2, summary results of the key person interviews are presented for the 10 central identified themes from the analysis. Illustrated with quotes from the interviews, some of these results are elaborated in the following text, particularly highlighting areas of disagreement between the two groups.

### Knowledge and training

Approximately half of the public officials felt that they had enough knowledge and training

to use the HIA tool. The others were either insecure—despite considerable discussion—or wanted recurrent training. One public official said: ‘I feel that the discussion on the determinants of health and what influences the development of those indicators is a type of knowledge, which is constantly being refined’.

The politicians on the other hand all responded that their knowledge and training was sufficient, at least given the current level of ambition. Of course one could raise this level, but ‘... there must be some realism in it. It [the tool] must be easy to use’.

### Development of the HIA tool

Both public officials and politicians considered the process to improve the tool as having been successful.

Yet, regardless of any tangible results, respondents felt the process in itself had elevated public health issues on the common agenda and energized the discourse within both groups.

**Table 2:** Summary of results from interviews with public officials and politicians

Themes	Public officials	Politicians
Knowledge and training	Half satisfied, half insecure	All satisfied
Development of HIA	Process successful, elevated issues, energized discourse	Positive learning process, re-evaluation of goals, stimulated discussion
Communication and dialogue between politicians and public officials	Some satisfied, others deplore lack of dialogue	Good with other politicians, one comment (positive) on public official communication
Responsibility and sharing	Satisfied so far but further tool development has broken down due to staff leaving	Satisfied with sharing, cite risk of copying text from previous cases
Positive/negative assessments	Several do not feel free to issue negative HIA statements	Concern about lack of negative HIA statements
Contribution or formality	Some say real contribution if applied at the right time, others not satisfied	Most say real contribution, some say this can only be determined retrospectively
Time limitation/work burden	Enough time for current demands, inadequate for satisfactory assessment; some cite too much work	Lack of time, administrative awareness of HIA needed earlier in the process
Disadvantages of HIA	Unclear relation to other tools, process may mask contradictions and inadequate assessment	One says simplistic assessment can be misconstrued, another wary of having cases referred back
Effects on decision-making	(Not applicable)	Some say easier decisions, but only in clear cut cases
Future improvements	Some say continuous revision necessary, e.g. on conceptual level, others say wait	Some want more details, others caution tool could become unwieldy

One of the politicians described changing attitude to the HIA. 'At first I thought it was first and foremost a tool to achieve the goals, but then I realised that you can't measure that, it is hopeless. So there is a short-term goal, vitalising the political discussion, which has come more to the forefront'.

Several politicians said they had tried to make health consequences of decisions more visible by developing the HIA tool but also admitted at times having let flawed HIA assessments pass or occasionally having made careless and unsatisfactory decisions.

### **Communication and dialogue between politicians and public officials**

Some public officials are satisfied with the interaction during the preparation process while others deplore the lack of dialogue. Respondents disagreed about who should initiate contact, which sometimes inhibited contact altogether. One public official says it is up to the politicians. 'I think if someone wants to know more about it ... we are there to answer questions'.

### **Responsibility and shared influence**

Several public officials said that a sense of shared responsibility and influence had deteriorated or even 'broken down' due to the departure of the colleague mainly responsible for developing the HIA work. On the other hand another public official felt that it is the responsibility of the administration to 'straighten out any question marks' around HIA.

### **Positive and negative HIA assessments**

By a positive assessment, we mean a statement that the proposal under discussion can be expected to positively affect the health situation of the population in question, and by a negative, the opposite. In theory, both types of assessments should have been made during the observation period, but in practice, negative assessments are rare.

Several of the public officials expressed uncertainty as to whether they were really free to issue negative HIA statements, one saying: 'Then you can easily end up in the situation where you weigh for and against, and then I can see difficulties in formulating this, so that it isn't jarring in any way, either to the public ... given that

these are public documents ... it is sensitive, because newspapers love that kind of thing'.

Another administrator relates that 'someone tried [to present a negative assessment] but it was rejected [by the politicians]'.

The politicians agree that there is a tendency not to highlight negative HIAs, and one explained: 'There haven't really been any negative assessments. So one wonders: maybe they have been done in the wrong way. I can't really tell ... But ... you don't as a politician intervene and change a statement by a public official. Then the case has to be remitted to them, and there will be a delay of another month or more. That can be tricky or feel like you are criticizing the administrators'.

### **Improving the HIA tool in the future**

Several of the public officials suggested ways of improving the HIA tool, regretting that: 'We still don't think HIA to 100 per cent when we talk about various cases. Instead, HIA is often thrown in at the end.' Another administrator does not see any need for further adjustments, at least not coming as a result of public official initiatives. Rather, the importance of the instrument lies in '... putting the issues on the table, starting to think in those terms, creating knowledge and understanding around the connections, so that you do the right things. And when that understanding is there, the tool becomes redundant, because then you naturally act from that place. But we are not quite at that stage yet'.

A politician says every instrument can be improved but there is a trade-off between losses and gains of increased precision. 'It mustn't get too difficult, so that it feels like a huge weight ... then one might get sloppy in completing it ...'. A political colleague says 'more meat on the bones' of the HIA is needed, 'particularly in the context of priority setting, to see what contribution HIA can bring'.

## **DISCUSSION**

During the last decade, HIA procedures have increasingly been discussed. There are two extreme views on impact assessment in general, either as a 'technocratic' planning tool or, as a politicized process that improves decision-making (Barrow, 1997). In our study, we have focused on the HIA as a tool to support the political decision-making process for population health at local level.

Applying method triangulation probably contributed to a truer picture of the HIA process and a deeper understanding of its implementation, than if only one method had been used. Principles of dialogic validity have been applied (Kvale, 1996). In discussing the consistency and reliability of HIA, Joffe (Joffe, 2003) has called attention to time- and resource-related differences between HIA practitioners. In this study, we also observed variations in the quality of conducted HIA assessments, possibly due to differences in the experience of public officials in conducting HIA. This highlights the importance of continuous training for and individual supervision of public officials and politicians.

Generalizing results from this kind of study is a critical issue. Since the study was mainly based on qualitative methods, principles for statistical generalisation are not applicable. Instead, we have applied principles of naturalistic and analytical generalization (Stake, 1994), and a similar approach, based on inductive generalisation (Yin, 1994). Our critical review and reflections on our findings from the feasibility study suggest that our major findings about HIA implementation are not unique for SWHCD. Similar results would probably be obtained if the implementation had been conducted in another comparable setting in a municipality in Sweden. But the result of an implementation is dependent on how impact assessments are institutionalized into the policy system (Barlett, 1989). In this case, the initiative to implement HIA comes from the local politicians and was well supported by the Board as well as by top-level and executive-level public officials.

One lesson from the study was that the HIA template has to be developed in stages and in a close relationship between politicians and public officials. The process studied here included revision of the HIA tool four times during the pilot period. After a year, the templates were changed to a checklist for HIA. The HIA tool as such could be simplified during the process, but there is a need to involve the different parties when using the developed templates. In this process we have noticed the major importance of political commitment.

The most common type of studied cases in which HIA was applied involved an external tendering process for purchasing health care services, and in connection with health care agreements with other county council agencies or with municipalities. Such cases mirror the responsibilities that

rest on the Health Care Board. Hence, the HIA cases are highly relevant, throwing light on short- and long-term consequences for the population of health care developments. The HIA cases also refer back to the political goals underlying all activities. In the cases where the administration did not consider there to be a need to do an HIA, there are explanatory comments in most of these cases, justifying the decision.

Although the aim of this study was not to capture the long-term hopes for HIA, the interviews show that the whole process of HIA implementation elevated public health higher on the political agenda and vitalised internal discussions. When it comes to responsibility and influence, some responses from both groups identify a real risk of not doing a thorough HIA from scratch but rather copying already formulated HIAs, which was also confirmed by the document analysis.

Decisive factors for the successful use of the HIA tool were considered to be political consensus and agreement between politicians and public officials on political intentions, a distinct decision from management, and an offer of training opportunities.

In terms of disadvantages of the HIA tool, public officials mention a lack of clarity in relation to other planning tools for the Health District Authority, which might contribute to masking contradictions and irregularities by giving an impression that, in fact, all health consequences are being considered (although this may not be the case). The politicians also mention that this can cause cases to be delayed.

Mindell and Joffe (Mindell and Joffe, 2003) have called attention to that assessments of health effects should include potential positive as well as negative effects of a project, programme or policy. Our findings raise concerns of a possible conspiracy of silence between public officials and politicians around the possibility that some political decisions might have negative—or indeed indifferent—consequences for public health. Apart from the serious risk of decisions being made on incorrect grounds, such practices of collusive denial may also undermine the job satisfaction of a number of the public officials, who feel compelled to deliver what they think politicians want to hear. The disagreement between politicians and public officials around whether their dialogue works satisfactorily testifies to a certain lack of trust within the organization.

Banken (Banken, 2003) has underlined the need of HIA to become a part of the roles and

procedures normally followed by different decision-making bodies and the integration of HIA into existing procedures. Our study shows that HIA has been increasingly implemented into the regular purchasing process and has been developed into an instrument for the purpose of: ensuring total quality, providing the Board with a better basis for decision-making, systematically analysing health consequences of all cases, applying systematic thinking based upon a health perspective throughout the case, and systematically improving all cases.

In conclusion, the main findings from this study were that the HIA tool has to be locally adapted; that the implementation processes has to include close collaboration between politicians and public officials and; that the implementation has to be supported by appropriate training for different stakeholders and followed by continuing education, providing possibilities for a dialogue around the HIA tool, in order to ensure the quality of the instrument. Finally, the public officials did not consider the use of the HIA tool as extra work but as a tool for providing better underlying reports for the political decisions. HIA has developed as an aid for the Board, providing a better basis for systematically analysing health consequences of proposals before decisions are taken and for systematically taking the health perspective into account throughout the life cycle of the cases in question. Implications of the study are that the process of developing the tool has worked well but that the possible impacts of its use in this case remain an open question. However, this was not the focus of our study.

*Address for correspondence:*

Per Tillgren  
 Karolinska Institutet  
 Norrbacka plan<sup>2</sup>  
 SE-171 76 Stockholm  
 Sweden  
 E-mail: per.tillgren@mdh.se

## REFERENCES

- Banken, R. (2003) Health impact assessment—how to start the process and make it last. *Bulletin of the World Health Organization*, **81**, 389.
- Barlett, R. V. (1989) *Policy Through Impact Assessment: Institutionalized Analysis as a Policy Strategy*. Greenwood Press, New York.
- Barrow, C. J. (1997) *Environmental and Social Impact Assessment. An Introduction*. Arnold, London.
- Berensson, K. (2000) Health impact assessment of political proposals at the local and regional levels. In Magnusson G. and Ritsatakis, A. (eds), *Health Impact Assessment: From Theory to Practice*. NHV-Report 2000:9, Gothenburg.
- Charmaz, K. (2000) Grounded theory. Objectives and constructivist methods. In Denzin, N. K. and Lincoln, Y. S. (eds), *Handbook of Qualitative Research*. 2nd edition. Sage, Thousands Oaks.
- Haglund, B. J. A., Borendal, B., Pettersson, B., Tillgren, P. and Watson, J. (2000) Investment for health in an old mining industry area of Sweden. Applying the Verona Benchmark as a framework for strategic co-operation in Bergslagen. *Promotion and Education*, **VII**, 43–50.
- Joffe, M. (2003) How do we make health impact assessment fit for purpose. *Public Health*, **117**, 301–304.
- Kemm, J. (2001) Health Impact Assessment: a tool for Healthy Public Policy. *Health Promotion International*, **16**, 79–85.
- Kvale, S. (1996) *InterViews: An Introduction to Qualitative Research Interviewing*. Sage, London.
- Mahoney, M. and Morgan, R. K. (2001) Health impact assessment in Australia and New Zealand: an exploration of methodological concerns. *Promotion and Education*, **VIII**, 8–11.
- Maeland J. G. and Haglund, B. J. A. (1999) Health Promotion Developments in the Nordic and Related Countries. In Bracht, N. (ed.), *Health Promotion at the Community Level, 2 New Advances*. Sage, Thousand Oaks, pp. 187–198.
- Mcintyre, L. and Petticrew, M. (1999) *Methods of Health Impact Assessment: a Literature Review*. Medical Research Council, Social and Public Health Sciences Unit. <http://www.msoc-mrc.gla.ac.uk/publications/pub/pdfs/Occasional-Papers/DP-002.pdf> (last accessed 050513).
- Mindell, J. and Joffe, M. (2003) Health impact assessment in relation to other form of impact assessment. *Journal of Public Health Medicine*, **25**, 107–112.
- Mittelmark, M. (2001) Promoting social responsibility for health: health impact assessment and healthy public policy at the community level. *Health Promotion International*, **16**, 269–274.
- Morse, J. M. and Field, P. A. (1996) *Nursing Research. The Application of Qualitative Approaches*. Chapman & Hall, London.
- Patton, M. W. (1990) *Qualitative Evaluation and Research Methods*, 2<sup>nd</sup> edition. Sage, Newbury Park.
- Stake, R. E. (1994) Case studies. In Denzin, N. K. and Lincoln D. S. (eds), *Handbook of Qualitative Research*. Sage, Thousand Oaks, pp. 238–247.
- Watson, J., Speller, V., Markwell, S. and Platt, S. (2000). The Verona Benchmark: applying evidence to improve the quality of partnership. *Promotion and Education*, **VII**, 16–23.
- WHO (1986) The Ottawa Charter of Health Promotion. *Health Promotion*, **1**, i–v.
- Yin, R. K. (1994) *Case Study Research*. Sage, Newbury Park.
- Ziglio, E., Hagard, S., McMahon, L., Harvey, S and Levin, L. (2000) Principles, methodology and practices of investment for health. *Promotion and Education*, **VII**, 4–15.