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Research and practice in public health – new approaches

Proceedings from a pre-seminar arranged on September 15, 2004 on the occasion of the international EUPHA (European Public Health Association) conference in Oslo, October 2004.

The seminar was a joint venture by

- The Norwegian Academy of Science and Letters
- The Norwegian Medical Society
- European Public Health Association
- The Norwegian Society of Public Health
- The National Nature-Culture-Health Centre
- Akershus University College
- The Department of General Practice and Community medicine, University of Oslo

The seminar was held in the premises of the Norwegian Academy of Science and Letters (DNVA) in Oslo on Sept 15, 2004. (Photo Øivind Larsen and Helge Nylenna)

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New approaches in public health

Michael 2004:1; 183–4

It is an international experience that the field of public health faces difficulties in many countries at the turn of the twentieth century, although borders have been opened up for trade and travel, and information floods more unhampered than ever. Only few would dislike the many positive traits of modern societies.

Yet, there are also some negative sides of the development, e.g. as seen from a health perspective. Liberal economies spark widening of class differences and leave large groups in developing countries and in countries in the process of social change, as in Eastern Europe, with new inequalities and inequities in health. Countries hailing long traditions with the welfare state principles, as the United Kingdom and in Scandinavia, risk stagnation or even dismantling of health care systems because of new economic realities and political shifts away from the previously strong community concern by social democratic and ideologically related governments.

A strong public health science and a correspondingly potent public health practice, taking care of the group and long time perspectives of medical care, meet with a new environment. New approaches are obviously needed both in research and practical work.

Norway hosts the 2004 EUPHA conference, where a large number of professionals within public health meet under the auspices of the European Public Health Association. Following the initiative of a Norwegian senior public health official, Deputy Director general Hans Ånstad (ret.), a preseminar entitled *Research and practice in public health – new approaches* was arranged in the premises of The Norwegian Academy for Science and Letters (DNVA), Oslo on September 15, 2004, where the problems of public health were discussed as seen from a Norwegian point of view. As the editors of the medical journal *Michael* we want to thank Dr. Ånstad for his engagement and enthusiasm, and we are pleased to be able to present the introductions and some of the comments at the seminar in this issue of *Michael.* In addition to be circulated to its subscribers, this issue also goes to the participants at the EUPHA conference, where it hopefully will provoke further debate.

Our thanks are also due to the Norwegian Academy for Science and Letters and to the Norwegian Medical Society for financial support. In addi-

tion, the seminar was a joint venture by the Department for general practice and community medicine at the University of Oslo, the European Public Health Association, the Norwegian Society of Public Health, the National Nature-Culture-Health Centre in Norway and the Akershus University College.

Øivind Larsen *Magne Nylenna* *Morten Kvisvik*

Magne Nylenna

Public health: from here to where?

Michael 2004; 1:185–92.

Summary

The escalating complexity in medicine and health care calls for a revitalisation of public health. Public health in the future should include all collective efforts to improve health on a population-wide scale. A multidisciplinary approach is recommended, but medical doctors are strongly needed and specific action should be taken to recruit young doctors in this field. The training programme in community medicine for doctors should be overhauled.

The strong and historic ties between public health and primary care should be loosened and more focus should be on hospitals and secondary care where most health care resources are spent these days. All doctors should have a basic understanding of public health strategies.

Public health should be research-based and the bridge between academia and daily life public health activities must be strengthened.

Medical progress during the 20th century is closely linked to specialisation and sub-specialisation of medical research as well as of medical practice. Breaking individuals into organs, organs into tissue, tissue into cells and cells into molecules has led to new and highly useful knowledge of clinical importance. Putting these bits of information together within a multidisciplinary health care system where unpredictability and paradoxes flourish, requests a new conceptual framework often referred to as "the science of complex adaptive systems" (1). To avoid a completely fragmented medical treatment, a generalist, in Norway and many other countries a general practitioner, is responsible for day-to-day care and follow up of most patients. Such coordination is also needed at a community- and population-based level and this could be the responsibility of a public health doctor and other public health personnel. Thus community medicine/public health could be to groups what general practice is to individuals.

Aaron Antonovsky has described a *sense of coherence* as a key determinant in the maintenance of health in individuals (2). This salutogenic model can be useful even at a broader scale. Public health depends on coherence. In an era when short-term planning and handling of single, isolated phenomena represent the current fashion there is a need for a wider perspective in the approach to health related issues. The complex relationship between politics, economics, environment, life-style, health services and health calls on a sense of coherence in society at large. "Everything is connected with everything" is a popular saying, more relevant to health care than to most other fields of society.

Public health, the"science and art of preventing disease, prolonging life and promoting health through the organised efforts of society" (3), is among the high-priority tasks is most societies. But what does this mean in practice? Which are the efforts that can prevent disease and promote health, and who should initiate and implement these efforts? In Western countries like Norway the health of the public has improved tremendously during the 20th century. How can this improvement continue during the coming years? And what role should medical doctors play in the "organised efforts of society" to improve the health of groups rather than individuals?

Public health in Norway

The Sanitation Act of 1860 is to Norwegians what the 1848 Public Health Act is to Britons. It can be regarded as the beginning of public health as a profession and a movement. Social changes and the industrial revolution created a need for public intervention on fighting epidemics, improving sanitary conditions, water supply, sewerage and other health related issues. The idea behind this has been characterised as "a vision of social justice" (4). From the very beginning the ties to politics were strong and public health has been described as".. the only discipline that has the tradition to defend the population's health in political debate" (5).

Primary care doctors became public health officers and in 1912 a new Act on the execution of public health issues formalised the role and authority of the medical profession in public health. Norwegian public health has been strongly related to primary care for at least two reasons:

- When the public health movement was created there were hardly any hospital specialists and the municipality based doctors were the obvious leaders in the field. Specialisation and development of secondary care during the 20th century did not change this and the public health movement became more or less separated from modern hospitals.

- Close ties to local communities have shown fruitful as a source for knowledge and inspiration, have given a short way from decision to acting and have been in accordance with the Norwegian ideology of decentralised politics.

The medical part of the organised efforts of society to improve public health has been known by various names among Norwegian doctors over the years. "Public duties" (offentlige gjøremaal) was the designation used during the last part of the 19th century. Later on "public medical issues" (offentlige legeforretninger) became the common term, related to the Act on the execution of public health issues of 1912. From the late 1940ies "public medical work" (offentlig legearbeid) was used reflecting the medical doctors' participation in rebuilding the country after The Second World War. In the mid 1970ies "community medicine" (samfunnsmedisin) was introduced and in 1984 a formal speciality in community medicine was established.

The mandate of public health medicine

The change from "public medical work" to "community medicine" can be regarded as a conceptual as well as a linguistic modification. It was related to and came at the same time as the shift from the "old" to the "new" public health on an international scene. This shift was mainly due to a renewed view of lifestyle and its impact on health. The political climate of the 1970ies following the wake of the 1968 turmoil should also be kept in mind. The new public health focused more on social support and behaviour and less on physical infrastructure. Intersectoral and interdisciplinary action became crucial and there was a growing concern with sustainability and health promotion (6).

The change may also be seen as step towards a stronger identity and independence of community medicine as a medical speciality. Traditionally public health officers have been civil servants administering governmental laws and regulations. Typically, the milestones of public health in Norway (and other countries) have been new legislation (like 1860, 1912 and 1984 when an Act on municipality health services was introduced), rather than scientific breakthroughs.

Clinicians get their mandate "from below", in the way that the premises for their action are symptoms and signs presented to them by patients. Public health doctors to a much higher degree get their mandate "from above" in the sense that they inspect, oversee and regulate according to directives from the authorities. Public health doctors may of course also act

on the basis of local findings and observations, but still there is a difference in the way they perceive their role. The new public health and the formal speciality of community medicine represented a slight shift in the balance "from above" to "from below". Though most community medicine doctors administer public regulations in one way or another, it should be possible to observe and analyse health problems on a community level, like clinicians do on an individual level. This is a way of defending their professional autonomy based on scientific evidence like other specialities and branches of medicine.

Community medicine as a medical speciality

The classification of medical specialities is arbitrary and unsystematic. Specialisation is partly based on organ systems (neurology, dermatology), partly on mechanisms of disease (oncology, infection diseases), partly on the age of patients (paediatrics, geriatrics), and partly on the technology or method of treatment (radiology, surgery). Some specialities are characterised by the context they work in (general practice, occupational health) and community medicine belongs to this category.

The first years after the speciality was formally established in Norway it seemed attractive and scores of doctors were certified as specialists every year. From the late 1990s there has been a dramatic drop. In 1997 and 1998 respectively 50 and 31 new specialists were certified. In 1999 the number fell to 5 and over the last years less than a handful specialists have been certified per year. The reason for this change is partly unclear, but is seems like the demand for specialists, especially in the municipalities, has fallen sharply.

There is an important discrepancy between being a certified specialist and working in the field of public health. Only one third of the specialists in community medicine work in this sector. On the other hand, less than half of the medical administrators and public health officers in the Norwegian municipalities are certified specialists in community medicine (7). Income and prestige are lower than for most other specialities and it is hard to recruit young doctors into the field of public health. A proposal to overhaul the education programme for training of community medicine specialist has recently been produced (8). There is broad agreement that community medicine as a speciality should be more independent of primary care and that specialist candidates should be trained for working at all levels within the health care system.

It might, however, be that today's concept of medical specialisation is unsuitable for community medicine. The variety of work among doctors in

this field is wider than for other specialities. The professional common ground for municipality health practitioners, public health officers, health administrators, health promotion actionists, nutritional advisers, epidemiologists, health economists and other doctors working in group oriented areas of medicine may be insufficient for a joint speciality. A tailor-suited education for individual competence building may be more effective than a standardised specialist training programme.

Where to go?

Public health can be defined as all activities that society does collectively to assure the conditions in which people can be healthy. This includes organised efforts to prevent, identify and counter threats to health on a group oriented or community level. The key words are "collective action" and "group orientation".

In an era of individualism it is difficult to introduce and enforce collective programmes on health as well as in other fields of society. One of the many paradoxes of our time is the pursuit of better health through individual lifestyle changes on the one hand and the resistance to governmental interventions to improve health in groups on the other hand. Government legislation that restricts personal choice is the most effective way to get preventive interventions to the whole population, but many barriers to population-wide implementation exist (9). Individual rights and responsibilities are some of the most distinctive features of Western societies today and people are better informed about and more accountable for their own health now than ever before (10). The "freedom to be foolish" must be balanced against society's responsibility for protection and improvement of the health of all citizens. This is a difficult balance.

Five key themes of modern public health have been defined (11):

- Health systems leadership
- Collaborative actions
- Multidisciplinary approach
- Political engagement
- Community partnerships

In addition public health should aim at changing the goals and priorities within medicine and health care. The goals of medicine can be defined as (12):

- The prevention of disease and injury and the promotion and maintenance of health

- The relief of pain and suffering caused by maladies
- The care and cure of those with a malady, and the care of those who cannot be cured
- The avoidance of premature death and the pursuit of a peaceful death.

Prevention of disease and promotion of health have never had the same priority as the other goals among doctors, even though reducing the need for medical services through target oriented programmes have shown to be effective (13). Advising politicians and decisions makers on priorities with health consequences is one of the main issues in public health.

What to do?

In a series of articles in this issue of *Michael* the concept of public health is analysed and efforts to revitalise public health and improve research and practice in public health are discussed. The papers were presented at a one-day seminar at The Norwegian Academy for Science and Letters in Oslo 15 September, 2004.

Maurice Mittelmark describes the advent of the "new public health" from the 1970s expanding the field to include social science approaches and research methods (14). He emphasizes the importance of innovative thinking in public health research and the need for interdisciplinary research centres (14). Øivind Larsen joins this quest for broad institutions able to integrate the sum of knowledge that makes up modern public health and he adds teaching and serving the public to their responsibilities (15). Larsen reminds us about the framework of time and space that surround all health issues and he asks for a training program in public health separated from the individualistic oriented medicine.

Nils Aarsæther (16) refers to Robert D. Putman's concept of "social capital" and the importance of "togetherness" (17). Participating in social activities improves the quality of social life and the welfare of individuals and should be more strongly supported. This is a part of public health activities seldom noticed by medical doctors.

Gunnar Tellnes emphasizes the consequences of urbanisation and suggests health promotion through partnerships for health and social development between the different sectors at all levels of society (18). Hans Ånstad presents health impact assessment as a tool for assisting decision makers (19).

The debate was lively and three commentaries are published with the original presentations (20-22).

Common for all contributions is a wide approach to public health focused on social systems and structures rather than on individual behaviour, and an optimistic attitude as regards future opportunities for improving the health of the public.

Strategies and recommendations

Public health must be redefined and should cover all collective action to improve health on a population-wide scale. Community medicine (samfunnsmedisin) is the medical part of public health including priorities in and management of health care systems as well as efforts to prevent disease and promote health on a population-oriented basis. The strong ties between public health and primary care should be loosened. Hospitals and secondary care should become major targets for public health action (23). The traditional contents of public health, like fighting epidemics and improving sanitary conditions must be retained even when the scope is broadened to include social sciences and health politics. As shown by the recent SARS epidemic and the international preparedness for bioterrorism, the threat of serious and potentially lethal communicable diseases is still the most obvious reason for a public health infrastructure in most societies.

Public health activities among doctors should not be limited to specialists in community medicine. Just like a psychiatrist must have a basic knowledge of surgery and vice versa, every doctor in all specialities must have a basic understanding of public health strategies. The difference between individual-oriented and group-oriented medicine must be more clearly presented from the first year in medical school. The current programme for specialist training in community medicine should be reconsidered and a more flexible and individual structure for training introduced.

The interdisciplinary approach to public health should be advanced but doctors have to develop their own culture and identity within this field. Medical doctors are crucial to public health work and the recruitment can be stimulated by wages and working conditions comparable to clinical medicine.

The bridge between research and practice should be strengthened. The model in clinical medicine where many practitioners are part time researchers and many academics are part time practitioners is also applicable to public health. A more systematic academic support of daily life public health activities is recommended.

Last, but not least: Public health activities must be based on scientific evidence (24). An evidence-based public health strategy for the future is strongly needed.

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Exploring external and internal public health concepts

Michael 2004; 1:193–205.

Summary

Health issues exist within a framework of time and space, ranging from the often strongly individualistic clinical intervention in an acute case of disease or injury, to the population based long time perspective in a public health approach. Exploring prevailing concepts of what public health is about, both among public and external health agents and internally among public health personnel, indicates that public health would profit from a better assessment of where in the framework each issue belongs. Weaknesses and advantages come better into sight, which simplifies strategic planning. Tailored allocating of resources and competence according to this would probably strengthen the field. Training in public health work highlighting the group and the time perspectives is recommended, and it is argued that the teaching should preferably be given separated from the training in individualistically oriented clinical medicine and by a public health institution which has a true integration of medicine and social sciences. Probably, the most important decisions with potential to promote public health and public health thinking will belong in the group oriented, long perspective sphere and will be taken by agents outside medicine. Public health science and practice should pave the way for such decisions.

The wilderness of public health

An old saying goes like this: "When walking into a forest you will see more and more trees". These are simple words asking for reflection and reconsideration. Penetrating a problem always implies that you discover ever more to think of all the time, so also within the field of public health. New demands, new questions and even new criticism appear constantly. In which way should public health sciences and practices develop? How to handle? Is there a key, a sort of common denominator which can be of

help? This paper argues that central health concepts and the changes in them may play a central role, and that exploring concepts, shifts and their consequences for the health of the population in a systematic way might be of help, especially when seen in a public health perspective[1].

The first glance and the following

At the encounter with a health issue, e. g. the complaints of a patient or a public health problem, even if the case looks clear cut at the first sight, a more close approach will usually reveal a series of attitudes and concepts attached to it, all of them subject to degrees of constant change.

An example: The patient seeking your advice and your treatment for her sunburn has a problem mingled into a complex cultural context. At the bottom line, to see a doctor for a sunburn, instead of treating it with some home remedies and endure the painful punishment for a sunny day at the shore, is on the one hand a marker of some step at a health perception ladder, on the other hand a sign of affluence. But it may also reflect attitudes shaped by health information or media, dealing with health hazards related to sun tanning. What counts the most to the young lady, the perceived value of a certain hue of the skin, versus the prospects of health risks in the short and long perspective? Therefore, her impetus to call at the surgery may be prevailing, highly non-medical attitudes towards what beauty and attractiveness is like. As a doctor, what kind of responsibility do you have in this case, and how far does it extend itself? After having taken care of her immediate pains, you probably will give her some advice for the future and you will also have talked more in general to her about people which are careless about suntan. But then you have transferred the problem posed to you into two new spheres. In the first sphere this is into the time dimension of the patient: Short sight sunburn and long time cancer risk. In the second it is into the sphere where the patient is only one of the individuals of a population suffering from the sun. This last one is the sphere covered by the discipline of public health.

Another example: As a community health officer, you are presented to complaints from a fellow citizen: His neighbour's affection for cats has materialized into a crowd of filthy and smelly pets, living on the other side of his garden fence, perusing his children's sandbox as their toilet and yelling all the night. The immediate and individual problem has to be solved both

[1] For Nordic readers, general thoughts about the place and scope of public health has been discussed by several authors in the 2003 textbook Larsen Ø & al. (eds.) *Helse for de mange*. Oslo: Gydendal Akademisk.

for your client and for the cat-owner, a task tricky enough. But the time aspects and the community aspects are present also here. How to avoid repetition of the grim story? Preventing new cats from entering the scene belongs to the shorter perspective, but on the long run: How to avoid cat problems in general for the community? Launching of information campaigns? Submitting proposals for enforced local legislation?

The old saying is appropriate also here. The first of trees you see at the start of your forest wandering, immediately points to several others. Perhaps the solution of your problem has to be sought by approaching one of the other targets instead of the one you saw at first? Especially in the field of public health a need is felt to explore the options, from the scientific basics down the line to practical implication.

A framework as a conceptual tool

To discuss this topic, let us use a medical task or health problem as our point of origin, as shown down left in figure 1 on page 197. Imagine a horizontal line stretching out from it, a time axis starting with the immediate and running out into the future, representing the time perspective. Vertically, an ordinate represents the scope, running upwards from the personal sphere to the general, e.g. from the very individual action of, say, removing a metal particle from a red eye, up to the general prevention of such mishaps by introducing mandatory eye shields in all welding industries in the country.

These two axes are continuous of nature, but both of them have some natural breaks. Most important are the points where time and scope leave the ranges covered by the life and interests of a single person, points on the axes which may vary in position according to the issue discussed.

In clinical medicine considerations, the individual range of time can be measured in days, as the expected duration of a cure, up to the logical endpoint constituted by the remaining life span until the patient's death. Beyond this point, the individual approach may imply an evaluation of the treatment given or include preventive measures taken to avoid new persons falling victim to the same health impairment.

In most cases, however, even very individual medical issues will implicate others than the individual, and more or less become a collective problem. You will move upwards on the individuality ordinate: Influences by and on the group to which the patient belongs: Family, colleagues, working environment, social network, community. But the ordinate stretches further upwards and out, passing through the local community into the society at large. Again, there is a natural break, admittedly also here somewhat

vague, where the ties to the individual case vanish and the issue becomes a general one.

The diagram (figure 1) with its two axes pointing to time and social space can easily be converted into a framework which may be even more useful: Lines pulled at the natural breaking points render a set of four boxes, which identify four quite different arenas for medical work. Each of these boxes has objectives, methods, and underlying concepts of itself, but nevertheless they are part of the same medical universe. Let us look at each of them:

Short sight solutions for the sick

The box for swift solutions down left in figure 1 is the frame where most clinical medicine belongs. Immediate diagnosis, treatment and relief as soon as possible are in the main interest of all parties involved.

However, the nature of the medical problem itself is a basic point. Even here you are dependent on prevailing attitudes and concepts. It can be claimed that many of the problems presented are culturally determined, and also that many of them simply are man made, if we explore them more deeply[2]. The consequence of course is that the cultural setup and the cultural changes should be targeted, a quest for action in the three other boxes.

Of course there exists a biologically based morbidity and mortality, but it is often that the perceived morbidity and mortality, the mere experience of fearing or suffering from a disease, causes more worries than the biological process itself. Here, changes in attitudes may influence day to day medical work deeply. A growing individualism as in modern Western societies goes hand in hand with an increasing health consciousness, which promotes perceived morbidity and alters medical demands. Are the processes on individual and population levels steering these changes sufficiently studied? A better future handling of such health issues probably require basic research. There will be a need for competence beyond the medical, belonging in the upper right quadrangle of the figure. And the acquired knowledge will depend on non-medical agents and non-medical considerations in order to be applied in the short sight community level box up left in the figure and the long perspective patient oriented sphere down right in figure 1.

Realizing that a medical problem presented as a rule also affects the patient's personal contacts, makes a wider scope necessary and should shift the interest upwards on the ordinate. The fact that the actual disease might

[2] See e.g. Larsen Ø. *Health care and attitudes in health matters.* Paper delivered at the Phoenix network conference, Braga, Portugal 2004. In press.

affect the patient for the rest of his life draws the attention along the time scale. However, such approaches are basics in every medical training programme. A good doctor should be, and usually is, proficient in most of what is going on in the lower left box of the figure, the individualistic and short sight one. A commitment to the patient in front of the doctor lies in the core of clinical medicine and is also in line with the essences of medical ethics.

But what about the three other boxes of the figure? Medical work where commitment adheres to the population and its future health?

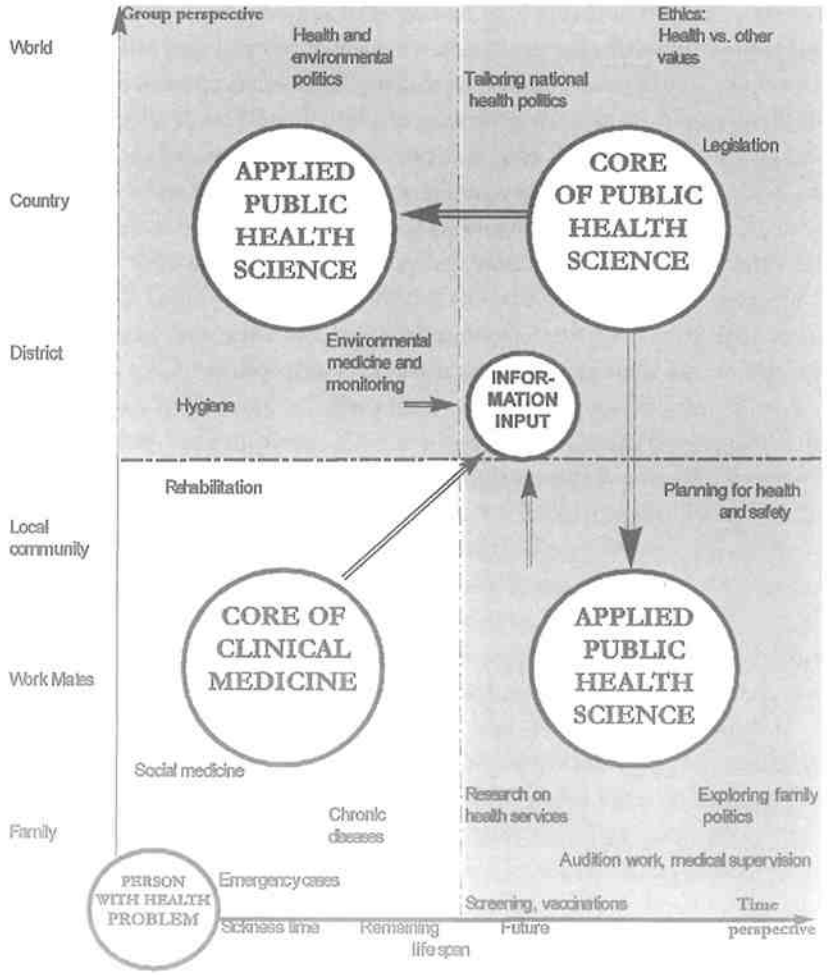

FIGURE 1: THE FRAMEWORK OF CLINICAL MEDICINE AND PUBLIC HEALTH

Three boxes of public health
– Research, strategy, and setup of the society

The hallmark of public health thinking is the group perspective, aiming at long term health benefits for the population. Up to the right in our metaphoric figure you will find the core of public health. Here, the scientific basis is established for how social and physical environment is a health determinant.

Constant streams of data and feedback should constitute the soil for public health science, the more, the better. The more quality assessed and the more specific, the better. Epidemiology tells about frequencies, distributions, causal relationships, monitors shifts and provides hypotheses and theories. Medical anthropology reveals what is going on in people's minds and alerts when shifts occur. As a lion's share of our physical and social environment is man made, and as the shifting levels of acceptance for medical problems and medical care are results of a long historical development, the background is set by facts and clues provided by medical and social historians, social scientists, social geographers, psychologists and researchers from fields related to public health and its context. Specialists on society may assess former efforts and processes and give clues of relevance for the future. Examples: What about effects on health exerted by political decisions in other fields than medicine? Decentralisation/centralisation? Taxation politics? Etc. And what about cultural traits? Architecture? City planning?[3] E.g. in the case of housing policy, it can easily be shown that a market oriented housing policy clearly conflicts with commonplace public health knowledge about the impact on health conditions exerted by social investments, social coherence and voluntary networking and stability.

Methods are developed in order to implement the acquired knowledge and to transform it into practical measures in planning of the society, on levels ranging from the local environment to the international society, using and recommending techniques along all the scale from social psychology over geographical planning and national legislation to international politics.

However, far up to the right in the figure, far out and dominating, lie some overruling questions: Exploring the value of life and health in general as compared to other values. What does society in fact accept of bad health and impairment, and how much health do we really sacrifice in order to achieve other goals? As long term, population-oriented thinking often collides with liberal market philosophy; the most important decisions for the

[3] See Larsen Ø. *Boligmiljø og samfunnsmedisin.* Oslo, Institutt for allmenn- og samfunnsmedisin, 2000.

future of public health probably will be taken on the political arena by non-medical actors who should be provided with public health knowledge and arguments. Changes in concepts will be a core issue.

Strongly connected to philosophy and ethics, such questions should attract considerable interest. Guidelines should be set up, clearly be discussed in public and by professionals, and finally be revised into recommendations with wide acceptance. Historically, changes in the evaluation of health are appalling. It is an important task of practical bearing to monitor the changes in concepts in this field and to consider methods for changing attitudes.

– Environment, social services and health management

One extension of group intended, long perspective public health where public health science becomes an applied science, protrudes into the long perspective individually directed box (down right in figure 1), where general principles are made operational and introduced into practice to maintain the health of the prevailing population. Vaccination campaigns, health promotion issues and screening programmes belong here[4].

But there is another increasing working field for public health officers and for putting their skills and knowledge into life: The audition function belongs in the metaphoric box of individual concern in a long term perspective. These functions gain steadily in importance for the time being. To be a controller, supervising that quality assessment regulations etc. are followed, is e.g. in Norway a core activity for the public health agents on the county level. This work poses special requirements to the theoretical background, to the methods and to the auditors themselves in order to play a positive role and to avoid being regarded as sand in the machinery.

The development of health security systems should also be regarded as a public health issue in the individual, long term range. However, practical counselling and guidance of individual clients and patients according to prevailing legislation belong to the tasks of clinical practice, even if the base of knowledge belongs to public health. E.g. in the minds of medical students, this fact may lead to confusion about what social and preventive medicine are like; individual social counselling and preventive advice are parts of clinical medicine putting public health knowledge into life, but not the disciplines of social and preventive medicine themselves.

A new field is the concept of health promotion, which has a need to be

[4] This is the field of most standard textbooks of public health, and special references are not given here.

explored for traits fit for being influenced. In this respect some tendencies in modern administration development should be addressed: In the welfare state of a post-modern democracy there is an increasing distance between the overruling policies and priorities on the one hand and the practical handling of clients, patients, and social issues on the other. Ethical dilemmas necessarily look different in e.g. the eyes of parliament members passing a budget, where the task is to balance conflicting interest according to a major governmental policy. The comparison is the dilemma encountered by e.g. the home visit nurse who sees that the demand for home services which confronts her, exceeds the resources by far[5]. This distance between principles and practice, between the top managers of health problems and those who suffer from them, has been settled and exaggerated in recent years. In the modern introduction of an increasing administrative staff, it has been shown that the strategy often has been to delegate the ethical dilemmas down to a level where compliance with directions from above seems to be impossibility.

The accelerating use of economic terms in health management is part of the same process. Money is by nature a tool for comparing values. When health budgets are low, as compared to, say, the budget for road construction, this means that health is given a lower priority than roads for commuting. However, if e.g. a roundabout is built in order to avoid accidents, this may be a public health priority.

Prices of health services and health outcomes are often arbitrarily set, simply because they belong to different value systems. Still, health as such has not got a monetary value. But prices serve as transforming accounting tools for non-accountable values. Although these tendencies mostly are universal, the heavy weight of health in politics and people's minds makes the development and shifts in attitudes and concepts important, not least because they assault basic values of democracy: Even on the local level loyalty to the locals has to yield to loyalty to the authorities above. The need for keeping inside of the approved budget frames shifts even the local politician's role from being the representative of his voters into the role of a guard, protecting values given from levels above. Structural changes in society, such as fusion of municipalities into larger regions etc., may reduce the real democratic influence in local societies even more.

However, if the steering by economy is seen together with the administrative delegation of dilemmas mentioned above, health issues end where

[5] The Norwegian social anthropologist Hallvard Vike has used this example in his texts, see e.g. Vike H. & al. (red.) Maktens samvittighet. Oslo: Gyldendal Akademisk, 2002.

other scales for values have to take over[6]. An example: When there is no money left to care for the elderly in a proper way, the home visit nurse may choose to do the work anyhow. She is guided by other values than money: Her feelings of moral responsibility, commitment to her clients, ethics etc. Such steering by means of financial inadequacy, increasingly common in many fields, is a phenomenon which should be further studied also from a public health perspective. In the field of health it has been talked about a reservoir of costless care which is mobilized for free by means of financial inadequacy. Astonishingly, this has been no great feministic issue, although most of this type surplus load in the health services is placed on women.

In the armament of public health, appropriate working methods and systematic evaluation of decision, steering, and administration experiences in this field for the time being often are only faintly highlighted.

Another extension from the core of public health also stretches into the future on the individual level. This field attracts increased interest because of the general upgrading of the individual, its needs, preferences and perceptions as compared to those of the group or the population bas a whole. And the downward delegation in newer health management has attained a climax in the school among general practitioners which hails the principle of total patient-doctor collaboration. Then, difficult dilemmas are delegated down to a level where the personal involvement in the problem by the patient in most cases makes responsible decision partaking and optimal solutions unlikely. In addition: Health counselling on long perspective future cancer risk, prevention of cardiovascular disease etc. will face up hill fighting if the personal time perspectives by the patients are shortened.

To tailor individually based health services for the future requires a background far wider than usually covered in any clinical medical specialty. To plan for a society where a multitude of personal choices related to health are made by the individual itself, based on immediate likings and personal preferences, trends and commercial pressures, needs a scientific backing. An example: The physician of the future has to be taught, and has to know how to confront the dying patient with the fact that his fate is a result of own choices.

[6] In the 2003 textbook edited by Larsen & al. Professor Anders Grimsmo argues for the necessity of launching bottom-up strategies in the local society to counteract the top-down steering.

– Coping with rhythms

Up left in the diagram is a box for application of short perspective, group perspective oriented public health activities. This is a field which deserves growing attention. Of course there are medical grounds to be alert: Examples are immediate public health precautions and actions needed in nutritional and environmental hygiene, quick responses to infection threats, catastrophes and so forth.

On the other hand, as a basically long sighted science, public health has to learn how to handle the often dominating short perspectives held by other influential agents in society. Important decisions for the future are mostly taken by politicians in an environment where the perspectives are varying, often short and with elections as important milestones. And with other main objectives than health.

Even if scientific knowledge is at hand, public health sciences also have to develop methods to achieve proper attention to the long term perspective even if there is a collision with other time perspectives. Cooperation on an appropriate level with responsible representatives from the media may belong here.

Three boxes versus one

According to the logics used in this paper, the understanding of the medical sphere would benefit if it was divided into two separate parts: On the one hand clinical medicine with its mostly individual approach and short time perspective, and on the other hand public health science with its mostly long term objectives and a population perspective. The extensions into population based and individual practice make public health also cover two other boxes of the framework in figure 1. There definitely are three boxes of the same kind, contrasting another.

No further research is needed to document that clinical work and public health work in many countries gradually separate more and more. Of course, the increasing amount of knowledge and skills needed both in clinical medicine and in public health leaves a rationale for allowing specialist concentrate on specialist work, and makes a separation understandable. But there are other reasons to be considered: Modern hospitals often operate within tight budgets with few openings for other work than meeting short time core objectives, which are the "production" of treated patients. General practice, even with the group oriented, long perspective name "family medicine" attached, is increasingly commercialised through financial systems, and a strong individual approach with a short perspective is favoured.

It can be claimed that many of the difficulties encountered by public health sciences and public health work relate to unclear understanding of this subdivision of two parts of medical work, which by far have quite different objectives, scientific background, working methods, and agents. Basic concepts are also different, and social and environmental changes important for health may be difficult to assess through clinical medical thinking. Perhaps the two faces of medicine also recruit different people from the very beginning.

It adds to the difficulties that medical work, especially that of the physicians, for a series of reasons has been so strongly linked to clinical practice that many public health arguments are not perceived as medical anymore; simply not belonging to the working field of a doctor. In line with this, public health intervention from the medical side may be felt as disturbing and untimely by politicians, administrators and other agents for the setup of society.

All this is steered by concepts, and probably we do not know enough about these concepts.

Possible changes and tasks ahead

The very first thing should probably be to identify the discipline of public health as something separate from clinical medicine, and especially from general practice (family medicine). In some countries, as e.g. in Norway, the linkage has a historical basis because the health legislation in force 1860-1984 implied local public health officers in all districts of the country, and nearly all of them combined this activity with general practice. It can be claimed that medical education in Norwegian universities still prepares students for medical careers which ceased to exist twenty years ago. The concept of the physician's role is the first one which should be explored and adjusted.

Another element which carries weight is the prevailing system of integrated medical teaching. This is obviously not the best solution for training the students in population directed, long term medical thinkings, at least not at a curriculum level when they are polishing their clinical proficiency and their overwhelming objective is to become clinical doctors and treat individual patients. In this setting, at the best, issues from the boxes of applied public health manage to attract interest, while main principles are felt more far fetched.

Representatives of public health as a discipline should refine their own concept of what public health is alike. Previously, when preventive and clinical medicine were more intermingled and often in the hand of the

same persons, the public health officers, the image of public health was less problematic. Now, public health includes a series of professionals from different fields like epidemiology, natural sciences, social sciences, humanities, engineering etc., because of the inherent complexity of the field. But the core, the soul of public health science is not included in the role of the individual partaking professions; it lies i*n the sum of them*, in the integrated body of knowledge shaped through concerted efforts. Research, teaching and practice should also be organised that way.

It is a question if the schools and institutions teaching and serving public health are ideal, mainly because they lack the broad and integrated interdisciplinarity which is needed to become heavy and authoritative bases for research, documentation, teaching and counselling, and to act as methodological centres for development of effective applied public health services. But why such centres are only rarely found, again is a reflection of changing concepts which deserve to be explored.

An example from recent public health history: Around 1970, in many countries epidemiology experienced a boost, not least because of rapidly developing computer techniques. New and important connections between man and environment and between man and health related behaviour were unveiled. In the years which have passed, a vast body of knowledge has emerged and still emerges every day. Some places, public health and preventive medicine as disciplines have more or less been identified as epidemiology, a trait supported and maintained by public health publication media. In that way a part of the field more or less conquered the hegemony, leaving e.g. the broad approach by the so called social hygiene from the interwar years of the 20th century behind.

However, what most appallingly has been retarded is the development of methods for implementation, for transforming new public health knowledge into applied public health. We know a lot about, say, chemical, physical and social environmental hazards, the effects of poverty on health, etc. But new and confirming knowledge added, does not help us influence so much the skewed situation. A new systematic approach to what public health really is alike, and to where the strong and the weak points are, is required.

Exploring and adjustment of concepts within public health is a must, and so is the integration of disciplines. Likewise are the external concepts met by public health an issue of itself.

In practical public health work, concepts are encountered all the line down: Concepts about the importance of health as compared to other values, concepts about individual freedom from interference, concepts about

economy. Systematic studies of such concepts are still scattered, but should be carried through according to an overruling objective: To strengthen public health.

The trees of the forest

Back to our introductory metaphor: The tasks of the representatives of public health are to see, to study, to learn from and to include in their scope the ever new trees coming into sight.

But still a path is needed.

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The community approach to public health

Michael 2004; 1: 206–11.

Summary

There is both a strong political and economic rationale for governments to invest more in community based public health research and practice. Urbanisation seems to lead to greater inequalities among population groups both within the urban areas as well as due to rural-urban differences. The shaping of health promoting settings at work, in hospitals, in schools and in local communities, therefore has been significantly supported by the World Health Organisation. Health promotion requires partnerships for health and social development between the different sectors at all levels of the community. New health challenges mean that new and diverse networks need to be created to achieve intersectoral collaboration. Such networks should provide mutual assistance within and between countries and facilitate exchange of information on which strategies are effective in which settings. The potential for a more holistic community approach to public health practice and policy, underline the importance of interdisciplinary collaboration in our future research.

Illness, disease and sickness have a major impact on the economic situation and well-being of an individual in any society. This is particularly true in the lower income regions of countries and big cities. Improvements in health may boost productivity and the individual's level of income, capacity to acquire an education, and psychological wellbeing. There is therefore a strong both political and economic rationale for governments to invest more in public health research and practice (1). The Commission on Macroeconomics and Health, chaired by Professor Jeffrey Sachs of Harvard University, showed that disease is a drain on societies, and that investments in health can be a concrete input to economic development (2).

Urbanisation, inequalities and public health

Nowadays, people in Europe live longer and lead healthier lifestyles than ever before. However this does not give grounds for complacency. One in five citizens still dies at early age, often due to preventable disease, and there are disturbing inequalities in health status between social classes and across geographical areas. Urbanisation is an on-going process, having a profound impact on people's livelihood and health status. The globalisation of markets, increased use of communication and new information technologies are the driving forces behind this process. The urbanisation process has marked effects on the natural and cultural environment, on housing arrangements and social networks, as well as on work and employment patterns, not only in cities, but also in rural areas. Urbanisation seems to lead to greater inequalities among population groups in regard to distribution of risk factors to health, both within the urban areas as well as due to rural-urban differences. Access to health care, social services and cultural activities are generally often better in the cities, but usually access is not evenly distributed among the population.

Salutogenesis as a supplement to pathogenesis

These rapid processes of change represent a challenge to public health policy. Public health research and practice should focus not only on factors causing disease and injuries (pathogenesis), but also factors promoting health (salutogenesis) in the perspective of health promotion and prevention in different settings. Tomorrow's society will most probably focus more on that which strengthens health, namely the salutogenic (health causing) factors as described by Antonovsky (3). The shaping of health promoting settings at work, in hospitals, in schools and in local communities, therefore has been significantly supported by the World Health Organisation (WHO).

Partnerships for public health

Health promotion requires partnerships for health and social development between the different sectors at all levels of the community (4). Existing partnerships need to be strengthened and the potential for new partnerships must be explored and evaluated. Partnerships are now used as a public health tool in some European countries. Two cases from United Kingdom and Norway are examples of this kind of community approach to public health.

The first example is the introduction of partnership in East Anglia, England (5). The Joint Plan for Colchester, June 2004, will improve the health

and wellbeing of local people, particularly those who are experiencing poor health linked to social and economic deprivation or other forms of disadvantage.

Underlying the plan are three main principles:

1. Reducing health inequalities
2. Social, cultural, economic and environmental factors have not only direct impact on health, but may also limit or strongly influence the choices people make about their lifestyles and behaviours.
3. Significant improvements in public health will only occur if organisations work together towards shared objectives.

There are already many local groups, involving a wide range of agencies working together, that focus on public health issues. What has been missing is an overarching cohesive, coordinating group to ensure that there is progress in all relevant areas with clear links across groups. The overarching group will also ensure that duplication of effort is minimised. It is planned that the Colchester Partnership for Public Health Group will take on this role (5).

Increased community capacity and empowerment to the individuals

Health promotion is carried out *by* and *with* people, not *on* or *to* people (4). It improves both the ability of individuals to take action, and the capacity of groups, organisations or communities to influence the determinants of health.

"Settings for health" represent the organisational base of the infrastructure required for health promotion (4). New health challenges mean that new and diverse networks need to be created to achieve intersectoral collaboration. Such networks should provide mutual assistance within and between countries and facilitate exchange of information on which strategies are effective in which settings.

Experience with a new community based approach to health promotion in Norway

The second example is from a municipality west of Oslo. Partnerships for health promotion and new and diverse networks have been created to achieve intersectoral collaboration in a local community (6). The aim was to create a common arena and forum for wholeness thinking and creativity, in order to improve environment, quality of life and health among people in the local community (7). The challenge was to get various interest groups, i.e. public agencies, private businesses, voluntary organisations and

pioneers to co-operate in order to develop the idea to be realised in health promoting settings (8). The centre described below is now one of the official partners of public health in the county of Akershus as well as the municipality of Asker.

At the Centre for Nature-Culture-Health (NaCuHeal) in Asker there have since 1994 been several experiments where individuals from the local population have been helped to find their own talents and capacity for work to maintain function and pleasure in work (6-8). At the Nature-Culture-Health centre it is desirable with participation and positive interactions between persons of all ages, health status, philosophies and social positions. The idea is that such a meeting place between practitioners and theorists, between the presently well and the presently not so well, will be stimulating and enlightening to most people. Through participation in Nature-Culture-Health groups the individual will find the opportunity to bring to life his or her own ideas by emphasizing positive and creative activities outside one self. At the same time, NaCuHeal-activities may nourish other sides of one's personality that may also need development, attention and strengthening, to prepare for community and new social networks.

Persons with different health problems may forget their health related and social problems for a while. Among others, some participants were long-term certified sick, in rehabilitation or other social security clients.

The NaCuHeal concept

The concept of Nature-Culture-Health is based on the idea of stimulating to wholeness thinking and creativity by emphasizing:

- Nature, out-door life, and environmental activities
- Culture, art, physical activity and diet
- Health promotion, prevention and rehabilitation

The intention was to:

- Increase participants' own empowerment and participation in activities in relation to strengthening their own health, quality of life and function
- Create growth in social networks that are encouraging and stimulating
- Motivate to work ability and to explore ways of coping in day-to-day activities.

The activities seem to strengthen the ability to cope, improve quality of life and enable us to meet everyday life in a positive manner. To encourage Na-

ture-Culture-Health activities among other things means emphasizing the positive factors leading to health (salutogenesis). *Health* may in this context be defined as having as little illness as possible while having the energy to cope with the tasks and challenges of everyday life.

Many individuals have through different Nature-Culture-Health activities experienced that e.g. dance, music, art, physical activity, nature walks, hiking, gardening or contact with pets give an indirect effect with feelings of zest for life, inspiration and desire for rehabilitation. For many persons certified sick, this has been a method for return-to-work. The direct route through vocational rehabilitation may be of help to some people. For others, however, it may be necessary to take a more indirect and creative route to succeed in their rehabilitation, i.e. to practice and participate in NaCuHeal-activities for later to achieve a more useful and active existence. The way through such creative activities may give each individual a feeling of meaning and desire to act.

There is reason to believe that there is an untapped potential for improving public health by employing health-promoting nature and cultural activities. This is also a great challenge to our new multicultural and urban society. The goal is increased ability to cope, productivity and prosperity to *all* people, i.e. not only the affluent members of society, but also the ones who are in danger of becoming permanently incapable of working.

The challenge is to get various interest groups, i.e. public agencies, private businesses, voluntary organisations and pioneers to co-operate in order to develop this idea to be realised in health promoting settings.

New challenges for public health evaluation and information

Since new health challenges mean that new and diverse networks need to be created to achieve intersectoral collaboration, new methods of public health research have to be developed. Synthetic research methods probably have to be applied in order to evaluate the community approach to public health used at the NaCuHeal-centre in Asker.

The increase of information and publications of science, medicine, public health and health promotion force us to develop new information systems in order to apply an evidence based community approach to public health in the years to come. *Information design* and *Polyscopic Modeling* offers a way to construct reliable or scientific high-level information (9). The potential for a more holistic community approach to public health practice and policy, underline the importance of interdisciplinary collaboration in our future research (10).

The Norwegian Society of Public Health (NFSH) is a new interdisciplinary organisation promoting public health through research, training, policy development and practice. The focus is on lifestyle, healthy environment and alleviating inequalities in health. NFSH is a member of the European Public Health Association (EUPHA) (11), and the World Federation of Public Health Associations (WFPHA).

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New objectives in public health: Health promotion and the research methods in social sciences

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Summary

A 'new public health' has emerged in recent years, aimed at improving the effectiveness of interventions by combining synergistically health education and healthy policy strategies. The new public health also emphasises participatory practice and research methods. Citizens and practitioners are increasingly recognised as having invaluable expertise that can assist public health research to be more relevant to community needs. A challenge facing public health is to better equip public health professionals and researchers for the new public health. This requires new thinking, and innovation in public health research. The social sciences have long contributed to public health research, but an even larger contribution is possible. Various niches in the social sciences offer the possibility for scholastic hybrids with traditional public health research methods that could enrich public health research's productivity and relevance. This paper provides several examples of this potential, including the emerging research arenas of popular epidemiology and cultural epidemiology.

The 'new' public health began its emergence in the late 1970's, with the Alma Ata Declaration of Health for All, reinforced by the Ottawa Charter for Health Promotion of 1986 (Baum 1998). Among the central ideas of the new public health are these:

- Health is a resource for achievement by individuals, groups and society; Health is not merely the absence of disease or disability;
- Health promotion includes an emphasis on promoting good mental, physical and social functioning of individuals, and the development of social capital in communities and community settings;

- Health promotion work must take place in the settings where people live their lives; homes, neighbourhoods, schools, work places, recreational areas, places of worship, communities.

The people themselves are the experts about their aspirations for living; they must be involved as respected partners in public health;

- Health is an unequally distributed resource, and public health has a role to play in reducing inequities that contribute to health inequality.
- The determinants of health are beyond the control of the public health and medical sectors; coordinated policy and action in other sectors such as agriculture, education and public safety are needed to promote population health;
- Effective health promotion requires coordinated action to educate people about healthy choices and to help create environments that support health.

Today's challenge is to better train public health professionals and researchers for the new public health, and to create ever more productive research programmes to support further advancement of the new public health. This requires new thinking and innovation in public health research. Some of the sources for such innovation are to be found in various niches of social science theory and method. But today, they are on or beyond the periphery of main stream public health research. Enlarging public health practice and research to include today's most innovative social science is not only desirable, but highly consistent with public health's historical record of rapid adaptation to changing times and health challenges.

From the emergence of public health as a professional activity in the United Kingdom in the middle of the nineteenth century, public health has been under constant and rapid development. As professional public health has spread, first to the United States in the early twentieth century, and later to other places, it has adapted to local conditions, in some places finding its home as a medical subspecialty, in other places becoming a separate profession, and in yet other instances being diffused, with no clear academic home or identity.

The subject matter of professional public health has also been expanding constantly, having first been devoted to the causes of sanitation and hygiene, with the main goal of preserving health through the means of cleaning the environment. Then, the dominant actors were engineers, chemists, biologists and bacteriologists (Fee and Porter, 1991). As the medical pro-

fession developed the idea that prevention was a task also for medicine, the challenges of reducing the morbidity and mortality at the population level competed for attention with sanitation and hygiene. In many places, public health was 'medicalised', and professional public health came into complex relationships with social medicine, community medicine, and in England, with public health medicine.

With the dawn of the computer age, statistics and statisticians took on ever more central roles in public health. From the mid-1970's, health-related lifestyle emerged as a public health issue, and educators, nutritionists, exercise physiologists and psychologists joined the fray. From the mid-1980's, a 'radical' branch of public health (called health promotion in many parts of the world) became established in many universities. Specialised centres were created, devoted to interdisciplinary research that included media advocacy specialists, community organisers, action researchers, and scholars from main stream public health disciplines. Most recently, schools of public health have scampered to create research and teaching units devoted to the use of genetic information to improve health and prevent disease.

These mileposts illustrate how the legitimate activities of public health, including public health research, have been ever expanding. Nothing has been shed; sanitation and hygiene are core areas of public health today just as they have been from the start. Public health has proven its elasticity, it can and does adapt to the challenges of the day. Today, new forces on public health are giving rise to new objectives, and calling for even more expansion of public health's vision. Among the most compelling of these forces is the drive to enhance the functioning of individuals, families, schools, work places and communities as a whole. Not only public health, but virtually every public administrative sector and many academic arenas are being recruited to the effort.

A key element in today's approach to enhancing human functioning is the involvement of citizens as respected partners in community improvement, with experts alongside, not leading. These ideas are not new, and participatory social research has a history dating back to the end of World War II. The field of community psychology, in particular, shows how a traditional discipline – psychology – can be infused with a participatory ideology, and produce research useful both to the discipline and the community. The sketch of community psychology that follows illustrates this point. This is followed by brief overviews of two emerging hybrid fields in public health that illustrate the same point, but closer to home: popular epidemiology, and cultural epidemiology.

Community psychology

The founding of community psychology in the United States in the 1960's was motivated by many psychologists' wish to contribute to the reduction of social inequalities of the times, and to right social wrongs that festered in American society. A founder of the field, Julian Rappaport, wrote:

"... community psychology is concerned with the right of all people to obtain the material, educational, and psychological resources available in their society. In this regard community psychology is a kind of reform movement ... and its adherents have advocated more equitable distribution of the resources that psychology and the helping professions control" (Rappaport 1997).

Community psychology's ideological synchrony with the new public health is reflected particularly well by its ecological orientation (Catalano 1979), having these main features, again according to Rappaport (1997, pages 2-3):

- the notion that there are neither inadequate persons nor environments, but the fit between the two may be in relative accord or discord;
- the conviction that action for change emphasises the creation of alternatives by developing existing resources and strengths, rather than looking for weaknesses;
- the embracement of a value system based on cultural relativity and diversity.

In its content, community psychology bears a striking resemblance to the new public health, with emphases on person-environment fit in community settings, coping and social support, promotion of social competence, stimulation of citizen participation and empowerment, and organising for community and social change (Dalton, Elias and Wandersman 2001).

The research methods of community psychology are highly participatory and action research is common in the field. Participatory action research involves practitioners and community members in the research process from the initial design of a project, to data gathering and data analysis. Together, community members, practitioners and researchers draw conclusions about what action and change priorities arise from the research findings.

A critical difference between traditional public health research and action research is that the community are equal partners with professional researchers in deciding what the research question is. Community priorities and concerns are often set before researcher's academic interests, but ideally, over the long run issues of importance to both the community and the

researchers receive sufficient emphasis. In some cases, action research includes no professional researchers at all. Instead, research happens as a natural part of working. For example, a public social services work group might engage in a constant cycle of doing-learning-doing-learning, paying careful, systematic and critical attention to the learning (research) parts of the cycle, and communicating what is learned to other groups involved in the same kind of work. Researchers who help organisations develop the skills for such action research are truly engaged in capacity building, by weaning practitioners of total dependency on professional researchers.

Popular epidemiology

A particularly good example of how the principles of research that characterise community psychology research can be incorporated into public health is found in the emerging arena of popular psychology(Leung, Yen et al. 2004). This emerging arena in epidemiology melds the interests and research methods of epidemiology and community based participatory research in order to : (1) understand the social context in which disease outcomes occur; (2) involve community partners in the research process, and (3) insure that action is part of the research process.

The success of this hybrid of old and new is already evident in the specialty of environmental epidemiology, so much so that Leung, et. al. (2004) call on all of epidemiology to seek ways incorporate community based participatory research methods alongside the standard research methods of the field. The benefits, they claim, would be improvement in epidemiology's ability to understand complex community health problems, to enhance the policy and practice relevance of the research, and to identify and implement structural changes needed for health improvement.

An example from Tasmania, Australia, illustrates the possibilities.[7] There, residents of two rural townships were concerned about increased respiratory illnesses in the winter months. This prompted an investigation which concluded that the main cause was pollution from the use of wood-fired heating in winter, exacerbated by unfavourable topographical and meteorological conditions. Other factors were forest fires, poor waste incineration practices in the timber industry, and rural and domestic outdoor

[7] Abstracted from Mittelmark MB, Gillis DE, Hsu-Hage B. Community development: The role of health impact assessment. In: J Kemm, J Parry and S Palmer (Eds.) *Health Impact Assessment: Concepts, Methods and Applications*, Oxford University Press, London, 2004, pp 143-152.

burning. The increase in the use of domestic wood heaters followed the surge of world oil prices during the 1970s. The improper use of wood heaters played a significant role in the high level of air pollution.

The community and government agencies worked hand-in-hand to identify the causes of pollution and develop strategies to reduce pollution levels. A community action group stimulated involvement of the media and school and academic leaders, to publicise the issue and educate the community about the effect of wood burning on the atmosphere and of the need to improve techniques of fuel combustion.

Technical reports were prepared that advised more stringent emission stipulations for new wood heaters, subsidies for upgrading of heaters, quality controls on firewood, continuing community education, and encouragement of homeowners to properly insulate their houses. The local government worked in partnership with the Australian Solid Fuel Heating Association Inc., in a proactive way to educate the community by offering a free advisory service to any domestic consumer who had a problem with smoke from a wood heater. The local Council improved a local law that controlled the construction and use of incinerators, restricted the operation of domestic incinerators to two days a month, and banned on-the-ground burning.

This case study illustrates the feasibility of real partnership between environmental epidemiology, local government and citizens, leading to changes in local government policy in respond to community advocacy about a health issue raised by citizens. Critically, the advocacy initiative was armed with evidence from an impact assessment that identified the determinants of the health problem. The community demonstrated its willingness and ability to tackle a complex problem in partnership with government and industry. The three-year process undoubtedly strengthened the community's confidence and ability to take concerted action on a wide range of issues that might arise in the future. Thus, while the impetus for action was the problem of respiratory illness, the problem solving process resulted in community capacity building.

Cultural epidemiology

The term 'cultural epidemiology' seems an oxymoron, given the differences between epidemiology and anthropology. Nevertheless, experience in as diverse places as India, England and Canada shows that when epidemiology and anthropology combines forces, public health research can enjoy successes that would be hard to imagine otherwise (Weiss 2001). The need for anthropologic perspectives and research methods stems in large

part from the increasing complexity of the social context in which epidemiology operates in our modern times. Social processes such as migration, modernisation, urbanisation and globalisation add social elements to epidemiological problems that cannot be approached with classical public methods alone. People's concepts of health, and what it means to be healthy, or ill, vary from place to place. If epidemiological intelligence is to lead to local public health policy and practice that is culturally sensitive and appropriate, the social context of a health problem is perhaps best addressed as part of the epidemiological work, not as an afterthought.

At the community level, where the translation of policy into planning and action often takes place, two kinds of information, developed in a coordinated way, are essential. On the one hand, local public health workers need an epidemiological portrait of the community. On the other hand, they need information about the local experience of illness, its meaning, risk and risk aversion culture, and patterns of help seeking and problem solving in the community (Weiss, 2001). A research project that combines epidemiology and anthropology places priority not just on the objective risk factors and outcomes, but also on clarifying the nature and distribution of illness experiences and meanings. Such a project combines qualitative and quantitative methods, and the data from these complementary investigative processes are mutually enriching.

Recent reports in the literature show how cultural epidemiology can be used to investigate clinical problems such as depression. In an example from India, people reporting for the first time to a public psychiatry screening clinic and screening positive for depression participated in interviews focused on their personal experience, ideas and activities related their patterns of distress, perceived causes of their problems and help-seeking activities (Raguram, Weiss et al. 2001). Also, diagnostic assessment using standard clinical methods was undertaken. Nearly half the participants had co-morbid conditions, calling into question the validity of 'Western' psychiatric diagnosis standards in non-Western settings. From the interview data, the most troubling aspect of their health for many respondents was various kinds of aches and pains. Social problems were cited by many as the main cause of their problems, and 'nerves' were the most frequently reported cause. Participants reported seeking help from private allopathic doctors as well as public clinic physicians, and not being very satisfied with allopathic treatment.

The researchers concluded that to address the needs and expectations of persons with positive depression screening results, health professionals should attend to diagnosis and clinical formulation, but also to the experi-

ence and meaning of their patients' problems. Culturally sensitive inquiry might in this way stimulate treatment strategies that are congruent with the cultural concepts and needs of patients (Raguram, et al, 2001).

The above example is from clinical epidemiology, but it is not difficult to imagine how epidemiology in the general community would benefit from closer connections to social sciences in general and especially qualitative methods of investigation. For example, at the University of Bergen, population-based, quantitative investigations of chronic social stress and associated psychological distress have been complemented by qualitative investigations, with useful results (Mittelmark 2004). The survey research showed that chronic social stress levels in the general community were high, and significantly associated with depression symptoms, anxiety and loneliness. But no quantitative survey can illuminate what is like to experience chronic social stress on a personal basis, and to struggle to cope. The in-depth interviews that complemented the survey research in the Bergen studies revealed that when survey respondents indicate they experience chronic social stress, it was not merely normal daily social hassles that stimulated their affirmative responses. Rather, virtually all respondents in the qualitative studies indicated that very burdensome, long lasting and seemingly insoluble interpersonal problems had stimulated them to report affirmative responses on the survey questionnaires. The qualitative studies enriched the interpretation of the quantitative data and suggested refinements for further quantitative research.

Conclusion

The research described above illustrates how public health is enriched by expanding its academic 'watershed' to social science approaches and methods that are not today part of mainstream public health research. Other areas of social science that have much to offer include environmental psychology (Booth and Crouter, 2001), economic development (Jack, 1999), political ecology (Stott, 2000), and information technology and pedagogy (Loveless, 2001). This paper has made the point that the tasks of the new public health require innovative thinking in the public health research community, and that social science approaches and methods are available that could strengthen public health research's capacity to innovate. However, practical mechanisms are required to activate the potential. The expansion of university-based, interdisciplinary research centres presents an obvious partial solution. Cross-cutting conferences, research journals and training programmes are other bridge-building mechanisms with promise. Finally and quite obviously, schools of public health and medical depart-

ments devoted to community health have great potential to create the needed environments, by the strategic recruitment to their faculties of top notch social science scholars, around whom hybrid research environments would grow.

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Reflections on Health and democracy – proposals for interdisciplinary projects

Michael 2004; 1: 221–30

Summary

The aim of this essay is to link the ongoing discourse on the consequences of building social and political capital, to health promotion issues. In the social sciences, Robert Putnam's work on social capital has been extended to cover a series of problem areas, including health promotion and democratic participation. Especially in Putnam's study "Bowling Alone" (2000) of the consequences of social capital formation and decline in America, the positive effect of togetherness on public, semi-public, and even private arenas on health is documented at the level of the (US) state. The essay proposes studies to be undertaken at the level of the locality or municipality, to explore the possible relation between political and social participation and health, both for the participants themselves and for the community at large.

There are at least three different discourses connecting "health" with democracy" today: First, there is the problem of democratisation of the health sector, within a political economy perspective or a feminist perspective. Second there is an attempt to use health science concepts as metaphors in political science discourses concerning the performance of democratic institutions. None of these discourses will be addressed here, as I will concentrate on a third theme: In what ways does democracy foster health? How can we model a relationship between democratic practices and the health condition of people living within a political constituency? What are the gaps in knowledge when we want to discuss the merits of democratic practices to health, and how should these gaps be filled by interdisciplinary research, involving social scientists and the health sciences? These grand questions can only be handled in an impressionist way in the present essay, as my research in local government processes – at least at first sight - is only marginally in touch with public health issues.

Democracy defined

"Democracy" can be defined in many ways. In discussions of health and democracy, the distributional effects of democratic practices are often highlighted, such as economic equality, gendered equality and the democratically based welfare system's ability to function as a safety net for disadvantaged groups. In the present discussion, democracy as a process of popular participation, rather than its effects will be given priority. And in this respect democracy means more than voter turnout at national elections, and the way the elected representatives follow the mandate given by the electorate. In addition, *democratic participation means that ordinary people are taking part in discussions and opinion formation around issues of collective problems in their community* – be it at the level of the locality or the nation - and their solution by political measures. Sometimes people arrive at a consensual decision, which is the deliberative political ideal. Sometimes political participation means the opposite - an escalation of community conflict – more in line with the idea of political competition based on conflict of interests and values.

Modelling democracy – health relations

With a professional background in local government studies, my competence is within the health side of the democracy – health relation is very limited. The WHO definiton of Health - a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity – seems to be suited for a discussion of health's relation to democracy understood as citizen participation, as the definition includes a social element as well as the physical and mental elements.

To model a relation between democracy and health, the relations may be specified like in the following, where "democratic practices" refer to activities at certain territorial levels (municipality, region, state) that are governed by a democratic institution.

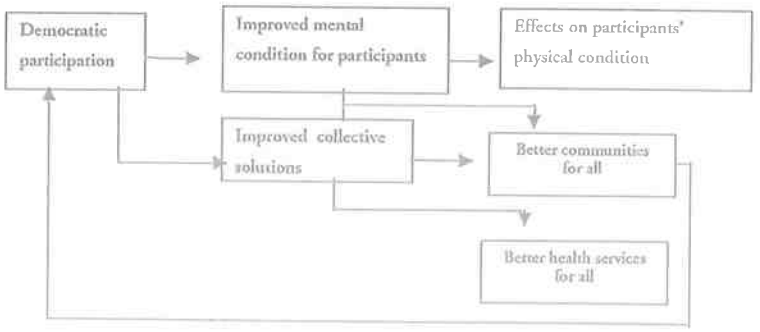

Fig. 1

"Democratic participation" in the upper left corner is here the independent variable that is thought to be productive to the health standard of a community in two ways. First, by the effect that participation has upon the participant, and second, by the effect participation has on the quality of the decisions and policies.

- In the first row, the effect of increased democratic participation upon the individual is understood as the democratic experience in itself – the feeling of exerting some power, and the social benefits from participating in discussions, of attending rallies etc. - contributing to the individual's health condition, by the "mental" way. Exactly a high degree of participation means that these effects reach a substantial part of the population, not only a few democratically elected officers in local government. On the other side, there is little reason to expect that the ones positively affected by the practice of participation will be the more deprived parts of the polity. Attending political meetings and paying party membership fees in the post-industrial age is something definitely "middle class". As to effects on the physical condition, these may be more dubious (we will return to that issue). People may be feeling good by getting engaged, but this does not mean that these people do the "right" things as to life habits.
- The second row specifies how increased democratic participation may lead to better problem-solving and collective solutions. There are two effects of this that may be relevant to health: First, the creation of an all-over better social environment equipped with good schools, safe roads and accessible parks and playing grounds. This is supposed to create a better local, regional, or national community, with implications for social well-being and, in the next step, (possibly) physical and mental health.
- The second effect (third row in the model) is the direct connection between democratic practices and health, which is the situation when democratic participation enlarges the local political agenda for health issues and their solutions. This effect is also strengthened by actions of voluntary organizations based on democratic participation, in the field of health issues and patients' rights.

The model thus shows both benefits that are intrinsic (for participants) and benefits of the public-goods type (for all) resulting from increased political participation.

There is of course a interlinking of the causal chains, and there are backward loops from improved health and community solutions that may

positively or negatively affect democratic participation. Successful policies at the level of the community (row 2 and 3) may stimulate democratic participation, but they may also have the opposite effect: Successful development of expert-based health services may render democratic participation in that field unnecessary and a nuisance to the expert-system people. Once a service has obtained legal protection, public funding and professional staffing, further popular participation support may – at least for a time period – be thought of as unwanted. "Democratic inactivity" may be preferred both by the electorate, having obtained its political goal (e.g. the establishment of an important medical service institution), and by the personnel, not wanting lay people to meddle in affairs that the professionals are well trained to decide on themselves.

Putnam and the social capital discourse

The reasoning presented above is inspired by the interdisciplinary research effort made by American political scientist Robert Putman and his associates since the 1990s. Putnam and associates re-launched the concept of "social capital" to analyse variations in public sector performance. Starting with a study of the Italian public sector (published 1993), and culminating with the publishing of "Bowling Alone" in 2000, Putnam and his associates have set the agenda for a new discussion of what makes democracy – and society at large – work.

Putnam's findings are in no way revolutionary, as they are based on well-known and corroborated facts like the relation between social integration measures and quality of social life indicators in cities and countries. To be more precise, Putnam can be said to have rediscovered the relation between one specific mechanism of social integration, namely the participation in voluntary clubs and associations (including political parties and trade unions), and its relation to societal values like a well-functioning public sector, safe communities, and economic development (Putnam 1993). In "Bowling alone" Putnam reformulates the relation between public participation and socio-economic qualities on a more general level, by discussing collective activities in its broadest sense and its effects on a wide range of societal qualities, including "Health and happiness" (Bowling Alone, chapter 20).

The very simple idea is that when people are co-operating on a voluntary basis, society will improve, and so will the welfare of the individuals. Hence the provoking title of book "Bowling Alone": According to Putnam, Americans are attending bowling halls just as much as before these days. The difference is that they are not bowling in teams and leagues to the

extent that did some decades ago – today bowling is more of an activity you perform alone, at times that fit into your (tight) time schedule. This is very much the same as the move from the formerly popular sport clubs- based fitness group sessions to "Health studio" individual attendances. According to this reasioning, the refined fitness machinery and the professional advice the customers are offered at the modern health studio are of less value than the more outdated fitness groups coming weekly together to perform stretch – and - bow – exercises. The social component, according to this view, compensates for technological refinement and professional advice.

"Togetherness" – in Putnam's sense of the term – is important to society by a series of mechanisms; they can be listed as:

- building trust, as there is an expectance of everyone taking her/his turn, and thus there will be a hindrance to the practicing of free-riding,
- enhancing empathy, as one is likely to take into account not only a mechanical division of labour, but also the views and context of other participating colleagues,
- building a collective identity, as people joining a club will identify with the collective unit, and this will possibly form one stabilizing pillar of the individual's self-identity,
- creating equality, as there is an inherent expectation of reciprocity in collectives, and the mechanisms for reaching decisions will be based on one individual – one vote. The political equality of the organizations will influence the members' conceptions also of economic equality (in any case people will start thinking about economic equality when discussing the size of the membership fee),
- providing welfare solutions by collective problem-solving. It is evident that collective action produce collective solutions that enhance the welfare of its members, for instance within health-promotion,
- bringing help and safety to individuals: By being a member of a group someone will notice if you don't show up at a meeting and perhaps pay a visit if you are sick,
- reinforce good habits: Coming together may mean a pressure on not smoking, on preference for ecological products etc. Often the one with allergies or the one very conscious on ecological consumption will influence the ways other behave,
- provide arenas for socializing and recreation that may recruit outsiders.

Thus the key issue will be how to create and sustain institutions that underpin collectiveness of an inclusive kind. By "inclusive kind" we mean collectives that can easily be joined by everyone irrespective of race and social

position. Exactly in this lies a challenge, because many organizations are formed to attract specific groups of people and are by definitional or economic criteria, closed societies. Such groups may of course enhance the well-being among their members, but they may at the same time lead to more inequality in the society at large.

Family life and friendship relations are good examples of "closed societies" – they may significantly enhance the living conditions of their members, but family life and friendship are structures that have no positive effect on equality and an equal distribution of political power in the society at large. Putnam even writes on "amoral familism" in his study of Italian society.[8]

The institutions that qualify as democratic and open are:

1. Elected local government institutions, councils, committees.
2. Local political party organisations
3. Voluntary associations, such as sports clubs, trade unions, choirs, congregations
4. Neighbourhood formal or informal associations

There is a ranking of the institutions in the listing above: At the top are the local government institutions, such as serving on the municipal council or in one of its committees. Anyone can be on a list for election – and in smaller municipalities a substantial part of the population will have served on local government committees at least once during the lifetime.

Especially in the Nordic countries, the municipalities have a broad welfare responsibility, and at the same time they are deeply engaged in civil, cultural life, as well as in societal development work related to commercial activities. Not few people participate in municipal affairs – in the smaller municipalities a considerable part of the local population would have experience from the municipal council or from its proliferating number of subcommittees. A special form of responsibility is demanded from the people participating in municipal affairs, namely the ability to take on a comprehensive view of the needs and possibilities in a given territory – and as these may change almost overnight, the political generalist competence will be enhanced in the population at large. Learning typically takes place by one's confrontation with The Budgetary Logic, expressed in the question "yes, this is a good idea, but where is the money to come from?"

In the next category come the local branches of party organizations. What are common to these types is their openness and their very broad ap-

[8] Putnam 1993:88, 92.

proach to local level problem-solving. Also, in the political party, the individual member is likely to meet people with other professional backgrounds, sharing the same ideological points of view, but the members are seeing the world through different lenses due to professional or experiental backgrounds.

> An interesting aspect of the democracy / health relation should be noticed: We readily acknowledge the strong positive impact on society from the engagement of local councillors and committee members, but at the same time we must remember that they practice their art by sitting rather immobile in chairs around a table for hours; until recently most of them sat there smoking during the proceedings; today smoking must be performed outside, in pauses, but the committee members are still likely to consume snacks, coffee, Coke and cakes continuously or at intervals, and finishing off the evening with at visit to the nearest bar, where more sitting and smoking would be accompanied with the intake of not negligible amounts of alcoholic beverages.

The third type is participation in a voluntary organization, which means very much the same as participating in a party branch organization, only here the focus is not so broad as in parties and in local government, and self-interest is more to the front (e.g. in trade unions). And socializing is even more frequent than in the local government system, in fact some organizations only mobilize its members when the annual or seasonal feast is going to take place. Nevertheless, the democratic impact of organizations is clear, as they always operate by one-person-one-vote rules, and the members, represented by the annual meeting, is the formal power base.

The fourth form is the informal but inclusive neighbourhood arena – or the formalized neighbourhood group – at times even acknowledged as part of the local government system in a form of decentralized municipal government scheme. The neighbourhood arena may be one of the most inclusive ones. If it functions well, it will mobilize all people in the neighbourhood for physical improvements at the area as well as regular socializing events.

Close to this form is the ad-hoc political action campaign, fighting for a specific local cause by mobilizing a large number of people affected.

Machers and Schmoozers

These formalized organizational forms of democratic participation should be discussed in relation to informal socializing for no cause whatever, but

[9] Putnam 2000: 93-95

based on family ties or friendship. This means the practice of visiting and entertaining on a reciprocal basis, which is often thought of as a strictly civil and private activity – which it of course is. At the same time, the reciprocal processes linked to kinship and friendship may have some of the positive effects listed above, pertaining to collective behaviour in general. In "Bowling Alone", this is one of Putnam's creative points: The criterion for collective behaviour should be everything social that exceeds the primary family or the dyadic friendship relation. Putnam distinguishes between "machers" – the organizational people with clear aims for their participation, and "schmoozers" – people that enjoy the company of others, just for its own sake.[9] By bringing "schmoozing" into the political participation discourse there is the expectation that outsiders will be added to the primary groups as time goes: The kinship gatherings will bring in new-comers when new family relationships are formed, and the friends-of-friends mechanism will bring newcomers in and thus extend a friendship group. Kinship and friendship based "coming together" will therefore tend to involve more persons, and the discussions and points of views expressed at such gatherings will thus tend to be communicated also across groups. It is exactly this last point that links the informal gatherings of friends and kin to democratic practices. Politics and democratic practices depend on informed citizens and that the ideas and preferences are signalled to the elected representatives and to the party members.

It is rather obvious that democratic practices thus spelled out in the form of formal political organizations, voluntary organizations, neighbourhood initiatives and informal socializing will be conducive to mental as well as to physical health. The mechanisms at work here, I think, from a layman's perspective, must be the positive mental effect on people that participate and socialize. It is perhaps a more pending issue whether secondary effects, on physical well-being exists, but at least we will expect that participation (social or political) will trigger a mechanism for repressing the pains from, and worries over, a bad health condition.

At the same time, it is obvious that socializing and coming together for collective problem-solving means that people eat more fat burgers and pizzas, they drink more beer and Coke, and they feel more free to smoke. Often the coming together means sitting around tables, much more so than the occasional dancing and other physical practices also typical of organizational life. In short, many of the more recent health rules and measures against smoking, immobility, obesity and junk food are likely to be violated by the same mechanism that provides a stronger mental health condition.

Guidelines for health /democracy projects: The community approach

There are some intriguing aspects of Putnam's research. If it is so that well known conventions of organizational and political, and even social participation leads to better health conditions, then we need research of the applied type, identifying and testing means to underpin the type of social behaviour that produces health. Advanced research on the mechanisms by which participation leads to better mental and physical conditions will be another part of the approach. The linearity of the model is only hypothetical, we know for instance that elected officials, confronted with the need to cut services and lay off personnel in regimes and municipalities of the right-wing type will often be exposed to stress, compared to politicians who can champion new welfare state monuments for the benefit of their electorate. Putnam, however, especially in his 2000 volume is much more concerned with a discussion on finding practical methods to re-engage people in well-known practices, as political, organizational and even schmoozing practices have weakened – at least in the USA during the last decades.

To propose projects on democracy – health – relations along this line of reasoning should, in my opinion, take the territorial unit as its starting point, which means case studies of a limited number of localities. It would be wise to select municipalities or neighbourhoods for study in which there have been serious attempts at stimulating political participation during the 1990's.

A series of participation experiments and more lasting measures have been tried out in the decade defined as one of citizenship decay, individualism and customer/ client-orientations in people's dealing with local authorities. We may mention Local Agenda 21 as one measure that may have had an effect on citizen participation. Other experiments have been the free-municipality arrangement. When selecting municipalities in which specific measures have been carried out, the potential value of the projects may be greater, because one will not so easily find that rich, middle class social environments produce more participation – and health - than do deprived, job-losing areas. It will also be interesting to compare the merits on different forms of stimuli to participation as to their effectiveness both on lasting participation, and on health indicators. Paired municipalities in different categories of size would be necessary to establish a control group, but of course one should try to keep some basics constant, in the form of occupational structure and income levels.

The above must be treated as preliminary reflections on a highly interesting theme, challenging to scientists, as the solutions and means searched

for will not necessarily be of the expert advice type, but of a facilitatory kind that the local citizens themselves will be able to discuss and to decide upon.

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Health impact assessment as a tool – but how are the methods?

Michael 2004; 1:231–5

Summary

It is necessary to establish a better basis of knowledge for giving advice and counselling when decisions on health matters have to be done by the health authorities. Health impact assessment (HIA) is a method which is very useful, but it should not only include studies of sickness and health hazard outcomes, but also of determinants suitable for health promotion.

In January 2003 the Norwegian Government presented a white paper concerning public health politics in years to come, White Paper no. 16 (2002-2003), entitled Recipe for a healthier Norway. *(1). Among the proposals in this document a proposal concerning the topic* Health Impact Assessment (HIA) *is of great value. This is not a new idea, and the white paper mentions health impact assessment founded in Norwegian legislation, especially in* The Planning and Building Act *(Plan og bygningsloven) and* The Municipal Health Services Act *(Kommunehelsetjenesteloven).*

Assessments performed under the provisions of the laws mentioned usually are concerned with single measures and projects, for instance concerning health issues connected to an airport or a motorway. These assessments are usually an environment impact assessment, eventually combined with a health impact assessment.

On the national level are plans, new legislation, white papers etc. from the Government prepared according to the Investigation Regulative (*Utredningsinstruksen). Impact assessments can be performed in order to make decisions of higher quality, and health impact assessments are especially mentioned in the Regulative. The Regulative has now been in force for almost 10 years, but so fare no health impact assessment has been performed according to it.*

What is to be done according to the White Paper no. 16?

The Government has presented several proposals in the White Paper (1) concerning the tools necessary for doing health impact assessments. In the

first place, proposals for a more precise legislation to secure health impact assessments has to be passed. In the second place, it is necessary to make sure that health impact assessments are parts of the plans for education of relevant personnel. In the third place, it is required to establish a central unit of competence with the obligation to work out methods, summing up experience, building networks, counselling counties and municipalities, and give technical advise and counselling to The Ministry of Health.

A small working group in The Directory of Social and Health Affairs is at present doing the preparatory work necessary to carry out these statements.

How is "the state of the art" in this field?

The book *Health Impact Assessment* edited by Kemm, Parry & Palmer (2) presents a very useful survey of updated knowledge, "The state of the art", concerning health impact assessments. The summing up chapter embodies an overview of the research, with important conclusions.

What is health impact assessment?

The research described in the book concerning the question has two common characteristics:

- Health impact assessment attempts to predict the consequences of adopting different options.
- Health impact assessment is intended to assist decision makers.

This means that a health impact assessment is a prospective issue, not a retrospective one. Evaluation is another topic, different from health impact assessment. The intention to assist decision makers, implies that a health impact assessment must be performed in such a way that it really permits exerting influence on the decision making process. Another point is that there is a tendency to interpret "health" too narrowly, focusing only on sickness and disease, not involving e.g. determinants of health related to health promotion.

Participation and stakeholder involvement

Stakeholders should be involved in health impact assessment, but it is unclear in which way such involvement contributes to the health impact assessment. Professor Maurice B. Mittelmark, Bergen describes how to involve citizens in health planning, and this is mentioned as an example of participation which may bring additional benefits to the plan.

The need to consider distribution (equity) of impacts

Internationally it seems to be consensus about the need to consider the distribution of impacts within a population. But in this connection there is an important statement in the book:

It is clear that at present there is a mismatch between the aspirations of HIA and the reality of assessments in terms of considering health inequalities in an adequate manner.

Bases for prediction in health impact assessment

A key question in making a health impact assessment is: What has been done of evaluation of effects of the impact on the health in the actual population? A statement in the book about this question is:

To use an often-repeated phrase from the HIA literature," the stage is set" for HIA. Unfortunately, it sometimes seems that many of the most important "props" are currently missing. In particular, we have few evaluations of actual impacts to feed in the HIA process, and relatively few systematic reviews of the health effects of social interventions and non-health policies. We also need to make better use of the existing evidence, including that of variable quality. Most importantly, if HIA is to fulfil its potential in improving the public health and reducing health inequalities, we need more evaluation of the actual effects of policies and other interventions.

In other words: We often do not have the sufficient knowledge to make health impact assessments, especially not health impact assessments concerning the "strategic" health impact assessments founded on the Investigation Regulative here in Norway. The lack of knowledge is often connected to the fact that we know too little about the health effects of social interventions and non-health policies, and therefore we need more evaluation of effects of policies and other interventions.

Conclusions in the book

The conclusion in this review of the state of the art of health impact assessments is:

The work presented in this book demonstrates the impressive variety and range of work that has taken place in the field of HIA. Health impact assessments has indeed come a long way in the past 10 years, but it needs to improve further both in terms of methodological technique and practical application if it is to truly fulfil its promise and become a useful adjunct to decision making.

What is of importance concerning research in public health and the issue of health impact assessment?

To identify and stimulate research programmes involving both researchers from the public health field and from the social sciences, is of great importance as a prerequisite for doing a health impact assessment. The following issues are important in this kind of research:

How to avoid a too narrow interpretation of a health impact assessment?

A health impact assessment needs to throw light on not only sickness and illness consequences, but also consequences for health promotion determinants. This is relevant especially for proposals in the strategic field, new legislation, budget proposals etc. There exists a lot of knowledge about determinants for sickness and disease, but we need much more knowledge about the positive determinants for health. In other words, there is a need for research engaged to throw light on this topic.

Even distribution (equity) of impacts

The White Paper points out this important issue, but again, there is too little knowledge at hand concerning the problem how to perform assessments about the distribution of impacts.

Bases for prediction in health impact assessment

The conclusion in the review of the literature is clear: We have too sparse research concerning the health effects of non-health policies.

It is thought-provoking that 25 years have elapsed since Aaron Wildawsky presented his famous sentence about the determinants of health: *Only 10 percent of the determinants of health owes to the health services, 90 percent to determinants of other kinds.* This is perhaps the best known health impact assessment ever undertaken, but at the same time it is a health impact assessment built on almost no real knowledge! And even more sensational, very little has been done of research during these 25 years with the intension to underpin this very wide spread statement by Wildawsky.

Emphasis on health impact assessment is therefore a starting point for research on the determinants of health not only connected to the health services, but also determinants of other kinds, economy, housing, transport, education, culture etc. etc.

The issue of economic valuation

Economic valuation is a very useful instrument "to put health on the scale pan", as The White Paper says. The reasons for that are in short:

- It is probably the most efficient way to implement the weighting and balancing of different impacts. (Also advocated by WHO in the report *"Transport, environment and health"* from 2000).
- It may be used in similar manners which have been done in the environmental impact assessments carried out in the Norwegian transport sector, which include the value of "statistical lives", different health states and noise annoyance.

Research in this field is therefore another example of the need for more knowledge, if the good intentions in The White Paper should be fulfilled.

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Medical care and population health in the age of health system reforms – the Norwegian experience

Michael 2004: 3: 236–43.

Summary

The Norwegian health care system has in the latter part of the twentieth century developed an ambition to deliver a comprehensive package of services with universal access.(Schiøtz A & Skaset M 2003) It resembles the other Nordic countries and the UK in this respect. Technological advances, increased expectations and a stronger consumer voice from patients have since the seventies put the system under pressure as health care costs have increased continuously. With the prospect of an ageing population possibly demanding more health care, the issue of cost containment has come at the forefront of the policy makers' agenda. This has meant more attention to transparency within the health care sector. Knowing where the money goes could make it easier to control the costs. New initiatives have come, such as giving each hospital consultancy a code which is related to the patient's presumed diagnosis. Clinical governance is slowly replacing decades or even centuries of clinical autonomy, a process taking place in many Western countries. (Scally G & Donaldson LJ 1998)

Norwegian health care reforms

Norway has in the last decade seen two health care reforms, the first in primary care and the more recent one in the hospital sector. (Haug C 2004) These reforms have intended to control spending as well as securing patients' rights to choose more freely health care provider and guarantee a certain level of quality defined as time spent before seeing a consultant and so forth. The changes have predominantly had an individual level approach to equity. (Bravemann P & Gruskin S 2003) The egalitarian ethos of the Norwegian health care system and public service in general has probably been seen as a guarantee enough for equal access to these services for any population group, weather it be socially, ethnically or geographically defined. And the recent health care reforms have paid little attention to the poten-

tial population health impact radical changes in health service infrastructure may have.

Norway has also at the end of the nineties seen more interest in the quality aspect of health services.(Sosial- og helsedirektoratet 2004) With increased consumer power in health care this has also meant giving out information on how good one provider is relative to others. Ranking of hospitals based on relative survival and so forth, is not yet part of the package of information patients can use to choose provider. But it is likely as a logical extension to the current practice, not least because this is already established in other countries. (Anderson P 1999) Opening up for competition between providers is already explicitly stated policy, and quality of the services is one possible vehicle for this competition. The future extent of this policy is at present uncertain. (Sosial- og helsedepartementet 2001)

But given the present emphasis on choice at the individual level based upon various aspects of quality of the provider, it is quite conceivable that the effect of this at population level would be an increase in health inequalities. As long as issues related to access by different population groups remain largely unresolved, this could easily mean different groups receive services of different quality which has repeatedly been shown in studies from other countries. (Carr D et al. 1999) In other words, the health policy appears to pay little attention to the population health impact of changes in health services and may even have the potential to increase health inequalities. This is a paradox because the overall intention of these services has been equal access to equally good services. What is remarkable is the lack of debate on this paradox both in the political and professional discourse.

The Norwegian experience in perspective

The creation of a market in health care by separating the commissioning of health services from their provision raises some challenges. People's demands for health care are based on a desire to be healthy and not on the ability to benefit from health care which characterizes the definition of epidemiologically assessed need. (Stevens A & Raftery J 1997) The supply of health care previously determined by clinicians has been characterized by wide variation of health care services, such as referral rates, intervention rates etc. Various approaches to needs assessment has been developed as tools enabling purchasers in the UK to shift the balance of investment from areas of wasted resources to measurable benefits to population health. An important part of public health specialists' job within the NHS in the UK is to carry out a comprehensive needs assessment for the District Health Authorities. The Department of Health gave specific responsibility to pri-

mary care trusts highlighting the role of public health practitioners in assessing the needs of health care in local communities. (Department of Health 2001)

This objective was formulated within the wider goals of improving the health of the nation by integrating the role of public services with other determinants of population health such as sanitation, education and housing. In this way, assessing health care needs could be seen as integrated with other tools for this purpose, such as health impact assessment. (NHS Health Development Agency 2004) The wide array of policy documents from the British department of health is clearly in contrast to the lack of similar formulations in the Norwegian policy context. The impact of health services for improving population health, and ways to assess this for different local areas and health problems, are hardly mentioned in documents being published after recent health care reforms were implemented in Norway. The white and green government reports on specialist services released after these reforms were implemented, hardly consider the population level health outcome of changes in health service infrastructure. (Helsedepartementet 2003a; Helsedepartementet 2003b) Their main target seems to be increased accountability.

The legacy of Thomas McKeown within health policy

The British epidemiologist and historical demographer Thomas McKeown has probably had a major importance in health policy, although his name may have been forgotten in clinical medicine compared to Archie Cochrane. His detailed accounts of trends in cause-specific mortality rates showed that only a negligible part of declining mortality rates in the 19th and 20th centuries could be ascribed to medical and specific public health interventions.(McKeown T 1976a; McKeown T 1976b) He rather thought nutritional improvements were the driving force. He never refused historical extrapolation to other periods or populations. Groups of historians, particularly in Cambridge, have come to different results than McKeown. (Wrigley EA & Schofield R 1981) And the present status of the evidence among historians is mixed in the sense that he was probably correct in the overall picture that general social conditions were probably of far more importance than medical or public health interventions. On the other hand, even in the period of higher mortality, some researchers point to the importance of targeted interventions having had an important role. (Szreter S 1988)

Furthermore, even if the precise nature of the mortality decline is still debated, the relevance of these historical data to improvement of today's

population health is questionable. After McKeown published his two much cited books, medical treatment of coronary heart disease has improved considerably and is probably partly responsible for the lower mortality of this disease in recent years. (Hunink MGM et al. 1997) As this is a disease more associated with older ages, it is plausible that medical treatment may have a large influence on population health with an ageing population. Evidence of predictions on population health, both from historical and current data, depends on specificity in plausible causal mechanisms. With the interest in the life course approach among researchers today, successive birth cohorts may have experienced different factors during their life time. (Blane D 2004) And this may differ for various disease outcomes, disfavouring historical extrapolation of evidence.

McKeown originally published his work in the 50s in demographic journals, but it was after the release of his two books in the 70s that his work became much cited. This rise of interest has been linked to political shifts in the Western hemisphere in the 80s and 90s. Several commentators have commented on the unintentional alliance between radical critics of medical care and liberal economic theory. (Colgrove J 2002) McKeown's interpretation was taken as support that organized social interventions by medicine and the state had never played an important role in improving human health and that only strong economic growth was the principal guarantor of such improvement. (Knowles JH 1977)

What explains the lack of attention to population health in Norwegian health care policy discourse?

Among the professionals involved in health care planning and practice, there have been few attempts to see medical care as an integral part of population health. Clinicians often distance themselves from public health as they are preoccupied with individual patients' suffering in their daily work. Health care managers probably see themselves as primarily budget keepers of organizations that take care of individuals demanding health care. (Haug C 2004) Their position could be seen as influenced by the health economist's assertion of infinite demand for health services. Although this assertion is said to be empirically weak, it appears to have strong support within policy and promotes an individual level approach to planning. (Frankel S, Ebrahim S, & Davey Smith G 2000) Public health physicians have in Norway largely been recruited among GPs linking public health work to the field of primary care rather than all aspects of health care. And as Colgrove suggests, they may also have been exposed to the broad generalizations from the "McKeown generation". (Colgrove J 2002)

This structure of professional stakeholders provides some clues to the population health void within health care policy discourse. But as Dahl emphasizes, there may also be cultural explanations to this.(Dahl E 2002) The egalitarian view of Norwegian society in the population makes it hard to see inequality. Even though health inequalities in Norway have been shown to be comparable to other countries, this has not been seen as an important policy topic. Policy on inequality is mainly perceived of in terms of disadvantaged, vulnerable, or marginalized groups and individuals. Specific health care for such groups have been set up. Research on health inequality has, however, demonstrated a gradient across all social groups suggesting health care must pay attention to the whole population if it shall reduce such inequalities. (Dahl E 2000)

What is the evidence on the impact of medical care on population health?

Estimating the relative importance of medical care to other determinants of population health poses difficulties in design and may not even be of interest. Within the current climate of evidence based knowledge, problems of getting randomized evidence on population measures such as social conditions will of course prevail. Number of empirical studies is still limited. Bunker was the first to seriously take on the effort to test the assertions made by McKeown for contemporary medicine. (Bunker JP 2001) Based on an optimistic approach of various curative and preventive measures, he ascribes 7, 5 years of increased life expectancy since 1950 to medical care. Mackenbach later examined Dutch data and found reductions in mortality from avoidable conditions between 1950/54 and 1980/84 could have added 2.96 and 3.95 years to life expectancy at birth of Dutch males and Dutch females respectively.(Mackenbach JP et al. 1988) In a review, Mackenbach concluded that variation and declines in such avoidable mortality may be ascribed to other factors than level of supply such as specific aspects of health care delivery, closely related to socioeconomic circumstances.(Mackenbach JP, Bouvier-Colle MH, & Jougla E 1990) More recently, Andreev et al studied trends in such causes of death comparing Eastern Europe with the UK and found that if outcomes of health care seen in the UK were achieved in Russia, life expectancy at birth might improve by at least 1.5 years.(Andreev AE et al. 2003) And the results from EURO-CARE study which was recently published, found substantial differences in cancer survival between European countries partly seen as an end result of the performance of health care systems. (Micheli A et al 2003)

But ultimately, the time has probably passed for simple opposition of medical care and other determinants of health, as medical care is not a unitary enterprise. As Frankel states: "The more interesting questions concern which components of medical care and which influences upon other determinants of health justify investment. However, the discourse in health policy has been dominated by the idiom of the health economist where choices are always 'hard' and costs represent opportunities forgone".(Frankel S 2001) That means in most European countries, population health would probably benefit from increased investment in both medical care and the wider determinants of health.

Bridging the gap between clinical studies and health services output

Most clinical studies recruit patients that do not resemble the population of patients that would benefit from health care. Due to low external validity of randomized studies, the effect of health care on the population it serves is largely unknown.(Britton A et al. 1999) Unlike these studies, patients are older, do not suffer from one single disease and are more socially deprived. Because of this, calls have been made for mega trials including larger population segments, to resemble the study population with the true population of patients.(Egger M, Ebrahim S, & Davey Smith G 2002) Nick Black has advocated more use of high-quality clinical databases as it may help us to understand the natural history and development of disease; to identify causes of disease; to evaluate health care interventions; to assess equity of care; to describe trends in health care utilisation; and to ensure the methodological rigour of research.(Black N & Payne M 2003)

Julian Tudor Hart's seminal paper on the "inverse care law" originally put this in perspective when he asserted that those most likely to benefit from medical care generally were the ones who received least of it. (Hart JT 1971) The implication of this in the Norwegian setting is to extend the assessment of medical technology from relying solely on randomized evidence and evaluate the intricacies of potential benefit for the whole population on specific health services. It remains to be seen if the new government funded bureau for evaluating health services, "Nasjonalt kunnskapssenter for helsetjenesten", incorporates this as one of their tasks.

Where does this lead?

Comparing the Norwegian health system reforms with the ones in the UK indicates some kind of vulnerability to radical changes in public service infrastructures that may be particular to Norway. Number of stakeholders is

far less in a country with 4,5 million inhabitants. That means chances of receiving balanced inputs in times of reforms are somewhat limited. During the recent hospital sector reform, an explicit goal was to put this reform through at high speed because otherwise the success of it would be hampered by all different kinds of vested interests. Largely, the medical profession approved of it and was disengaged in looking into possible side effects. Within the profession, public health has been marginalized and appears even to suffer from an "identity crises".(Braut GS 2000) There was hardly any initiative from public health physicians or physicians in general to compensate the reforms with population level arrangements making sure medical care was delivered according to need. Rather, the mental dichotomy between medical care and the wider influences as of population health mutually constructed among all professional stakeholders, probably made health care policy to be written in the idiom of individual demand of health care. Ironically, as policy becomes increasingly concerned with health care spending, those interested in health of the population may have a strong case in arguing for population level actions within health care if equity does not loose support in the public. Adding this population level to the "vested interests" in the medical profession should provide a fertile ground in times when health care priorities are questioned.

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Local prevention in Oslo – can we propose measures based on research in the Oslo Health Study (HUBRO)?

Michael 2004; 1: 244–6.

Local prevention

This will presumably be the dominating method in raising new tasks of medical prevention in the years to come. There are three reasons for that:

- Individual moralism has lost its effects and can no longer be the main methods in prevention.
- Municipalities have the responsibility for prevention and are our employers but is mainly speaking not interested in prevention. The reasons are, first, that it costs money, and secondly that preventive measures give handicaps in completion among small units.
- The Government has always been the motor in prevention because the state may plan for a long period and is not subject to completion. When we no longer can relay on new governmental rules the reason is that the Government has turned out to be too weak for new efforts in medical prevention.

Physicians and others who are interested in new preventive measures must go together with local groups. That may be within the municipal administration but will probably be in smaller units like schoolchildren and their parents, a neighbourhood, a local association, or among employees in a company.

What is HUBRO?

All inhabitants of Oslo in the age groups 15, 30, 40, 45, 60 and 75 years in 2000 were offered a health control, in all 40,000 individuals. 8,000 of those 15 years old participated (89%), because the examination was done at school in 10th grade. Of the adults 18 800 participated (46%).

Data from Statistics Norway were linked to all 40,000. Hence we know a lot about the representativity, and that is quite good.

When considering possibilities for prevention, representativity is no big problem, but more that it is a cross-sectional study. We cannot draw con-

clusions about courses of disease, and thus we cannot conclude that certain measures will be preventive. Only for the teenagers we have a follow-up examination after three years, then finding most of them in secondary school.

What we can and shall do, is to make it probable that some measure will have preventive effects. In a healthy population as that of Oslo, which also is a well organised city, the most important variables are:

Social	Ethnicity, education, family status, occupation, social security benefits, taxable income, assets.
Housing	Ownership, number of rooms, equipment, area of living, migration, linked municipal data (air pollution, green areas, sport clubs in the neighbourhood).
Medical	General self-reported health, mental symptoms, musculoskeletal complaints, angina pectoris, chronic obstructive lung diseases and some other chronic diseases.
Psychosocial conditions	Mastering, powerlessness, collective actionism, social anxiety, type behaviour, life events.
Working conditions	Job control, physically strenuous work, shift work.

Here are large possibilities. Only some relations will be studied, mostly according to the interests of the researchers. From a preventive point of view, it is simplest to look at diversities by neighbourhoods, i.e. local prevention:

- Do we find some school districts where youth health is better than expected according to individual characteristics? Are some patterns of transitions from primary to secondary school especially positive? What characterise these schools? (No names!).
- Do we find the same for some neighbourhoods (in Oslo about 80 with around 6,000 inhabitants in each)?
- How is lifestyle in different social groups, ethnicity and areas of living? Do we find patterns that should lead to structural measures? (New sport stadiums for instance for fighting and motor sports, collective trim efforts like "Romsås in motion", new «neighbourhood houses», new talking groups in the health stations, advertisements for smoking cessation courses in certain occupational groups).
- Are anxious youths more passive in certain neighbourhoods than in others? (New kinds of youth clubs, open schools in the afternoon).

This list contains only small and modest proposals which all are relatively simple to put into action together with local support. More important measures will probably raise constraints and will demand more powerful acti-

ons. That may be the case of dangerous traffic in the neighbourhoods, air pollution, dangerous working conditions and different aspects of living conditions for children.

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NaCuHeal information design in public health: Synthetic research models of the Nature-Culture-Health interplay

Michael 2004; 1: 247–51

Five decades ago the great hygiene researcher Werner Kollath observed that the practice of medicine would need to be adjusted to the changed circumstances (1). While modern medicine was largely shaped through successes in healing infectious diseases, it is the lifestyle-caused diseases that now reclaim attention. It is clear that the combat against lifestyle-caused diseases will require completely new approaches to healthcare. The Nature-Culture-Health interplay (NaCuHeal) promises to add to modern health care elements which are neglected and needed (2,3). The aim of the NaCuHeal project was to create a common arena and forum for wholeness thinking and creativity, in order to improve environment, quality of life and health among people (4,5)

The multifaceted interplay between nature, culture and health is an area where reliable information is needed. The purpose of the NaCuHeal information design project is to develop a foundation for creating such information, based on information design principles.

Information design complements and supplements the conventional or traditional informing in a similar way in which NaCuHeal complements and supplements the conventional medicine. Information is designed to suit the needs of modern people, society and culture. Methods are developed by which suitable information can be created (6).

Information design can contribute to the NaCuHeal research and practice in at least two ways:

By providing methods for establishing or founding results;

By developing suitable communication.

Polyscopic modeling methodology has been developed at the University of Oslo as a prototype implementation of the information design approach (7-9).

As a written convention, the methodology provides a rational founda-

tion for developing new ways of creating and using information. In particular, the methodology allows for stating and proving results in non-standard research areas.

The key point in polyscopic modeling is conscious creation and use of the way of looking or *scope*. Instead of automatically relying on our habitual ways of looking at a phenomenon or issue, we consciously create new angles of looking in order to see and understand more. The ultimate goal is the so-called *perspective*: A solid understanding of an issue or phenomenon as a whole, with clear idea of the main factors and their relative importance. A key technique for scope design is postulation. Concepts are defined by convention. An example is the definition of *culture* as cultivation of well-being. In this text, the defined words are italicized.

To help create and maintain the *perspective*, polyscopic modeling emphasizes that the *scopes* should be *coherent* (representing a single level of detail and angle of looking). Multiple scopes are needed. *High-level scopes* and *high-level information* are distinguished from the *low-level* ones. Like the view from the top of a mountain, the *high-level information* gives us an overview of the phenomenon or issue as a whole, exactly what is most needed for the *perspective*. Visual techniques such as ideograms play a key role (10, 11).

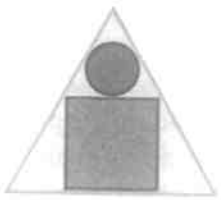

Figure 1: Polyscopic information ideogram

The polyscopic information ideogram (Figure 1) illustrates the information which is the objective of the polyscopic modeling methodology. The triangle in the ideogram may be thought of as representing a mountain, on which every point is a *scope* or viewpoint. Polyscopic information (represented by the "I" inscribed in the triangle) consists of two parts: The *high-level information* (represented by the circle) and the *low-level information* (represented by the square). The *high-level information* provides the large picture or the claim of a result. The *low-level information* provides the supporting details or the foundation or justification for the result.

The polyscopic modeling methodology provides specific criteria and methods for creating polyscopic information.

The NaCuHeal information design project will apply polyscopic modeling to creation and communication of information which is required for NaCuHeal.

We will begin by mapping the main lines of co-dependence between nature, culture and health, and by finding the sources (*low-level information*) which will allow us to understand the most relevant interactions and establish the most relevant results.

A sketch of what results from applying polyscopic modeling to create a 'top of the mountain' picture of NaCuHeal and its role and situation might be as shown in Figure 2.

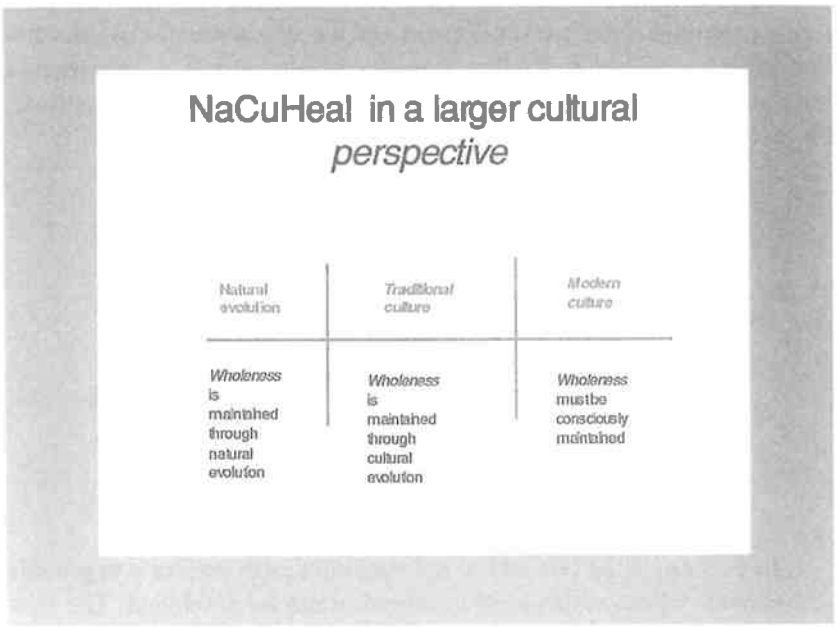

Figure 2: NaCuHeal in a broader cultural perspective

Wholeness is the quality shared by a whole mechanism, organism or ecosystem. Things must be whole in order to be well and function well. There are in principle two ways how something whole can originate: evolution or creation.

We may define the *traditional culture* as the *culture* which can evolve spontaneously. Indeed, the *traditional cultures* were able to develop their lifestyle, arts, values, religion etc. through centuries of gradual improvement, trial and error and adjustment. We, however, are no longer living in a *traditional culture* (12). Our *culture* is changing too fast to be able to evolve spontaneously. Therefore the wholeness of the culture, the nature

and the human health, environment and quality of life must be consciously secured.

During the natural evolution the basic choices were directed by feelings and instincts. In the traditional culture, the basic choices were prescribed by the tradition. In the modern culture neither the feelings nor the traditional prescriptions can be relied on. We have both the opportunity and the responsibility to make our choices consciously. More and more, modern people make their choices by reflecting about issues and becoming conscious of their consequences. The sociologists have called this new condition 'reflexive modernization'(12).

Conscious choice and reflexive modernization depend upon the availability of suitable information (8). As scientific information, this information must be reliable. Reliability, however, is not sufficient. Information must also address directly the immediate needs of the people and culture. Furthermore, information must be accessible to nonprofessionals.

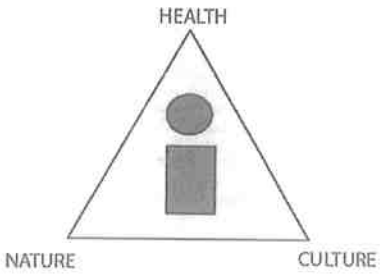

Figure 3: NaCuHeal information design ideogram

The purpose of the NaCuHeal information design project is to provide a framework within which such information can be developed. The mission of the project is to develop a suitable information base about nature, culture and health and their various co-dependencies (Figure 3).

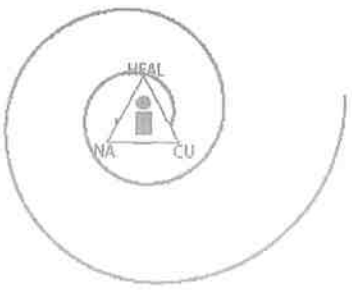

Figure 4: NaCuHeal information design strategy

Our strategy is at first to establish a nucleus of solid research practice, and continues by including other researchers and spinning off projects (Figure 4). The information developed by our project will synergize with the existing activities of Nature-Culture-Health. By combining research and community participation, we want to create a broader basis for health promotion, prevention and rehabilitation (13).

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Erratum

In *Michael* volume 1, number 2, page 132, in the article by Virginia Berridge, the name *Habermas* has been misprinted as *Hagerman*. Please correct.