Assessing the contribution that different approaches to training of health and social service staff can make to reducing health inequities: A review of evidence.

Dr Michael Shepherd

Prepared for Public Health Wales

Contents

Summary

- There is clear and unequivocal evidence of health inequities in Wales, as in all developed nations.

- The causes of health inequities are not the result of personal lifestyle choices, but are embedded within society and related to inequality in access to resources and power.

- Strategies to tackle inequities in health need to tackle the causes of inequality as well as health behaviours.

- Brief interventions by health professionals have been shown effective at the individual level in changing behaviour in the general population. There is currently little evidence of their effectiveness when undertaken by non-professionals or social services workers.

- In interventions aimed at behaviour change, the identity of the 'messenger' is an important factor in success. Expertise and familiarity are important characteristics of the messenger. People from low socio-economic groups are known to be particularly sensitive to the messenger's identity.

- Personal psychological factors are important in leading to how individuals make sense of the world and understand risks and deal with the stresses of life.

- Health inequities may be addressed through actions that: strengthen individuals; strengthen communities; improve working and living conditions and/or support healthy public policy. Inequities are often seen as a 'wicked' problem which requires multi-faceted solutions.

- To undertake work contributing to the reduction of health inequities, health and social service workers need to gain a confident understanding, knowledge and skills in health and behavioural psychology and to be able to identify appropriate times and places where intervention is potentially beneficial.

Background

There is now ample and unequivocal evidence of inequities in health, with those occupying more affluent socio-economic position having significantly better health (Acheson et al., 1998; Townsend, 2001; Shepherd, 2010). The Welsh Government in common with many administrations in the UK and elsewhere has prioritised the reduction of inequities in health as a key public health policy goal. Health inequities in Wales as elsewhere continue to are widen and are now greater than during the great depression of the nineteen twenties and thirties (Shepherd, 2010; Thomas et al., 2010). The principal for this paper is to explore how health and social service workers might best contribute to reducing inequities and what approaches to their training might enable them to do so.

Graham and Kelly (2004) argued that the causes of health inequities differ from the causes of poor population health and that the strategies required to reduce health inequities are in addition to that to improve health more generally. Health, they contend is shaped by the physical and social environment, including the quality of relationships, access to good food, education and a safe environment as well as by family background and life choices. The resources that contribute to good health are themselves unevenly distributed through the population. Those most likely to experience health resource deficits do so due to lower social status, whether based on income, gender, ethnicity, age, social group or combinations of these factors. They are also most likely to experience reduced opportunities for access to resources for health and most likely to suffer from physical and mental ill health and to die prematurely (Acheson et al., 1998).

Strategies to improve health require improving the social determinants, for example, housing, food, and environments; these are also needed to tackle health inequities, but more must be done. In addition, tackling inequities must address the deficiencies that lead to inequities including action to redistribute access to health resources (Graham and Kelly, 2004).

The Marmot report for the Commission on the Social Determinants of Health identified three areas for action at a societal level to address social inequities and close the gap in health status (Marmot et al., 2008):

- Improving daily living conditions;
- Tackling the inequitable distribution of power, money, and resources and;
- Measuring and understanding the problem and assessing the impact of action.

The first two recommendations argue for significant social change and redistribution of resources, while the third promotes continued and increased professional vigilance to monitor the impact of action. To date, the literature on inequities in health has failed to identify specific programmes that have led to change in health status *and* reduced differences between social groups.

A metanarrative review of research on reducing health inequities (Collins and Hayes, 2010)found four themes in published papers of which the largest was those that were ‘research-related' , covering issues ranging from conceptual or theoretical concerns, the use of indicators, instruments, and methods, and assessments of gaps in knowledge and translation. This group was found to be in significant decline, whereas the other three principal themes: 'healthy lifestyles', 'healthcare' and 'social policy' occurred in roughly equal numbers overall.

Search Strategy and Inclusion Criteria

For this report, two separate, but potentially overlapping searches were undertaken: on one hand literature on the training implications of brief interventions by health and social services workers was searched for references to health inequities, while on the other, literature on health inequities was searched for references to brief interventions and the requirement for training or education for those undertaking them. This approach, it was surmised would enable the identification of the best available evidence.

Priority was given to reviews, although several authors noted the shortage of detailed studies of the impact of actions to address health inequities and the absence of data relating to differential impacts across the population of interventions aimed at improving health status (Petticrew et al., 2009). This proved to be the case and subsequently it was decided to include all studies that appeared relevant. By including theoretical literature, it was possible to extend the depth of the review and to identify areas where further research is necessary.

Formal inclusion/exclusion criteria were of less use than detailed reading of abstracts, seeking indications that a range of interventions would be analysed or that insights into the efficacy of particular approaches would be included in the text.

While the search as initially conceived gave preference to empirical research, the absence of published papers in this area, as well as the insights from more conceptual work has broadened the scope of the paper.

Results and Discussion

Brief Interventions and inequities in health

The evidence is reasonably clear that brief interventions (that is one-time actions or conversations lasting under 30 minutes) can be effective in inducing behaviour change in some circumstances. In reducing alcohol and in smoking cessation and in promoting healthy exercise, the advice of a health professional appears to lead to positive change, although there are insufficient longer term studies to assess the lasting impact. In other health areas, the evidence is less clear, while there appears to be little evidence of brief interventions which are not undertaken by health professionals (Shepherd, 2012).

In considering the importance of brief interventions in addressing inequities in health, we need to address three important questions:

- How might brief interventions work?
- How might brief interventions impact health inequities?
- What are the implications for training and education of health and social services workers?

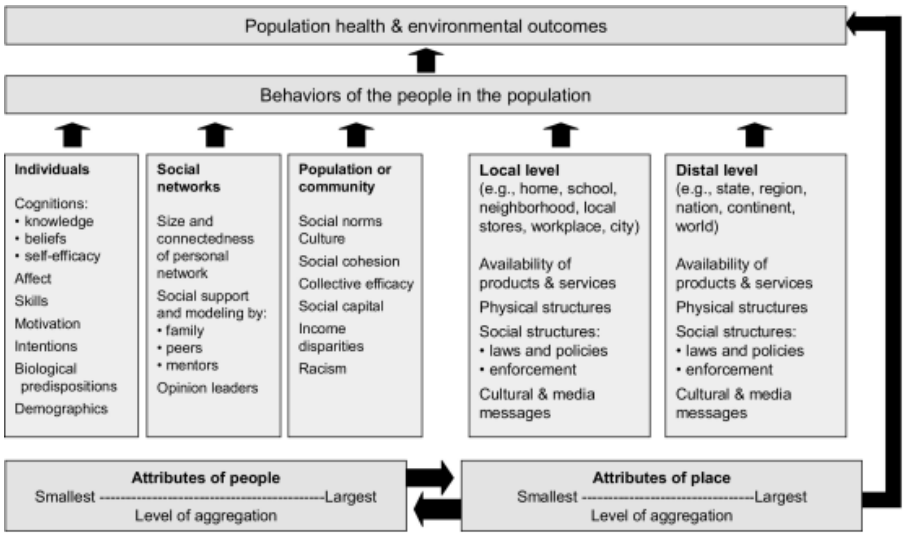
How might brief interventions work?

The theoretical basis for brief interventions is that advice from a health and social services professionals carries weight, and therefore that such information can lead to behaviour change. Behavioural theories highlight the importance of the 'messenger' in the delivery of information and the influence of the placement or context of message, so that those we believe are authoritative are

most likely to have an influence in the course of a brief intervention and they are most likely to have an influence when we can make the links between their advice and our wellbeing (Dolan et al., 2010).

The behavioural approach draws on the idea that small changes in behaviour can have important impacts on health. This theory has become influential in policy as decision-makers have become aware of behavioural economics, where the theory of 'nudges' towards health (Thaler and Sunstein, 2008) have been advocated by the coalition government in London (Department of Health, 2010). However other conceptual work maintains that health is a complex phenomenon and can also be highly influenced by the environment we live in, our peers and the behaviour of those people around us, so that there are social as well as personal aspects to health behaviour.

Figure 1: Health as a Social Ecological System (Maibach et al., 2008)



Maibach et al. (2008) illustrate the multiple influences on behaviour and health although in simplifying for diagrammatic effect, this model neglects the possibility for additional interactions between components. From this model, it might be concluded that interventions that seek to act *only* on behaviour are unlikely to lead to sustainable change in the health of the population as the origins of behaviour are not addressed sufficiently.

However, from a different perspective, Dolan et al (2010) advocate that by ensuring that the right messenger delivers brief interventions, change is more likely at the individual level. This will often be someone held as an expert in their field or personally respected, such as a health professional, but equally might be someone seen as sharing characteristics with the citizen, such as origins and background. Their advice, it could be argued will overcome the influence of other determinants of health. However opportunistic interventions risk being ineffective where the messenger is insufficiently authoritative or inappropriate for the particular client, or at a particular time or place, and may even act as a disincentive to change.

Psychologists assert that two separate thought processes are at work simultaneously in the brain – on the one hand, we consider and reflect on what happens in our environment. This cognitive thought is conscious, balanced and reasoned, whereas we also react to what happens through an unconscious, automatic thought process based on experience, emotion and habit. Behaviour can be

triggered by cues which act on the unconscious thought processes (Harris et al., 2009)and such cues are commonly used by the advertising industry to have an impact on consumption patterns. For example, one study looked at the impact of advertising food on the television. Commercials were predominantly used to promote calorie rich foods high in fat, sugar and sodium (Harrison and Marske, 2005) and resulted in the increased consumption of all snack foods among both adults and children. This suggests that brief interventions that appeal to the reasoned thought process would be in competition with cues from powerful media such as advertising which play to, and reinforce the unconscious thought process. The importance of the automatic thought has been neglected in policy discussions until recently (Dolan et al., 2010) although the rise in interest of social marketing indicates that the sophisticated approach taken by advertisers has been noted (Grier and Bryant, 2005; Burger and Shelton, 2011; Suarez-Almazor, 2011).

Approaches to counteract the impact of powerful advertising messages may include mindfulness (Roth and Creaser, 1997; Brown and Ryan, 2003; Roberts and Danoff-Burg, 2010; Kiken and Shook, 2011) which increases awareness of thought processes and their relationship to actions and has been shown to be related to stress reduction, however the impact of brief interventions may be lessened by the dominance of unconscious thought based on experience and emotion.

Those perceived as 'expert' tend to enhance transmission for many, while the reinforcement of peers seems to also be important (Dolan et al., 2010). Among people of low social status, there is a particular sensitivity to the identity and perception of the messenger. Advisors who are identified as sharing characteristics have been found to be most effective (Durantini et al., 2006). Peer advisors have also been shown by some research to have an impact on health over an extended period (Stock et al., 2007). On the other hand, a systematic review found little evidence that lay health workers were effective in generating behaviour change (Rhodes et al., 2007), although there is evidence of health related impact of more generalised social support initiatives led by non-health staff (Ewles et al., 2001; Minkler et al., 2008). Critics of behavioural economics as proposed by Dolan and colleagues (2010) hold that while interesting, it amounts to a simplistic approach to far more complex phenomena (Adams, 2011; Marteau et al., 2011; Rayner and Lang, 2011), that the social ecology as a whole is most important, with some pointing out specifically that commercial interests offer competing (and often unhealthy) nudges such as price incentives and store design (Adams, 2011).

How might brief interventions impact health inequities?

If the psychological theories explain the thought processes, brief interventions will have the greatest impact on those for whom their conscious thought processes are strong and usually overcome their unconscious. They are less likely to be effective for people who are more driven by emotional reaction and whose learning is primarily experiential.

Health decision-making, according to some psychologists is based on experience and how we frame experience in terms of personal risks for the future (Hastie and Dawes, 2009). Antonovsky's work (1987) highlights the importance of personal characteristics and outlook on health. He found that the important factors were:

- A problem solving approach;
- Access to 'generalised resistance resources' and;
- A personal sense of coherence.

According to the Scottish Government's 'Equally Well review' (2010)

> *"Poor health is not simply due to diet, smoking or other life style choices. We need to understand factors underlying poor health and health inequities such as people's aspirations, sense of control and cultural factors. This is best understood as a 'sense of coherence', in which the external environment is perceived as comprehensible, manageable and worthwhile. Without this sense of coherence, people are likely to be subject to chronic stress and poor health as a result."*(Scottish Government, 2010 p. 2)

Sense of coherence for the individual has also been shown to have a strong negative relationship to coronary health disease, self-reported health and a number of lifestyle indicators including smoking, diet and exercise (Wainwright et al., 2007, 2008). While in other studies it has been negatively related to stress, anxiety, depression and hopelessness, and positively associated with optimism, hope, learned resourcefulness and constructive thinking (Lindström and Eriksson, 2009, 2010).

While brief interventions may succeed on an individual level, it is less likely that there will be an impact at community level. The social-ecological model (Maibach et al., 2008) illustrates the pressures on health behaviour, for people trying to change, come from a range of social, economic and environmental sources. Inequities are necessarily a community-wide phenomenon. Narrowing the gaps between social groups requires privileging one group over others in terms of access to health improvement. While such approaches may be driven at the collective level, they may have impacts individually or collectively. Whitehead offers a typology of actions to address inequities in health (Whitehead, 2007). She categorises four forms of action where evidence suggests that there are opportunities to impact health inequities:

- Strengthening individuals;
- Strengthening communities;
- Improving working and living conditions, and;
- Macro-economic policy change.

Such an approach may be a first step to *'assembling the evidence jigsaw'*(Whitehead et al., 2004 p 819) as a collective effort of researchers and policy-makers.

Most if not all brief interventions, would seek to act on the individual, seeking to influence behaviour through interaction between a public service worker and a citizen aimed at conveying knowledge, or options for change. Addressing health inequities at this level might involve buttressing the characteristics or resources associated with positive health such as self-efficacy, hardiness, resilience, sense of coherence and social support (Marks and Evans, 2005). However the main health determinants are beyond the control of the individual and so individual approaches, even if successful, are unlikely to have noticeable impacts on inequities in public health terms. In contrast, tackling inequities is a complex task, which requires sustained action across many domains and at different levels (Benzeval et al., 1995; Marmot et al., 2008). Individual level actions can only ever be one part of the jigsaw.

Health inequities have been called one of the 'wicked problem ' which cut across traditional service and organisational boundaries, resist simple solutions or monitoring and demand a whole system

perspective (Blackman et al., 2006; Petticrew et al., 2009). According to Blackman et al (2006), inequities in health and similar policy problems:

> *'limit the scope of 'evidence-based practice' unless this evidence is locally valid and reliable, it also means that any evidence can at best only be a guide to what will happen in the future and not a prediction'* (Blackman et al., 2006 p70)

A similar point is raised by those who doubt the ability of evidence reviews to fulfil the needs of policy makers, because they fail to set evidence in context and acknowledge the interaction of local or temporal factors which may alter the impact of intervention (Lavis et al., 2005).

Approaches to health improvement, even at an individual level, which adopt more holistic and supportive approaches, building personal capacity in terms of self-confidence and resilience are most likely to have an impact on the 'whole system' (Bartley, 2006) and therefore influence all of the determinants. Such approaches are unlikely to be brief, requiring longer term contact, encouragement and support from professionals working closely with individuals and communities.

According to Collins and Hayes (2010), the prominence of the 'healthy lifestyles' and 'healthcare' themes in the research were said to illustrate the on-going tendencies for researchers to fixate on issues and interventions of a 'behavioural' and 'biomedical' nature. Such approaches tend to emphasise linear causality, rather than systems approaches, such as social ecological models, which acknowledge complexity (Naaldenberg et al., 2009; Rothwell et al., 2010). The prominence of the 'social policy' theme in research might suggest that a broader academic dialogue on inequities was taking place, however this theme was seen as in long term decline in the review, so that the knowledge base offers insufficient material on action to address the development of healthy public policy (Collins and Hayes, 2010).

Similar conclusions were reached by another review (Golden and Earp, 2012) which found that papers were more likely to describe interventions focused on individual and interpersonal characteristics, rather than institutional, community, or policy factors. Interventions that focused on nutrition and physical activity or occurred in schools settings more successfully adopted a social ecological approach. Spencer (2007) argues that behaviours like smoking, poor nutrition and a sedentary lifestyle are not simply the result of individual choices, but are embedded in the understanding of social norms and practices and the circumstances of people's lives, influenced by their past experiences. They are the result of complex interactions between social and environmental factors and understandable if health is seen in social ecological terms.

Collins and Hayes (2010) conclude that the contextualisation of health as 'behavioural' or 'biomedical' leaves little opportunity for local government, which have appropriately broad responsibilities, to act on the wider determinants of health:

> *If researchers, who have at their disposal voluminous evidence on the social determinants of health inequities, overwhelmingly defer to healthy lifestyles and healthcare services as the levers for improving health, then how can busy, and often uninformed, policy-makers be expected to conceptualize health any differently?* (Collins & Hayes, 2010 p16)

The minimal attention paid to the role of local government in the health inequities knowledge base and its importance in addressing 'the causes of the causes' of health inequities urges critical

reflection on the subject areas and types of health research that funding agencies privilege, and highlights the need for increased funding and translation of interdisciplinary health inequities research that is relevant to policy-makers, especially at the municipal level where human resources devoted to exchange with research communities are in short supply.

This role is perhaps most developed in education, where healthy schools schemes (Dooris, 2006; Rothwell et al., 2010)have been established to promote health systematically through interventions which target the school environment as well as addressing individual behaviours. In one study for example (Kidger et al., 2009) staff and students identified several ways in which schools can improve their support of adolescent emotional health, both within and outside the curriculum. However, echoing Spencer's (2007) view, the researchers conclude that such changes should be introduced as part of a wider consideration of how the whole school environment can be more supportive of students' emotional health. They call for understanding of these ecological issues at policy level as well as a more rigorous approach to their evaluation and greater dissemination of good practice.

What are the implications for training and education of health and social services workers?

Preparation for taking part in interventions aimed at changing lifestyles requires an understanding of the process of change and the knowledge and skills to identify appropriate and effective timing for intervention. Dolan and colleagues (2010) offer a number of key concepts which might guide healthy public policy aimed at improving health through lifestyle change, including the identity of the 'messenger', 'incentives', 'norms' and 'commitments'. Although this is a simplification, this 'MINDSCAPE' model (Dolan et al., 2010) suggests that by careful selection of the appropriate messenger and form and understanding the influence of social norms, policy-makers might employ incentives to generate sustainability through gaining commitment from participants. Behind this approach is the understanding of the dual ways in which people think and how they respond in decision-making situations (Dolan et al., 2010). Policy-makers might construct brief intervention programmes that can offer opportunities for change, however to address health inequities, they would need to be carefully tailored to specific social contexts and population groups.

Such an approach implies a programme of education that replicates and extends that of health promotion professionals be incorporated into training programmes for other professions. There is some evidence of acceptance of this idea among professionals (Casey, 2007; Dhital et al., 2010; Gill and O'May, 2011), however the evidence available on brief interventions (Shepherd, 2012) suggests that no healthcare professionals, nor any other health and social care workers, are fully prepared to deliver such a programme at present. There is also a good deal of evidence from health promotion literature that on-going and broadly based support is essential to maintain health behaviour change and address health inequities (Ewles et al., 2001; Cropper et al., 2007; Stock et al., 2007). Training programmes which improve the knowledge and skills of health and social services workers can contribute to the reduction of health inequities as part of such programmes of work.

Conclusions and Recommendations

It is clear that the causes of inequities in health are complex, multiple and inter-related. How to achieve reductions in inequities remains uncertain as evidence of what actions work, where and for whom remains unclear although the weight of the evidence suggests that action which addresses

the social determinants of health and targets those who are most likely to be least healthy is most likely to be effective. Interventions designed to tackle health inequities probably need also to be interconnected, to stretch across sectors, across professional disciplines and across intervention levels.

Health and social services workers are currently not adequately trained to deliver lifestyle interventions in the UK, there is however an expanding body of relevant research that may provide options for their participation in such programmes in the future.

Delivered on their own, brief interventions appear unlikely to make a significant impact on health inequities in Wales as they fail to address the fundamental causes of inequities. Lifestyle is one result of a number of powerful influences on health related behaviour and addressing health inequities in the long term will require action at a number of levels.

If addressing inequities remains a key priority for the Welsh Government, attention should primarily be directed to broad approaches which address the social determinants of health and build health assets within the community. While behavioural change is important, such approaches offer more opportunity to deliver sustainable health improvement through changes in the personal and collective determinants of health.

References

Acheson, D., Barker, D., Chamber, J., Graham, H., Marmot, M., Whitehead, M., 1998. Report of the independent inquiry into inequalities in health (Acheson report). The Stationery Office, London.

Adams, S., 2011. It'll take more than a nudge, say public health experts. Telegraph.co.uk.

Antonovsky, A., 1987. Unraveling the mystery of health. How people manage stress and stay well. Jossey-Bass, San Francisco.

Bartley, M., 2006. Capability and Resilience: Beating the Odds. UCL Department of Epidemiology and Public Health, London.

Benzeval, M., Whitehead, M., Judge, K., 1995. Tackling Inequalities in Health. King's Fund.

Blackman, T., Greene, A., Hunter, D.J., McKee, L., Elliott, E., Harrington, B., Marks, L., Williams, G., 2006. Performance Assessment and Wicked Problems: The Case of Health Inequalities. Public Policy and Administration 21, 66–80.

Brown, K.W., Ryan, R.M., 2003. The benefits of being present: Mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology 84, 822–848.

Burger, J.M., Shelton, M., 2011. Changing everyday health behaviors through descriptive norm manipulations. Social Influence 6, 69–77.

Casey, D., 2007. Nurses' perceptions, understanding and experiences of health promotion. Journal of Clinical nursing 16, 1039–1049.

Collins, P.A., Hayes, M.V., 2010. The role of urban municipal governments in reducing health inequities: A meta-narrative mapping analysis. Int J Equity Health 9, 13.

Cropper, S., Porter, A., Williams, G., Carlisle, S., Moore, R., O'Neill, M., Roberts, C., Snooks, H. (eds), 2007. Community Health and Wellbeing: Action Research on Health Inequalities,. Policy Press, Bristol.

Department of Health, 2010. Healthy lives, healthy people: our strategy for public health in England - White Paper (Publication).

Dhital, R., Whittlesea, C.M., Norman, I.J., Milligan, P., 2010. Community pharmacy service users' views and perceptions of alcohol screening and brief intervention. Drug and Alcohol Review 29, 596–602.

Dolan, P., Hallsworth, M., Halpern, D., King, D., Vlaev, I., 2010. MINDSPACE: Influencing behaviour through public policy. Cabinet Office/Institute for Government, London.

Dooris, M., 2006. Healthy settings: challenges to generating evidence of effectiveness. Health Promot. Int. 21, 55–65.

Durantini, M.R., Albarracin, D., Mitchell, A.L., Earl, A.N., Gillette, J.C., 2006. Conceptualizing the Influence of Social Agents of Behavior Change: A Meta-Analysis of the Effectiveness of HIV-Prevention Interventionists for Different Groups. Psychological Bulletin 132, 212–248.

Ewles, L., Harris, W., Roberts, E., Shepherd, M., 2001. Community Health Development on a Bristol Housing Estate: A Review of a Local Project Ten Years On. Health Education Journal 60, 59–72.

Gill, J.S., O'May, F.P., 2011. Is It My Job? Alcohol Brief Interventions: Knowledge and Attitudes among Future Health-care Professionals in Scotland. Alcohol and Alcoholism 46, 441–450.

Golden, S.D., Earp, J.A.L., 2012. Social Ecological Approaches to Individuals and Their Contexts: Twenty Years of Health Education & Behavior Health Promotion Interventions. Health Education & Behavior: The Official Publication of the Society for Public Health Education.

Graham, H., Kelly, M., 2004. Health Inequalities: Concepts, Frameworks and Policy. Health Development Agency, London.

Grier, S., Bryant, C.A., 2005. SOCIAL MARKETING IN PUBLIC HEALTH. Annual Review of Public Health 26, 319–339.

Harris, J.L., Bargh, J.A., Brownell, K.D., 2009. Priming Effects of Television Food Advertising on Eating Behavior. Health Psychol 28, 404–413.

Harrison, K., Marske, A.L., 2005. Nutritional content of foods advertised during the television programs children watch most. Am J Public Health 95, 1568–1574.
Kidger, J., Donovan, J.L., Biddle, L., Campbell, R., Gunnell, D., 2009. Supporting adolescent emotional health in schools: a mixed methods study of student and staff views in England. BMC Public Health 9, 403.
Kiken, L.G., Shook, N.J., 2011. Looking Up Mindfulness Increases Positive Judgments and Reduces Negativity Bias. Social Psychological and Personality Science 2, 425–431.
Lindström, B., Eriksson, M., 2009. The salutogenic approach to the making of HiAP/healthy public policy: illustrated by a case study. Global Health Promotion 16, 17–28.
Lindström, B., Eriksson, M., 2010. A Salutogenic Approach to Tackling Health Inequalities, in: A. Morgan Et Al. (eds.), Health Assets in a Global Context: Theory, Methods, Action,. Springer.
Maibach, E., Roser-Renouf, C., Leiserowitz, A., 2008. Communication and marketing as climate change - intervention assets. American Journal of Preventive Medicine 35, 488–500.
Marks, D., Evans, B., 2005. Health psychology: theory, research and practice. SAGE.
Marmot, M., Friel, S., Bell, R., Houweling, T.A., Taylor, S., 2008. Closing the gap in a generation: health equity through action on the social determinants of health. The Lancet 372, 1661–1669.
Marteau, T.M., Ogilvie, D., Roland, M., Suhrcke, M., Kelly, M.P., 2011. Judging nudging: can nudging improve population health? BMJ 342, d228–d228.
Minkler, M., Wallerstein, N., Wilson, N., 2008. Improving health through community organization and community building, in: Health Behavior and Health Education: Theory, Research, and Practice, Glanz, Karen, Rimer, Barbara K, Vishwanath K (eds). Wiley, San Francisco.
Naaldenberg, J., Vaandrager, L., Koelen, M., Wagemakers, A.-M., Saan, H., De Hoog, K., 2009. Elaborating on Systems Thinking in Health Promotion Practice. Global Health Promotion 16, 39–47.
Petticrew, M., Tugwell, P., Welch, V., Ueffing, E., Kristjansson, E., Armstrong, R., Doyle, J., Waters, E., 2009. Better Evidence About Wicked Issues in Tackling Health Inequities. J Public Health 31, 453–456.
Rayner, G., Lang, T., 2011. Is nudge an effective public health strategy to tackle obesity? No. BMJ 342, d2177–d2177.
Rhodes, S.D., Foley, K.L., Zometa, C.S., Bloom, F.R., 2007. Lay health advisor interventions among Hispanics/Latinos: a qualitative systematic review. Am J Prev Med 33, 418–427.
Roberts, K.C., Danoff-Burg, S., 2010. Mindfulness and Health Behaviors: Is Paying Attention Good for You? Journal of American College Health 59, 165–173.
Roth, B., Creaser, T., 1997. Mindfulness meditation-based stress reduction: experience with a bilingual inner-city program. The Nurse practitioner 22, 150.
Rothwell, H., Shepherd, M., Murphy, S., Burgess, S., Townsend, N., Pimm, C., 2010. Implementing a social-ecological model of health in Wales. Health Education 110, 471–489.
Scottish Government, 2010. Equally Well Review 2010: Report by the Ministerial Task Force on implementing Equally Well, the Early Years Framework and Achieving Our Potential. Scottish Government, Edinburgh.
Shepherd, M., 2010. Thinking Upstream: The challenge of health inequalities in Wales, in: Poverty and Social Exclusion in Wales. The Bevan Foundation, Bleanau Gwent.
Shepherd, M., 2012. Every Contact Counts: A review of evidence on behalf of Public Health Wales.
Stock, S., Miranda, C., Evans, S., Plessis, S., Ridley, J., Yeh, S., Chanoine, J.-P., 2007. Healthy Buddies: A Novel, Peer-Led Health Promotion Program for the Prevention of Obesity and Eating Disorders in Children in Elementary School. Pediatrics 120, e1059–e1068.
Suarez-Almazor, M.E., 2011. Changing health behaviors with social marketing. Osteoporosis International 22, 461–463.
Thaler, R.H., Sunstein, C.R., 2008. Nudge: improving decisions about health, wealth and happiness. Yale University Press, New York.

Thomas, B., Dorling, D., Smith, G.D., 2010. Inequalities in premature mortality in Britain: observational study from 1921 to 2007. BMJ 341, c3639–c3639.

Townsend, P., 2001. NHS Resource Allocation Review Targeting Poor Health : Professor Townsend's Report of the Welsh Assembly's National Steering Group on the Allocation of NHS Resources. Welsh Assembly, Cardiff.

Wainwright, N.W.J., Surtees, P.G., Welch, A.A., Luben, R.N., Khaw, K., Bingham, S.A., 2007. Healthy lifestyle choices: could sense of coherence aid health promotion? J Epidemiol Community Health 61, 871–876.

Wainwright, N.W.J., Surtees, P.G., Welch, A.A., Luben, R.N., Khaw, K.-T., Bingham, S.A., 2008. Sense of coherence, lifestyle choices and mortality. J Epidemiol Community Health 62, 829–831.

Whitehead, M., 2007. A Typology of Actions to Tackle Social Inequalities in Health. J Epidemiol Community Health 61, 473–478.

Whitehead, M., Petticrew, M., Graham, H., Macintyre, S.J., Bambra, C., Egan, M., 2004. Evidence for Public Health Policy on Inequalities: 2: Assembling the Evidence Jigsaw. J Epidemiol Community Health 58, 817–821.