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Gross national happiness as a framework for health impact assessment

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ABSTRACT

The incorporation of population health concepts and health determinants into Health Impact Assessments has created a number of challenges. The need for intersectoral collaboration has increased; the meaning of "health" has become less clear; and the distinctions between health impacts, environmental impacts, social impacts and economic impacts have become increasingly blurred. The Bhutanese concept of Gross National Happiness may address these issues by providing an over-arching evidence-based framework which incorporates health, social, environmental and economic contributors as well as a number of other key contributors to wellbeing such as culture and governance. It has the potential to foster intersectoral collaboration by incorporating a more limited definition of health which places the health sector as one of a number of contributors to wellbeing. It also allows for the examination of the opportunity costs of health investments on wellbeing, is consistent with whole-of-government approaches to public policy and emerging models of social progress.

1. Introduction

The purpose of this paper is to propose the Gross National Happiness framework as an inclusive conceptualization of "well-being" that incorporates current determinants-based models of health impact assessment within a broader framework which better supports intersectoral collaboration and whole-of government approaches to public policy than current models of HIA.

The scope of health impact assessment has broadened substantially from its early days as an adjunct to environmental impact assessment. These initial applications of HIA, within environmental impact assessments, focused on traditional measures of health such as disease states, mortality and health service utilization. The subsequent adoption of HIA by the public health community broadened this scope to reflect the World Health Organization's definition of health as :..a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". The incorporation of social wellbeing into HIA goes beyond traditional measures of disease states and mortality to include interpersonal and social support dimensions.

The potential scope of HIA's was further extended by the incorporation of social determinants. For example, the Statement of Best practice principles in HIA by the International Association for Impact Assessment (2006) integrates health determinants and health outcomes and adopted a broad framework of determinants which involved thirty-nine examples within three broad groups- individual factors, social and environmental factors, and institutional factors.

In practice, the scope of HIA's vary substantially among the existing frameworks. The New Zealand framework incorporates a model of health that includes physical, spiritual and community wellbeing. The Merseyside framework goes further to include, environmental impacts and public services (Scott-Samuel et al., 2001). The Welsh framework includes the extent to which people "can take control of their lives and are able to live their lives to the full (pg 10)" as part of the definition of health (Welsh Health Impact Assessment Support Unit, 2004). The Swedish (Berennson, 2003), Scottish (Public Health Institute of Scotland, 2006) and Canadian (Minister of Health, 1999) frameworks appear to be the broadest with the incorporation of determinants such as culture and employment and, in the case of Sweden, democracy, life-goals and life-meanings. In a relatively short time, HIA has moved from an adjunct to environmental impact assessment to an overarching framework that includes environmental determinants as only one dimension of a much larger array.

This rapid expansion in the scope of HIAs has led to confusion about what constitutes 'health" in HIA (Morgan, 2008) and has substantially augmented the need for intersectoral, cross-disciplinary collaborations (Mannheimer et al., 2007). In attempting to summarize these developments, Cole et al. (2005) developed a very useful typology of HIAs that incorporated the narrower EIA-related methods, as well as the much broader public health and health determinants stream. Harris et al. (2009) have discussed three streams of HIA - environmental health impact assessment; population health impact assessments; and health equity focused impact assessments.

Most of the components of the public sector fall within the broadest variants of determinants-based HIA frameworks and this, in itself, can create substantial obstacles. Morgan's recent critique of the

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New Zealand experience identified the reluctance of other government departments to give health the right to intervene in their policy development process as a challenge to the implementation of HIA in that jurisdiction. In three recent reviews about the adoption of the population health and health determinants framework in Canada, similar conclusions were reached (Lavis, 2002; Frankish et al., 2007; Cohen, 2006). A review of related public policy sectors concluded that "Policy-makers outside Canada's health sector have not made much use of what is known about the health effects of their policies. (pg. 1576)" (Cohen, 2006).

One of the authors of the current paper (Pennock) was a member of a team that reviewed nineteen national case-studies on intersectoral collaboration for the WHO Commission on the Social Determinants of Health which concluded that attempts at intersectoral collaboration to address SDOH have been relatively unsuccessful, especially at the local level- "The medical model of health, on which some of the culture of the health sector is based, can be competitive and prescriptive. The effect of this influence can lead to a sense that the health sector is taking over the process, working outside of its mandate, and establishing a place of dominance within the public sector pg 16." (PHAC/WHO, 2008). It may be fair to conclude that the enthusiasm of the public health community for broad-based HIA's that incorporate the determinants of health has not been widely shared by other sectors.

2. Happiness, Wellbeing and Health

Before discussing how the Gross National Happiness (GNH) framework might address these issues, it is necessary to clarify the meaning of "happiness" within the framework,particularly in a western context. GNH originated in the Nation of Bhutan which is a devoutly Buddhist society and, consequently, the term "happiness" reflects its Buddhist meanings. In western societies, however, "happiness" often refers to transitory affective mood states which can come and go with external circumstances. Within the Buddhist GNH context, the meaning of happiness takes on a much broader meaning that refers to a state of being rather than an emotion or feeling. In western applications, the term "wellbeing" is more reflective of "happiness" within GNH, than the more common meaning of happiness as a state of pleasure. In the developing research literature on wellbeing, the most frequent measure employed is self-rated life-satisfaction (Diener et al., 2009). An exhaustive review of that literature by the UK-based Sustainable Development Research Network concluded that the terms "life satisfaction", "happiness", "quality of life" and "wellbeing" are often used interchangeably (McAllister, 2005). Although it may be oversimplifying the distinctions, in this paper the terms happiness, wellbeing and life satisfaction will be used interchangeably.

2.1. The Gross National Happiness Framework

The term "Gross National Happiness" was coined in the nineteen-seventies from statement of the King of Bhutan which articulated the principal that growth in the happiness of the Bhutanese people was more important than the growth of the gross national product of Bhutan. The GNH philosophy formed the basis of the developmental strategy of Bhutan and its four pillars- sustainable and equitable social development, conservation of the environment, preservation and promotion of culture, and the promotion of good governance. In more recent years a concise framework of the key contributors to happiness has been developed through a series of international conferences of scholars which is strongly supported by the empirical literature. Although it addresses many of the same dimensions as the health determinants framework, there is one important distinction. It defines health as one of a number of contributors to wellbeing and, within this context, "health" is more narrowly defined within its physical context. The primary contributors to happiness which are defined in the framework are time use, living standards, governance, psychological wellbeing, community vitality, culture, health, education and ecology. Although there are substantial similarities with traditional population health determinants, there are also some important differences. The two frameworks are compared and contrasted in Table 1. For the purpose of this analysis, the population health framework which is employed by the Public Health Agency of Canada is utilized.

One of the most important implications of GNH for health planning and impact assessments is the separation of the concepts of health and wellbeing/happiness. In health planning, the terms "health and wellbeing" are frequently treated as synonymous and reinforce the notion that the health sector has taken ownership over "wellbeing". Within the GNH framework, health is only one determinant of wellbeing/happiness. This is consistent with the empirical literature which identifies health as an important determinant of wellbeing but one which interacts with a variety of others. Various other supports or contributors can counter the effects of ill-health on wellbeing and happiness. (Layard, 2005).

Rather than being synonymous, the relationship health and wellbeing is context-dependent. For example, in countries which have attained relatively high levels of health status, public priorities can shift to quality-of-life issues (Graham, 2008). Among nations, health spending and longevity are negatively correlated to self-reported levels of happiness and life-satisfaction (Blanchflower and Oswald, 2007).

Many of the applications which we call "health impact assessments" are better called "wellbeing impact assessments" or "happiness impact assessments" because of their wide-ranging incorporation of determinants. Health impacts that could refocus upon physical and mental health act as one contributor to wellbeing, while other determinants, such as social/communityand time balance are viewed as co-determinants. The sectors which impact most directly on those co-contributors can then participate as equal partners with the health sector. At the sametime, it is important to recognize that all of the co-contributors are interrealetd insofar as investments in one sector can affect, positively or negatively, the other sectors.

2.2. Measuring Wellbeing

A substantial literature has developed on the measurement of wellbeing and happiness. A number of survey measures which focus on self-rated happiness and life-satisfaction have been found to be reliable and valid (Diener et al., 2009). A number of these measures are summarized in Table 2.

The inclusion of items related to happiness and satisfaction-with-life in the World Values Survey has resulted in the accumulation of national normative data for countries containing almost ninety percent of the world's population for five waves between 1981 and 2007 (Ingelhart et al., 2008). As a result of this work there is substantial normative data available on happiness and life-satisfaction in a variety of cultures and stages of national development.

The newly developed Gallup-Healthways Wellbeing Index produces a daily index of wellbeing in the US based on a sample of 1000 adults on six broad scales- life evaluation, emotional health, physical health, healthy behaviours, work environment and basic access (Gallup-Healthways, 2008). The Gallup-Healthways index is an example of a survey-based tool which attempts to measure a broad framework of wellbeing and key contributors. A broader multi-nation framework for wellbeing-based national accounts has been produced by the New Economics Foundation (Marks, 2008; New Economics Foundation, 2009). This framework utilizes measures from a European survey and includes a variety of sub-indices which can be combined into one index. The individual components were- emotional well-being, satisfying life, vitality, resilience and self esteem, positive functioning, supportive relationships and trust/belonging.

Table 1
Comparison of Population Health Framework & Gross National Happiness.

Population Health Framework Key Determinants	Gross National Happiness Contributors
Income and social status	Living Standards
High income contributes to living conditions such as safe housing and adequate nutrition. Equitable income distribution contributes to health.	Similar concept in GNH but more inclusive of non-income contributors to material wellbeing to adapt concept to rural societies in which the non-cash informal economy plays a larger role.
Social Support Networks	Not separated out as a specific contributor. Included in Time Use (frequency of interactions with family and friends) and Community Vitality (social supports)
Support from friends, family and community	
Education	Education
Education increases sense of control over life and promotes job security and income	Broader concept in GNH to include informal education as well as formal. Focused on ability to develop skills and abilities through both formal and informal means.
Employment/Working Conditions	Not separated out as a specific contributor. Included in Time Balance as one of a number of productive activities which individuals need to balance. Some aspects of work stress also included in psychological wellbeing
Unemployment, stressful working conditions and a lack of control over work contributes to poor health	
Social Environment	Community Vitality
Social stability, participation, community safety and cohesiveness, and respect for diversity contribute to good health.	Similar concepts in both frameworks except GNH includes social supports within this contributor.
Physical Environments	Ecology
Quality of the natural environment and man-made environment (housing, workplace safety etc) contribute to health.	Similar concepts except PHF tends to focus on negative effects of environmental problems on health while GNH also emphasizes the positive effects of the environment on wellbeing.
Personal Health Practices and Coping Skills	Some similarity with Psychological Wellbeing and Health contributors
Healthy choices, lifestyles and coping abilities contribute to good health	
Healthy Child Development	Not separated out as a specific contributor.
Prenatal experiences and early childhood experiences contribute to health, coping skills and competence	
Biology and Genetic Endowment	Not separated out as a specific contributor.
Genetic factors cause an inherited predisposition to a wide range of behaviours and characteristics that contribute to health.	
Health Services	Access to effective and timely services included in Governance
Access to health services, particularly preventive services promote health.	
Gender	Not separated out as a specific contributor. Included in Governance (discrimination and protection) as well as Culture.
Issues of gender inequality and bias contribute to health problems and inequities.	
Culture	Culture
Some individuals face health risks and challenges due marginalization, stigmatization and lack of access to culturally appropriate services.	Similar concepts except GNH also emphasizes positive contribution of culutre to wellbeing through support for sense of identity, values and participation in cultural activities.
Not explicitly addressed in PHF but included in employment/working conditions, social supports and social environments.	Time Balance
	Maintaining an adequate balance between work, family, friends, community, study and other activities that are necessary for wellbeing.
Not explicitly addressed in PHF	Governance
	Protection of rights and freedoms, effective electoral systems, access to services, access to information, and freedom from corruption
Identified as the outcome in PHF (the end, rather than a means to an end)	Health
	Identified as a specific contributor to wellbeing in GNH (a means to en end)
Incorporated into Personal Health Practices and Coping Skills and Healthy Child Development	Psychological Wellbeing
	Emotional wellbeing, stress and spirituality.

2.3. Measuring Gross National Happiness

The GNH survey, developed by the Centre for Bhutan Studies was the initial survey which was developed to measure the broad GNH framework. The survey has been used to develop a variety of indexes which are used to summarize the nine primary contributors within the Gross National Happiness framework (Ura, 2008). These indices are based on the concept of sufficiency cutoffs whereby levels of attainment are identified which are necessary for a happy life and an individual's score is calculated in terms of its distance from this cut-off. It is based on the notion that both too much and too little of an attribute can detract from happiness.

A shorter international version of this survey is now under development and is being pilot-tested in Victoria Canada and a number of Centres in Brazil. This survey is being designed to produce a smaller number of aggregate indicators which are based on the GNH framework (Pennock, 2009).

By their nature, the measurement of life-satisfaction and happiness require subjective survey-based measurement (Diener et al., 2009). However, the contributors within the framework are amenable to the use of objective measures in a manner which is similar to the better-known Human Development Index and the Genuine Progress Indicator. Both of these measures are designed to perform a similar function as the GNH framework but are not as comprehensive with respect to the specification of underlying contributors. Strong arguments have been put forth in support of a National Accounts approach to the measurement of GNH but the development of these accounts are at a very early stage (Colman, 2008).

The Canadian Index of Wellbeing is a national aggregate measure of wellbeing which makes extensive use of objective indicators and is based on a conceptual framework which is very similar to GNH. The components of the CIW are arts, culture and recreation; community vitality; democratic engagement, education, environment, healthy populations, living standards and time use (Institute of Wellbeing, 2009).

One of the limitations of objectively-based measures is their reliance on data and indicators which are often unavailable at the local level and, consequently, local measures and impact assessments are often dependent upon subjective survey-based measures.

3. Advantages of the GNH Framework

3.1. Consistency with Current Models of HIA

The incorporation of HIA into such a framework does not require a major paradigm shift on behalf of HIA practitioners. To some extent, it is simply a matter of adjusting the semantics. HIA already embraces

Table 2
Measuring Wellbeing & Happiness.

Bhutanese GNH Survey www.grossnationalhappiness.com	On a scale of one to ten, I consider myself not a very happy person……very Happy person How would you rate the quality of your life?	1 to 10 Very poor Poor Neither poor nor good Good Very good
	How much do you enjoy life?	Not at all A little Quite a lot An extreme amount
European Social Survey www.europeansocialsurvey.org	Taking all things together, how happy would you say you are? All things considered, how satisfied are you with your life as a whole nowadays?	0 to 10 0 to 10
World Value Survey www.europeansocialsurvey.org	Taking all things together, would you say you are	Very happy Rather happy Not very happy Not at all happy
	All things considered, how satisfied are you with your life as a whole these days?	0 to 10
Canadian Community Health Survey www.statcan.gc.ca	How satisfied are you with your life in general?	Very satisfied Satisfied Neither satisfied nor dissatisfied Dissatisfied Very dissatisfied
Satisfaction With Life Scale (Diener et al., 1985)	In most ways my life is close to my ideal. The conditions of my life are excellent. I am satisfied with my life. So far I have gotten the important things I want in life. If I could live my life over, I would change almost nothing	Strongly agree Agree Slightly agree Neither agree nor disagree Slightly disagree Disagree Strongly disagree

such relevant constructs as "quality-adjusted-life-years" which introduces a strong element of wellbeing into the model.

It is also consistent with the principles of equity-based health impact assessment (Harris et al., 2009). Equitable socio-economic development is one of the four principals of the framework and this principal is expressed in the applications of the framework. For example, the impact tool contains a scale which explicitly addresses impacts upon income distribution (Pennock et al., 2007).

3.2. Consistency with Public Sector Reforms

In recent years, there has been s shift in direction within the public sector reform movement away from devolution and disaggregation towards a whole-of-government approach (WG) to developing and implementing public policy (Christensen and Laegreid, 2006; OECD, 2005; Christensen and Lægreid, 2007). The WG approach has been defined as as "Whole-of-government denotes public service agencies working across portfolio boundaries to achieve a shared goal and an integrated government response to particular issues. Approaches can be formal or informal. They can focus on policy development, program management, and service delivery. (Australian Advisory Management Committee, 2004)".

The WG approach has it's roots in a desire to implement a more holistic approach to government policy rather than the traditional economic development priorities that had dominated the world of public policy (Christenen and Laegreid, 2007). It is consistent with the requirements of the sustainable development and population/health determinants framework, both of which require a cross-sector planning foundation. The sometimes competing methodologies of environmental impact assessments, environmental health impact assessments, social impact assessments, and health impact assessments, and economic impact assessment reflect the siloed nature of the public policy world and are not necessarily consistent with the emergence of the whole-of-government approach. The broad-based, holistic and cross-sector nature pf the GNH framework, however, is very consistent with the WG approach insofar as it incorporates all sectors as contributors and provides a common framework and yardstick of wellbeing.

3.3. Consistency with Evolving Notions of Progress

The GNH framework is also consistent with recent approaches to the measurement of social progress and can provide a vehicle for incorporating health impact assessments into these progress-based initiatives. In 2007 the Organization for Economic Cooperation and Development launched the "Global Project on Measuring the Progress of Societies" for the purpose of fostering "… the development of sets of key economic, social, and environmental indicators to provide a comprehensive picture of how the well-being of a society is evolving. It also seeks to encourage the use of indicator sets to inform and promote evidence-based decision-making, within and across the public, private and citizen." (OECD, 2007) The movement is being driven by the same issues which drive the whole-of-government approach- the need for more holistic measures of progress which go beyond traditional economic measures. This interest has also been fed by the discovery that a number of developed countries have not experienced increases in self-reported life-satisfaction and happiness in recent decades, despite substantial increases in health status and affluence (Wilkinson and Pickett, 2009). The identified need for indicator sets which promote evidence-based decision-making points to the specific need for more holistic models of impact assessment.

4. Implementing the GNH Framework

The primary requirements for developing GNH as an impact assessment framework relates to measurement, the development of program/policy impact tools, and the development of a body of knowledge which supports the estimation of potential impacts. As an overarching framework that incorporates environmental impact assessment, economic impact assessment, health impact assessment and social impact assessment, many of the tools that have been developed in these applications are also applicable to the |GNH framework.

As described earlier in this paper, there is considerable work underway related to the measurement of the GNH framework. A number of policy and program impact tools are under development through the Centre for Bhutan Studies which are designed to estimate the potential impacts of policies and programs on Gross National

Happiness (Pennock et al., 2007). These tools are available through the GNH website of the Centre- www.grossnationalhappiness.com//.

The policy impact tool is composed of a series of rating scales which are relevant to the various dimensions which are incroprated within framework. Examples pertaining to equity, biodiversity, access to nature, health and family are presented below-

1. Equitable			
Will probably favour higher income groups more than lower income groups	Do not know the differential effects on income groups	Should not have any appreciable effects on income distribution	Will probably favour lower income groups more than higher income groups
1	2	3	4
5. Biodiversity			
Will probably decrease the health and diversity of wildlife	Do not know the effects on wildlife	Should have little or no effect on the health and diversity of wildlife	Will probably increase the health and diversity of wildlife
1	2	3	4
6. Nature			
Will probably provide a net decrease in the number of persons who can access and enjoy nature	Do not know the effects on peoples ability to access and enjoy nature	Should have little or no effect on peoples ability to access and enjoy nature	Will probably provide a net increase in the number of persons who can access and enjoy nature
1	2	3	4
9. Family			
Will probably decrease the opportunities that people have to spend time with family and friends	Do not know the effect on opportunities that people have to spend time with family and friends	Should have little or no effect on opportunities that people have to spend time with family and friends	Will probably increase the opportunities that people have to spend time with family and friends
1	2	3	4

The most significant need is for a continuing increase in the body of empirical literature about the impact of public policy initiatives on wellbeing and its determinants, as well as the knowledge translation initiatives which are required to make this literature accessible to the policy and planning community.

5. Conclusion

In conclusion, the Gross National Happiness framework provides a promising conceptual strategy for

1. Accommodating and integrating environmental, social and health impact assessments
2. Facilitating intersectoral collaboration and supporting whole of government approaches to public policy
3. Supporting the application of opportunity costs to health investments
4. Supporting new approaches to the measurement of progress.

The framework is grounded in a growing body of empirical literature about the contributors to happiness and wellbeing. It will require that population health proponents accept a more narrowly defined concept of "health" in health impact assessments which will focus on traditional notions of physical health in order to facilitate a "shared ownership" of health determinants with other sectors. Most importantly, it will require a demotion of health to a position of being one of a number of interacting contributors to wellbeing. The broader concepts of health determinants rightfully belong in a broader framework of wellbeing or happiness, such as that provided by the Gross National Happiness conceptualization.

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