



The science and politics of population health: Giving health a greater role in public policy

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Author's note

This paper argues that there are several gaps in the dominant scientific and political perspectives on population health, which, if closed, would help to give health a bigger role in setting national and global priorities and policies. The paper is an example of transdisciplinary synthesis, ranging across several, discrete research fields and disciplines to make a broad statement about the social significance of population health.

There is a story behind the paper. It was rejected by five international health journals over a two-year period before being published in an online journal that uses a novel post-publication review process.

The story illustrates problems with scientific publication, especially its system of 'blind' (anonymous) peer reviews. So I decided to supplement the paper in this publication with a commentary on the journals' responses to the paper, the reviews of the published paper, and an invited column about synthesis and its hazards for a science magazine.

The science and politics of population health: Giving health a greater role in public policy

Abstract

The dominant perspectives on population-health research and policy have significant gaps that are limiting public health's role in public policy. Most public-health initiatives focus on individual risk factors associated with physical health. From a health perspective, this emphasis neglects the importance of mental health; from a prevention perspective, it under-estimates the importance of social and environmental determinants. Furthermore, social-determinants research focuses narrowly on socio-economic factors, notably inequality, to the neglect of cultural factors.

Culture and mental health are closely linked. This is seen clearly in young people's health, an important predictor of future population health. Contrary to longer historic trends and official perceptions, young people's health has arguably declined over recent generations in developed nations.

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Acknowledging the importance of culture and mental health highlights the social significance of health in two ways: by casting new light on human development and national progress, and by showing health is an important social dynamic, a cause not just a consequence of social change. A broader view of the science and politics of population health would not only benefit health directly, it would allow public health to play a more influential role in public and political debate about national and global issues and priorities, including sustainable development, so having a more indirect, but ultimately powerful, effect on people's health and wellbeing.

Key words: culture, development, mental health, population health, public health, social determinants, sustainability, youth health.

Introduction

The rise in life expectancy, which more than doubled globally last century, is a cornerstone of human development. While there are competing theories about what produced the health gains, they can be, broadly speaking, attributed to factors such as material advances, especially better nutrition; public-health interventions such as sanitation; social modernisation, including education and social welfare; and improved medical treatment and care (McMichael, 2001, pp. 193-201).

Historically, then, medicine and other health professions have been part of a broad, progressive movement that has improved not only life expectancy and health, but quality of life more broadly. The connection was close; the early emphasis in public health was on how social conditions influenced health and how they might be improved (Galea & Putnam, 2007). Today the relationship has changed. Health professions appear to be increasingly engaged in countering the growing harm to health of adverse social trends, at least in developed nations. At the same time, however, health professionals have become part of the problem because of a scientific emphasis on, and political advocacy of, a biomedical model of health based on individual cases of disease, and their associated risk factors and treatments, at the expense of a social model of disease prevention and health promotion. This has contributed to a separation of population health from social conditions, to the detriment of both.

Criticisms of the biomedical model of health are not new (Galea & Putnam, 2007; Wade & Halligan, 2004). However, given the changing social context of health, they are more salient than ever. This paper seeks to bring together and develop these concerns so as to enlarge the debate about population health and its significance, both scientific and political. The paper argues that, from a health perspective, the science and politics of population health neglect mental health; from a prevention perspective they focus

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on individual risk factors to the neglect of social determinants, especially cultural factors, which are particularly important to mental health. These issues are illustrated by the patterns and trends in young people's health and wellbeing. Better recognition of mental health and culture would also help to draw more attention to the role and importance of population health in human development and national and international affairs, including sustainable development.

To be clear about the paper's intent, it is not saying these issues are not addressed in the health literature; the references (including to the author's own work) make this obvious. Rather the paper argues

that these issues are not adequately incorporated into the dominant scientific and political perspectives on population health. It links the issues to present a larger argument, set in the context of current health priorities and programs, about significant gaps in health research and policy, which, if addressed, could give health a larger role in public affairs and policy. The paper's novelty lies in this breadth and scope.

These are complex matters, especially relevant to public health with its emphasis on prevention and populations. The patterns and trends in population health and their determinants and effects are often not clear and unambiguous. However, while this situation makes the evidence and the argument presented here contestable, and sometimes speculative, it also justifies challenging the orthodoxies that dominate considerations of population health.

The neglect of mental health

Health is the result of a complex interaction of biological, psychological and social factors (the biopsychosocial model); and physical and mental health are closely interwoven and deeply interdependent (WHO, 2001). Medicine, however, continues to focus on the biological and neglect the psychosocial, despite the growing recognition of its importance to population health.

This artificial separation has been a formidable obstacle to understanding mental health (WHO, 2001); as a consequence, the importance of mental health to the wellbeing of individuals, communities and societies is underestimated. Both developing and developed countries show this bias towards physical health, and especially mortality. Developing countries tend to give priority in health to infectious disease and reproductive and child health; developed countries prioritise non-communicable diseases that cause early death (such as cancer and heart disease) over those that cause years lived with disability (such as mental disorders) (Prince et al., 2007).

Global action on chronic (physical) illness

The relative neglect of mental health is seen in the growing efforts in disease prevention and health promotion, both internationally and nationally. Recent initiatives, including the WHO global strategy for the prevention and control of non-communicable diseases (2008a), the Oxford Health Alliance (Darr et al., 2007) the Trust for America's Health (2008) (in a report, 'Prevention for a healthier America'), and the Australian National Preventative Health Taskforce (2009) (in its strategy paper, 'Australia: the healthiest country by 2020'), all imply a wide health perspective, but focus on the physical diseases that contribute

most to premature mortality, notably cardiovascular diseases, cancer, chronic respiratory diseases and diabetes. These diseases account for about 60% of all deaths globally.

The efforts culminated in the United Nations' first high-level meeting of the General Assembly on chronic non-communicable diseases in September 2011, billed as 'a once in a generation opportunity to put chronic diseases on the global and national agendas' (Beaglehole & Horton, 2010). These diseases have been 'surprisingly neglected elements of the global-health agenda' (Beaglehole et al., 2007) Mental illnesses, while also chronic, non-communicable diseases, are not part of this agenda, but are acknowledged to be 'similarly ignored'.

The burden of mental illness

About 450 million people worldwide are suffering mental illness; only a small minority receives treatment (WHO, 2001). Worldwide, community-based studies have estimated the lifetime prevalence of mental disorders at 12%-49%, and 12-month prevalence at 8%-29% (WHO, 2008b). In 2004, neuropsychiatric conditions as a group accounted globally for 13.1% of the total burden of disease, measured as both death and disability (disability-adjusted life years or DALYs), the second largest contributor after infectious and parasitic diseases (WHO, 2008c). They account for about a third of the burden of disability, making them the most important source. Depressive disorders are the third largest specific cause of death and disability (and the largest in high- and middle-income countries), and are projected to become the leading cause by 2030. Yet the median allocation of the total health budget of nations to mental health is only 3.8% (WHO, 2008b).

The global burden of disease study has played a seminal part in exposing the importance of mental health to overall population health. However, its estimates of the burden of mental illness may still understate its significance for several reasons: mental disorders might affect many more people than the burden of disease estimates suggest, especially in middle- and low-income countries (Phillips et al., 2009); the estimates do not include the growing burden of suicide and self-inflicted injuries, which is counted under injuries (WHO, 2008c; Nock et al., 2008); the burden of mental disorders (in sharp contrast to chronic, physical diseases) falls mostly on those under 60 (WHO, 2008c), so increasing the personal, social and economic costs; and, finally, mental disorders increase the risk of physical diseases and injuries (Prince et al., 2007; WHO, 2008b; Moussavi et al., 2007), with one estimate that depressive disorders raise the risk of all-cause mortality by about 70% (Eaton et al., 2008), and affect adherence to treatment for other diseases (WHO, 2001; 2008b).

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Aspects of this picture of mental health have been contested. For example, it has been argued that the high prevalence of mental disorders reflects changed DSM diagnostic criteria and the medicalisation of normal human emotions (Horwitz & Wakefield, 2007). This is part of a wider concern about the medicalising of life itself, and 'disease mongering': the selling of sickness that widens the boundaries of illness and grows the markets for those who sell and deliver treatments, including the medicalisation of health problems previously regarded as 'troublesome inconveniences' (Moynihan & Henry, 2006).

While medicalisation is undoubtedly occurring in the sense that new treatments are being developed for new conditions, this does not negate the core argument here that mental illness has been neglected relative to physical illness. The charge of 'disease mongering' applies to both physical and mental health, and is directed particularly at treatment provision. Indeed, it has been specifically associated with a policy priority of market-based economic development at the expense of more equitable social policies, such as public-health strategies (Moynihan & Henry, 2006). (Ironically, the medicalisation of mental health has contributed to greater awareness of its importance.)

Questions of definition, diagnosis and treatment aside, the disability associated with mental health problems is generally higher than for other chronic conditions (Eaton et al., 2008; Demyttenaere et al., 2004). Even mild cases cause levels of impairment equivalent to those associated with clinically significant, chronic physical disorders (Kessler et al., 2005). People attribute higher disability to mental disorders than to commonly occurring physical disorders, especially with respect to their 'social and personal role functioning' (with 'productive role functioning', the disability of mental and physical disorders is comparable) (Ormel et al., 2008). A comparison of the disability of 15 disease stages found severe depression ranked third behind quadriplegia and being in the final year of a terminal illness, and ahead of stroke and acute myocardial infarction (Schwarzinger et al., 2003).

Social determinants of health and the neglect of culture

Individual and population perspectives

The initiatives on chronic, physical ill-health, described above, emphasise modifying individual risk factors and lifestyles to improve population health, particularly tobacco use, poor diet and lack of physical activity, and harmful alcohol use. The broader perspective of the social determinants of health is largely absent. In promoting individual behavioural change in relation to specific risk factors, this orthodox public-health approach misses the crucial point that social conditions act on population health in ways that cannot be reduced to individual choices.

The two approaches – individual and social - are not completely separate and distinct; they represent the ends of a spectrum of interventions. Public-health programs, while they are directed at individual behaviour, aim to produce changes in the population as a whole. They range from public education to substantial legislative and regulatory changes to promote healthier living. And it can be argued that social conditions are addressed elsewhere in government: through taxation, welfare, consumer and worker safety, and environmental protection, for example. However, individual and population perspectives are conceptually different in important respects, and the effects of social conditions on population health need to be better understood and acknowledged as a basis for improving public policy and setting national goals and priorities.

However, individual and population perspectives are conceptually different in important respects, and the effects of social conditions on population health need to be better understood.

Indeed, an important cost of the dominant individualised view of health is that governments, the media, the public, even health authorities and many health professionals, do not fully grasp a population-health perspective. As Rose observed, there is a relation between the mean of a characteristic in a population and the prevalence of the related disorder (Rose, 1992, pp. 64,72). '(T)he deviants are simply the tail of the population's own distribution; they belong to each other...' Or, as he said with specific reference to mental illness, 'The visible part of the iceberg (prevalence) is a function of its total mass (the population average)'. Rose also argued that causes of cases can differ from causes of incidence: that is, explanations of individual differences in disease or disorder may be different from the explanations of population differences (Rose, 1992; Schwartz & Diez-Roux, 2001).

In other words, an individual's lifestyle and health are socially conditioned; and efforts to improve health must match, or be appropriate to, the scale or level at which improvement is sought. It is difficult for people to make healthy choices when social conditions encourage unhealthy preferences. Changing their whole way of life is much more difficult than the specific changes on which public health has built its successes: not smoking, safe sex, and less drink-driving, for example. It puts people under considerable stress and they can react angrily to attempts by governments and others to interfere in their private lives and to tell them how to live (which is ironic given a vast media-marketing complex spends many billions of dollars a year on such 'social engineering', with little opposition).

Overlooking culture

In this public-health context, the final report of the WHO Commission on Social Determinants of Health (2008), which represents a culmination of several decades of research in this field, is to be welcomed for urging concerted global action on the more distal, social influences on health. However, while the Commission's report, 'Closing the gap in a generation', is laudable in its specificity and detail, it is flawed in its conceptualisation of social determination. The focus is almost entirely on the socio-economic sources of health inequalities (or inequities), both within and between nations; this includes, within this context, factors such as urbanisation and economic growth. The report also reflects the orthodox emphasis on mortality reduction, the aim of all three of its targets for 'closing the gap'.

The focus on inequalities might be understandable given their injustice, but it means the WHO report overlooks other important social determinants. Environmental change (which is socially determined) is one category. The report mentions briefly environmental issues, especially climate change, noting the impacts are beyond its brief. This is defensible as environmental health has its own literature. Recent papers have strengthened the links between social and environmental determinants of health (not only climate change but also other problems such as biodiversity loss and resource depletion) (McMichael et al., 2008; Friel et al., 2008). However, the social frame remains socio-economics, especially poverty and inequality.

What is more puzzling is that the report says little about other determinants that are more obviously 'social' in nature, notably cultural factors. Like most of the recent literature on social determinants of health, the report acknowledges, in its conceptual framework, culture and social norms and values as important distal, or 'upstream', determinants – then says almost nothing about them. Its brief mention of cultural factors is limited to their being one aspect of the structural determinants of social hierarchy and inequity.

Wilkinson and Pickett's best-selling and influential book, *The spirit level: why equality is better for everyone* (2009), is similarly restricted in its treatment of social determinants. The authors implicitly acknowledge the role of culture throughout the book in mentioning materialism, self-interest and consumerism, but when they deal explicitly with these issues - as in the reference (p 193) to 'a more individualistic economic philosophy or view of society', they discount them. Like the WHO Commission's report, they believe inequality comes first and is a powerful influence on culture. They argue that 'greater equality is the material foundation on which better social relations are built', and social relations are, in turn, the basis of better health. There is little, if any, recognition that the reverse is also true: culture influences inequality (as well as many other aspects of human societies).

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In this respect, both the report and the book are staying true to their dominant discipline. Epidemiology tends to regard culture mainly in categorical terms of class, subcultures, ethnicity or race, and so as a dimension of socio-economic status (Eckersley, 2001, 2006a). This approach ignores the much wider significance of culture as a system of meanings and symbols that defines how people see the world and their place in it, and gives meaning to personal and collective experience (Corin, 1995). Cultures define what can be known about the world, and so what can be done; in this sense they are fundamental to population health.

Some researchers have noted the need to push epidemiology beyond a narrow focus on social and economic relations, but this is not evident in the WHO Commission's report or in *The spirit level*. As Glass (2006) has observed, any discussion of culture is strikingly unorthodox and counter-paradigmatic in epidemiology, having no place in its 'Newtonian vision of cause and effect' that involves what touches or

invades the individual. 'The idea of a symbolic field, permeating the thoughts and actions of a whole population, is simply fantastical and mysterious.'

Yet the effect on health of culture, in this broader sense of the dominant or defining belief system of a society, is attracting growing attention in the health literature (Corin, 1994, 1995; Eckersley, 2001, 2005, 2006a, 2007a; Carlisle & Hanlon, 2007; Hanlon & Carlisle, 2009; Carlisle et al., 2009). It is also examined in other disciplines such as psychology, sociology and anthropology. However, each discipline defines and conceptualises culture differently, making it a contentious subject; these complexities are discussed elsewhere (Eckersley, 2006a, 2007a). This paper summarises and updates the case for culture to challenge – again – the continuing, limited approach to social determination. It focuses on the health impacts of two defining qualities of modern Western culture: individualism and materialism. Thus the emphasis is on developed nations, although the issues are also of growing relevance to the developing world as a result of globalisation and modernisation.

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Materialism means giving importance or priority to money and possessions. Individualism refers to the relaxation of social ties and regulation and the belief that individuals are independent of each other. Together, they form the core of modern consumer culture in that they focus attention on personal gratification and the satisfaction of individual needs and wants. Consumerism has had social benefits, including to health. However, its costs have increased as it gathered pace in the period after World War II - especially with the cultural liberalisation since the 1960s and the economic liberalisation from the 1980s – producing a culture of 'hyper-consumerism' that penetrates deeper into people's lives.

The impacts of these cultural changes on physical health are apparent in activity- and diet-related physical problems such as obesity and diabetes, but are arguably greater on mental health. Indeed, culture and mental health are closely linked in that both have to do with what people think and feel; the neglect of one is associated with the neglect of the other (although even discussion of the social contributors to mental illness focuses on structural determinants such as poverty, urbanisation and technological change [WHO, 2001]).

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A recent survey by the Joseph Rowntree Foundation (2008) illustrates the importance of culture in assessing social conditions. In a public consultation on today's 'social evils', the Foundation revealed 'a strong sense of unease about some of the changes shaping British society'. The top concerns were: a decline in community; individualism, consumerism and greed; and a decline in values. Poverty and inequality were one of six more concrete consequences, which also included the decline of the family, young people (as victims or perpetrators), drugs and alcohol,

immigration, and crime and violence. These findings are consistent with those of surveys in other Western nations (Eckersley, 2005, pp.105-125, 2006b, 2009a).

While respondents in the Rowntree survey emphasised personal responsibility for social evils, they also believed some were 'embedded in current ways of living and thinking' and that bad choices and damaging behaviour could be symptoms of underlying social problems. Government, media, big business and religion were blamed for the evils. In a commentary on the survey, Bauman (2008) notes that social ills have their source in today's 'individualised society of consumers', with consuming more being the 'sole road to inclusion', and 'existential uncertainty' now a universal human condition. Single-issue solutions might bring temporary and partial relief, he says, but short of reforming the individualistic way of life, they would not remove the cause.

Culture and young people's health

The importance of culture and mental health, and the link between them, are evident in the health of young people, who best reflect the characteristics of the times because they are growing up in them. Their health is also an important predictor of future population health. Many of the attitudes and behaviours, and even the illnesses, that largely determine adult health have their origins in early life.

Of the almost half of Americans who suffer a clinical mental disorder in their lifetime, half experience the first onset by age 14 and three-quarters by age 24 (Kessler, 2005). WHO (2001) notes that child and adolescent mental disorders are very costly to society in both human and financial terms as many of these disorders can be precursors to much more disabling disorders during later life. Parental depression is a predictor of depression in children and adolescents, raising the prospect of the intergenerational transmission of risk for mental disorders, so creating a 'vicious cycle' of rising prevalence (Collishaw, 2009).

Contrary to the orthodoxy that young people's health is continuing to improve in line with historic trends, it is arguable that it has declined in the developed world (with implications for developing regions) (Eckersley, 2008a, 2009b, 2011a, 2011b). This situation partly reflects chronic, physical conditions, especially those associated with increasing obesity, which have led to predictions of a decline in life expectancy (National Preventative Health Taskforce, 2009). However, it rests more on the importance of the burden of mental illness in youth. Young adults experience higher rates of mental disorders than older adults, and these make up by far the largest contribution to their disease burden in developed nations (for example, accounting for 49% of the total burden in Australians aged 15-24) (AIHW, 2007).

Mental disorders appear to have increased markedly in prevalence among the young in Western nations in the second half of the 20th century, although the evidence remains contested (Eckersley, 2008a, 2009b; Collishaw, 2009). To cite just two recent studies, a meta-analysis of a widely used psychological inventory, the MMPI, found a steady decline in the mental health of American college students between 1938 and 2007 and high-school students between 1951 and 2002 (Twenge et al., 2010). Five to eight times as many college students in 2007 scored above common cut-off levels for psychopathology on at least one clinical scale as they did in 1938. The second study found considerably higher rates of emotional problems among English adolescents in 2006 than in 1986 (Collishaw et al., 2010). The more severe the reported symptoms, the larger the increase.

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Socio-economic factors, such as social class and family structure, are not the main drivers of the patterns and trends in youth mental health (Eckersley, 2008a, 2009b, 2011a, 2011b; Collishaw et al., 2010; Sweeting et al., 2010; Twenge et al., 2010). Some studies show no socio-economic differences in the prevalence of mental health problems among youth and some even higher rates among the rich; other research has found increasing rates have occurred in all socio-economic groups and family types. The causes appear to be more existential and relational than material and structural, linked to factors that are associated with rising materialism and individualism. For example, the MMPI study favoured a cultural, not economic, explanation for the rise in mental ill-health, especially a shift towards extrinsic values and goals such as status and money (Twenge et al., 2010). An analysis of youth suicide rates, which rose in many Western nations in the second half of the 20th Century, found strong correlations with several measures of individualism (Eckersley & Dear, 2002).

Materialism and individualism reduce social support and personal control, both of which are crucial to health and wellbeing, through effects such as a heightened sense of risk, uncertainty and insecurity; a

lack of clear frames of reference; a shift from intrinsic to extrinsic values and goals; increased, even unrealistic, expectations; an excess of freedom and choice; and the construal of the self as independent and separate from others (Eckersley, 2006a, 2008a, 2009b).

Britain's Children's Society report on childhood deals with the experiences of children in general rather than the problems of disadvantaged groups because, it says, 'the world in which most children grow up is more difficult than it should be' (Layard & Dunn, 2009, p. 11). It identifies the fundamental cause as 'excessive individualism', which holds that 'our main duty is to make the most of ourselves' and to be 'as successful as possible', in what has become 'a struggle of each against all' (p. 162).

There are other possible pathways to mental (and physical) disorders that are also associated with individualism and materialism, blended with other aspects of modernisation. These include changes in: the family and education (Collishaw, 2009; Eckersley, 2011b), the media and communication technologies (Eckersley, 2005, pp. 126-146, 2011b; ACMA, 2007), religion and spirituality (Eckersley, 2007b; Williams & Sternthal, 2007), diet (Parker et al., 2006; Oddy et al., 2009; Jacka et al., 2010; Freeman, 2010), residential mobility (Oishi & Schimmack, 2010), social relationships and isolation (Holt-Lunstad et al., 2010; Mental Health Foundation, 2010), and exposure to environmental contaminants (Corvalan et al., 2005; Grandjean & Landrigan, 2006).

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Thus a central feature of the changed patterns and trends in youth health over several generations is a shift in emphasis from socio-economic causes of ill-health to cultural; from material and economic deprivation to psychosocial deprivation; from a problem of material scarcity to one of excess. With this has come a shift in significance from physical health to mental health.

A poverty of ends, not means

Widening the lens of social determination has profound implications for population health. Addressing poverty and inequality is important from a health perspective. However, contrary to the prevailing social-determinants (and social-justice) orthodoxy, the core social challenge is not primarily a poverty of the means to the end of 'the good life' as it is currently defined and pursued; it is a poverty of the end itself. In other words, giving the disadvantaged and marginalised the opportunities and privileges of the majority, however much it will help them, will not solve the problems of population health; nor will reducing inequality.

This is especially true in the developed world, but it also applies to developing countries such as China and India, which have a rapidly growing middle class that is increasingly susceptible to diseases of affluence and modernity. Worldwide there are over 1.3 billion people who are overweight and about 800 million who are underweight, and the numbers are diverging rapidly (Popkin, 2007).

This is not to dismiss or diminish the needs of the poor or the costs of inequality. Indeed, given their persistence, it suggests they may be better addressed through acting on a broader conceptual framework that pays more attention to cultures, worldviews, and ideologies. To take one example: it is true that climate change will impact most on the poor of the world. But it is the world's rich who are contributing disproportionately to its emergence as a global threat to population health. In other words, while the poor will bear most of the health burden of climate change, the determinants of this burden include not just poverty, but affluence.

This broader, social perspective shows that material progress does not simply and straightforwardly make people richer, so giving them the freedom to live as they wish. Rather, it comes with an array of cultural and moral prerequisites and consequences (for example, giving priority to money and what it buys) that affects profoundly how people think of the world and themselves, and so the choices they

make. The pursuit of material progress, of evermore enrichment, as a cultural (and political) priority is jeopardising global health in ways that go well beyond its impact on poverty and inequality. This situation amounts to ‘cultural fraud’, in which the promotion of images and ideals of ‘the good life’ serve the demands of the economy, but do not reflect social realities or meet psychological needs (Eckersley, 2006a).

Population health in human development and as a social dynamic

Rethinking population health – giving due weight to mental health and due acknowledgement of social and cultural determinants – has important conceptual applications, including how societies think of human progress and development, and the need to consider health as a cause, not just a consequence or outcome, of changing social conditions.

Health in human development

The orthodox view of national progress and human development places Western nations at its leading edge. This might seem axiomatic. Not only are the people of Western liberal democracies, generally speaking, the richest and longest-lived, they do best on other common measures: happiness and satisfaction, freedom, education, governance and human rights (Inglehart, 2000; Helliwell, 2003, 2008; Inglehart et al., 2008; Eckersley, 2009a). Yet these measures provide an incomplete assessment of development.

Life expectancy is the main summary measure of population health. While this might have been valid in the past, it is now questionable: life expectancy, being based on mortality rates, does not reflect the growing importance to overall health and wellbeing of non-fatal, chronic illness, especially mental disorders, as discussed above. Similarly, happiness and life satisfaction, which have become increasingly popular in the past decade in assessing nations, do not reflect all aspects of wellbeing and all desirable psychological or social qualities, and may not, in any case, be comparable across cultures (Eckersley, 2009a, 2009c).

For all the positive qualities of Western societies, most of their people do not believe life is getting better (Eckersley, 2005, pp. 105–125, 2006b, 2009a). In contrast to the high levels of personal happiness and life satisfaction, many studies over the past few decades have revealed growing anger and anxiety about the changes in Western societies, as reflected in the findings of the Joseph Rowntree Foundation (2008). The concerns include excessive greed and selfishness, consumerism, too much competition and too little compassion, the loss of community, growing pressures on families, and drugs, crime and violence. There is a common perception that with individual freedom and material abundance, people don’t seem to know where to stop, or now have too much of a good thing.

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However important the other major measures of progress may be, they do not get close enough to people’s lives to define and describe the determinants of health in its broadest sense (Eckersley, 2009a, 2009c). Income, democracy, human rights and education do not ‘measure’ the social concerns cited above, nor reflect the importance of the more intimate aspects of life, especially personal relationships, which are so important to health. The internal, psychosocial dynamics of Western societies reveal a very different picture of their ‘development’; in some respects, they could be societies in decline. For

example, young people have the most to gain – and lose – from how well progress is defined and measured; if their health and wellbeing are not improving, it is hard to claim life overall is getting better.

...the benefits of qualities such as materialism and individualism are being counted, but not their costs, which are formidable and growing.

The two views of human development could not be more different. The orthodox model emphasises what can easily be measured and the correlations between them: simple measures of wellbeing (happiness or life expectancy) and mainly material, structural and institutional factors. The psychosocial-dynamics model includes multiple measures of health and wellbeing and broader, cultural, moral and spiritual causes and correlates. The orthodox model may be useful in evaluating earlier stages of human development, but seems less relevant to so-called highly developed societies. Across all stages, but especially in the latter cases, it needs to be supplemented by a psychosocial-dynamics model.

To a significant extent, conventional indicators and models of development are measuring Westernisation or modernisation, not human development. While the concepts may overlap, they are not the same thing; Westernisation, for all its benefits, includes costs to wellbeing that the indicators are missing. At best, the qualities being measured may be desirable, even necessary, but are not sufficient. At worst, the benefits of qualities such as materialism and individualism are being counted, but not their costs, which are formidable and growing (and include social, economic and environmental impacts.)

This tension or contradiction is seen clearly with individualism. International comparisons suggest individual freedom is a major component of positive development, yet studies of its role in health tell a different story, as already discussed. The ambiguities and complexities of the effects of individualism are well expressed in the writings of social theorists, who recognise that the freedom people now have is both exhilarating and disturbing, and that new opportunities for personal experience and growth also create risks of social dislocation and isolation (Eckersley, 2006a, 2007a). Selznick (1992, pp. 7,8), for example, argues that modernisation initially brings the benefits of greater freedom, increased equality of opportunity, efficiency and accountability, and the rule of law – but at the price of ‘cultural attenuation’, in which, eventually, ‘selfhood itself become problematic’.

Health as a social dynamic

The importance of getting right the measures and models of human development is underscored by another neglected attribute of population health: it is an important dynamic in national and international affairs (Eckersley, 2010). Typically, public-health reports express this role in terms of the direct and indirect economic costs of poor health (that is, the costs of health care and lost productivity), with some acknowledgement of the social costs to individuals, families and communities (Darr et al., 2007; National Preventative Health Taskforce, 2009, Beddington et al., 2008). But these effects are just one part of a bigger, more complex, picture.

Poor population health weakens a society's confidence and resilience, and so its capacity to deal with the challenges of the modern world.

Poor health, both physical and mental, affects people in many life roles – as students, workers, parents and citizens. These impacts are not only the result of clinically significant health problems (which, nonetheless, affect substantial segments of the population). As Rose's work (1992) implies, high rates of illness, especially mental illness, also reflect public mood, morale and vitality. Poor population health weakens a society's confidence and resilience, and so its capacity to deal with the challenges of the modern world (Eckersley, 2010). And this, in turn, further impacts on population health.

This is not widely appreciated. A false dichotomy often characterises debate and discussion about national and international affairs. On the one hand, these matters are seen as shaped by large, external forces such as economic development, technological change, environmental degradation and resource depletion, and war and conflict. Population health may be affected by these forces, but health itself is

not usually seen as a contributor to larger-scale social developments. The perspectives of economics, politics and the environment dominate the discourse. On the other hand, considerations of health focus on internal, psychological and physiological processes and personal attributes, circumstances, behaviours and experiences. The dominant frame of reference is the biomedical model of health as an attribute or property of individuals, as discussed above.

This separation is misleading. The reality is that change in both social and personal, external and internal, worlds is shaped by a complex interplay between them. Understanding this interplay is important to comprehending what is happening in both realms. In other words, human 'subjectivity' plays an important part in the functioning of social systems; it is what most distinguishes them from other, biophysical systems. Health is not just an individual illness that requires treatment, but also an issue having national, even global, causes and consequences.

Health is a way of better understanding humanity and how people should live. Just as someone who is unwell will be less able to function effectively and withstand adversity, so too will a less healthy population make a less resilient society. Population health may be an important factor in determining whether societies respond effectively to adversity – or in ways that make the situation worse (Eckersley, 2010). In particular, mental health and morale could have a critical bearing on how societies cope with climate change and other 21st Century global threats (Eckersley, 2008b).

Population health perspectives can make an important contribution to sustainable development and the quest for a high, equitable and enduring quality of life: they provide a means of integrating, balancing and reconciling different social priorities by allowing them to be measured against a common goal or benchmark: improving human health and wellbeing (Eckersley, 2005, pp. 229-251, 2006b). Population health is, then, a key element of achieving a socially, economically and environmentally sustainable way of living - humanity's greatest challenge.

Conclusion

As the biomedical dominance of health has increased, the social perspective has receded. Amongst the consequences, this paper has argued, mental health has been under-estimated as a component of population health, and social factors, especially cultural influences, have been neglected as determinants of health. A wider, more comprehensive, view of health could contribute to a better understanding of human development and of health as a social dynamic, a cause of social changes and developments, not just a consequence.

The current dominant perspective suits business and government. It is in biomedicine that profits are to be made, not in social health. The biomedical model also limits the political significance of health to the politics of healthcare services. This policy focus is challenging enough as governments struggle with rising demand and costs (in OECD countries health expenditure rose from an average 9.6% of GDP to 11.1% between 1995 and 2005 (AIHW, 2008), even as GDP itself increased substantially). However, the challenge is easy compared with trying to reconcile emerging health-based social realities with existing wealth-based political priorities. Embedded in the biomedical model is a disguised ideology that defends and promotes the status quo.

The scientific and political responses to the situation outlined in this paper might include more research on public and mental health, especially transdisciplinary approaches that integrate epidemiological, sociological, psychological and anthropological concepts and evidence. Similarly, with health services and programs, the share of the health budget allocated to public health and mental health should be increased. The response also needs to go beyond the health system to embrace, for example, rethinking

...a broad view of population health and its social determinants - socio-economic, cultural and environmental - challenges the legitimacy of the dominant worldview or paradigm of material progress, and supports the alternative, sustainable development.

the role and purpose of education, and greater regulation and control of business, especially advertising and marketing, the dominant promoters of consumerism.

However, the most important application of this perspective may be in the contribution it can make to a much broader political and public debate about the lives people want to lead, the societies they want to live in, and the futures they want to create. That debate is intensifying, but population health plays only a limited part in it.

This paper seeks to change this situation. In essence, it argues that a broad view of population health and its social determinants – socio-economic, cultural and environmental - challenges the legitimacy of the dominant worldview or paradigm of material progress, and supports the alternative, sustainable development. The contest between the two models, or narratives, of progress has been framed largely in economic and environmental terms, and the social dimension has been neglected. Population-health research can help to correct this distortion.

Medicine and other health professions might consider their purview is the provision of healthcare services. However, they have a powerful influence over the way society thinks about health, and acts on it; they provide the main reference points on health for government, media and public. It is time they reappraised more deeply the science and politics of population health; and it is appropriate that public health takes the lead in this task.

Note

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The review process and publication

I have my own doubts about this paper, especially whether it attempts too much, losing clarity and coherence in the process. It was rejected by five international journals over a period of almost two years. One journal accused me of 'self-plagiarism' (see later story on synthesis); one recommended I split the paper and resubmit one of the shorter papers; another rejected it after two review rounds.

So I published the paper through *WebmedCentral*, a new online publisher that acknowledges the weaknesses in the usual, blind, peer-review process and undertakes open, post-publication reviews.

I accept the paper is idiosyncratic, reflecting my own varied research interests (which are part of a wide-ranging analysis of progress and wellbeing, of whether life is getting better). But idiosyncrasy can be useful, revealing connections and consequences that otherwise aren't recognised. I see the paper as experimental: an exploration of how far I could push its transdisciplinary perspective.

However, rather than confirm my doubts, most of the reviews and editorial assessments tended to make me want to defend the paper. With a few exceptions, they were disappointingly and frustratingly flawed, in some cases even sloppy and obviously hurried. I felt I was continually coming up against disciplinary 'roadblocks'. As I admitted to one editor, 'I'm clearly not convincing people about what I'm trying to do in the paper'.

...many reviewers, steeped in more reductionist approaches, struggled to come to grips with the multiplicity of issues I discuss and the complexity of their interactions.

Editors and reviewers included those whose disciplinary positions I am challenging, so likely to be critical. The anonymity of reviewers, supposed to encourage honesty and frankness can disguise this bias and encourage ill-considered critiques because it reduces reviewers' responsibility and accountability. Dogma and prejudice can be presented as calls for greater scientific rigour.

Reviewers made critical comments without explaining or referencing them. The criticisms were often no more than contrary opinions. Such disagreements are better dealt with as commentaries on a published paper, and not used to deny publication. Some reviewers even misrepresented or misinterpreted what I say in criticising my argument. In one instance a reviewer quoted part of a sentence to claim I was arguing the opposite of what the (complete) sentence says and what is a core argument of the paper.

Most criticisms concerned the paper's focus, coherence and novelty. Despite a growing rhetorical acknowledgement of the need for a more holistic, transdisciplinary science, many reviewers, steeped in more reductionist approaches, struggled to come to grips with the multiplicity of issues I discuss and the complexity of their interactions. Most failed to see that the paper's breadth and scope are its strength and purpose. They focused instead on one or two themes and largely ignored the rest.

One sceptical reviewer, at least, was persuaded. In the first review round, he or she said the paper was 'too broad' to convince people. In the second, after reading my response, the reviewer said I provided 'a compelling defence of the need for a broad, integrative view', and applauded my 'breadth and bravery'.

A related concern was redundant publication, or 'self-plagiarism'. I have written before about most of the themes, but separately. I noted this in cover letters and it is obvious from the references. However, the paper links these themes to present a larger argument, set in the context of current health priorities and programs, about significant gaps in population health research and public health policy that need to be better addressed.

Some of my arguments were well-worn, I was told. 'The author seems to fancy himself an intellectual maverick speaking truth to the power of epidemiologic orthodoxy. While some of his arguments may have been dangerous critiques in the past, at this point they have fossilized into an orthodoxy of their own', one reviewer stated. Yet by no stretch of the imagination could my analysis of mental health, cultural determinants, youth health, and health as a social dynamic be considered fossilised or orthodox.

'The author seems to fancy himself an intellectual maverick speaking truth to the power of epidemiologic orthodoxy'.

My comments about biomedicine are more an introduction, a background, to the paper rather than a central argument. I acknowledge the criticisms of it are not new, but note that they have

had little effect in changing dominant perspectives and are today more salient than ever. The paper, in its breadth, also casts them in a new light.

Several reviewers stressed the need to develop the discussion of culture as a determinant of health. I have done this elsewhere, and to go over this ground again would raise legitimate concerns about redundant publication. I did not provide sufficient evidence to back my case about culture's importance, some said. Again, I cover the evidence in more detail in other papers. However, a key point is that cultural factors are under-estimated (and therefore under-researched).

Refusing publication on this ground represents a classic catch 22: publication is discouraged because of insufficient evidence; the topic remains neglected and poorly researched.

Science needs to be encouraged to expand into unknown territory, to resist a tendency to contract or retreat to the further investigation of known phenomena.

I acknowledge that editorial and review comments helped me in restructuring the paper and clarifying key points. With rejection rates of over 90% for some of the journals, competition was also a factor; as also happens in research funding, only uniformly high praise from reviewers is good enough for success.

The review process stacks the cards against papers, like mine, that are integrative and analytical rather than the more usual reports of empirical research results. This situation helps to explain why orthodoxies persist and unorthodox perspectives struggle to be heard. The latter inevitably attract criticism and opposition, and so are easily dispatched; they need, instead, to be nurtured for the good of science.

The rapid growth in scientific publications makes it hard for researchers to keep up with the literature in even narrow, specialised fields and discourages wider reading. Science needs to be encouraged to expand into unknown territory, to resist a tendency to contract or retreat to the further investigation of known phenomena.

As *WebmedCentral* says, the conventional review system hinders transparent scientific communication. Most researchers and authors who have something to contribute should have an opportunity to do so. 'Each piece of research will then find its own place in scientific literature based on its merit.'

Published reviews

Reprinted from *WebmedCentral*:

http://www.webmedcentral.com/Article_Review_View/949

I have only favourable comments to make on this valuable paper, the publication of which I entirely endorse. Eckersley's arguments about the need for population health approaches to be re-thought are cogently argued. He effectively challenges some of the dominant orthodoxies which actually hinder broader understandings of what creates and damages health and wellbeing, so this article needs to reach the public health community.

His explanation of how and why epidemiology currently fails to grasp the importance of 'culture' is particularly timely.

He convincingly explains the relevance of mental health and illness to population health and the problems with current (socio-economic) conceptualisations of the social determinants of health. His explanation of how and why epidemiology currently fails to grasp the importance of 'culture' is particularly timely. Few in public health truly understand the distinction between social structure and culture, so the influence of the latter tends to be profoundly under-estimated.

Importantly for an international readership, he explains the relevance of the contemporary 'dis-eases' of affluent Western societies to the developing world. He is to be congratulated, I believe, on this important and well-written paper.

Rating: 7/9

*Dr Sandra Carlisle
Centre for Population and Health Sciences
University of Glasgow*

Thanks for sending this paper for review. I found it (a) very strongly structured paper with sound background knowledge, good discussion and conclusion. I agree with the author about his statement, "This paper seeks to change this situation. In essence, it argues that a broad view of population health and its social determinants – socio-economic, cultural and environmental - challenges the legitimacy of the dominant worldview or paradigm of material progress, and supports the alternative, sustainable development. The contest between the two models, or narratives, of progress has been framed largely in economic and environmental terms, and the social dimension has been neglected. Population-health research can help to correct this distortion."

The references are relevant and up to the mark. I congratulate the author for publishing such a good article.

Rating: 8/9

*Prof Syed A Gilani
University of Lahore*

This thoughtful and insightful article draws on a diverse range of theoretical and policy literatures to present a compelling case for a broader framing and understanding of the scope of population health concerns and drivers. The article begins by arguing that health policy and practice paradigms, service delivery and funding models remain dominated by a relatively narrow focus on physical health outcomes. This is despite an extensive body of evidence pointing to the significant contribution of mental health challenges to the global burden of disease. Recent political debates in Australia about the difficulty of

securing adequate funding for mental health programs are only one of many examples of the ways in which this unhelpful distinction between physical and mental health is continuing to inform and drive

The case for work which deepens understanding of the health implications of the ongoing centrality of materialist and individualist cultural values and assumptions is extremely strong.

policy priorities and resource allocation decisions. This section of the article might be further strengthened by a brief exploration of the importance of a focus on the promotion of 'mental health' as well as the prevention of 'mental illness', along with related debates about the value of employing alternative conceptual discourses such as 'emotional wellbeing'.

The article also correctly notes the tendency for even the more progressive conceptualizations of population health to focus primarily on socio-economic determinants, with considerably less attention paid to environmental and cultural relationships and trends. The rapidly expanding evidence pointing to the profound implications of climate change for population health outcomes provides one of many potentially strong arguments for supporting the author's view that environmental and ecological determinants should be included in the brief for future research programs and reports on global population health trends and determinants. The case for work which deepens understanding of the health implications of the ongoing centrality of materialist and individualist cultural values and assumptions is also extremely strong. On this issue it may also be worth bearing in mind and reflecting on the diverse – and contested – range of meanings attached to the term 'culture'.

A particular strength of the article is the author's commitment to draw out and explore the implications of these reflections for the challenges and issues facing young people – as well as for the important work underway in many settings to develop and implement new and broader measures of wellbeing and 'progress'.

This is a wide ranging and valuable contribution to the rapidly growing literature exploring the policy implications of an alternative political paradigm based on social and ecological wellbeing and sustainability. The article raises a host of challenging and complex questions which merit further consideration and debate.

Rating: 8/9

*Prof John Wiseman
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This paper is concerned with both the lack of headway in the health of populations around socially complex health issues, and with the lack of influence the health of the population has on all public affairs. A New Public Health agenda is promoted, although not explicitly, that moves population health research and policy away from the dominance of the biomedical paradigm that focuses on physical disease and constructs health as the absence of disease, and towards the social paradigm in which health is constructed as a complex product of environmental and social factors. A growing concern in the health field to counter social trends that are harmful to health is acknowledged in the paper but this concern is noted as not yet affecting the 'dominant scientific and political perspectives on population health'. The main strengths of the paper lie in the detailed exposure of the inadequacy of the current concept of health restricted as it is by the orthodox use of the biomedical paradigm, however the method suggested to shift towards the use of the social paradigm is problematic.

In particular, the paper calls for research within the discipline of population health that exposes the cultural values of materialism and individualism as important cultural determinants of health. I argue that the academic discipline of population health that specialises in research on the biomedical, social, and cultural determinants of health, carries out this research within a highly influential and under-explored

political context. Although the paper is entitled, the science and politics of population health, it under-explores this political context of the discipline and this is critical to the paper's central argument.

The political context of population health is a tangle of past and present interests, power relations, and values including; a biomedically dominated past, disease and risk-specific researchers and academic institutions, and a growing funding pressure to create policy-relevant research for a policy context that constructs a dichotomy between science and values, and focuses on specific diseases and risk factors rather than the social or cultural determinants of health. Operating within this political context, population health as a discipline strives to produce value-neutral, empirical or interpretive science fit for use within biomedically-biased, individual-focused policy frameworks. When the research is not shaped to the framework, at times, the policy makers will shape the research, for example, through cherry picking from a range of mainly social solutions, to find those that focus on individual behaviour.

...cultural values are too obviously value-laden to be safely and validly measured and explained within determinants of health research.

It is within this context that research on cultural determinants such as time pressure or parenting strategies are studied as value-neutral factors that produce value-neutral empirical and interpretive scientific research that strives to be policy-relevant. Such research does not shy away from the complexity of social health problems, it rides the edge of what is valid or useable within the political context of both research and policy, and acts to promote the new public health agenda by calling attention to the importance of sociocultural and environmental factors and contexts. Such research by its presence in public health literature and forums chips away at the policy framework even when it is ignored within the development of specific policy initiatives. Currently such research is under-supported by the dearth of open and critical accounts of the political context in which research and policy are formed.

In the political context of the discipline of population health and within determinants of health research, cultural factors such as time pressure are framed as distal but measureable factors but cultural values are deemed less measureable and more distal. I would also argue that cultural values are too obviously value-laden to be safely and validly measured and explained within determinants of health research. This is not to say these concepts cannot be scientifically studied using rigorous methods, but that critical analyses that openly explore the political nature and context of such values would be essential to empower any explanatory account. I argue that such research belongs outside determinants of health research and probably outside the discipline of population health itself.

When the political context of the discipline of population health is explored, it is no longer surprising that, as the author and others have noted, culture and values are often only briefly noted as determinants in population health strategic documents, but not further examined. To move the policy framework toward the use of social, cultural and environmental explanations, the current need is for inter-disciplinary research – population health with political science, sociology, policy studies among other disciplines – to critically explore the political context of both research and policy including values, interests and power relations. Such research would not be policy relevant, but policy-framework challenging and would be a better bet to move the new Public Health agenda forward and reap some of the positive consequences the author has outlined.

Rating: 6/9

*Ms Helen Kinmonth
National Centre for Epidemiology and Population Health
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Note:

I know three of the above researchers and suggested them as reviewers. Most journals also ask authors

to nominate reviewers, but they are not necessarily selected and remain anonymous. One of the above reviews was initially written (anonymously) for another journal. I would have no objection to the authors of the papers I have reviewed knowing who I am, even when I have been critical. It encourages fairness, constructive comment, and courtesy.

The hazards of synthesis

Richard Eckersley

Synthesis of knowledge from different disciplines is underused in research and has hazards for practitioners.

Last year (in 2009) I sent The Lancet a wide-ranging paper urging the need to rethink the science and politics of population health. The journal rejected the paper on the grounds of ‘self-plagiarism’ and reported me to my university, the Australian National University. The ANU investigated and rejected the charge, saying I had not breached the Australian or ANU codes on responsible research.

The prohibition of self-plagiarism – or redundant publication – is intended to stop researchers reporting the same research findings in different journals. The Australian and ANU codes allow exceptions in certain circumstances such as review articles and where the author discloses the replication in submitting a paper’. I had said in my cover letter that I had published before on several of the individual themes, as was clear from the references (some obscure and in other fields, and with web links included). However, the paper was a synthesis of this and new material to present an original and provocative argument.

There was no attempt to deceive; my conscience was clear. Plagiarism is the unattributed use of another’s work; this was my work and I had attributed it. The Lancet’s interpretation suggests an author can use another’s words (attributed), but not his own. (‘Self-plagiarism’ is accepted practice in journalism and consultancy, areas in which I also work.)

Charges of self-plagiarism are not the only risk for the synthesiser. Few peer reviewers for journals or funding agencies understand the approach. Most do not have the breadth of knowledge to assess it; they focus on their area of expertise and downplay or ignore the rest. One Australian Research Council reviewer dismissed my work as mere journalism, not warranting support.

Disciplines often see things differently. I research the effects of culture on health and wellbeing, drawing on anthropology, epidemiology, sociology and psychology (amongst other disciplines). Yet they each have different ideas about what culture is and does (one study counted 164 different definitions). Critical, even hostile, reviews are inevitable in synthesis, and just one can be enough to scuttle a paper or funding application. As a colleague remarked: ‘You need very tough skin to engage in cross-disciplinary publishing!’

...synthesis creates new understanding by integrating existing knowledge from across a range of fields, disciplines and sciences.

It is not surprising, then, that transdisciplinary synthesis remains underused in science (the United Nations Intergovernmental Panel on Climate Change is one notable exception). Yet synthesis is a legitimate methodology with enormous potential. While empirical research seeks to improve understanding of the world by creating new knowledge, synthesis creates new understanding by integrating existing knowledge from across a range of fields, disciplines and sciences.

The value of transdisciplinary synthesis goes beyond reviewing, summarising and carrying out multidisciplinary research as such. It aims to develop new, common frameworks of understanding, striving for coherence in the overall conceptual picture rather than precision in the empirical detail. It also dispenses with expectations of scientific certainty; everything is provisional.

Synthesis yields several intellectual and policy benefits: it adds value to existing specialised knowledge;

In crossing disciplinary boundaries, synthesis exposes the ‘false consensus’ that can develop within disciplines, which then defines, and limits, the research questions asked. But gains are not easily won. In a transdisciplinary project on young people’s wellbeing, my co-authors and I could not agree on key issues, and even had trouble agreeing on how to disagree. Rather than hiding these differences, we highlighted them as a significant outcome of the project.

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Synthesis helps application of research because it improves the fit between research and policy; strengthens the links between research and advocacy; is particularly appropriate for addressing the increasing scale, magnitude, complexity and interconnectedness of human problems; and suits the complex, diffuse processes of social change.

It deserves a better deal.

Richard Eckersley is a founding director of Australia 21 (www.australia21.org.au), an independent, non-profit company that carries out transdisciplinary research, and a visiting fellow at the National Centre for Epidemiology and Population Health at the ANU.

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