

# Population health promotion 2.0: An eco-social approach to public health in the Anthropocene

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## ABSTRACT

Humanity is both an animal species that evolved within and is dependent upon natural ecosystems and a social animal that exists within the social systems we have created. Our health is dependent upon both these systems – natural and social – functioning well, and indeed upon their interactions. Yet our approach to improving the health of the population over the past few decades has been largely, if not exclusively, focused on the social determinants of health. A recent Canadian Public Health Association (CPHA) Discussion Document and the technical report on which it is based seek to strike a more balanced approach. First, they document the dramatic and rapid global ecological changes that humans have created and argue that they are a significant threat to the health of the population in the 21<sup>st</sup> century. Second, they identify the underlying social, cultural and economic forces that are driving these changes. Third, they argue that we need to take an eco-social approach in population health promotion, recognizing the interactions between the ecological and social determinants of health. Such an approach could be considered to be ‘Population health promotion 2.0’, and it has profound implications for the practice of public health.

**KEY WORDS:** Health promotion; ecosystem; ecological and environmental phenomena; social determinants of health

La traduction du résumé se trouve à la fin de l'article.

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In 1986, the Ottawa Charter for Health Promotion stated that the prerequisites for health include “a stable ecosystem and sustainable resources.”<sup>1</sup> This was the first time that the World Health Organization (WHO) recognized these ecosystem functions as determinants of health. The Charter also noted that “The inextricable links between people and their environment constitutes the basis for a socio-ecological approach to health.”

The Canadian Public Health Association (CPHA) took this issue seriously, establishing a Task Force on the Implications for Human Health of Global Ecological Change. The 1992 report of the Task Force<sup>2</sup> identified threats to health emanating from climate change, resource depletion and ecosystem contamination and laid out a strategic framework for addressing them. In particular, the Task Force suggested that we reframe sustainable development, from a health perspective, as:

*“Human development and the achievement of human potential require a form of economic activity that is socially and environmentally sustainable in this and future generations.”*

This shifts the focus of our society from economic to human development and recognizes that both ecological and social factors must be taken into account. Thus a health promotion agenda would need to take a very broad approach to improving well-being.

Sadly, this broad agenda did not materialize. Within a few years, health promotion was challenged, and partly eclipsed, by the concept of population health; in fact from 1993–2003, “health promotion went largely unnoticed. It was not positioned as a serious strategy within the health system.”<sup>3</sup>

While population health was criticized for many things,<sup>4</sup> it is relevant to note that “Population health arguments are largely

silent on ecological issues.”<sup>5</sup> A search through the index of the foundational text for population health<sup>6</sup> reveals no mention of ecology or ecosystem.

Instead, the discourse on the determinants of health quickly became a discourse on the *social* and economic determinants of health, culminating of course in the work and the report of the WHO Commission on the Social Determinants of Health.<sup>7</sup> Without diminishing the importance of the work of the Commission, nor the importance of the social determinants of health, we need to recognize that in our focus on them, mainstream population and public health has become largely ecologically blind.

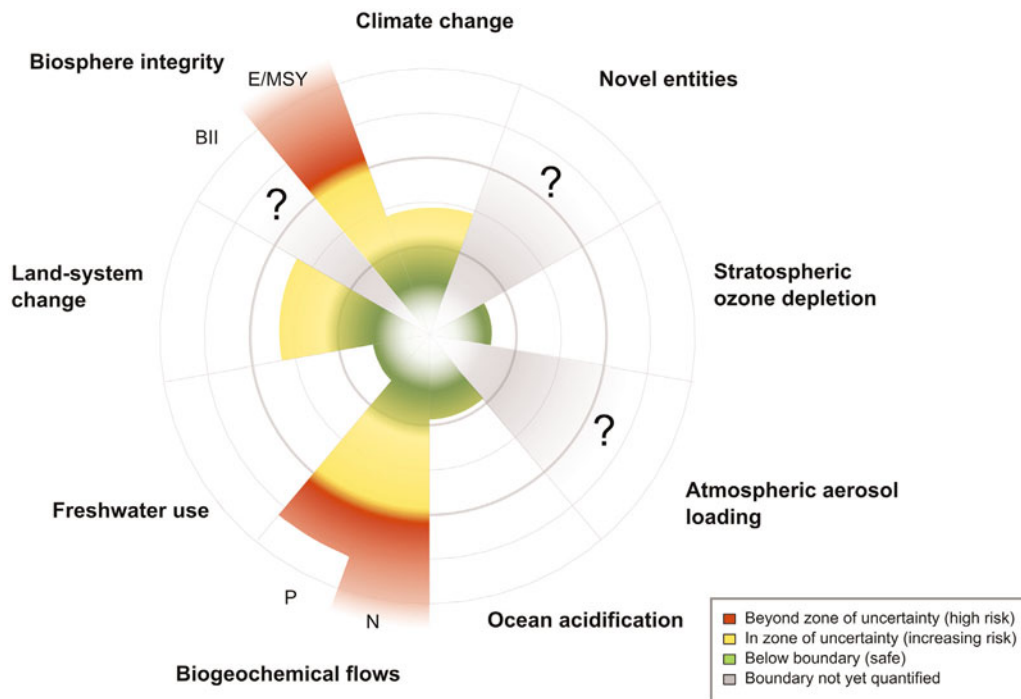
This commentary argues that if we take seriously the evidence presented in the reports (summarized below) we need to rethink our approach to the determinants of health. We need to rebalance population health promotion to provide a much greater focus on the ecological determinants of health, and on the eco-social interaction; what might be called ‘Population health promotion 2.0’.

## THE ECOLOGICAL DETERMINANTS OF HEALTH

The recent CPHA documents<sup>8,9</sup> (introduced in the Abstract) describe in some detail the major global ecological changes underway, especially those that have occurred in the 20 years since CPHA last reported on this issue. We are deeply embedded in and are part of the web of life. As individuals, as societies and

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**Figure 1.** Safe operating boundaries  
 Source: Steffen et al.<sup>12</sup> Reprinted with permission from AAAS.

as a species, we are ultimately dependent on a set of ecosystem ‘goods and services’ for our well-being, and indeed for our survival.<sup>10</sup> These include oxygen, water, food, fuel and materials, the nitrogen and phosphorus cycles, waste decomposition and recycling, climate stability and protection from UV radiation, and they constitute the ecological determinants of health.

Yet many of these ecosystem functions are in decline. The UN’s 2005 Millennium Ecosystem Assessment (MEA), in its health synthesis, noted that roughly 60% (15 out of 24) of the key ecosystem services examined are being degraded or used unsustainably.<sup>10</sup> This led the MEA Board to state, ominously, that

*“At the heart of this assessment is a stark warning. Human activity is putting such strain on the natural functions of Earth that the ability of the planet’s ecosystems to sustain future generations can no longer be taken for granted.”<sup>11</sup>*

A decade later, Steffen et al.<sup>12</sup> identified and examined planetary boundaries that should never be passed, because doing so leads to ecosystem malfunction, failure, and even collapse. With respect to nine key components of the Earth system, they found we have passed the boundaries for rate of biodiversity loss (extinctions per million species-years, E/MSY), disruption of the nitrogen and phosphorus cycles, land system change and climate change, with the first two in a high-risk zone and the other two in a zone of increasing risk (see Figure 1).

The impacts of these ecological changes on the health of the population are becoming apparent, as documented in the technical report,<sup>9</sup> although it is still early in the process and there is much we do not yet know. But given the scale and the rapidity of these changes, and the dependence of populations on the continued availability of the ecological determinants of health, we can be sure that the implications are significant and troubling.

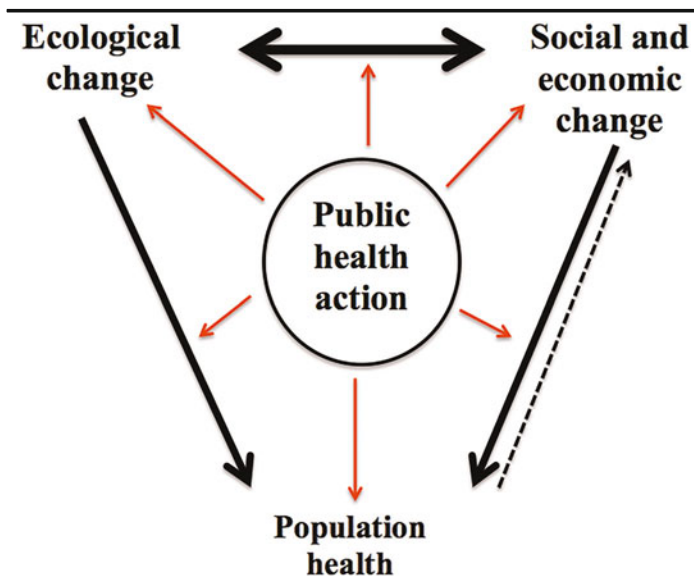
When ecosystems decline or collapse, the communities and societies embedded within and dependent on them also decline and may collapse.<sup>13</sup> The decline in ecosystem functioning at a global and regional scale represents perhaps the greatest threat to the stability of our societies and thus to health in the 21<sup>st</sup> century.

### PUBLIC HEALTH IN THE ANTHROPOCENE

The major social and economic driving forces behind these changes, as documented in the reports, are a combination of population growth (currently about 1.1% annually both globally and in Canada), growing affluence and expectations for improved material well-being, and the growth in the power and pervasiveness of our technology. But it is the social and cultural paradigm of modernization<sup>14</sup> that lies at the root of these changes.

Since the 1950s there has been a dramatic increase in global levels of socio-economic development, which in turn has led to improved health and material well-being for many (although at the cost of widening inequality in many cases). At the same time, as noted above, there has been a dramatic increase in the resulting impact on global ecosystems; together, these changes are called the ‘Great Acceleration’. Indeed, so great is the impact we are collectively having on the Earth that geologists suggest we are creating a new geologic epoch – the Anthropocene – that will be visible in the geologic record far into the future.<sup>15</sup>

The reality is that we live on and within the constraints of a single small planet, the Earth. Were the whole world to live at the same level of material affluence as we do, our collective impact would be so great that we would require four Earths to support us.<sup>16</sup> Clearly that is impossible, so we have to find another path, one that takes note of the ecological determinants of health and the limits to growth and adjusts our socio-economic and cultural systems accordingly.



**Figure 2.** An eco-social framework for public health action  
 Source: Canadian Public Health Association<sup>8</sup>

Thus the reports provide a critique of our society as a whole, arguing that our current socio-economic system is at the root of our problems and is incapable of solving them without a major shift in our values and our way of life; our societies have to become socially and ecologically sustainable, and public health professionals and organizations have to play a role in that transition.

**FROM POPULATION HEALTH CONCEPTS TO PUBLIC HEALTH PRACTICE**

“Population health is how we think, public health is what we do.”

Chris Mills, Past President, CPHA (2002-2004)

Because the challenges we face are both ecological and social, and interdependent, we need to adopt an eco-social approach not only in population health promotion and public health but in society as a whole. This means shifting the goal of our society from economic growth and development to human development that is socially just and ecologically sustainable.

To do this, the CPHA reports propose a simple model (Figure 2) that emphasizes both that social and economic changes drive ecological changes and that ecological changes have an impact on social and economic conditions. Both in turn have an impact on the health of the population.

The implications of adopting such an approach are profound, affecting all facets of practice, teaching and research in population health promotion and public health, as the CPHA documents discuss. But the implications go well beyond our work as public health professionals, involving our role as citizens.

The documents include a long discussion of the public health actions needed to create a more just, sustainable and healthy society. The authors find hope in two respects. First, that there are many health co-benefits resulting from the creation of a more sustainable society. Second, the public health community has a track record, dating back to the long struggle to address the

health problems created by the industrial revolution in the 19<sup>th</sup> century, of creating major societal shifts in favour of health. The reports include examples of some of the many diverse and effective responses to emerging ecological threats to human health that are being brought forward by public health and its allies in other government sectors, non-profits, and civil society; a detailed set of recommendations and action steps is also proposed.

It is not possible to summarize here all that these two documents have to say. I urge you to read both the Discussion Document and the background technical report, where much more detail is available than can be provided in this brief commentary. Discuss these reports with your colleagues and in your communities, consider their implications for our understanding of the determinants of health and our approach to population health promotion, and for the practice of public health. Adopting and implementing an eco-social approach to improving health and, more broadly, human development, is the most important challenge facing public health – and society as a whole – in the 21<sup>st</sup> century.

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## RÉSUMÉ

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L'humanité est à la fois une espèce animale qui a évolué dans des écosystèmes naturels et qui en dépend et un animal social qui vit dans des systèmes sociaux que nous avons créés. Notre santé dépend du bon fonctionnement de ces systèmes naturels et sociaux et de leur interaction. Pourtant, notre démarche pour améliorer la santé de la population des dernières décennies a été axée largement, voire exclusivement, sur les déterminants sociaux de la santé.

Un récent document de travail de l'Association canadienne de santé publique et le rapport technique sur lequel il est fondé tentent de trouver une démarche mieux équilibrée. D'abord, ils documentent les changements

écologiques dramatiques et rapides que les hommes ont suscités et affirment qu'ils sont une importante menace pour la santé de la population au 21<sup>e</sup> siècle. Ensuite, ils cernent les forces sociales, culturelles et économiques sous-jacentes qui suscitent ces changements. Enfin, ils avancent que nous devons adopter une démarche écosociale dans la promotion de la santé de la population en reconnaissant les interactions entre ses déterminants écologiques et sociaux. Une telle démarche pourrait être considérée comme la « promotion de la santé de la population 2.0 » et aurait de profondes répercussions sur la pratique de la santé publique.

**MOTS CLÉS :** promotion de la santé; écosystème; phénomènes écologiques et environnementaux; déterminants sociaux de la santé