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Source: Environmental Health Insights, 6(1)

Published By: SAGE Publishing

URL: https://doi.org/10.1177/EHI.S8827

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Environmental Health Insights

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EDITORIAL

# Environmental Health Funding Challenges During Difficult Budget Times

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**Abstract:** No abstract supplied.

**Keywords:** environmental health, funding challenges, budgets

*Environmental Health Insights* 2012:6 13–15

doi: 10.4137/EHI.S8827

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The discipline of Environmental Health has historically struggled with funding, particularly in the area of governmental support at the local, regional and national level. One reason proposed for this struggle is that it can be difficult to demonstrate that problems such as media-borne (eg, food, water, air, waste) and vector-borne disease outbreaks have been limited or prevented by environmental health interventions designed to break the cycle of infection among the environment, host, and agent. Ideally, most disease outbreaks could be prevented if environmental health professionals had optimal funding and optimal practitioner performance (which is admittedly unlikely, if not impossible). "Proving a negative" is difficult at best and can be used as a justification for allocating funds to programs that can more easily demonstrate their benefits to funding agencies. It has been postulated that one reason for justifying limiting funding for environmental health initiatives is the belief that once national environmental legislation was passed (typically during the latter part of the 20th Century, globally), that additional legislation and associated funding is unnecessary. However, to the contrary, there is a long history of reauthorization and modification of environmental health legislation to adjust the codification and regulation of legislation to meet the needs of those affected by it. If this process does not satisfy the needs of those affected, they may seek redress through litigation, which may result in additional modification or withdrawal of the legislation. All of these steps can be both time-consuming and expensive, but are vital to the proper administration of legislation.

During times of limited funding, environmental health activities that are typically carried out by governmental agencies may be transferred to private sub-contractors. In some cases, private sub-contractors may be more efficient than governmental agencies due to limited overhead costs and bureaucracy. However, it is important that sub-contractors be monitored closely to ensure that they are adequately completing all necessary components of the project. Environmental consulting firms can often provide quality services that cannot be provided by governmental agencies due to limited funding or personnel availability. The phrase "unfunded mandate" has come to be applied to requirements for which little or no funding is allocated by legislation or governmental agencies.

As the more easily addressed and economical issues ("low-hanging fruit") of environmental health such as sanitation; including improved water quality, food quality and waste management are properly applied, great advances in quality of human living are achieved. When environmental health interventions that are more difficult to address; including vaccination and the resulting goal of "herd immunity", disease vector control, associated toxicology and epidemiology studies and risk science are applied, there is a point of "diminishing returns". At this point, lesser improvement is seen for greater time and monetary investment, generating debate related to how much should be invested to achieve these diminishing results. Reduction of an environmental contaminant in air, water or food by a very small amount can result in significant expense to the community. Additionally, treatment of one media can result in the contamination of another. For example, wastewater treatment is energetically expensive, which may result in increased emission of carbon dioxide, a greenhouse gas of concern for global climate change.

Educational institutions such as colleges and universities are also affected by significant budget cuts, which in turn may affect the quality of education of environmental health professionals entering the job market. Environmental health academic programs tend to be equipment- and supply-intensive, requiring substantial funding to purchase and maintain expensive analytical instruments and related supplies. Environmental health academic programs are sometimes located within educational units that may not have experience in supporting science-based equipment and supply needs, which creates additional challenges for funding justification.

Researchers at public and private institutions are very aware of the reduced availability of funding to address environmental health concerns. In the U.S., it has been estimated that less than 20% of current grant proposals are funded, and the percentage is dropping. Proposals seeking larger amounts of funding are also approved at a lower rate than those seeking smaller amounts. Quality research should ideally provide the basis on which policy makers make decisions (a discussion best left to a future editorial). Without this information, decisions makers may be badly informed and therefore make poor decisions on policy and how to implement it properly.



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Worldwide, developing countries and European Union countries in financial crisis are also facing budgetary and extensive related environmental health resource cuts. The temptation of financially troubled governments to shrink back to simply local issues in the face of crisis and confusion is great. Leadership and goals appear to be polarizing and narrowing focus on a worldwide basis as well. Retreating to the "tower" to protect the status quo is a dangerous position for what has only recently been recognized as a global issue.

William Strauss and Neil Howe, a historian and governmental analyst, respectively, wrote in "The Fourth Turning" of the current global political and financial crisis. Their theory of 80-year cyclical "turnings" puts the world today at a point of complete and total change and redirection. Governmental officials and financial institutions are challenged to deal with the uncertainty that this change has generated. Current global legislation, treaties, rules and compacts related to environmental health are all in danger from the expanding maelstrom. All environmental health leaders in all countries must be vigilant to address proposals that might diminish the effective work that is being planned and carried out.

So the question becomes "how can environmental health professionals do more (or at least continue to accomplish the same amount) with limited funding during these changing social, political and economic times?" As we know from our personal budgets, during good economic times, we have a tendency to add items to our budget that are not absolutely essential to our survival and wellbeing (my own coffee-shop specialty drink comes to mind). Within the discipline of environmental health, it is always important to complete as much quality research and provide as much quality services as we can afford to protect the quality of our environment and our health. However, we should always be prepared to prioritize our efforts for the inevitable difficult funding periods. Balancing budgets based on prioritization can be very difficult and perhaps even contentious, so it is important to discuss these issues not only during difficult budget times, but during times when funding may be plentiful.

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