

August 2004

Greetings:

Below is a slightly revised letter that I sent to several Directors of NIH Institutes and selected staff in August 2004. The purpose of the letter was to highlight the importance of research on policies and the built environment as they relate to the public health crises of physical inactivity, poor diet, and obesity. Specific recommendations for action were made at the end. If you agree with some of the points made, you are encouraged to send your own letter, because the type of research being funded by Active Living Research will only continue to develop and reach its potential to contribute to public health improvements if it is made a higher priority at NIH. Those of you involved in this research have a clear interest, but that interest will be unknown to those who make decisions about research funding priorities unless you make your views known.

If you do send one or more letters, I have a few requests.

- First, please write a letter in your own words. It will be more persuasive to hear good arguments from multiple investigators than to receive form letters. You may refer to my letter if you wish.
- Second, please send a copy of your letter(s) to Active Living Research by mail or email alr@projects.sdsu.edu.
- Third, you might want to refer to published research agendas on the built environment: Dannenberg AL, Jackson RJ, Frumkin H, Schieber RA, Pratt M, Kochtitzky C, Tilson HH. The impact of community design and land-use choices on public health: A scientific research agenda. *Am J Public Health* 2003;93:1500-1508.

Srinivasan S, Deary A, O'Fallon LR. Creating healthy communities, healthy homes, healthy people: Initiating a research agenda on the built environment and public health. *Am J Public Health* 2003;93:1446-1450.

Best wishes,

Jim Sallis

Here are the Directors to whom I sent very similar versions of this letter.

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You might also want to copy the letter to these people:

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[Letter sent by James Sallis to selected Directors of NIH Institutes in August 2004]

Dear Director,

I am writing to encourage your Institute's collaboration with the National Institute of Environment Health Sciences (NIEHS) and other Institutes in adequately funding research on the built environment and its relation to obesity, physical activity, and nutrition. These research topics are an emerging but challenging area of investigation. Early results indicate substantial promise for stimulating improvements in public health, and there is clear relevance to your Institute's core mission.

Because obesity, physical inactivity, and poor diet are recognized as modifiable risk factors for many leading diseases, several Institutes already have devoted substantial resources to these public health priorities. This commitment is appreciated by many of us investigators. Funding in these areas must be balanced across needs for treatment and prevention, biomedical and social-behavioral research. There is no simple way to attain a balance that will optimize advances in science and public health. However, I want to bring to your attention one particular imbalance in research priorities that can be found across several Institutes.

Environmental and Policy Research: A Public Health Priority

Numerous distinguished scientists have identified environmental and policy interventions as the most effective strategy for creating population-wide improvements in eating, physical activity, and weight status (1-14). Environmental and policy changes are the primary strategy proposed for obesity control by the World Health Organization (15) and the International Obesity Task Force (16), and the Centers for Disease Control emphasizes this approach. However, research on this most promising approach to the number two underlying cause of death in the U.S. (17) is woefully lacking. Environmental factors, such as access to healthful foods and recreational facilities may help explain the disturbing disparities in obesity, physical activity, and nutrition that have been well documented (15,16). The gap between the hypothesized benefits of environmental and policy change and the research being conducted to provide an empirical foundation for those changes is enormous. Because the stakes are so high for public health and health care costs, there is an extraordinary opportunity—I assert there is an imperative—to adjust priorities immediately to increase funding for built environment research related to obesity, physical activity, and nutrition. I understand the Strategic Plan for NIH Obesity Research includes funding for the built environment, but it is the category with the lowest funding. That is a concrete indicator of the gap between the need and the response, and I hope you will commit to devoting more resources to research on these topics.

The limited research to date has been promising. The most direct evidence comes from four studies published in the last couple of years showing an association between neighborhood characteristics and body mass index (BMI; 18-21). People who live in more walkable neighborhoods (e.g., many destinations within walking distance and streets in grid-like patterns) or less sprawling cities had lower BMI's than demographically similar people in less walkable areas. Given estimates that 80% of Americans live in sprawling suburbs, living in low-walkability neighborhoods appears to be a highly prevalent risk factor for obesity. There are ways to retrofit suburbs that may reduce their negative health effects, and additional research

could stimulate policies that direct new development to be more healthful, so more and better research could benefit large numbers of people over long periods of time. Further studies are needed with improved study designs, to examine effects on high-risk population subgroups, and to evaluate interactions with biological, behavioral, and psychosocial risk factors.

Many more studies have linked the built environment with physical activity, including those featured in special issues of *American Journal of Public Health* and *American Journal of Health Promotion* in September 2003. Brief summaries of this literature are enclosed. Some of the studies have been conducted by health researchers and show access to recreational facilities is associated with more recreational physical activity of youth and adults (22). Other studies have come from outside the health field, conducted by urban planners and transportation researchers, and show a consistent association between neighborhood design characteristics and walking and cycling for transportation (23,24). Recent books describe the public health implications of land use and urban design (25,26). Thus, in the physical activity field, there is ample initial evidence from studies of limited methodological rigor that the built environment is important. Some of the recent studies received wide attention in the lay press and have been widely cited (<http://esitopics.com/erf/2004/february04-NevilleOwen.html>), demonstrating their relevance to both policy change and scientific advancement. Further studies are needed to identify more specific components of the built environment that might be related to physical activity of high-risk subgroups and to enhance the ability to make causal interpretations by conducting major prospective studies.

Studies linking the built environment and eating behavior are lacking. A few studies have documented more cues for unhealthful eating and less access to healthful foods in low-income and minority neighborhoods (27,28), and the few studies that examined associations between the food environment and eating behavior demonstrated significant effects (29,30). Given the public debate on various aspects of food policy, research on environmental and policy factors as they relate to eating behaviors should be one of the highest priorities at NIH.

NIH Is Not a Leader in This Field of Research

I am sorry to report that NIH is a follower, not a leader, in research on environmental aspects of obesity, physical activity, and nutrition. Largely because NIH was seen as unlikely to fund these research areas identified by much of the public health community as high priority, The Robert Wood Johnson Foundation established the Active Living Research Program in 2001. Part of a multi-component initiative to increase physical activity in the U.S. (www.rwjf.org), Active Living Research is using a \$12.4 million fund to sponsor studies to investigate how environments and policies affect physical activity and to build the capacity of researchers in numerous disciplines to conduct this new kind of research. I am privileged to be the Director of Active Living Research. The Board of the Foundation recently approved a new Childhood Obesity Initiative that will include a parallel research program on environmental and policy aspects of eating behavior among low-income children. This planned program is needed to begin a new research area that has been overlooked by NIH. There has been ongoing collaboration of staff from multiple NIH Institutes in the Foundation's work in active living and nutrition, because the Foundation does not have the resources to support the range of studies that are justified by the public health need.

Fortunately, there has been recent interest at NIH in environmental and policy research related to obesity. NIDDK and other Institutes funded several studies on environmental interventions for obesity control a few years ago. NHLBI recently funded studies on worksite obesity control interventions that featured environmental approaches. The working group for the National Children's Study is considering built environment factors. I am fortunate to be PI on one and Co-PI on another grant funded by NHLBI to examine built environment correlates of physical activity in adults and older adults, so I am grateful for the opportunity to conduct these studies (www.nqls.org). In the past few months I have attended an NCI workshop on measuring physical activity policies, a multi-Institute workshop organized by NIDDK to discuss a prospective study on childhood obesity that could include environmental measures, an NIDDK workshop to recommend site-specific interventions for childhood obesity control that may include environmental approaches, and an NHLBI workshop on prospective studies of diet, physical activity, and weight that considered environmental variables. Of most direct relevance, NIEHS held a large meeting to develop research priorities on the built environment and obesity and announced a major commitment to this topic. Though I appreciate that environmental factors are now on NIH's agenda, I maintain that the commitment is tiny and out of balance with the public health need and the potential of research to lead to solutions.

Challenges to Environmental and Policy Research at NIH

Why have the NIH Institutes been so slow to prioritize environmental and policy research, and why is it necessary to stimulate such studies instead of relying on investigator-initiated proposals? In my view NIH has overemphasized a biomedical perspective on its mission even though the major causes of death and disability are now understood as having strongly behavioral etiologies (17,31). The distribution of funds for the NIH Strategic Plan for Obesity reflects biomedical priorities for a problem that many public health leaders believe needs to be solved through behavioral, environmental, and policy changes. Most biomedical and health behavior researchers are accustomed to studying and intervening on individuals. Because environmental and policy research requires different units of analysis, research designs, and measurement strategies, few NIH staff have expertise in the environmental paradigm, so there have been few advocates or leaders so far. Finding and recruiting knowledgeable reviewers of investigator-initiated environmental research proposals can be challenging. The methodological challenges are an argument for more targeted Requests for Applications, with special review panels. Perhaps an even bigger challenge of environmental research is the need for nontraditional collaborators from disciplines far removed from the health field. Some of the most common disciplines represented on teams funded by Active Living Research, in addition to public health and behavioral science, are urban planning, transportation, civil engineering, recreation and leisure studies, geography, landscape architecture, architecture, and policy studies. The complexity of organizing the teams, integrating the diverse skills, and creating new concepts, measures, and methods add further to the difficulty of mounting these needed studies. Active Living Research is taking steps to build capacity of researchers in various fields to meet the challenges, but NIH could do much more. Environmental and policy studies fit well into the new NIH initiatives on transdisciplinary research.

Recommendations

I have four recommendations that can best be accomplished through multi-Institute initiatives.

- Participate actively and contribute generously to the NIEHS-led Request for Applications on Obesity and the Built Environment. Our Active Living Research Program is partnership with NIEHS on this important initiative.
- A very high priority for environmental research on physical activity is to initiate a major prospective study. Cross-sectional studies have demonstrated consistent associations between environmental variables and physical activity, but these studies are criticized because of potential self-selection bias. To be credible enough to justify major changes in housing and transportation policy, stronger designs are needed. I propose the strongest practical design would be a variation of “migration studies”. This could be accomplished by studying newly-built neighborhoods that vary on walkability, then measuring people prior to and after they move. Such a prospective study could become a landmark, along the lines of the Framingham Study, and additional outcomes could be studied such as diet, weight status, social health, and air quality. Active Living Research is funding a team of investigators to plan such a study, but the study itself is beyond our resources. We look forward to collaborating with NIH on a landmark prospective study.
- The highest priority for environmental research on nutrition is to support the development of “food environment” and “food policy” measures that are needed to conduct a first generation of observational studies.
- Take a leadership role in environmental and policy research on obesity, physical activity, and nutrition, by prioritizing this new area of investigation, hiring additional staff with relevant expertise, and developing a research agenda that will advance science and improve public health.

Because of the immediate opportunity to collaborate with the NIEHS initiative and the urgency to develop solutions to the obesity epidemic, I am sending similar versions of this letter to the Directors of other Institutes as well as to other interested parties. I am happy to clarify any of the issues raised and to assist in any way I can.

Sincerely yours,

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References

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