



Physical activity: Cinderella or Rodney Dangerfield?

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ABSTRACT

Physical inactivity is one of the leading causes of death, disability, and health care costs, but resources and other investments in promoting physical activity are neither proportional to nor ideally suited to address the problem, especially in the United States. Capacity for physical activity promotion is lacking, when compared to the response to other major health risk and protective behaviors. The authors of the commentaries in this special issue were asked to identify key issues from a variety of perspectives and to recommend actions that can be taken now to increase physical activity across the population so that all segments of society benefit, especially those at high risk of chronic diseases. The goal is to stimulate research institutions, public health agencies at all levels, and policy makers to raise physical activity as a priority commensurate with other pressing public health concerns.

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Introduction

This special issue of Preventive Medicine was stimulated by a document from the National Institutes of Health entitled, "Estimates of Funding for Various Diseases, Conditions, Research Areas" in the form of a table posted on the NIH website February 5, 2008 [<http://www.nih.gov/news/fundingresearchareas.htm>]. There were 214 research areas for which funding amounts were listed, but physical activity, exercise, fitness, or sedentary behavior were not on the list. This was distressing news to many physical activity researchers and advocates, especially given that substantial funding from NIH over many years had generated the overwhelming evidence that physical inactivity was one of the leading causes of death, health care costs, morbidity, and disease. The table generated a heated exchange of email traffic in the physical activity community and a few letters to NIH officials and staff expressing concern about the omission and asking for physical activity to be included in subsequent reports.

A letter from an NIH official contained the disturbing information that NIH in fact kept a list of 360 funding areas, and physical activity was absent from that list as well. No mention was made of any intention to add physical activity to these lists, and no reason for the omission was provided. The shorter list of 214 funding areas included all the other behaviors identified by McGinnis and Foege (1993) as underlying causes of death. Smoking, nutrition, sexually transmitted diseases, alcohol abuse, drug abuse, injuries (several categories), and violence (several categories) were all included. Only physical inactivity was omitted.

Though physical activity research is clearly a long-term priority at numerous NIH Institutes and Centers, it does not seem to be a priority in the Director's Office. This illustrates a paradox that physical inactivity is widely acknowledged as one of the most important health challenges of our age, but commitment to solving the problem is persistently lacking. The gap between the scope of the problem and the response appears to be unique for physical activity, and this imbalance is not confined to NIH. Yancey et al. (2007) detailed the lack of infrastructure for research and action on physical activity in the United States that is striking when contrasted with other public health priorities. Most state health departments have only a single person responsible for physical activity, and most of those staff are funded by the Centers for Disease Control and Prevention. The quantity and quality of physical education is poor in many schools (McKenzie and Lounsbery, 2009). The American Public Health Association is just now in the process of developing a physical activity section, and movement toward a National Physical Activity Plan is very recent (www.paplan.org). Is physical activity the Rodney Dangerfield of public health who will never get respect? Or is physical activity like Cinderella who is working hard scrubbing floors and waiting in the shadows until the funding comes to buy nice clothes and go out in public to make her mark?

For this themed issue, we solicited contributions from thought leaders representing key sectors that must be engaged to achieve and sustain increased physical activity population-wide. Our charge for these brief combined narrative reviews and commentaries was specific. Identify the pivotal activity-related issues and several actions that decision makers and leaders in your arena can take *right now* to increase physical activity participation across broad swaths of a very sedentary (Troiano et al., 2008) population. Focus on those actions that will decrease, or at least not increase, disparities in physical

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activity engagement in populations at high risk of chronic disease and obesity. Specify the levers that make action likely to be initiated in the short term and likely to be sustained in the longer term. We insisted that our colleagues dispense with laundry lists of what can be done and zero in on *how* to get the ball rolling—getting nearly everyone to do a little something rather than a few to do everything—a true public health approach to promoting physical activity (Emmons, 2000). Hence, the title of the issue, “Prioritizing Physical Activity Promotion—A Public Health Imperative.”

Synthesis of the collected wisdom

At this early stage in population inactivity prevention and physical activity promotion, there is no evidence of strong federal or state action, political will in defiance of dominant special interest lobbies, or “new” funding for public health necessary to overhaul the physical environment. However, Brownson and Jones (2009) and Morandi (2009) point to promising signs of progress in that legislators are recognizing the need to translate concern for their constituents’ health into physical activity policy intervention, and researchers are recognizing the need to highlight the policy relevance of their findings in plain language. The epidemiological and behavioral research is consistent and compelling in its documentation of the physical and mental health benefits of modest increases in physical activity (Haskell et al., 2009; King and Sallis, 2009) and the systemic opportunities to accomplish such changes in ways that are consistent with human psychology, physiology and evolutionary biology (Donnelly et al., 2009; Eaton et al., 2009; Owen et al., 2009; Yancey, 2009; Zimmerman, 2009). In encouraging findings, grassroots advocacy interests have begun to pool resources to address public safety, youth development, business re-development, environmental justice, educational opportunity and neighborhood access to nutrient-rich foods. Such efforts are coalescing around the urban built environment. Modest physical improvements such as pocket parks and community gardens are promising, but improving park access, street and sidewalk maintenance, community policing and community gardens also is critical (Cohen et al., 2009). These environmental strategies can promote equity in ways that will increase opportunities to be active if changes are targeted appropriately (Garcia et al., 2009; Whitt-Glover et al., 2009).

To bring together diverse interests, however, requires not only shared focus but also effective marketing and cognitive framing. Maibach et al. (2009) regard the crises of high fuel prices and global warming as an opportunity to unify green advocates, poor and immigrant groups, and foreign policy critics of our dependence on oil from the Middle East, unlikely confederates in most circumstances. Proper framing and appropriate marketing can underscore and highlight common concerns and common solutions (Zimmerman, 2009). The two main players in obesity prevention and control, nutrition and physical activity, have yet to grapple effectively with their uneasy alliance of interests—sometimes fully aligned but often at odds. This subject was tackled by Dorfman and Yancey (2009) in calling for an expansion of the industries targeted by advocates to assume responsibility for their contributions to the problem, i.e. auto, oil, tire, highway construction, film and TV production and distribution, and video gaming. Dorfman and Yancey (2009) also emphasized the need for communication and negotiation between nutrition and physical activity interest groups to increase the reach and efficiency of each.

Nowhere are communications more important than in the formation of public-private partnerships. The issues confronted during the process vary with the industries and sectors involved, e.g., the culture clashes between public health and sports (Yancey et al., 2009), local health departments and community-based non-profits (Simon et al., 2009; Simon and Fielding, 2006) and federal and state public health (regulatory) agencies and Fortune 500 corporations (Pronk and Kottke, 2009). The bottom line, however, is that all

parties must reap sufficient benefits to warrant continued and further investment.

Many industrialized countries are already far ahead of the US in population physical activity engagement (Bauman et al., 2009; Maibach et al., 2009). Some have embarked on “whole of government” initiatives similar to the “whole of community” interventions conducted in cities or regions throughout the world. International transportation policies diverged from ours years ago in establishing the infrastructure to make public transit convenient and affordable, and private transportation much less so (e.g., through gas taxes, few and peripheral multi-lane high speed roads, historical preservation).

Substantial investments of time, money and political capital will be required to get and keep America moving. The coordinated efforts of the CDC and other government entities (Pratt et al., 2009), voluntary non-profits (Doyle et al., 2009) and foundations (Solomon et al., 2009; Yancey, et al., 2009) will be necessary to ensure progress on many societal fronts. The Healthy Eating Active Living Convergence led by several foundations is an example of such an effort (Solomon et al., 2009). Similarly, the CDC, American Heart Association, American College of Sports Medicine and others are leading a multi-sectoral effort, the National Physical Activity Plan, to mobilize a broad spectrum of stakeholders to ensure that the first-ever Physical Activity Guidelines for Americans (Physical Activity Guidelines Advisory Committee, 2008) translate into meaningful environmental change and ultimately, population increases in physical activity.

A spark is needed to galvanize environmental changes that will engage broad population segments in physical activity. Linking “boisterous” public health leadership and visionary organizational leadership across sectors is essential in driving action (Yancey, 2009). Help is on the way. Trainees of the CDC Physical Activity and Public Health course offered to researchers and practitioners (Pratt et al., 2009) have amassed 3596 publications and 182 funded grants during the 13 years since its inception (Hooker and Buchner, 2009). The recent escalation in funding opportunities and publication venues, spurred by foundation investments (Solomon et al., 2009) lends credence to the idea that this burgeoning research will speed innovation. However, as Brownson and Jones (2009) have shown, research does not automatically translate into practice, and particularly practice improvement.

Recommendations

“What gets measured, gets done”

NIH is not measuring its investment in physical activity, so there is no way to track changes as for 360 other topics. NIH should begin tracking annual funding for research on physical inactivity, physical activity, exercise, sedentary behaviors, and fitness. Such information will be useful for researchers, health advocates, and policy makers.

A scientific infrastructure with committed and aggressive leadership is needed

There is no office responsible for one of the leading causes of preventable death and disability (Danaei et al., 2009) in the world’s foremost health and medical research agency. There are other health agencies lacking infrastructure for physical activity (Yancey et al., 2007), so NIH is not alone in this regard, as earlier noted. To remedy the inadequate response to the problem of physical inactivity, the American Public Health Association (2008) recently adopted a policy recommending the development of a physical activity promotion infrastructure among health research, training, and practice organizations.

NIH should establish a committee or task force with the charge of developing a comprehensive research agenda for physical activity, along with recommendations for implementing the agenda that includes a permanent and high-level “home” for coordination,

monitoring and accountability. Models include the Office of Nutrition Coordination and the cross-cutting National Center for Minority Health and Health Disparities. The White House should also consider appointing an in-house czar, as it has to address drug abuse and other pressing threats to the nation's health and well-being.

Conclusions

Small increments in physical activity distributed across a broad population will have a much greater potential impact than large changes within small populations. Research has provided us with overwhelming evidence of *what* we need to do, and we have effective strategies for *how* to get people active. The public health imperative is to cultivate the political will and develop the implementation capacity to put our knowledge into action. We must overcome our collective inertia in the interest of the public good. Immediate action is needed to avert the continued incursion of chronic disease risk and morbidity into younger and younger age groups, and the threat to future generations of catastrophic increases in premature disability and mortality.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

References

- American Public Health Association, 2008. Building a Public Health Infrastructure for Physical Activity Promotion. Policy Statement 20079. Available at <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1358>.). Amer Public Health Assn, Washington, DC.
- Bauman, A., Finegood, D.T., Matsudo, V., 2009. International perspectives on the physical inactivity crisis—structural solutions over evidence generation? *Prev. Med.* 49, 309–312.
- Brownson, R.C., Jones, E., 2009. Bridging the gap: translating research into policy and practice. *Prev. Med.* 49, 313–315.
- Cohen, D.A., Sehgal, A., Williamson, S., Marsh, T., Golinelli, D., McKenzie, T.L., 2009. New recreational facilities for the young and the old in Los Angeles: policy and programming implications. *J. Public Health Policy* 30 (Suppl 1), S248–S263.
- Danaei, G., Ding, E.L., Mozaffarian, D., et al., 2009. The preventable causes of death in the United States: comparative risk assessment of dietary, lifestyle, and metabolic risk factors. *PLoS Med.* 6, e1000058.
- Donnelly, J.E., Greene, J.L., Gibson, C.A., Washburn, R.A., Sullivan, D.K., DuBose, K.D., Mayo, M.S., Schmelzle, K.H., Ryan, J.J., Williams, S.L., Jacobsen, D.J., Smith, B., 2009. Physical Activity Across the Curriculum (PAAC): a randomized controlled trial to promote physical activity and diminish overweight and obesity in elementary school children. *Prev. Med.* 49, 336–341.
- Dorfman, L., Yancey, A.K., 2009. Promoting physical activity and healthy eating: convergence in framing the role of industry. *Prev. Med.* 49, 303–305.
- Doyle, C., Hutber, A., McCarthy, W.J., 2009. Physically active lifestyles for all Americans: a call to action for non-profit organizations. *Prev. Med.* 49, 328–329.
- Eaton, S.B., Coddain, L., Sparling, P.B., 2009. Evolution, body composition, insulin receptor competition and insulin resistance. *Prev. Med.* 49, 283–285.
- Emmons, K.E., 2000. Health behaviors in a social context. In: Berkman, L.F., Kawachi, I. (Eds.), *Social Epidemiology*. Oxford University Press, New York, pp. 242–266.
- Garcia, R., Bracho, A., Cantero, P., Glenn, B., 2009. “Pushing” physical activity and justice. *Prev. Med.* 49, 330–333.
- Haskell, W.L., Blair, S.N., Hill, J.O., 2009. Physical activity: health outcomes and importance for public health policy. *Prev. Med.* 49, 280–282.
- Hooker, S.P., Buchner, D.M., 2009. Education and training for physical activity research and practice. *Prev. Med.* 49, 294–296.
- King, A.C., Sallis, J.F., 2009. Why and how to improve physical activity promotion: lessons from behavioral science and related fields. *Prev. Med.* 49, 286–288.
- Maibach, E., Steg, L., Anable, J., 2009. Promoting physical activity and reducing climate change: opportunities to replace short car trips with active transportation. *Prev. Med.* 49, 326–327.
- McGinnis, J.M., Foege, W.H., 1993. Actual causes of death in the United States. *Jama* 270, 2207–2212.
- McKenzie, T.L., Lounsbery, M.A.F., 2009. School physical education: the pill not taken. *Am. J. Lifestyle Med.* 3, 219–225.
- Morandi, L., 2009. The role of state policy in promoting physical activity. *Prev. Med.* 49, 299–300.
- Owen, N., Bauman, A., Brown, W., 2009. Too much sitting: a novel and important predictor of chronic disease risk? *Br. J. Sports Med.* 43, 81–83.
- Physical Activity Guidelines Advisory Committee, 2008. Physical Activity Guidelines Advisory Committee Report, 2008. Available at <http://www.health.gov/paguidelines/committeereport.aspx>. Accessed October 7, 2008. U.S. Department of Health and Human Services, Washington, DC.
- Pratt, M., Epping, J.N., Dietz, W.H., 2009. Putting physical activity in public health: a historical perspective from the CDC. *Prev. Med.* 49, 301–302.
- Pronk, N.P., Kottke, T.E., 2009. Physical activity promotion as a strategic corporate priority to improve worker health and business performance. *Prev. Med.* 49, 316–321.
- Simon, P., Gonzalez, E., Ginsburg, D., Abrams, J., Fielding, J.E., 2009. Physical activity promotion: a local and state health department perspective. *Prev. Med.* 49, 297–298.
- Simon, P.A., Fielding, J.E., 2006. Public health and business: a partnership that makes cents. *Health Aff. (Millwood)* 25, 1029–1039.
- Solomon, L., Standish, M.B., Orleans, C.T., 2009. Creating physical activity-promoting community environments: time for a breakthrough. *Prev. Med.* 49, 334–335.
- Troiano, R.P., Berrigan, D., Dodd, K.W., Masse, L.C., Tilert, T., McDowell, M., 2008. Physical activity in the United States measured by accelerometer. *Med. Sci. Sports Exerc.* 40, 181–188.
- Whitt-Glover, M.C., Crespo, C.J., Joe, J.R., 2009. Recommendations for advancing opportunities to increase physical activity in racial/ethnic minority communities. *Prev. Med.* 49, 292–293.
- Yancey, A.K., 2009. The meta-volition model: organizational leadership is the key ingredient in getting society moving literally! *Prev. Med.* 49, 342–351.
- Yancey, A.K., Fielding, J.E., Flores, G.R., Sallis, J.F., McCarthy, W.J., Breslow, L., 2007. Creating a robust public health infrastructure for physical activity promotion. *Am. J. Prev. Med.* 32, 68–78.
- Yancey, A.K., Winfield, D., Larsen, J., Anderson, M., Jackson, M., Overton, J., Wilson, S., Rossum, A., Kumanyika, S., 2009. Live, Learn and Play”: building strategic alliances between professional sports and public health. *Prev. Med.* 49, 322–325.
- Zimmerman, F.J., 2009. Using behavioral economics to promote physical activity. *Prev. Med.* 49, 289–291.