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Commentary

Putting physical activity into public health: A historical perspective from the CDC[☆]Michael Pratt^{*}, Jacqueline N. Epping¹, William H. Dietz¹

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ABSTRACT

This commentary reviews the role that the U.S. Centers for Disease Control and Prevention (CDC) has played since 1964 in moving science, policy, and practice from exercise and fitness to physical activity and health.

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As we approach the end of the first decade of the 21st century, physical activity (PA) has taken its rightful place in the mainstream of public health. Fifty years of epidemiologic and clinical studies have clearly documented a broad range of important health benefits associated with regular PA (USDHHS 1996). Over the last decade this science base has coalesced into public health recommendations (USDHHS 2008) and policy for physical activity as an integral part of chronic disease prevention and health promotion. The Centers for Disease Control and Prevention (CDC) has played a central role in almost every major step along this path – moving science, policy and practice from exercise and fitness to PA and health. When this process began, exercise was the purview of a handful of enthusiasts (marathoners and epidemiologists alike). Today PA is central to good public health practice globally, nationally and ever so gradually at the state and local levels. However, much remains to be done to ensure that attention and resource allocation within public health systems match the health and economic burdens of PA (Pratt et al., 2000).

So, how did this transition occur, and what exactly was CDC's catalytic role? The first small federal step occurred in 1964 when the National Institutes of Health (NIH) established a National Center for Chronic Disease Control led by cardiologist Samuel Fox. The center began examining the relationships between PA and heart disease, integration between exercise science and public health, and how public health programs might develop. However, after only four years as the war in SE Asia forced reductions in domestic programs the unit was closed. Nearly 20 years passed before PA re-emerged at CDC. As the epidemiologic and clinical literature supporting multiple health

benefits of PA grew, CDC was also extending its institutional mission to include chronic disease prevention with a vision that included a focus on PA as a cross-cutting health behavior of great importance to public health. A noteworthy group of experts was convened in Atlanta in 1983 to define PA as a public health entity, identify benefits and risks of PA, and consider core public health components such as surveillance (Powell 1985). A seminal special issue of Public Health Reports summarized the deliberations and laid out a framework for PA as an integral part of public health (Powell 1985).

Through the 1980 s PA did not fare particularly well within public health. Notable exceptions included the creation of several surveillance systems for PA, and establishing the "Healthy People" national objectives for PA co-led by CDC and the President's Council on Physical Fitness and Sports (USDHHS 1991). CDC led the development of questions related to PA for the Behavioral Risk Factor Surveillance System (BRFSS) for adults, the Youth Risk Behavior Surveillance System (YRBS) for adolescents and the World Health Organization (WHO) Monitoring Trends and Determinants in Cardiovascular Disease (MONICA) project for application in global settings. In the following decade CDC also catalyzed the development of the International Physical Activity Questionnaire (IPAQ) and the Global Physical Activity Questionnaire (GPAQ) (Craig et al., 2003). No institution has played a larger role than CDC in building public health tools for PA surveillance.

PA re-emerged as a salient public health issue in the 1990 s. The American Heart Association's (AHA) recognition of PA as one of the "big four" risk factors for cardiovascular disease in 1992 started the ball rolling and was followed immediately by an AHA strategic plan which called for a Surgeon General's Report on PA and Health, a national coalition to promote PA, and training courses to build public health capacity for PA (AHA 1995). CDC responded. In 1993 CDC and the American College of Sports Medicine (ACSM) convened an expert panel to bring PA recommendations up-to-date with the

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epidemiologic and clinical evidence demonstrating substantial health benefits associated with regular moderate intensity PA (Pate et al., 1995). The CDC ACSM recommendation was a paradigm change, shifting from an exercise and fitness perspective to placing PA into a public health context. This paper has been cited more than 2500 times between 1995 and 2008. On the heels of the CDC ACSM recommendation came the NIH Consensus Statement on PA and Cardiovascular Health (NIH 1996) and the first Surgeon General's Report on PA and Health (USDHHS 1996), reinforcing both the strong science base and the moderate intensity PA recommendation. CDC was responsible for leading the writing of the Surgeon General's Report – a key policy document which not only summarized the health benefits and surveillance data on PA, but anointed PA as a public health policy issue worthy of the Surgeon General and the nation's attention. 1996 also marked the formal institutionalization of PA at CDC with the creation of the Physical Activity and Health Branch within the Division of Nutrition and Physical Activity.

CDC has emphasized building public health capacity for PA, first through training and followed by funding for state PA, nutrition and obesity prevention programs in 1999 and most recently through stimulating the formation of a National Society of Physical Activity Practitioners in Public Health in 2006. CDC and the Prevention Research Center at the University of South Carolina School of Public Health initiated the research and practice training courses for PA and public health in 1995 and 1996, and these courses continue to be regarded internationally as the gold standards for PA and public health training (Brown et al., 2002).

During this time international attention also began to focus on PA as a public health issue. The World Health Organization (WHO) invited CDC to become a partner in global PA promotion, and in 1998 the CDC WHO Collaborating Center for Physical Activity and Health Promotion was chartered within the Division of Nutrition and Physical Activity at CDC. The Center has played a major role in the last decade on focusing global health policy on PA, building the evidence-base for interventions and tools for surveillance and evaluation and extending training courses globally. An important benefit of CDC's global work has been incorporating into PA promotion in the U.S. innovation from around the world in areas such as environmental and policy interventions (Europe and Bogotá, Colombia) and community and media campaigns (Brazil and Australia).

PA is part of the leading edge of the evidence-based public health practice movement in the US – first with the systematic reviews and recommendations of the Community Guide (Kahn et al., 2002), then with health impact assessment (HIA), cost effectiveness analyses (Roux et al., 2008), PA policy research (Schmid et al., 2006), and most recently with the extension of the Community Guide process to Latin America (Hoehner et al., 2008). The VERB Campaign, a high profile, successful combination of mass media and community strategies targeting 9–12 year olds to change their PA levels is another example of innovation led by CDC, built upon international experience, well evaluated, and funded at a scale which actually made a difference at the population level (Huhman et al., 2008).

Unfortunately, public health has yet to consistently stage PA interventions at the scale required to shift the US adult or youth population to a higher and healthier level of PA. We have reached a point where the health benefits of PA are well documented, there is an understanding of individual and environmental determinants of PA, good data on intervention efficacy exists, recommendations for both individual PA and community interventions are clear, public health tools for surveillance and evaluation are in place, capacity building is

progressing well and a policy framework provides an umbrella under which these components can function. However, as a country and as a public health community we have not committed sufficient resources to drive population level changes in the prevalence of PA. The same level of effort which CDC and public health have so successfully focused on smallpox eradication, vaccine preventable diseases, HIV, and tobacco control will be required if we are to stem the tide of inactivity, obesity and chronic diseases.

What might the components of a public health initiative be, and what might CDC contribute to that effort? First, with adequate funding CDC can support comprehensive programs in every state health department and many municipalities. Second, CDC and partners from public health and other sectors such as transportation, urban planning, public safety, education, sport and local government can apply existing evidence-based strategies in diverse communities across the nation. Third, CDC can help ensure that the public health tools and capacity exist to implement and evaluate creative adaptation of these strategies to new contexts and populations and across multiple sectors so that we can learn from both successes and failures. Finally, there appears to be enormous potential synergy with social movements for equity as well as environmental and economic sustainability. Communities with safe, attractive public space and parks, integrated sustainable transport, and an engaged citizenry are communities where walking, cycling and recreational PA, health and quality of life will be enhanced for all.

Conflict of interest statement

No conflict of interest.

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