

*Interdisciplinary Perspective*

# Policy Prescriptions for Healthier Communities

Trip Pollard

## Synopsis

*Evidence of the health impacts of the built environment has increased rapidly. Studies have linked physical inactivity and motor-vehicle pollution to a range of health problems and have shown that activity levels and air quality are influenced by community design, land use, and transportation patterns. There is comparatively little awareness, however, of the role that laws and policies play in spurring sprawl and driving and of the opportunities to reorient current provisions to promote public health. This article summarizes the findings connecting the built environment to a variety of health problems. It then describes how current policies present barriers to physical activity and increase pollution by encouraging sprawl development and by offering few transportation choices. Finally, the article suggests ways to overcome these barriers by examining policies that can promote public health by making it easier to incorporate greater physical activity into our everyday lives and to reduce driving. Multidisciplinary partnerships are needed to pursue these policy prescriptions for healthier communities. (Am J Health Promot 2003;18[1]:109–113.)*

## PUBLIC HEALTH AND THE BUILT ENVIRONMENT

Current development patterns are transforming the United States. Over 25 million acres of farmland, forests, and open space were developed nationwide between 1982 and 1997.<sup>1</sup> Metropolitan regions have spread over ever-larger areas, and sprawling suburban development typically is designed to accommodate the automobile rather than the pedestrian. As land use spreads farther apart and transportation systems offer few attractive and safe alternatives to driving, motor-vehicle use frequently becomes a necessity rather than a choice. As a result, driving rates are escalating whereas walking and bicycling rates are decreasing.

There is growing evidence that these and other aspects of land development, community design, and transportation patterns are having a dramatic impact on public health as well, and that they are linked to a number of critical health problems. Conversely, studies have indicated the potential to promote public health by altering

these patterns. The impacts of the built environment on physical activity and air-pollution levels are two areas of particular importance. (This article does not contain a comprehensive list of the health impacts associated with land use, community design, and transportation. For additional information on these impacts, see Jackson and Kocnitzky.<sup>2</sup>)

## Physical Inactivity

Physical inactivity contributes significantly to a number of health problems, including obesity, diabetes, cardiovascular disease, certain forms of cancer, and depression and is estimated to be responsible for over 200,000 deaths each year in the United States.<sup>3</sup> The problem is getting worse. Obesity rates are skyrocketing, for example, and obesity is now characterized as an epidemic that is a “critical health problem in the United States.”<sup>4</sup> According to the Centers for Disease Control and Prevention, 64.5% of American adults are obese or overweight, up from 47% two decades ago,<sup>5</sup> and over 15% of young people age 6 to 19 are overweight, triple the number 20 years ago.<sup>6</sup> Accompanying the rise in obesity, diagnosed diabetes increased by 33% between 1990 and 1998.<sup>7</sup>

As the Surgeon General’s landmark 1996 report, “Physical Activity and Health,” concluded, “Americans can substantially improve their health and quality of life by including moderate amounts of physical activity in their daily life.”<sup>8</sup> Walking and bicycling have frequently been identified as among the most beneficial and realistic ways for people to engage in regular physical activity. Yet physical activity levels have declined nationwide, in part because scattered development, poor community design, and a lack of adequate and safe facilities often make walking and bicycling impractical if not impossible, thereby requiring more frequent and longer vehicle trips to go to work, to shop, to take children to school, or to engage in other activities.<sup>9,10</sup>

## Air Pollution

Current development, design, and transportation patterns are also linked to the public-health damage caused by motor-vehicle pollution. Vehicle use in the United States has greatly increased in recent decades, far outpacing the increase in population. As with the decrease in physical activity, a primary factor underlying this trend is that as land use spreads farther apart and few safe and convenient transportation alternatives are offered, people are left with little choice but to drive—and to drive longer

*Trip Pollard is the Land and Community Project Leader, Southern Environmental Law Center, Charlottesville, Virginia.*

*This manuscript was submitted February 6, 2003; revisions were requested May 14, 2003; the manuscript was accepted for publication June 5, 2003.*

Copyright © 2003 by American Journal of Health Promotion, Inc.  
0890-1171/03/\$5.00 + 0

distances. Americans drove more than 2.7 trillion miles in 2000.<sup>11</sup> This is an average of almost 7.6 billion miles each day, the equivalent of roughly 84 trips to the sun.

The dramatic increase in driving means more air pollution, for motor vehicles are a primary source of carbon monoxide, the two precursors of ozone (nitrogen oxides and volatile organic compounds), particulate matter, and other pollutants.<sup>12</sup> Although federal Clean Air Act regulations and technological innovations have curtailed emissions from individual vehicles, the rapid increase in driving has negated many of these gains. Nitrogen oxide emissions from on-road vehicles were higher in 1999 than in 1970. These pollutants are harmful to health. Ozone, for example, may lead to lung tissue damage, asthma attacks, shortness of breath, and other respiratory problems; more than 137 million Americans live in areas with unhealthy ozone levels.<sup>13</sup> Ozone is particularly harmful to children, elderly persons, and individuals with chronic lung disease. A recent study found that asthma-related emergency department visits by children fell 41.6% in Atlanta during the 1996 Summer Olympics, when vehicle use and ozone levels decreased in the region.<sup>14</sup> Ozone can harm healthy, active adults as well, causing direct health damage and potentially undermining efforts to encourage physical activity and improve public health.

Evidence is increasing that changes to the built environment can reduce trip lengths, increase nonvehicle trips, and reduce vehicle emissions. For example, one study compared the effects of locating a large new residential, office, and retail project at a previously developed site in midtown Atlanta with the effects of locating it at several suburban sites. The study found that the infill alternative could reduce the amount of vehicle miles of travel by 52% and nitrogen oxide emissions by 81%.<sup>15</sup> On a regional scale, the Land Use, Transportation, and Air Quality study in Portland, Oregon, found that more compact and mixed use development, coupled with greater transit investment, could increase the share of work trips taken by transit, walking, and biking by 27% and reduce nitrogen oxide emissions by 8.7%.<sup>16</sup>

## LEGAL AND POLICY HURDLES TO HEALTHIER COMMUNITIES

Despite increasingly strong evidence of the health impacts of development, design, and transportation patterns, numerous hurdles face the promotion of healthier growth patterns. A primary, yet often unacknowledged, barrier to healthier communities is a host of federal, state, and local laws and policies that currently make sprawling development inexpensive and easy to build and that offer few alternatives to driving. (This article discusses a handful of the policy barriers to healthier communities. For a more detailed discussion of these and other hurdles, see, for example, Pollard.<sup>17</sup>)

### Development Requirements

Local zoning laws and policies, for example, typically segregate commercial and residential uses into discrete geographic areas. These provisions prohibit a mixture of

land uses, preventing homes from being located near stores, or offices. As a result, walking or bicycling is often impractical to reach these destinations, and people are effectively required to drive to conduct most activities. Similarly, provisions requiring large minimum lot sizes and houses to be set far from the street effectively mandate scattered, automobile-dependent development patterns.

Minimum parking provisions that require businesses and offices to provide abundant free parking are another common legal requirement that hinders development of healthier communities. These provisions make driving more affordable and more convenient, thus encouraging greater motor vehicle use and discouraging the use of other means of transportation.<sup>18,19</sup> Minimum parking requirements further discourage bicycling and walking by creating wide expanses of asphalt, making stores and other destinations less accessible. This increases distances between destinations and increases the risk that a pedestrian or cyclist will be injured or killed by a motor vehicle.

Street- and road-design standards have frequently been used to move as many motor vehicles through an area as quickly as possible. As a result, unnecessarily wide roads designed for high-speed vehicle travel are often required, which discourage walking and bicycling by reducing the safety, comfort, and accessibility of pedestrians and bicyclists.

These and other provisions make it illegal in most localities to build the more compact, diverse, pedestrian-friendly neighborhoods and town centers that prevailed in the United States up until the past 50 years—precisely the types of development that can promote public health. In contrast, sprawling subdivisions, strip malls, and other low-density, single-use developments, which increase driving rates and discourage bicycling and walking, tend to be approved easily.

### Public Expenditures

Public investment decisions can be another significant barrier to healthier communities. For example, federal, state, and local governments spend hundreds of billions of dollars every year on building and maintaining roads, law and parking enforcement, traffic control, and other subsidies that influence travel behavior by making driving more affordable. Other policies, such as the federal oil depletion allowance that provides a large tax break to oil companies, reduce gasoline prices and thus further encourage driving.<sup>20,21</sup> In addition, public expenditures for infrastructures such as roads and water and sewer lines frequently shift the costs to provide services required by new development to taxpayers, thereby subsidizing scattered development and increasing driving.

These policies have created an uneven playing field. The lion's share of federal, state, and local transportation funding, for example, has gone to funding roads, whereas transit, bicycling, walking, and other transportation alternatives have largely been overlooked and underfunded.<sup>22</sup> This road-centered approach has helped driving become easier and more affordable, but the comparatively meager funding for alternatives to driving has led to a lack of meaningful transportation choices. Despite the fact that

one quarter of all trips in the United States are 1 mile or less, the limited investment in facilities to make bicycling and walking practical, attractive, and safe has led people to drive even these short distances most of the time.

## **OPPORTUNITIES FOR PROMOTING HEALTHIER COMMUNITIES**

The laws and policies that are impediments to healthier communities are not immutable. There are tremendous opportunities to improve public health by eliminating these barriers and by adopting federal, state, and local provisions that promote healthier growth, including measures that can strengthen communities and improve design, offer a greater range of transportation choices, and provide ample parks and open space. A number of publications have explored various tools and strategies for promoting healthier, smarter growth.<sup>23,24</sup>

No single policy or strategy will be sufficient, and various options exist for addressing any particular policy barrier. Multiple measures need to be adopted at all levels of government, and measures need to be adapted to circumstances such as the goals, politics, economy, and built environment of a particular area.

### **Strengthening Communities**

A cornerstone of efforts to promote healthier growth patterns is to improve existing communities and community design. When cities, towns, and older suburban communities are revitalized, they provide attractive, alternative places to live and work and reduce the need for far-flung sprawl in undeveloped areas. Bringing development to existing communities also tends to reduce trip distances and the number of vehicle trips, because existing communities often contain more compact, pedestrian-friendly environments with closer residences, jobs, and services that encourage bicycling and walking.

Revitalization can be promoted by adopting laws and policies that encourage the reuse of buildings and land. Federal, state, and local historic preservation incentives, for example, have been effective at rejuvenating historic neighborhoods and districts by encouraging the renovation and reuse of residential and commercial properties. These incentives include tax credits or abatements, as well as rehabilitation loans and grants. In addition, state and local building codes often need to be revised to reduce barriers to rehabilitating existing structures, because current code provisions often prohibit renovation of these structures or make the renovation prohibitively expensive. Furthermore, brownfields programs encourage developers to safely return to use sites with actual or perceived environmental contamination—commonly referred to as brownfields—by offering incentives, technical assistance, and provisions that limit liability in order to encourage cleanup and redevelopment.

Reusing buildings and land, however, is insufficient. Laws and policies need to be reoriented to promote more efficient development patterns and healthier design both in existing communities and in new development. As noted above, traditional development patterns that were

widespread up until the past 50 years are compact, diverse, and pedestrian-oriented, and thus can reduce driving and promote bicycling and walking. A fundamental reform that is often needed to promote traditional neighborhoods and town centers is to revise zoning and subdivision ordinances and other provisions to permit new development that includes a mixture of jobs, stores, and residences, as well as a diverse range of residential options such as houses, apartments, and dwelling units in accessory buildings. Other requirements that foster sprawl and make walking and bicycling less practical and less safe—large lot sizes, setbacks, and minimum parking requirements—need to be altered or eliminated as well.

A growing number of localities throughout the country have begun to make these types of changes. Some localities have gone further than merely eliminating barriers to more traditional development; instead, they offer incentives to encourage these projects. Austin, Texas, for example, has revised its development code to eliminate some of the hurdles to traditional neighborhood development, and the city offers incentives for preferred forms of development that can include expedited permitting, waiver of development fees, and public funding of new infrastructure such as streets, water and sewer lines, and streetscape improvements.<sup>25</sup>

An additional approach to creating healthier growth patterns is to guide development to areas with access to transit and other transportation options. Arlington County, Virginia, for example, has worked for over 20 years to revamp its zoning provisions and to offer incentives to create mixed-use, pedestrian-oriented development surrounding transit stations. Today, almost all the office space and about two thirds of the county's retail space is within walking distance of transit. As a result, the county enjoys the highest rates of transit riders in the state: 23.3% of commuters use transit to go to work.<sup>26</sup>

A further step to promote healthier development is to use public investments to guide growth. Maryland, for example, has adopted legislation that seeks to guide growth by steering transportation funds and other public investments to existing communities, as well as to additional areas where planned growth meets minimum criteria such as average residential density.<sup>27</sup>

### **Offering Greater Transportation Choices**

A second area of policy changes that would promote healthier communities involves developing a more balanced, diverse, interconnected transportation system. Such a system would offer a variety of travel choices and provide meaningful alternatives to driving. Among their many benefits, public transit, walking, and bicycling can reduce air pollution and increase physical activity by replacing many motor vehicle trips, particularly if coupled with complementary land use and community design. Of course, transit does not necessarily offer increased physical activity, though it does offer air quality benefits.

The most significant reform would be to reverse the road-centered focus of transportation laws and policies and to substantially increase the investment in transportation choices. Evidence has shown that a significant per-

centage of people will use alternatives to driving that are convenient, safe, and affordable.<sup>26,28</sup> However, planning and funding to develop these alternatives—including new and upgraded transit systems, sidewalks, and bike lanes—has been in short supply. In addition to building basic facilities such as sidewalks, funding is needed for improvements that create a pedestrian- and bicycle-friendly environment, such as well-designed crosswalks, adequate street lighting, shade trees, and sidewalks that are continuous and well maintained. Planning and funding connections between pedestrian, bicycle, transit, air, and motor-vehicle travel is essential to create a multi-modal system that makes transportation alternatives more convenient and accessible, thus increasing opportunities to reduce vehicle use. For example, public transit can be better connected to bicycle networks by funding bike racks at transit stations and on buses.

Some progress in these areas has been made. At the federal level, for example, the landmark Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and its successor, the Transportation Equity Act for the 21st Century, mark a shift from a highway-centered approach to a more balanced one that increases funding for transportation alternatives and places a greater emphasis on multimodalism. ISTEA allowed states to use funds that previously could be spent only on highways to support various transportation modes. Federal law was also changed to provide funding for transportation “enhancements,” including bicycle and pedestrian facilities. Although these and other changes have helped spur an increase in spending on transit, bicycle, and pedestrian projects, most states have continued to spend the vast majority of the federal funds they receive on highway projects. States spent an estimated 87% of the flexible funds they received between 1992 and 1999 on highway and bridge projects and less than 7% on other transportation modes.<sup>29</sup>

Another area of progress is in increasing funding for projects that promote bicycling and walking by children. A growing number of states and localities have adopted “Safe Routes to School” measures to fund improvements, such as adding crosswalks and bike lanes, that make walking and bicycling to school safer for children (and their parents).<sup>30</sup> Much greater public investment in these efforts is needed, however, and many jurisdictions have yet to adopt such programs.

In addition to increasing funding for transportation alternatives, public subsidies that encourage driving by reducing the costs of vehicle use also need to be reduced. For example, parking subsidies total an estimated \$36 billion each year in the United States. In eight case studies, a California statute that requires certain employers to allow employees to receive a cash payment in lieu of parking subsidies reduced the number of miles commuters drove by 12%, increased their transit use by 50%, and increased their bicycling and walking by 39%.<sup>31</sup>

Healthier communities can also be promoted by reducing the adverse effects of roads and motor vehicles. Insensitively crafted and inflexibly applied highway- and street-design standards that focus on moving as many vehicles as

fast as possible can destroy the natural, scenic, and historic characteristics of a community, increase driving, and create hazards for pedestrians and bicyclists. Policy changes can promote more flexible, context-sensitive designs that respect the natural and built environment and are more supportive of bicycling and walking. Among the other policy changes that can create more pedestrian- and bicycle-friendly environments is to use traffic-calming measures—physical modifications in and along roadways, such as narrowing streets and raising crosswalks—to reduce vehicle speeds. Revising comprehensive plans and zoning ordinances to promote or require a network of interconnected streets (rather than a system of cul-de-sac streets) can provide greater accessibility to destinations, provide alternative routes for pedestrians and cyclists, and reduce trip length.

### **Providing Parks and Protecting Open Space**

A third set of policy approaches to promote healthier communities involves providing safe and accessible parks and recreation areas and protecting open space. Among their many benefits, playgrounds, parks, greenways, trails, and other recreation facilities encourage physical activity and enhance the quality of life in existing communities, thereby reducing pressure to develop natural and rural areas. A variety of facilities are needed to capture these benefits. Large, regional parks can protect and offer access to natural areas and provide a range of activities, but most people must drive to these facilities. Smaller neighborhood parks and connected greenways within walking distance of most residences are critical to help people integrate physical activity into their daily lives and improve the quality of life in communities. In addition to the benefits parks and recreation areas offer, open-space conservation can provide places for physical activity, contribute to cleaner air, and help preserve edges between developed and undeveloped areas to guide growth to existing communities and slow the sprawl.

Providing parks and protecting open space rely upon federal, state, and local funding decisions, including laws and policies that provide funding for reviving and revitalizing existing parks, building new recreational facilities, acquiring open space, or purchasing development rights. Florida’s land acquisition program, for example, has protected over 1 million acres since 1990. In 1998, voters decided to extend this program for 10 years, and the state legislature subsequently agreed to provide an average annual funding level of \$300 million to acquire, protect, and restore open space, urban recreation land, and greenways.<sup>32</sup>

In addition to public funding, one of the most effective tools for preserving open space is the conservation easement, a voluntary agreement between a landowner and a private nonprofit organization or government agency that limits certain uses of land. The terms of an easement can be tailored to a particular individual or property and can include protection of family farms, woodlands, wildlife habitat, and historic landscapes. The laws governing easement donation, receipt, and enforcement must be clear. Moreover, easements can be encouraged by federal, state,

and local incentives such as reduced income, estate, and property taxes on land protected by a conservation easement. Virginia, for example, has authorized state income tax credits for easement donation and has created further incentives for donation by allowing these credits to be sold or transferred.

## CONCLUSION

There are substantial opportunities to improve Americans' health by creating communities and transportation systems that promote physical activity and provide cleaner air. Although steps have been taken that begin to capture some of these opportunities, the progress that has been made is dwarfed by the alarming increase in sprawling development and driving rates.

Public support for healthier, more sustainable communities is growing, however, and there has also been a significant increase in efforts to craft solutions and strategies to promote healthier communities. These developments complement broader reform efforts to move toward smarter growth and more sustainable transportation.<sup>33</sup> Public-health professionals need to work with architects, landscape architects, planners and designers, public officials, environmentalists, pedestrian and bicycle advocates, developers, business leaders, and other interested groups and individuals to identify common interests and complementary strategies. Together, they must educate the public and decision makers about the costs of current trends and policies and advocate policy changes to create built environments that promote health by incorporating greater physical activity into our everyday lives and reducing motor vehicle use and pollution. The long-term policy changes necessary to promote healthier communities and lifestyles require such multidisciplinary partnerships.

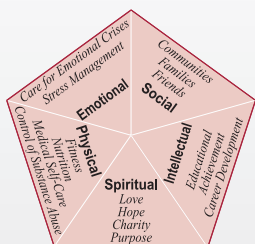
Policies that promote healthier communities must be adopted. Transforming public laws and policies is an enormous challenge, but the need for change is increasingly evident and increasingly urgent.

### References

1. US Department of Agriculture, Natural Resources Conservation Service. *National Resources Inventory 1997*. Washington, DC: US Dept of Agriculture; 2000.
2. Jackson RJ, Kochtitzky C. *Creating A Healthy Environment: The Impact of the Built Environment on Public Health*. Washington, DC: Sprawl Watch Clearinghouse; 2001.
3. Pate RR, Pratt M, Blair SN, et al. Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *JAMA*. 1995;273:402-407.
4. Mokdad AH, Serdula MK, Dietz WH, et al. The continuing epidemic of obesity in the United States. *JAMA*. 2000;284:1650-1651.
5. Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and trends in obesity among US adults, 1999-2000. *JAMA*. 2002;288:1723-1727.
6. Ogden CL, Flegal KM, Carroll MD, Johnson CL. Prevalence and trends in overweight among US children and adolescents, 1999-2000. *JAMA*. 2002;288:1728-1732.
7. Mokdad AH, Ford E, Bowman BA, et al. Diabetes trends in the United States, 1990 to 1998. *Diabetes Care*. 2000;23:1278-1283.
8. US Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, Ga: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, US Dept of Health and Human Services; 1996.
9. US Environmental Protection Agency. *Our Built and Natural Environments: A Technical Review of the Interactions Between Land Use, Transportation, and Environmental Quality*. Washington, DC: Development, Community, and Environmental Division, US Environmental Protection Agency; 2001.
10. Frank LD. Land use and transportation interaction: implications on public health and quality of life. *J Planning Educ Res*. 2000;20:6-22.
11. Office of Highway Policy Information. *Highway Statistics 2000*. Washington, DC: Federal Highway Administration, US Dept of Transportation; 2002.
12. US Department of Transportation, Bureau of Transportation Statistics. *National Transportation Statistics 2001*. Washington, DC: Bureau of Transportation Statistics, US Dept of Transportation; 2002.
13. American Lung Association. *State of the Air 2003*. American Lung Association; 2003.
14. Friedman MS, Powell KE, Hutwagner L, et al. Impact of changes in transportation and commuting behaviors during the 1996 Summer Olympic Games in Atlanta on air quality and childhood asthma. *JAMA*. 2001;285:897-905.
15. US Environmental Protection Agency. *Our Built and Natural Environments: A Technical Review of the Interactions Between Land Use, Transportation, and Environmental Quality*. Washington, DC: Development, Community, and Environmental Division, US Environmental Protection Agency; 2001.
16. 1000 Friends of Oregon. *Making the Connections: A Summary of the LU-TRAQ Project*. 1997.
17. Pollard OA. Smart growth and sustainable transportation: can we get there from here? *Fordham Urban Law J*. 2002;29:1529-1566.
18. Shoup DC. The trouble with minimum parking requirements. *Transportation Res Part A*. 1999;33:549-574.
19. Willson RW. Suburban parking requirements: a tacit policy for automobile use and sprawl. *J Am Planning Assoc*. 1995;61:29-42.
20. Litman T. *Transportation Market Distortions*. Victoria Transport Policy Institute; 1999.
21. MacKenzie JJ, Dower RC, Chen DDT. *The Going Rate: What it Really Costs to Drive*. World Resources Institute; 1992.
22. Surface Transportation Policy Project. *Changing Direction: Federal Transportation Spending in the 1990s*. Washington, DC; 2000.
23. Smart Growth Network. *Getting to Smart Growth: 100 Policies for Implementation*. 2002.
24. Southern Environmental Law Center and Environmental Law Institute. *Smart Growth in the Southeast: New Approaches to Guiding Development*. 1999.
25. City of Austin. Smart Growth Initiative. Available at: [www.ci.austin.tx.us/smartgrowth/tnd.htm](http://www.ci.austin.tx.us/smartgrowth/tnd.htm). Accessed May 25, 2003.
26. US Department of Commerce, US Census Bureau. *Census 2000 Summary File 3*. US Dept of Commerce; 2003.
27. Maryland Priority Funding Areas Act, Md Code Ann, State Fin & Proc, §5-7B-01 to §5-7B-10 (2001).
28. Surface Transportation Policy Project. *Ten Years of Progress: Building Better Communities Through Transportation*. Washington, DC; 2002.
29. Surface Transportation Policy Project. *Changing Direction: Federal Transportation Spending in the 1990s*. Washington, DC; 2000.
30. Surface Transportation Policy Project. *The 2002 Summary of Safe Route to School Programs*. Washington, DC; 2002.
31. Shoup D. Evaluating the effects of cashing out employer-paid parking: eight case studies. *Transport Policy*. 1997;4:201-216.
32. Carriker R. *Florida Forever: A Program for Conservation Land Acquisition*. University of Florida Cooperative Extension Service; 2002.
33. Pollard OA. Smart growth: the promise, politics, and potential pitfalls of emerging growth management strategies. *Va Environ Law J*. 2000;19:247-285.

# Health Promotion

A fusion of the best of science and the best of practice — together, to produce the greatest impact.



## DIMENSIONS OF OPTIMAL HEALTH

### Definition of Health Promotion

“Health Promotion is the science and art of helping people change their lifestyle to move toward a state of optimal health. Optimal health is defined as a balance of physical, emotional, social, spiritual and intellectual health. Lifestyle change can be facilitated through a combination of efforts to enhance awareness, change behavior and create environments that support good health practices. Of the three, supportive environments will probably have the greatest impact in producing lasting change.”

(O'Donnell, *American Journal of Health Promotion*, 1989, 3(3):5.)

“The *American Journal of Health Promotion* provides a forum for that rare commodity — *practical and intellectual exchange between researchers and practitioners.*”

**Kenneth E. Warner, PhD**

*Avedis Donabedian Distinguished University Professor of Public Health School of Public Health, University of Michigan*

“The contents of the *American Journal of Health Promotion* are *timely, relevant*, and most important, *written and reviewed by the most respected researchers in our field.*”

**David R. Anderson, PhD**

*Vice Programs and Technology, StayWell Health Management*

Stay on top of the science and art of health promotion with your own subscription to the *American Journal of Health Promotion.*

*Subscribe today...*

ANNUAL SUBSCRIPTION RATES: (Good through 12/31/05)

|                   | Individual | Institution |
|-------------------|------------|-------------|
| U.S.              | \$99.95    | \$144.85    |
| Canada and Mexico | \$108.95   | \$153.85    |
| Other Countries   | \$117.95   | \$162.95    |

CALL 800-783-9913 (U.S. ONLY) or 818-760-8520

OR FIND US ON THE WEB AT

<http://www.HealthPromotionJournal.com>

### Editor in Chief

Michael P. O'Donnell, PhD, MBA, MPH

### Associate Editors in Chief

Bradley J. Cardinal, PhD

Diane H. Morris, PhD, RD

Judy D. Sheeska, PhD, RD

Mark G. Wilson, HSD

### SECTION EDITORS

#### Interventions

##### Fitness

Barry A. Franklin, PhD

##### Medical Self-Care

Donald M. Vickery, MD

##### Nutrition

Karen Glanz, PhD, MPH

##### Smoking Control

Michael P. Eriksen, ScD

##### Weight Control

Kelly D. Brownell, PhD

##### Stress Management

Cary Cooper, CBE

##### Mind-Body Health

Kenneth R. Pelletier, PhD, MD (hc)

##### Social Health

Kenneth R. McLeroy, PhD

##### Spiritual Health

Larry S. Chapman, MPH

#### Strategies

##### Behavior Change

James F. Prochaska, PhD

##### Culture Change

Daniel Stokols, PhD

##### Health Policy

Kenneth E. Warner, PhD

#### Applications

##### Underserved Populations

Ronald L. Braithwaite, PhD

##### Health Promoting Community Design

Jo Anne L. Earp, ScD

#### Research

##### Data Base

David R. Anderson, PhD

##### Financial Analysis

Ron Z. Goetzel, PhD

##### Method, Issues, and Results in Evaluation and Research

Lawrence W. Green, DrPH

##### Qualitative Research

Marjorie MacDonald, BN, PhD

##### Measurement Issues

Shawna L. Mercer, MSc, PhD

### The Art of Health Promotion

Larry S. Chapman, MPH

