

**Minnesota Heart Disease and Stroke Prevention Initiative
Literature Review – October 2004
Environmental Setting: Land Planning & Transportation**

Pedestrian transportation a look forward.

References

Bloomberg, R., Jordan, G., Killingsworth, R., & Konheim, C. (n.d.) A3B04: Committee on Pedestrians. Chairman: Hershfang, A. WalkBoston.

Environmental Intervention and Policies

A primary mode of transportation for some people is walking. Although most people walk as part of their journey, they view themselves as drivers, passengers, or even cyclists and forget that walking has a part in their transportation. There is a need to make walking a safer and a more positive experience.

Since the beginning of the 20th century the reasons people walk has changed due to:

- Most people have more choices in transportation, other than walking, including:
 - personal automobile,
 - taxi,
 - transit, or
 - bicycle.
- Walking remains the most common form of exercise among adults (approximately 44%) in the United States.
- Most people travel to get to a destination, not just to exercise.
- There is a lack of safe and comfortable facilities for pedestrians due to:
 - design standards that do not specifically require sidewalks or walkways,
 - lack of funds to construct sidewalks,
 - indifference to or ignorance of the potential of walking, and
 - the perception of disinterest by the majority, making the investment not worthy.

Evaluation

Several positive developments have been identified by the *Committee on Pedestrians* regarding:

- design guidance,
- safety,
- land use, and
- fitness.

One example of street design and traffic management which has taken root in transportation engineering practice is traffic calming. This technique tailors streets to multimodal use and aims to slow traffic to a safer speed, minimizing risk both to pedestrians and motorists. It improves the quality of life on these streets that are “*calmed*”.

Key Findings

In several key areas, developments have been identified.

- Transportation policy in support of walking:
 - Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provided funding for pedestrian and bicycle accommodation;
 - expanded provision of ISTEA occurred with the passage of the Transportation Equity Act for the 21st Century;
 - a national bicycling and walking study was published in 1994 by the US Department of Transportation; and
 - Americans with Disabilities Act in 1990 led to changes in the physical environment for pedestrians, wheelchair users, and others with limited mobility.
- Need for improved pedestrian safety by:
 - creation of awareness of the problem in both official and public arenas, and
 - defining and filling the gaps in understanding of the problem and turning existing knowledge into countermeasure programs.
- Land use changes with recognition that land development patterns make it increasingly difficult to travel by walking.

Environmental and policy determinants of physical activity in the United States.

References

Brownson, R. C., Baker, E. A., Housemann, R. A., Brennan, L. K., & Backak, S. J. (2001, December) Environmental and policy determinants of physical activity in the United States. *American Journal of Public Health*. 91(12), 1995-2003.

Environmental Intervention and Policies

Physical environments are the least studied type of influence on physical activity (Salles, J.F. et al. 1997). In an attempt to add to the information base, a study conducted examined:

- descriptive patterns in perceived environmental and policy determinants of physical activity; and
- associations between these factors and behavior.

This cross-sectional study was conducted from 1999 to 2000 among U.S. adults. Individuals at lower income levels were over-sampled.

Evaluation

The collection of data was via a telephone survey and a modified version of the sampling plan of the *Behavioral Risk Factor Surveillance System* (BRFSS).

Key Findings

Results indicated:

- availability of areas for physical activity was generally higher among men than among women; and
- most commonly reported personal barriers were:
 - lack of time;
 - feeling too tired;
 - obtaining enough exercise at one's job; and
 - no motivation to exercise.

Additionally, a positive factor associated with physical activity was neighborhood characteristics including:

- presence of sidewalks,
- enjoyable scenery,
- heavy traffic, and
- hills.

A high level of support for health policy-related measures was evident. Individuals, up to a third, who used environmental supports, were reporting an increase in physical activity.

“An array of environmental and policy determinants, particularly those related to the physical environment, are associated with physical activity and should be taken into account in the design of interventions (American Journal of Public Health. (2001) 91, 1995-2003.)”

Residential environments and cardiovascular risk.

References

Diez Roux, A. V. (2003, December) Residential environments and cardiovascular risk. *Journal of Urban Health*. 80(4), 569-589.

Environmental Intervention and Policies

The relationship between residential environments and cardiovascular health is discussed in the article.

Evaluation

With the Department of Epidemiology and Center for Social Epidemiology and Population Health of the University of Michigan, the author summarizes empirical research relating residential environments to cardiovascular outcomes and risk factors.

Key Findings

Areas of research discussed included:

- neighborhood socio-economic characteristics and cardiovascular disease;
- the effects of residential environments on physical activity; and
- effects of residential environments on diet.

Lessons Learned

Key challenges, regarding residential environments and health, are:

- characterizing environments
 - definition and geographic scale, and
 - conceptualization and measurement of relevant features;
- limits of observational studies; and
- need to evaluate:
 - health impact of interventions, and
 - naturally occurring changes in local environments.

Also emphasized in the paper is the need for interdisciplinary work.

Creating or improving access to places for physical activity is strongly recommended to increase physical activity.

References

Division of Nutrition & Physical Activity, Centers for Disease Control and Prevention. (2002, December 26) Creating or improving access to places for physical activity is strongly recommended to increase physical activity. *The Guide to Community Preventive Services (Community Guide)* retrieved (n.d.) from www.thecommunityguide.org/pa/.

Additional referenced publications:

Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services. (2001, October 26) *Morbidity & Mortality Weekly Report/Recommendations and Reports*. A report on findings. 50(RR18).

A report on evidence and findings (2002) *American Journal of Preventive Medicine*. 22(4S), 73-102.

Environmental Intervention and Policies

“Regular physical activity is associated with a healthier, longer life. Physically active people have a lower risk of heart disease, high blood pressure, diabetes, obesity, and some types of cancer. Despite all the benefits of physical activity, most people in this country are sedentary. Given that regular physical activity helps people enjoy better health, an important question is: what strategies work best in helping people become more physically active?”

A systematic review of published studies, conducted on behalf of the Task Force on Community Preventive Services by a team of experts, found that people will become more physically active in response to the creation of or improved access to places for physical activity, combined with distribution of information. Based on this review, the Task Force issued a strong recommendation to implement such efforts.”

The following summarizes the background on the interventions:

- *“These interventions involve the efforts of worksites, coalitions, agencies, and communities in attempts to change the local environment to create opportunities for physical activity.*
- *Such changes include creating walking trails, building exercise facilities, or providing access to existing nearby facilities.*
- *Many of these programs also train participants to use the equipment and offer health behavior education, risk factor screening, referrals to physicians or additional services, health and fitness programs, and support or buddy systems.”*

Evaluation

“These multicomponent programs were evaluated as a “combined package” because it was not possible to separate out the effects of each individual component. “

Key Findings

The findings from the systematic review included:

- *“In all 10 studies reviewed, creating or enhancing access to places for physical activity was effective in getting people to exercise more.*
- *The median estimates from the reviewed studies suggest that creating or improving access to places for physical activity can result in a 25% increase in the percent of persons who exercise at least 3 times a week.*
- *Most of the studies also reported weight losses or decreases in body fat among program participants.*
- *These interventions were effective among both men and women and in various settings, including industrial plants, universities, federal agencies, and low-income communities. If appropriately adapted to the target populations, these interventions should be applicable to diverse settings and groups.”*

Community-wide campaigns are strongly recommended to promote physical activity.

References

Division of Nutrition & Physical Activity, Centers for Disease Control and Prevention. (2002, December 26) Community-wide campaigns are strongly recommended to promote physical activity. *The Guide to Community Preventive Services (Community Guide)* retrieved (n.d.) from www.thecommunityguide.org/pa/.

Additional referenced publications:

Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services. (2001, October 26) *Morbidity & Mortality Weekly Report/Recommendations and Reports*. A report on findings. 50(RR18).

A report on evidence and findings (2002) *American Journal of Preventive Medicine*. 22(4S), 73-102.

Environmental Intervention and Policies

“Regular physical activity is associated with a healthier, longer life. Physically active people have a lower risk of heart disease, high blood pressure, diabetes, obesity, and some types of cancer. Despite all the benefits of physical activity, most people in this country are sedentary. Given that regular physical activity helps people enjoy better health, an important question is: what strategies work best in helping people become more physically active?”

A systematic review of published studies, conducted on behalf of the Task Force on Community Preventive Services by a team of experts, found that community-wide campaigns are effective in getting people to be more physically active. Based on this review, the Task Force issued a strong recommendation to implement these efforts.”

The following summarizes the background on the interventions:

- *“These interventions were large-scale, intense, highly visible, community-wide campaigns with messages directed to large audiences through different types of media, including television, radio, newspapers, movie theaters, billboards, and mailings.*
- *Community-wide campaigns were typically conducted as part of a multicomponent effort that also included strategies such as support or self-help groups, physical activity counseling, risk factor screening and education, community health fairs and other community events, and environmental or policy changes such as the creation of walking trails.*
- *Interventions were evaluated as a “combined package” because the relative contributions of each individual component could not be assessed separately.”*

Key Findings

The findings from the systematic review included:

- *“In all 10 studies reviewed, community-wide campaigns were effective in increasing various measures of physical activity, including the percentage of people who are active, their estimated energy expenditure, and their activity levels.*

- *The median estimates from the reviewed studies suggest that community-wide campaigns can result in a 5% increase in the proportion of people who are physically active and a 16% increase in energy expenditure.*
- *Community-wide campaigns were effective in both rural and urban communities and among different ethnic and socio-economic groups.*
- *In addition to improving physical activity, community-wide campaigns may also improve the health of communities by developing or strengthening social networks and by improving community members' sense of cohesion and collective ability to bring about change."*

Point-of-decision prompts that encourage people to use the stairs are recommended to promote physical activity.

References

Division of Nutrition & Physical Activity, Centers for Disease Control and Prevention. (2002, September 5) Point-of-decision prompts that encourage people to use the stairs are recommended to promote physical activity. The Guide to Community Preventive Services (Community Guide) retrieved (n.d.) from www.thecommunityguide.org/pa/.

Additional referenced publications:

Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services. (2001, October 26) *Morbidity & Mortality Weekly Report/Recommendations and Reports*. A report on findings. 50(RR18).

A report on evidence and findings (2002) *American Journal of Preventive Medicine*. 22(4S), 73-102.

Environmental Intervention and Policies

“Regular physical activity is associated with a healthier, longer life. Physically active people have a lower risk of heart disease, high blood pressure, diabetes, obesity, and some types of cancer. Despite all the benefits of physical activity, most people in this country are sedentary. Given that regular physical activity helps people enjoy better health, an important question is: what strategies work best in helping people become more physically active?”

A systematic review of published studies, conducted on behalf of the Task Force on Community Preventive Services by a team of experts, found that point-of-decision prompts that encourage people to use the stairs instead of elevators or escalators are effective in getting people to be more physically active. Based on this review, the Task Force issued a recommendation to use point-of-decision prompts.”

The following summarizes the background on the interventions:

- *“Point-of-decision prompts are signs placed by elevators and escalators that encourage people to use nearby stairs for health benefits or weight loss.*
- *These signs tell people about a health benefit from taking the stairs and/or remind people who already want to be more active than an opportunity to do so is at hand.*
- *Interventions evaluated were single-component interventions, in which placement of signs was the only action taken.”*

Key Findings

The following summarizes the background on the interventions:

- *“In all six studies reviewed, more people used the stairs when these signs were posted.*
- *The median net estimates from the reviewed studies suggest that placement of point-of-decision prompts can increase stair use by 54%.*
- *This intervention was shown to be effective in a variety of settings including train, subway, and bus stations, shopping malls, and university libraries and in a variety of population subgroups including men and women, both obese and not obese.*

- *Findings from several of the studies suggest that tailoring the prompts to describe specific benefits or to appeal specific populations may increase the intervention's effectiveness. For example, in one study, obese people used the stairs more if the signs linked stair use to weight loss rather than to health benefits."*

Providing social support in community settings is strongly recommended to promote physical activity.

References

Division of Nutrition & Physical Activity, Centers for Disease Control and Prevention. (2002, December 26) Providing social support in community settings is strongly recommended to promote physical activity. The Guide to Community Preventive Services (Community Guide) retrieved (n.d.) from www.thecommunityguide.org/pa/.

Additional referenced publications:

Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services. (2001, October 26) *Morbidity & Mortality Weekly Report/Recommendations and Reports*. A report on findings. 50(RR18).

A report on evidence and findings (2002) *American Journal of Preventive Medicine*. 22(4S), 73-102.

Environmental Intervention and Policies

“Regular physical activity is associated with a healthier, longer life. Physically active people have a lower risk of heart disease, high blood pressure, diabetes, obesity, and some types of cancer. Despite all the benefits of physical activity, most people in this country are sedentary. Given that regular physical activity helps people enjoy better health, an important question is: what strategies work best in helping people become more physically active?”

A systematic review of published studies, conducted on behalf of the Task Force on Community Preventive Services by a team of experts, found that efforts made in community settings to provide social support for increasing physically activity are effective. Based on this review, the Task Force issued a strong recommendation to implement these efforts.”

The following summarizes the background on the interventions:

- *“These interventions focus on changing physical activity behavior through building, strengthening, and maintaining social networks that provide supportive relationships for behavior change (e.g., setting up a buddy system, making contracts with others to complete specified levels of physical activity, or setting up walking groups or other groups to provide friendship and support).*
- *Interventions included in the review involved either creating new social networks or working within existing networks in a social setting outside the family, such as in the workplace.”*

Key Findings

The findings from the systematic review included:

- *“In all 9 studies reviewed, social support interventions in community settings were effective in getting people to be more physically active, as measured by various indicators (e.g., blocks walked or flights of stairs climbed daily, frequency of attending exercise sessions, or minutes spent in physical activity).*

- *The median estimates from the reviewed studies suggest that social support interventions in community settings can result in a 44% increase in time spent being physically active and a 20% increase in the frequency of physical activity.*
- *These interventions also improved participants' fitness levels, lowered their percentage of body fat, increased their knowledge about exercise, and improved their confidence in their ability to exercise.*
- *These interventions were effective in various settings including communities, worksites, and universities, among men and women, adults of different ages, and both sedentary people and those who were already active."*

Mean Streets 2002.

References

Ernst, M. & McCann, B. (2002) Mean Streets 2002. A publication of the Surface Transportation Policy Project. Report is available through www.transact.org.

Environmental Intervention and Policies

This report focused on the fact that in 2001 nearly 5,000 Americans died while crossing the street, walking to school, or waiting at a bus stop and an estimated 78,000 pedestrians were injured. Data from the Fatality Accident Reporting System (FARS), maintained by the National Highway Traffic Safety Administration (NHTSA), was analyzed to determine where pedestrians are dying and why.

Evaluation

Collection on data for the report was obtained on the following:

- pedestrian fatalities through
 - NHTSA's Fatality Analysis Reporting System (FARS),
 - STPP created the "Pedestrian Danger Index";
- analysis of roads through
 - FARS; and
- safety spending through
 - Federal Highway Administration's Fiscal Management Information System (FMIS).

Key Findings

Recommendations for state and federal action included:

- match the level of funding to the level of the problem,
- create walk-friendly streets,
- give funding to those who own the roads,
- include a *Safe Routes to School Program* in TEA-3
- require better data collection,
- require better pedestrian performance measures, and
- prioritize access by foot.

Environmental, policy, and cultural factors related to physical activity in a diverse sample of women: The Women's Cardiovascular health network Project—summary and discussion.

References

Eyler, A. A., Matson-Koffman, D., Vest, J. R., Evenson, K. R., Sanderson, B., & Thompson, J. L. et al. (2000) Environmental, policy, and cultural factors related to physical activity in a diverse sample of women: The Women's Cardiovascular health network Project—summary and discussion. *Women & Health*. 36(2), 123-134. Abstract retrieved June 26, 2004 from PubMed database.

Noted affiliation:

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Environmental Intervention and Policies

The highest rates of cardiovascular disease and the lowest rates of leisure-time physical activity can be found in ethnic minority and low-income populations. Research that correlates to physical activity in these populations is an important aspect in health promotion in the United States.

Evaluation

The women's *Cardiovascular Health Network Project* conducted focus groups with White, African American, Latina, and American Indian women aged 20-50 years old to identify:

- environmental,
- policy, and
- cultural barriers to physical activity in women.

Focus groups were:

- audio taped,
- transcribed, and
- analyzed with QSR NUD*IST qualitative software

Barriers identified to physical activity for the women included:

- family priorities (found as a main barrier in all of the groups);
- having multiple roles as wife, mother, daughter, and as an active community member which left little time or energy for exercise;
- cultural barriers (varied amongst the groups) included:
 - acculturation issues,
 - lack of community support, and
 - lack of past experience with exercise.

Key Findings

Physical activity interventions suggested are:

- work programs,
- family-friendly programs,
- increased social support, and
- availability of safer places to exercise such as:
 - parks,
 - well-lit walking trails, and
 - recreation centers.

“Assessing and addressing the issues raised should be considered when planning physical activity-interventions for these populations.”

How land use and transportation systems impact public health: An annotated bibliography.

References

Frank, L. D., Engelke, P., & Hourigan, D. (n.d.) How land use and transportation systems impact public health: An annotated bibliography. Unpublished Active Community Environments working paper #2. City and Regional Planning Program, College of Architecture, Georgia Institute of Technology.

Environmental Intervention and Policies

A review of literature was conducted regarding effects of urban form and transportation system and the investments on physical activity including walking and bicycling. The synthesis of the literature will be used to guide development of future empirical research in the area.

Evaluation

Sources used were based on:

- reviews of sources providing initial materials,
- meta-searches using Galileo, and
- systematic review of sources suggested by practitioners in the field and researchers.

Key Findings

The document presents findings regarding:

- physical activity,
- urban form,
- urban design,
- calming schemes,
- barriers,
- pedestrian traffic and design,
- fitness and exercise,
- health promotion,
- active living,
- sedentary lifestyle, and
- traffic safety.

Additional Comments

An excellent resource, the document is in a concise format.

Environmental influences on eating and physical activity.

References

French, S. A., Story, M., & Jeffery, R. W. (2001). Environmental influences on eating and physical activity. *Annual Reviews Public Health*. 22, 309-335.

Environmental Intervention and Policies

An increase in overweight and obesity in the U.S. has been dramatic this past decade. It is clear and easily quantifiable. The two behaviors of eating and physical activity that affect body weight are harder to define, measure and study.

The article reviewed what is known about the environmental influences on physical activity and eating behaviors. These influences were identified as:

- eating-related influences
 - trends in the food supply and eating away from home;
 - food advertising, promotion, and education; and
 - food pricing.
- physical activity influences
 - physical activity trends;
 - availability of sedentary versus active leisure time activities;
 - advertising and promotion of automobiles and health clubs and fitness equipment;
 - pricing; and
 - interventions.

Evaluation

The literature in the review was selective rather than exhaustive in extent. A systematic exploration was done of scientific, government and industry sources. The search for information related to a list of keywords which were generated by a priority by the investigators. The keywords included:

- nutrition,
- eating out,
- restaurant use,
- television viewing,
- physical activity, etc.

Key Findings

A number of recent environmental changes have been identified through this document as possible contributors to the prevalence of obesity. These include:

- increases in the availability and marketing of food products, examples being “fast food” and other prepackaged convenience foods;
- increased time spent in sedentary forms of entertainment such as television (TV) and video cassette recorder (VCR) viewing and computer use; and
- changes in the dynamics of family life which is driven by increased affluence and social conditions, including dramatic increase in the proportion of women who work.

A recent environmental trend which has been favorable is the increased availability and use of facilities for physical fitness.

Lessons Learned

More research is needed in the area of environmental change. A range of issues which could be targeted include the following:

- community organization/action;
- financial and economic incentives;
- food assistance programs;
- food packaging and labeling;
- media and advertising;
- schools and worksites; and
- transportation and urban/rural development.

Public lands for the public's health.

References

Goodman, R. A. & Miller, M. L. (2003, March) Public lands for the public's health. *ELR News & Analysis*. Environmental Law Institute. 33, 10217-10223.

Environmental Intervention and Policies

The focus of the article is examining the role state parks can play in public health in the state of Georgia. Although this focuses on one state, it can provide a focus for analysis and deeper insights which could be used with other states.

Only recently there is more interest on the part of health advocates and park administrators to consider the role public parks might play in public health.

Key Findings

“Increased use of state parklands could contribute substantially to disease prevention and improve public health in the United States. State park policy should include as a goal optimizing natural resources to improve public health and welfare by creating facilities, such as trails and bike paths, and promoting their use.”

Suggested methods include:

- emphasizing the health benefits of state parks;
- including public health as a policy priority for state parks;
- including information through brochures, websites, and postings at trailheads about specific health benefits of using different park resources;
- marketing parks in relation to their health benefits; and
- encouraging additional health goals (i.e. discouraging tobacco use on park grounds).

Lessons Learned

Despite the opportunities that state parks present for improved public health, there are still numerous barriers to fulfilling this potential including:

- threats of rapid land development and adjacent commercialism; and
- financial pressures produced by decreasing budgets and legislative expectations of self-sufficiency limit parks' futures.

Additionally, consider the following:

- traditionally there have been barriers through traditional administrative divisions and institutions;
 - government agencies that manage state parks typically have little interaction with the government agencies that service human health; and
 - neither sector links public lands with the public's health.
- the connection between recreation and health is not always made with:
 - promotional and education literature of state parks, and
 - public attitude.

Engaging Community Development—pedestrian and bicycle corridor plan.

References

Hilliker, M. & Jacobson, D. (2003) Engaging Community Development—pedestrian and bicycle corridor plan. University of Wisconsin Extension, Center for Community Economic Development. *Profiles of Best Practices for the Northern EDGE* retrieved July 28, 2004 from <http://www.uwex.edu/ces/cced/oneida1.htm>.

Environmental Intervention and Policies

Lack of physical activity was identified as a priority health problem in the *Healthy People, Healthy Oneida County* needs assessment and community health plan. Also indicated in the plan is that tourists and seasonal residents are also seeking safe recreational routes for access to bicycling and walking when they travel to the northwoods.

The area of project impact included Oneida County and neighboring Vilas and Forest Counties in the state of Wisconsin. The population affected includes more than 37,000 residents with an additional number of over 300,000 seasonal visitors and seasonal residents.

An *Oneida County Pedestrian and Bicycle Corridor Plan* was developed in 2003 in order to guide the development of pedestrian and bicycle facilities in Oneida County as both a recreational opportunity and transportation alternative which functions as part of the county's overall transportation plan. The plan provides for the development of a comprehensive, safe and attractive bicycle and pedestrian network within the county. The plan also serves to encourage healthy recreational choices; the potential benefits of which include health and fitness, social, recreational, environmental and quality of life improvements.

Building trails also stimulates economic development by attracting new financial resources in the form of state, federal and private grants. In addition, the presence of a coordinated system of trails helps to make Oneida County a tourist destination, especially in off-seasons, bring in new tourism dollars. Increased tourism due to bicycling and walking trails may develop more adventure and eco-tourism businesses. Existing lodging, eating establishments and other tourist attractions would also benefit from increased tourism. In summary, this project potentially offers a myriad of community and economic benefits.

Evaluation

The *Oneida County Pedestrian and Bicycle Corridor* planning committee through their plan have:

- engaged organizations, government agencies, business interests and citizens in a planning process with the North Central Wisconsin Regional Planning Commission;
- worked side-by-side with the Rhinelander Pathways Project (a similar planning group for the City of Rhinelander);
- produced a proposed pedestrian and bicycle trail map for Oneida County;
- solicited input from local government officials;
- worked with community partners to plan a bike safety rodeo in Rhinelander;
- conducted public hearings on the proposed trails in Oneida County;

- conducted a “Building A Trail” workshop for local and county officials and other interested parties;
- established a nonprofit Oneida County Biking and Walking Trails Council; and
- begun to develop a segment of the primary corridor trail.

Key Findings

A public awareness campaign about the benefits of trails was launched through:

- media,
- advocacy, public presentations, and
- public hearings.

At the same time, efforts to plan for a coordinated system of trails has established new public and private collaborations and strengthened relationships between local, county and state governmental services. Oneida County passed a resolution in support of the bike plan.

Neighborhood environment, access to places for activity, and leisure-time physical activity in a diverse North Carolina population.

References

Huston, S. L., Evenson, K. R., Bors, P., & Gizlice, Z. (2003, September-October) Neighborhood environment, access to places for activity, and leisure-time physical activity in a diverse North Carolina population. *American Journal of Health Promotion*. 18(1), 58-69. Abstract retrieved June 26, 2004 from PubMed database, National Library of Medicine, <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>.

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Environmental Intervention and Policies

The setting for the study was in the North Carolina counties of Cabarrus, Henderson, Pitt, Robeson, Surry, and Wake. The targeted population was a population-based sample of 1,796 adults at least 18 years of age residing in the six counties.

Evaluation

The evaluation measure used included a 133-item questionnaire which assessed:

- self-reported leisure-time physical activity;
- perceptions of neighborhood characteristics
 - sidewalks,
 - trails,
 - heavy traffic,
 - streetlights,
 - unattended dogs, and
 - safety from crime; and
- general access to places for physical activity.

Factors positively associated with engaging in the recommended amount of leisure activity were:

- trails, and
- access to places for leisure activity.

Key Findings

“Certain neighborhood characteristics, particularly trails, and access to places for physical activity may be associated with leisure activity levels. In this study, perceived neighborhood environmental factors and access to places for physical activity were strongly associated with race, education and income.”

Increasing physical activity through community design: A guide for public health professionals.

References

Increasing physical activity through community design: A guide for public health professionals. (2002, May) *National Center for Bicycling and Walking*. Abstract available from www.bikewalk.org.

Environmental Intervention and Policies

Healthy communities include walking and bicycling as a normal part of daily life. “*The Centers for Disease Control and Prevention (CDC) call these kinds of places Active Community Environments (ACEs). They recognize providing for active living through community design is a health issue.*”

A guide was written to provide public health professionals, community leaders, local planners, transportation agency officials and citizens with information which focuses on health, physical activity and community design.

Results of research, impending trends, and comments from noted authors indicate that America is facing a national health crisis of epidemic proportions. Physical inactivity contributes to this state.

Key Findings

Illustrations are given on how to move from a vision to action within the community by looking at what “model” communities look like and how they are planned. Areas noted for consideration within the process of planning include:

- transportation facilities and services;
- land use planning and development;
- schools;
- recreation, parks and trails; and
- safety, security and crime prevention.

Lessons Learned

“Changing existing communities is a complex process involving many agencies, organizations, institutions and the public. A community’s infrastructure—streets, parks, schools, residential areas—takes years to develop. So we should expect it to take years to make large-scale adjustments. Think of each small change as part of a time-release treatment that eventually will provide people with widespread opportunities to be more physically active.”

Additional Comments

The guide provides an excellent resource for communities involved in changing the parameters to become *Active Community Environments*.

Creating a healthy environment: The impact of the built environment on public health.

References

Jackson, R. J. (n.d.) Creating a healthy environment: The impact of the built environment on public health. Sprawl Watch Clearinghouse Monograph Series. Centers for Disease Control and Prevention. 1-19.

Environmental Intervention and Policies

Policy development surrounding land use decisions in connection with public health decisions is the focus of the monograph.

Addressed are some of the land use decisions, how they affect health, and suggestions are offered on how public health professionals can collaborate with their colleagues in land use planning and urban design to help ensure the health and quality of life.

The focus of the monograph, regarding the application of public health criteria to land use and urban design decisions, is mainly on the following:

- relation of land use decisions to air quality and respiratory health;
- built environment (including all manmade physical components of human settlements such as buildings, streets, open spaces, and infrastructure) in terms of whether it promotes or discourages physical activity;
- impact of urban design on the number of pedestrian injuries and deaths, particularly among children;
- choices communities make about the built environment that improve mobility and the quality of life for their elderly and disabled residents; and
- ways that various land use decisions affect community water quality, sanitation, and the incidence of disease outbreaks.

Key Findings

Specific actions from the public health sector to address the issues are suggested as the following:

- support of research to determine the impact that changes in the built environment can have on public health (i.e. addition of greenspace, sidewalks, bike paths, and the reduction in impervious surfaces);
- participation in local planning processes (i.e. comprehensive planning meetings, zoning hearings and urban planning workshops); and
- work with planners and other land-use professionals to provide them with the strong public health arguments they need to support “smart-growth” designs and initiatives.

Increasing physical activity: A report on recommendations of the Task Force on Community Preventive Services.

References

Kahn, E. B., Ramsey, L. T., Heath, G. W., Howze, E. H. et al. (2001, October 26) Increasing physical activity – A report on recommendations of the task force on community preventive services. *Morbidity and Mortality Weekly Report*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. 50(RR-18), 1-16.

Environmental Intervention and Policies

Systematic reviews were conducted of community interventions to increase physical activity (PA). The interventions were targeted at groups of people rather than individuals.

Data base searches and bibliographic reviews yielded the following narrowed search:

- Deemed potentially relevant, were 6,238 titles.
- Following a review of the abstracts and consultation with PA specialists, 849 reports were retrieved.
- Retained for full review were 253.
- The task force strongly recommended or recommended six interventions.

The recommended interventions included:

- communitywide campaigns (strongly recommended)
 - Messages regarding PA behavior were promoted through television, radio, newspaper columns and inserts, and trailers in movie theatres.
 - Multi-component intervention was used including support and self-help groups, physical activity counseling, risk factor screening and education, community events, and creation of walking trails.
- point-of-decision prompts to encourage using stairs (recommended)
 - Motivational signs were placed close to elevators and escalators encouraging use of nearby stairs for health benefits or weight loss.
- individually adapted health behavior change programs (strongly recommended)
 - Designed to help participants incorporate PA into their daily routines by teaching behavioral skills. All interventions were delivered via: group settings, mail, telephone, or directed media.
- school-based physical education, PE (strongly recommended)
 - Modified curricula and policies to increase amount of moderate or vigorous activity. Amount of time, activity, type of activity were included in the intervention. Health education was also used with some of the interventions.
- social support interventions in community settings (strongly recommended)
 - Building, strengthening and maintaining social networks that provide supportive relationships for behavior change in the area of physical activity.
 - Interventions involved setting up a buddy system, contracting with another person to complete specified levels of physical activity or establishing walking groups or other groups to provide friendship and support.
- creation of access to places for PA combined with informational outreach activities (strongly recommended)

- Access was created or enhanced to places for PA by building trails or facilities or reducing barriers to such places. Worksite programs were also included.

Evaluation

The multidisciplinary team in conducting the review:

- developed an approach to organizing, grouping, and selecting interventions;
- systematically searched for and retrieved evidence;
- assessed the quality of and summarized the strength of the body of evidence of effectiveness;
- summarized information regarding other evidence, and
- identified and summarized research gaps.

“For physical activity, the development team focused on interventions to increase physical activity through informational, behavioral and social, environmental and policy approaches (p.3).” In making the recommendations, the studies were required to demonstrate improvements in physical activity behavior outcomes or increases in selected fitness measures.

Key Findings

Interventions selected should be well-matched to the local needs and capabilities and implemented carefully in order to increase physical activity. Evidence provided should be considered in combination with local information, including resource availability, administrative structures, and economic and social environments of organizations and practitioners.

Lessons Learned

According to Task Force findings, there was insufficient evidence on which to base recommendations for:

- classroom-based health education focused on information provision, behavioral skills, and social support interventions in family settings because of inconsistent findings;
- mass media campaigns, college-age physical education, and health education because of an insufficient number of studies; and
- classroom-based health education focusing on reducing television viewing and video game playing because of the lack of a demonstrated link between reduced time spent watching television or playing video games and increased physical activity.

Transport and health: en route to a healthier Australia?

References

Mason, C. (2000, March 6) Transport and health: en route to a healthier Australia? *The Medical Journal of Australia*. 172(5), 230-232. Abstract retrieved June 26, 2004 from PubMed database, National Library of Medicine, <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>

Environmental Intervention and Policies

According to the review, reliance on motor vehicle transport , apart from encouraging a sedentary lifestyle, has had a range of adverse health effects:

- traffic accidents,
- air and noise pollution, and
- greenhouse gas emissions.

Physical activity which is equivalent to 30 minutes (in total) of brisk walking during most days of the week provides preventive and protective benefits for a wide range of health conditions including:

- cardiovascular disease,
- diabetes,
- depression, and
- osteoporosis.

Key Findings

Dual health benefits could be realized by using “active transport”, walking, cycling and/or using public transport instead of car travel. The health benefits are defined as:

- providing physical activity, and
- reducing the adverse health effects of motor vehicle transport.

Additional Comments

In the past there has been slow recognition of the impact that decisions about transport, land use and infrastructure have on health. There is an opportunity for doctors, medical administrators and health advocates to encourage the use of “active transport”, and also influence community-based programs and policy development around land use planning and travel demand management.

Regional differences in cardiovascular mortality in Minnesota.

References

Morrison, J., Garry, V., Harkins, M. E., Cohen, M., & Palermo, J. (2000, April) Regional differences in cardiovascular mortality in Minnesota. *Minnesota Medicine*. 83(4), 41-46. Abstract retrieved June 26, 2004 from PubMed database, National Library of Medicine, <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>.

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Environmental Intervention and Policies

The leading cause of death in the United States is cardiovascular disease. A health survey was conducted in the Red River Valley of Minnesota in which initial results suggested elevated cardiovascular mortality in men and women in younger age groups in the region studied as compared with the remainder of the state.

Evaluation

This study contributed to a comparison of earlier longitudinal studies of cardiovascular mortality in Minnesota. Those studies revealed increased cardiovascular mortality in counties west of a diagonal line drawn through the tip of the Northeast section of Minnesota (Arrowhead region) to the southwest corner of the state.

Included in this study was an examination of cardiovascular mortality by geographic region with respect to:

- economic factors,
- residence patterns,
- ethnic group, and
- environmental factors.

Key Findings

Present data revealed:

- *“significant elevation in cardiovascular mortality from 1987-1997 in men and women aged 25-59 in northwest and northeast Minnesota counties compared with central-metro counties;*
- *increase in cardiovascular deaths from myocardial infarct in the younger groups in the more rural, less affluent areas of northwest Minnesota is nearly two times higher than in central-metro counties;*
- *genetic factors may play a role in the increased mortality recorded for northeast Minnesota; and*
- *environmental contaminants such as pesticides are additional considerations.”*

Lessons Learned

Data presented through the study, suggest the need to address long-standing regional cardiovascular mortality differences and rural health care access in Minnesota.

Bicycle and pedestrian data: Sources, needs & gaps.

References

Schwartz, W. & Porter, C. (2002) Bicycle and pedestrian data: Sources, needs & gaps. U.S. Department of Transportation. *Bureau of Transportation Statistics*. 1-77.

Environmental Intervention and Policies

“Research, planning, and policymaking efforts to improve conditions for pedestrian and bicycle travel require data such as travel and facility characteristics, crash and safety information, and user preferences (p.1).”

An initial step to enhance bicycle and pedestrian data quality and to fill the data gaps was initiated by the *Bureau of Transportation Statistics* (BTS) in an assessment of bicycle and pedestrian data needs. The following objectives of this study included:

- provide an inventory of existing sources of bicycle and pedestrian-related data;
- identify and prioritize areas in which additional or improved data was needed; and
- identify and recommend opportunities for improving the quality of bicycle and pedestrian data.

Priorities for data needs were identified based on the review and the following criteria:

- importance of the data;
- quality of the existing data; and
- usefulness of the data for a range of applications, audiences and geographic scales of local state, and national.

Evaluation

The study approach included methods that identified existing sources of bicycle and pedestrian data, data needs and priorities, and opportunities for improving data collection through:

- interviews and discussions with key people;
- email questionnaire sent to numerous individuals and groups;
- written sources of information, published and unpublished; and
- experience gained from previous pedestrian and bicycle projects.

Potential sources of information identified:

- data sources for usage, trip, and user characteristics through:
 - counts of bicyclists or pedestrians
 - U.S. decennial census
 - metropolitan household travel surveys,
 - Nationwide Personal Travel Survey (NPTS),
 - other surveys conducted sporadically at a national level, and
 - various local surveys and market studies.
- data on preferences, needs, and attitudes with:
 - attitudinal surveys such as the National Adult Bicyclist Survey (Moritz 1997), the 1999 National Highway Traffic Safety Administration (NHTSA) survey on Public Beliefs, opinion polls; and
 - choice or demand models

- data on bicycle and pedestrian facilities with:
 - U.S. Census Bureau's Topologically Integrated Geographic Encoding and Reference (TIGER) files,
 - National Transportation Atlas,
 - the Rails-to-Trails Conservancy's recreational trails database,
 - state road databases, and
 - local road information.
- pedestrian and bicycle crash and safety data with:
 - national crash and incident databases,
 - national mortality and injury databases,
 - state crash databases, and
 - police accident reports.
- secondary data

Key Findings

General cross-cutting recommendations are to:

- bring together the full range of users of bicycle and pedestrian data to discuss how specific data collection efforts could benefit the broadest number of users;
- include in this discussion the people who collect data for all types of transportation; and
- recognize opportunities for improving the data with a combined view with current opportunities and constraints for improving related types of general transportation data.

Additional Comments

“Information on existing conditions and trends in usage, crash rates, and facilities can provide important background for setting policy and for making funding and programmatic decisions. These data can help identify whether existing policies and programs are successful and whether additional or revised policies and programs are needed (p.11).”

Active living through community design.

References

William Torres, G., Pittman, M., Hollander, M., Kraft, M. K., & Henry, E. (2001, February) Active living through community design. A white paper prepared for The Robert Wood Johnson Foundation.

Additional reference:

Duhl, L. J. & Sanchez, A. K. (1999) Healthy cities and the city planning process: A background document on links between health and urban planning. Copenhagen: WHO Regional Office for Europe.

Environmental Intervention and Policies

The paper is aimed to outline environmental implications for physical activity and the crosscutting and complementary intersection of quality of life movements. The opportunity for collaboration is presented by:

- summarizing current knowledge on the environmental implications for physical activity;
- providing a preliminary framework for understanding the intersections of quality of life movements and important issues for active living;
- recognizing how initiatives and practices might be leveraged to achieve the complementary goals of each of the quality of life movements; and
- presenting the importance of stimulating dialogue among key players on the:
 - form and nature of collaboration, and
 - intended and unintended consequences of community design on physical activity.

Key Findings

According to Duhl and Sanchez, there are four important questions that should be addressed to ensure healthy community planning:

1. What are the potential unintended consequences of planning efforts”
2. Are planning efforts addressing the symptoms of the problem or the root causes?
3. Are planning efforts working on behalf of healthy public policy? A system must be in place that enforces checks and balances between policymakers, policies, and plans.
4. What are the direct and indirect effects of planning decisions? How will these decisions affect the physical, social, political, and economic environments?