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Planning and Public Health Reunited: New Opportunities for Collaboration

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[Health is] " ... a state of complete physical, mental, and social being and not merely the absence of disease or infirmity."

—World Health Organization

When asked to describe the significant factors that affect their health — either positively or negatively — most people would list their family medical history (i.e., genetics), their diet, or their level of fitness. For most people, tackling a particular health problem means seeking a medical diagnosis from a doctor and following his or her orders or recommendations on prescription drugs, surgery, physical therapy, and lifestyle changes (e.g., quit smoking, cut back on high cholesterol foods, find time for exercise). In the medical profession, this approach to health is regarded as the "medical model," which holds that an underlying disease or condition is organic and that treatment should be conducted by physicians.

In contrast, the "social model" of health considers a person's health as an outcome of the effects of all the factors affecting his or her life, including the built environment, the natural environment, living conditions, and overall community conditions.

In practice, public health is organized within the framework of the two models. As discussed in this issue of the *PAS Memo*, the emphasis is turning toward the social model as health practitioners have grown to recognize the limited effectiveness that years and years of encouraging individuals to modify their nutritional and exercise behaviors has had on improving public health. Further, new research and ongoing research continue to reveal the wide spectrum of health problems and diseases that are related to the built environment, including obesity, cardiovascular disease, asthma, and water-borne diseases (see Table 1 below).

While recent collaborative initiatives between urban planning and public health may make such partnerships seem novel, the fact is that urban planning as a profession emerged out of 19th century public health initiatives, including tenement housing reforms, the construction of urban water supply and sewerage systems, and the design of suburban "greenbelt" towns. To look at current roles and responsibilities of planning and public health practice professionals today, however, it is clear that the respective missions of the two disciplines have widely diverged in the last century.

In addressing the relationships, health professionals have grouped the causes and effects as follows:

| Table 1. Relationship of Built Environment to Health | |
|---|---|
| Issues Related to Land Use | <ul style="list-style-type: none"> ● Obesity, cardiovascular disease, asthma ● Water quality |
| Related to Autodependency | <ul style="list-style-type: none"> ● Air pollution ● Asthma ● Car crashes ● Pedestrian injuries |
| Related to Social Processes | <ul style="list-style-type: none"> ● Mental health issues ● Social capital |

The Obesity and Overweight Epidemic

The problem of obesity and overweight is serious and continues to worsen in the U.S. The precise causes of obesity are complex and numerous. They include eating habits (e.g., overreliance on low-cost, high-fat fast foods and drinks), a sedentary lifestyle, and community design, which factors into an individual's decision — or option — to walk, bike, use transit, or drive to daily destinations. According to the Department of Health and Human Services, just 32 to 38 percent of adults meet the currently physical activity recommendations of 30 minutes of moderate-intensity activity on most or all days of the week (HHS 1999; 19). While most direct costs of the epidemic are of course borne by the individual, there are societal costs associated with the problem, ranging from lost worker productivity to higher health care costs. It is both the individual and collective costs that have propelled the issue into the public policy spotlight.

Studies by the National Institutes of Health, the Center on an Aging Society at Georgetown University, and the Centers for Disease Control and Prevention have documented a dramatic rise in the obesity rate in the last decade, from 12 percent to 20 percent of all adults. The trend is even worse among children; 13 percent of children and adolescents are now overweight or obese, which represents more than a doubling in the last 30 years. Further, the problem is even greater among African Americans and the Hispanic population, wherein 30 percent and 23 percent of adults respectively are overweight or obese and 20 percent of children in both groups are overweight or obese (Hanzlick 1999). (See the sidebar below that defines obesity and overweight and shows the formula used to calculate Body Mass Index.)

The fundamental assertion regarding the role of the built environment in contributing to the obesity epidemic is that through urban sprawl, auto-dependency, and low-density development, we have simply engineered out any opportunity for people to be active or get exercise as part of their daily routine. Interdisciplinary research by planning and public health disciplines has begun to document how community design and transportation systems can influence a person's decision whether to drive, take public transportation, walk, or bicycle to daily destinations. In particular, researchers have found that close proximity between home, work, and school and good street connectivity between home, work, school, and other daily destinations are the two key factors that influence travel behavior.

For example, people who live in city centers, with close proximity to public transportation, and within walking distance of a drugstore or grocery store, are more likely to commute to work on foot or on a bicycle. Further, it has been shown that people who live in neighborhoods with a gridded street network are more likely to walk or bicycle to their daily destination and tend to take more trips overall on foot than do people living in non-grid street.

Given such findings, it is arguable that communities that pursue smart growth (e.g., connected streets, higher density, transportation choices) can influence the public's ability to incorporate the recommended amount of physical activity into their daily routine.

Other Health Problems Linked to Land Use and Sprawl

A lot of focus has been placed on the relationship between physical activity and the built environment, but there are numerous other health factors that are directly influenced by the built environment. Several examples follow.

Stormwater runoff — which is directly affected by the amount of land covered by impervious surfaces — contains several pollutants that are harmful to humans including disease-causing bacteria, viruses, and protozoa. Further, the impervious surfaces over which stormwater flows and collects pollutants also contribute to increased flooding, erosion, habitat degradation, and water quality impairment.

In urbanized areas, runoff pollution is a serious concern for water supply agencies. More than 90 percent of Americans rely on public supplies of drinking water. Of that 90 percent, 19 percent are served by systems with reported health violations (NRDC 1999). A nationwide survey of surface drinking water supply utilities found that with an increase in urbanization there arose an increased concern among managers over runoff pollutants, particularly nutrients, bacteria, and toxic organic chemicals.

Since 2002, when the West Nile virus became a serious public health problem in the U.S., public health officials have had to address the public's concerns about standing water in stormwater management ponds and the potential threat of it becoming a breeding ground for mosquitoes carrying the virus. Public health analysts who have conducted preliminary research to see if such ponds contribute to the spread of the virus have tentatively concluded that they do not pose a threat if properly designed. Proper design requires aeration of the water, the

regular addition of fresh water, and quick movement of water through the pond, with no water held stagnant for any period of time.

Stormwater management and sewer and septic system management are issues on which planners and public health professionals are long accustomed to working together. Public health officials are often part in the loop of agents who review and sign off on the sewer, septic, and stormwater elements in a preliminary and final subdivision plat.

Housing supply and quality also have direct impacts on health. The San Francisco public health department has documented how inadequate or unaffordable housing in the city has forced many low-income and minority residents into crowded and substandard living conditions. Inadequate housing compromises residents' physical and mental health, causing stress, and places stress on them to work multiple jobs.

Respiratory health is also directly affected by the built environment, predominantly by ozone levels, which rise and fall with the number of vehicle miles traveled in a region. The 1996 Atlanta Olympics provided a rare opportunity to track the effect of a sharp reduction in vehicle emissions in a prescribed period of time. Because of concerns about traffic congestion, safety, and the general inconvenience of living in an Olympic host city, many Atlantans chose to use public transportation, work from home, or otherwise reduce the amount of driving they did while the games were being held. As a result, peak morning traffic decreased by 23 percent and peak ozone levels dropped by 28 percent. As reported in the *Journal of the American Medical Association*, the result was a 42 percent drop in the number of asthma-related emergency room visits by children. (Children's emergency visits for non-asthma causes did not change during same period (Friedman 2001).)

Finally the safety of pedestrians and motorists is also affected by the design of the built environment. Research has shown that the most dangerous stretches of road are those built in manner that typifies sprawl: multiple lanes, high speeds, with no sidewalks, long distances between intersections or crosswalks, and lined with commercial establishments and apartments (Hanzlick 1999).

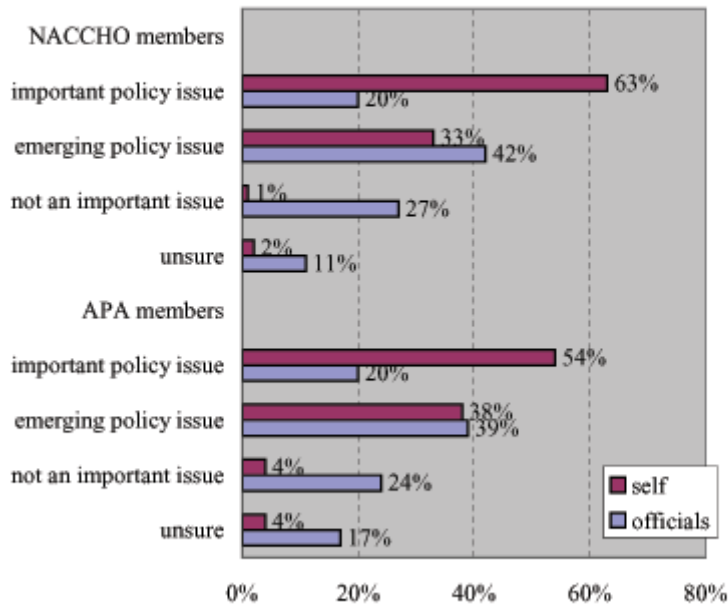
Since 2002, APA has been working with the National Association of County and City Health Officials and the Robert Wood Johnson Foundation to study and disseminate ideas and examples of how planners and public health advocates and professionals can collaborate on shared objectives of creating healthy, sustainable communities and enhancing quality of life. In Spring 2004, APA conducted a survey of approximately 350 planners and 350 public health practitioners to discern the state of current practice in planning and public health collaboration. Each respondent group was asked the same questions.

Selected Survey Results

LEADERSHIP

Inasmuch as new public policy at the local level derives from how the mayor, the city council, or other officials react to specific events, trends, or new information, it is clear that some local officials have taken notice of the connections between planning, land use, and public health. Further, both planners and public health professionals have a very similar sense of how the officials in their jurisdiction feel about this issue. Both public health professionals (NACCHO members) and practicing planners (APA members) indicated that 20 percent of officials in their jurisdiction see the planning/public health connection as an important issue, 39 percent and 39 percent respectively said it was an emerging policy issue for their officials, and 24 and 27 percent said it was not an important issue for their officials

**Feelings About
Planning-Public Health Connection**
self vs. elected/appointed officials



base: jurisdiction employees (368 NACCHO members, 355 APA members)

(Figure 2, Feelings About Planning-Public Health Connection).

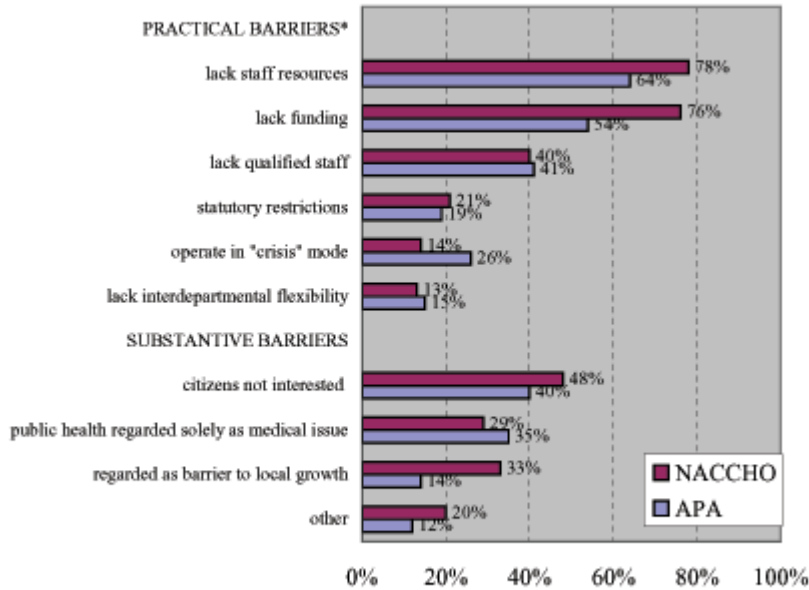
Despite the respondents' indication that this topic is of modest interest to local officials, 73 percent of both respondent groups combined indicated that there are elected officials or other persons in a leadership role in their jurisdiction that could initiate collaborative efforts between the planning function and public health function. However, considerably more public health respondents (79 percent) than planner respondents (66 percent) indicated that this was the case.

The survey respondents themselves felt much stronger about the public health/planning connection than they perceived local officials to be, although the responses from the two professions varied considerably. Sixty-three percent of public health professionals and 54 percent of planners indicated that this is an important issue to them; 33 percent of public health professionals and 38 percent of planners said it was an emerging issue. Very few from either profession said it was not an important issue (one percent and four percent respectively).

BARRIERS TO COLLABORATION

We asked planners and public health professionals about the practical and substantive barriers they face, or could face, if they were to collaborate with one another. The results show that public health professionals perceive or, in fact, experience greater practical barriers to collaborating with other agencies in their jurisdiction than do planners. The biggest barrier from the standpoint of public health (78 percent) was that agencies lack staff resources to expand their focus to include planning. Further, 76 percent indicated that lack of funding to expand the agency's focus was a practical barrier. On the planning side, 64 percent said lack of staff resources was the biggest barrier and 54 percent said a lack of funding. To the same degree (i.e., 41 percent for public health and 40 percent for planning) both fields indicated that their staff is not qualified to address issues in the other field.

Barriers to Collaboration



base: jurisdiction employees (368 NACCHO members, 355 APA members) (multiple answers)
*top mentions

(See Figure 3 Barriers to Collaboration.)

Looking at potential substantive barriers, the difficulty getting the public to take an interest in public health issues, except in the case of emergencies (e.g., natural disaster, disease outbreak) was the top answer (48 percent for public health; 40 percent for planners). For planners, 35 percent said that the fact that public health is regarded as a medical issue, not a concern for planners, is a barrier. And from the public health respondents, 33 percent said that health safeguards and regulations (e.g., septic system standards, water quality standards) are regarded by the public and local officials at times as barriers to local growth and development. The result of such a view is that public health's interest in broadening its involvement in land-use issues can be perceived as a hindrance to growth.

These findings echo feedback that APA and NACCHO heard from planners and public health professionals in numerous focus groups and workshops that have been conducted in the last two years. With respect to institutional or practical barriers, several common themes have emerged. For example, we have often heard that as each agency works to fulfill its core functions under tight budget constraints, a "silo" effect arises wherein each department is focuses almost solely on its own mission, often without knowledge or in-depth understanding of the functions performed or the services provided by other departments located right down the hall. In many cases this happens because, as health officials have commented in these session, their departments can perform only the functions they are statutorily mandated to do. With public health lacking discretionary funds or staff resources to devote to special projects or new initiatives, inter-department collaboration becomes difficult if not impossible.

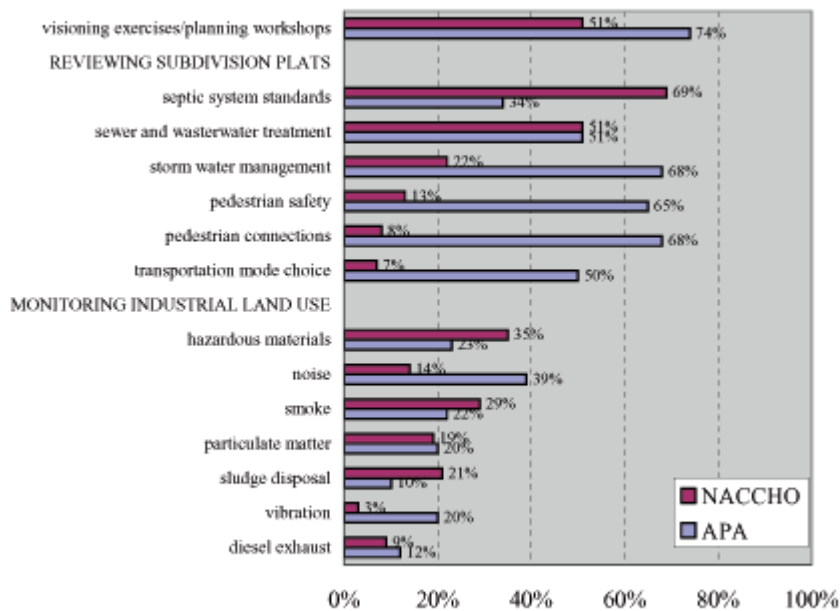
Another issue regarding barriers that has been discussed in workshops but not addressed in this survey is this: The truly coordinated approach needed to tackle issues related to health and the built environment is often a struggle within a local planning context itself. A public health professional looking at planning from the outside may be surprised to learn that many decisions regarding transportation planning and investment are made outside of or separate from the land-use planning process. Many solutions to make neighborhoods safer, such as instituting traffic calming measures, require the buy-in by the public works office, which may not have participated in the planning process and thus may not regard such techniques as smart or sensible or timely.

INTERAGENCY ACTIVITIES

Respondents were asked a series of questions about the engagement of their respective departments in a variety of activities for which there is a significant shared interest or potential for collaborative activities. These activities include visioning exercises and planning workshops, monitoring sewer and septic standards by reviewing subdivision plats, and monitoring industrial land uses. Results for each profession (shown in Figure 4, Department

Engagement in Activities) indicate significant differences in department involvement on most areas on which they were queried. The area where both departments were equally engaged was sewer and waste water treatment (51 percent of both APA and NACCHO members indicated that they were involved in this). Regarding regulating septic systems, 69 percent of health respondents said they were engaged, and 34 percent of planners indicated that they were engaged in such actions. The biggest discrepancies were in pedestrian safety (13 percent of health professionals versus 65 percent of planners), improving pedestrian routes and connections (8 percent of health professionals versus 68 percent of planners), and increasing transportation mode choices (7 percent of health professionals and 50 percent of planners).

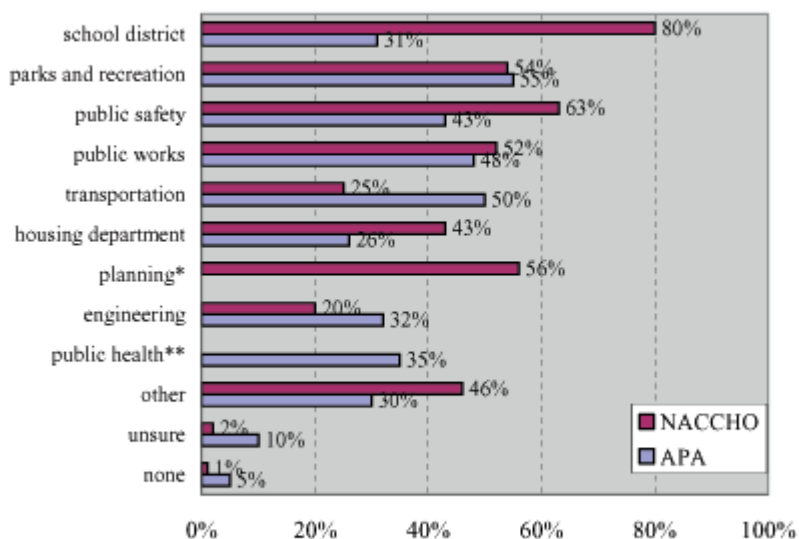
Department Engagement in Activities



base: jurisdiction employees (368 NACCHO members, 355 APA members) (multiple answers)

We also asked which of nine local government agencies each department had cooperated or collaborated with in some fashion in the last five years (See Figure 5, Interagency Cooperation). For public health officials, 80 percent indicated they had worked with local school districts, 63 percent said they had worked with the public safety department, and 56 percent said they had worked with the planning department. Planners overall indicated fewer collaborative activities with other local agencies. Fifty-five percent said they had worked with the parks and recreation department, 48 percent said the public works department, and 35 percent said they had worked with the public health department.

Interagency Cooperation in the past 5 years



base: jurisdiction employees (368 NACCHO members, 355 APA members) (multiple answers)

*not asked of APA members

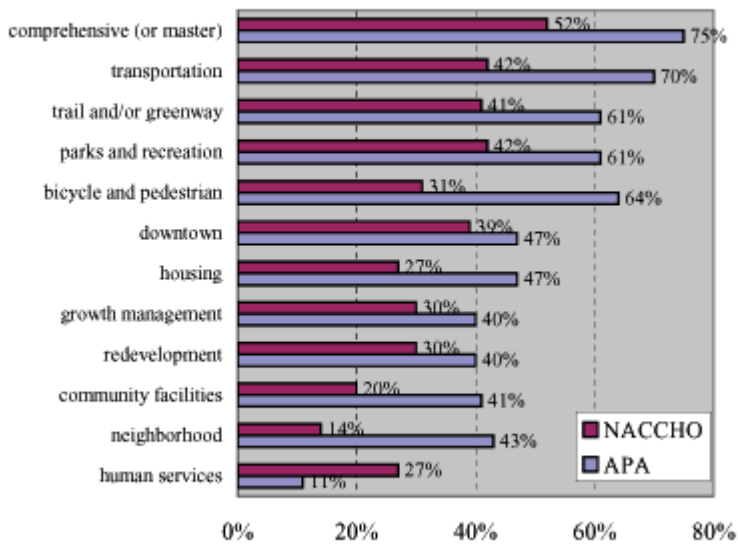
**not asked of NACCHO members

JURISDICTION ACTIVITIES AND PLANS

A key objective of the work APA and NACCHO are doing is to raise awareness in both fields about shared objectives of the two disciplines and to encourage each field to share their knowledge and expertise. Perhaps most important for planners, working in partnership with health on land use and community design issues can help leverage support for existing programs. For example, much of the work that planners have done to implement smart growth — creating walkable communities, increasing transportation choices, facilitating more compact development, and preserving open space — are in synch with health goals to increase the amount of physical activity Americans do and thus reduce or at least slow the rate of obesity among adults and children. As smart growth efforts have grown increasingly politicized in the last decade, bringing health to the table adds a new, strong, credible voice to what communities have been working to implement.

An important step in this process is to formally and explicitly incorporate health goals and data into local plans. In the survey, both planning and public health officials were asked which of 12 plan types their jurisdictions had prepared or updated in the last five years. Not surprisingly planner respondents had greater familiarity with the status of various plans. This suggests that, at least in some jurisdictions, a lot of what planners do is going unnoticed (see Figure 6, Plans Prepared in the Last 5 Years).

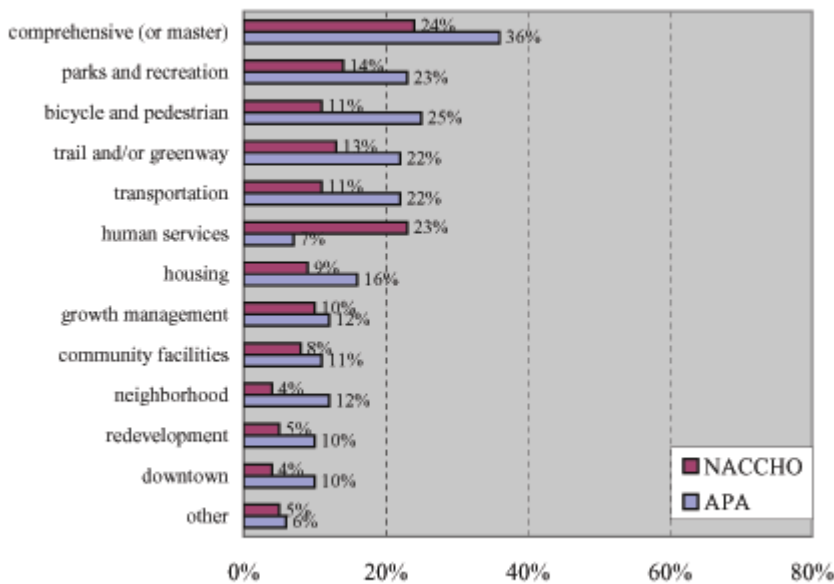
Plans Prepared/Updated in last 5 years



base: jurisdiction employees (368 NACCHO members, 355 APA members) (multiple answers)

Both groups were also asked which of the 12 plans explicitly address health. Not surprisingly, the results show that only a small percentage of communities have incorporated health goals in any of the plans. The highest occurrence was in comprehensive plans, where 36 percent of planners and 24 percent of public health officials indicated that their jurisdiction's comprehensive plan explicitly addressed health (see Figure 7, Plans Explicitly Addressing Health.)

Plans Explicitly Addressing Public Health

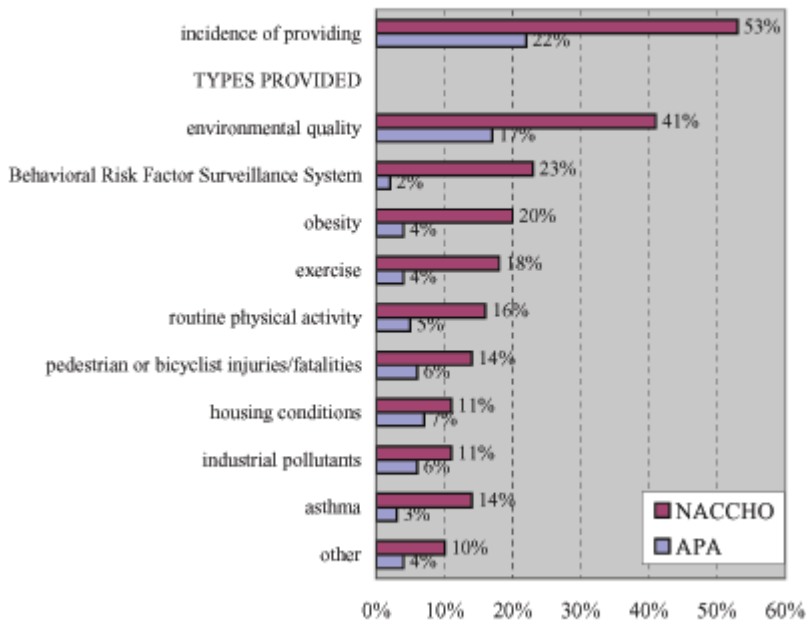


base: jurisdiction employees (368 NACCHO members, 355 APA members) (multiple answers)

Finally, we also asked both set of respondents if their jurisdictions' public health departments provided the planning department with health and environmental data as part of their planning process. Fifty-three percent of public health respondents indicated that they had provided such data, however, just 22 percent of responding planners indicated that their department had been provided with such data. The types of health and

environmental data provided are show in Figure 8 (Health and Environmental Data Provided). The most commonly provided data — according to 41 percent of public health respondents — were on environmental quality (e.g., air and water quality).

Health and Environmental Data Provided
from public health department to planning department



base: jurisdiction employees (368 NACCHO members, 355 APA members) (multiple answers)

Fitting Health into the Planning Process

Looking ahead to the day when health is broadly and routinely considered in the planning process, Figure 9 provides a basic framework for the roles of public health professionals and stakeholders at each stage of a typical planning process.

Figure 9. Public Health in the Planning Process

This table describes five common steps in the preparation and adoption of a local comprehensive plan. The right hand column lists strategies and actions that a public health stakeholders should consider undertaking in the comprehensive planning process to ensure that health considerations are taken into account. Though this model describes the comprehensive planning process, the strategies and actions that public health may undertake are transferable to other plan preparation processes, such as a bicycle, pedestrian, and trails plan, an environmental protection plan.

| Step 1: Visioning and Goal Setting | |
|---|--|
| Comprehensive Plan Action | Public Health Agency Role |
| <ul style="list-style-type: none"> Engage the public and stakeholders; discuss community goals and values Refine and articulate a vision for the future. Set goals and priorities. Establish plan scope | <ul style="list-style-type: none"> Attend, initiate, or facilitate visioning sessions Familiarize public health staff with planning process and potential roles for health Educate planners on role of public health in planning Recommend inclusion of a Health Element and/or health goals in the plan Chair or participate in plan committees, work groups |
| Step 2: Data Collection, Needs Assessment | |
| Comprehensive Plan Action | Public Health Agency Role |
| <ul style="list-style-type: none"> Collect data, track trends, conduct capacity studies, etc. Survey the public, hold forums and hearings. Use GIS to map needs. Analyze needs and address how to meet them. | <ul style="list-style-type: none"> Provide health data and statistics to planners, stakeholders and decision-makers Attend planning and zoning meetings. Disseminate information to the public, including "real life" stories. Introduce Health Impact Assessment (HIA) options, e.g., walkability audit |
| Step 3: Drafting the Plan | |
| Comprehensive Plan Action | Public Health Agency Role |
| <ul style="list-style-type: none"> Use technical data and community input to form plan policies that meet established goals. Develop alternative growth scenarios Develop implementation strategies, reflecting costs and potential funding sources. | <ul style="list-style-type: none"> Continue participation in the plan preparation process; comment on health concerns Provide decision-makers with model or sample functional plans (i.e., pedestrian plan, housing plan) that address health Encourage citizens to use comment time |

| | |
|---|--|
| <ul style="list-style-type: none"> • Make plan available for public comment. <p>Hold hearings on final draft plan, formal adoption by governing body.</p> | <ul style="list-style-type: none"> • to address health concerns. • Attend planning and zoning meetings. • Elect public health officials to decision-making boards. |
| Step 4: Adoption and Implementation | |
| Comprehensive Plan Action | Public Health Agency Role |
| <ul style="list-style-type: none"> • Plan goes to legislative body for adoption. • Plan serves as a guide to future land-use decisions. • Additional functional plans are prepared (i.e. pedestrian plans). • Plan is implemented through schedule set forth in the plan. | <ul style="list-style-type: none"> • Be an advocate for adoption of the plan if it meets health goals. • Take responsibility for implementation of health goals, or work to keep them as a priority • Review development proposals for health aspects • Attend public planning and zoning meetings |
| Step 5: Revise Development Regulations and Evaluate Plan Performance | |
| Comprehensive Plan Action | Public Health Agency Role |
| <ul style="list-style-type: none"> • Revise zoning and subdivision regulations to be consistent with the new plan • Support rezoning initiatives when applicable. <p>Schedule public investments, e.g., streetscape improvements, housing upgrades. Monitor plan implementation using benchmarks and indicators</p> | <ul style="list-style-type: none"> • Provide decision-makers with model zoning codes, comprehensive plans, and land use ordinances that relate to public health. • Support rezoning initiatives when applicable. • Attend planning and zoning meetings. |

Source: Land Use Planning Project Staff, National Association of County and City Health Officials

A Definition of Obesity and Overweight

For adults, overweight is defined as a Body Mass Index of 25 to 29.9 (approximately 10-15 pounds overweight), and obese equals a BMI of greater or equal to 30 (approximately 30 pounds) overweight. BMI is not used to designate overweight or obesity in children; such determinations are made based on growth charts, physical development, general health, and age.

$$\text{BMI} = \left(\frac{\text{Weight in Pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

For example, a person who weighs 220 pounds and is 6 feet 3 inches tall has a BMI of 27.5.

$$\left(\frac{220 \text{ lbs.}}{(75 \text{ inches}) \times (75 \text{ inches})} \right) \times 703 = 27.5$$

A Look at Local Public Health Departments

A local public health agency is commonly divided into an environmental health division and a medical services division. The environmental health division has long had a small but formal role in the land-use and zoning process. It is this office that is charged with conducting reviews of proposed subdivisions for sewer and septic compliance, monitoring air and water quality, overseeing solid waste issues, and, in some places, monitoring housing conditions.

The medical services division (which goes by many other names, including "nursing services") handles issues related to chronic disease, through direct actions on disease control, immunizations, nutrition counseling, smoking cessation, prenatal care, family care, HIV/AIDS care and prevention, and health promotion among many other duties, most of which involve a patient/doctor (or nurse or social worker) relationship. Chronic disease

specialists, on the other hand, are not required or are rarely asked to comment on the impact of development on physical activity, obesity, lung disease, and other related chronic diseases such as diabetes and cardiovascular disease.

In the last decade, the public health profession has started to look more broadly at what it means for people to live healthfully and what it can do to create healthful neighborhoods and communities. Many in the field recognize that the sharp separation of functions both within their own agencies and with outside agencies in their jurisdiction has made it difficult to pursue a holistic program to protect and improve the public's overall well-being. Further there is recognition that the disparate functions are part of what makes their overall purpose unclear to the public. It is these concerns that have led the public health profession to consider how other disciplines — namely land-use planning and community design — can play a positive role in determining health outcomes.

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