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Dr. Lawrence W. Green P.H. & Marshall W. Kreuter Director of Health

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CDC's Planned Approach to Community Health as an Application of PRECEED and an Inspiration for PROCEED

Lawrence W. Green and Marshall W. Kreuter

The PRECEDE model evolved at Johns Hopkins University as a teaching tool and an analytic framework for planning and evaluating health education programs in populations (Green, 1974, 1976; Green, Kreuter, Deeds, & Partridge, 1980; Green, Levine, & Deeds, 1975; Green, Rimer, & Elwood, 1981; Green, Wang, Deeds, Fisher, Windsor, & Rogers, 1978). Research and experience in a variety of fields - from agricultural extension to public health, especially from prevention programs related to family planning and immunization - had indicated that with reasonable resources, a health education intervention would likely succeed if the program planners and practitioners (1) began from a base of community ownership of problems and solutions, (2) planned thoroughly, (3) based program decisions on relevant theory, data, and local experience (4) knew what types of interventions were most acceptable and feasible (in the absence of certainty about what works best) for specific populations and circumstances, (5) had an organizational and advocacy plan to orchestrate multiple intervention strategies into a complementary, cohesive program, and (6) obtained feedback and progress evaluation as the problem proceeded (for a review of evidence before 1980, see Green, Kreuter, Deeds, & Partridge, 1980; for corroborating evidence since then, see Bracht, 1990; Breckon, Harvey, & Lancaster, 1989; Dignan & Carr, 1986; Green & Kreuter, 1991). The PRECEDE model attempted to put the first four of these propositions to work in a systematic framework for diagnosing cause-effect relationships and the last principle evaluating intervention, impact, and outcome relationships.

Development of PATCH (Planned Approach to Community Health) (Kreuter, Nelson, Stoddard, & Watkins, 1985; Nelson, Kreuter, & Watkins, 1986; Nelson, Kreuter, Watkins, & Stoddard, 1987) and a similar strategy of community health promotion grants in the southern states by the Henry J. Kaiser Family Foundation (Green, 1986; Green & Kreuter, 1991; Williams, 1990) created the opportunity to examine and test some of the assumptions and principles underlying the original PRECEDE model and to relate these to new theory and research. Out of these broad federal, state, and community health promotion experiences came a deeper understanding of the limitations inherent in the original PRECEDE model. CDC's PATCH confirmed an additional set of relationships and procedures that needed to be encompassed in a more comprehensive strategy addressing the implementation issues of advocacy, policy, regulation, and organization in broad-scale community health promotion efforts. These elements were added to the PRECEDE diagnostic model as an implementation overlay, which we dubbed PROCEED for policy, regulatory, and organizational constructs in educational and environmental development (see Figure 1).

Community Interventions

Early development and testing of PRECEDE was carried out largely in outpatient clinical settings (Green et al., 1985; Levine, Green & Deeds, 1979; Maiman, Green, Gibson, & MacKenzie, 1979; Morisky, Levine & Green, 1983; Roter, 1977; Sayegh & Green, 1976; Zapka & Mamon, 1982). Subsequent applications in other community settings, such as schools and worksites, continued to be studied in the context of those institutions rather than in broader systems or populations (for examples, see Green & Kreuter, 1991, pp. 308-389). The PATCH program provided opportunities to apply and test the model in communitywide programs.

Definition of Community

In demarcating PATCH projects, CDC defined community in structural and functional terms. Structurally, a community is an area with geographic and often political boundaries that are demarcated as a county, parish, metropolitan area, city, township, neighborhood, or block (Holder & Giesbrecht, 1989). Generally, PATCH has targeted rural and underserved communities, sometimes defined as counties or other regions served by a particular health jurisdiction.

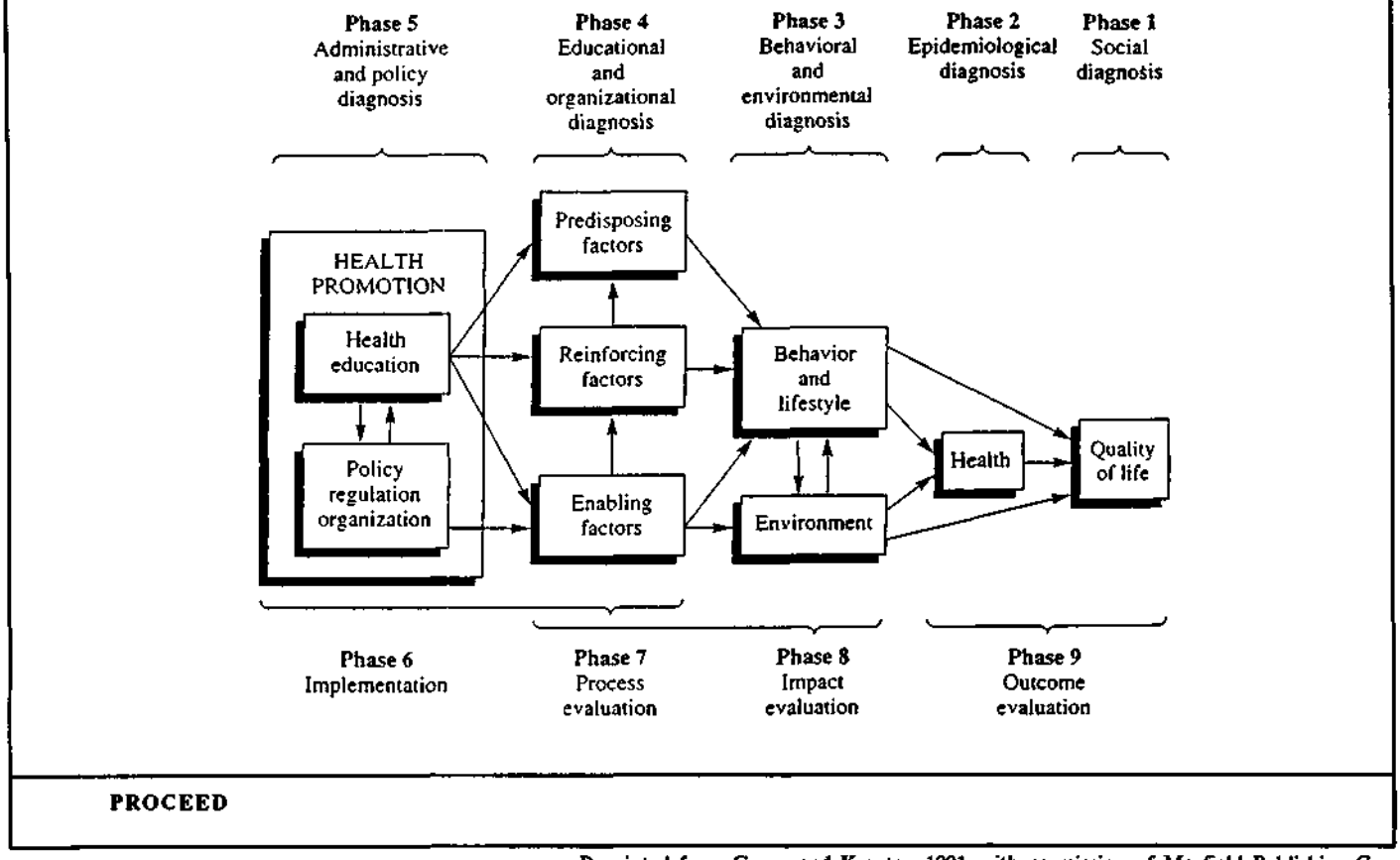
Functionally, a community is a place where "members have a sense of identity and belonging, shared values, norms, communication, and helping patterns" (Israel, 1985, p. 72). Various investigators define and develop "sense of community" as a concept relevant to community organization (Allen & Allen, 1990; Chavis, Hogge, McMillan, & Wandersman, 1986; Chavis & Wandersman, 1990; McMillan & Chavis, 1986).

Community Diagnosis

The informal political forces often exert more influence on policy formula-

Lawrence W. Green, Dr.P.H., is Professor and Director, Institute of Health Promotion Research, Faculty of Graduate Studies, University of British Columbia, Vancouver, BC Canada. Marshall W. Kreuter is Director of Health 2000, Atlanta, GA.

Figure 1. The PRECEED-PROCEED Model for Health Promotion, Planning, and Evaluation



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tion and program implementation than the formal political structures usually associated with official boundaries (Brown, 1984; Ottoson & Green, 1987; Rothman & Brown, 1989). Ultimately, the geopolitical scope of a program must be left to the judgment and sensitivity of those working with the program. These persons should in turn be guided by local people who know the culture and traditions of the community and by analyses of resources available within the community and from other levels (state or national). One lesson from the PATCH experience that forced greater attention to political factors in the PROCEED model is that disaggregation of census or vital data must be part of the analysis plan of any culturally diverse population (Riger & Lavrakas, 1981). So too must disaggregation of the community decision makers be part of the planning process for programs sensitive to cultural and socioeconomic variations.

Few communities have sufficient independence and resources to accomplish the goals of health promotion without support and technical assistance from state health departments, universities, and other regional levels of organization (Berger, 1987; Green, 1990). Successful community health promotion efforts develop effective lines of communication and support from state, national, and international organizations. A key strategy of PATCH was to connect local community development efforts with these and other resource and interest groups on a state or national scale, a strategy advocated by community mobilization experts (Paehlke, 1989; Pertschuk & Erikson, 1987; Pertschuk & Schaetzel, 1989; Wallack, 1990).

The structural aspect of the definition of community delimits activity to a local focus, but local community programs can be coordinated with larger national, provincial, and state endeavors. Some national and state programs are designed centrally to be deployed locally as community programs. The diagnostic theory underlying PRECEDE and its application in the intensive self-study process of PATCH is that centrally "packaged" programs are not easily adapted to the different needs and resources of separate communities. Each community must go through its own process of assessing needs, setting priorities, formulating solutions, and owning programs. Each can draw on national and regional or state

experience, but each must tailor the planning and development process to local realities and culture.

Horizontal Integration

A first lesson of PATCH, like other community initiatives, was that local health departments alone could not exercise the scope of authority over the full range of lifestyle issues of concern in health promotion, nor could most of them deploy the resources necessary to tackle these value-laden, culturally bound, economically determined, and socially reinforced patterns of lifestyle. The need for broader authority and wider-ranging resources led to creation of coalitions of local organizations. Coalitions have become a feature of many community health promotion efforts (Cohen, Baer, & Satterwhite, 1991; Couto, 1990; Feighery & Rogers, 1990; Freudenberg, 1987; Pertschuk & Erikson, 1987). Joint efforts of local organizations to solve local problems evolved pragmatic methods to cope with situations beyond the reach of centralized governments. These coalitions had to draw on democratic traditions of shared authority and responsibility. Latter-day coalitions in the United States have, like their international counterparts, responded to the World Health Organization's call for "intersectoral cooperation" in health promotion (WHO, 1987, 1988). Canada's "partnerships" approach of hospital-community collaboration for health promotion and Canada's National Drug Strategy (Oates, 1991) are examples of similar coalition strategies.

Attracting partnerships beyond the local level was necessary to complement resources available in the community. One inherent strength of PATCH is that it represents the standards and commitment of an agency recognized as a world leader in public health and prevention. CDC, as a respected institution whose initiatives carry credibility, was able to engage the assistance and cooperation, if not the financial support, of leaders in other sectors at the national level, including other federal health agencies, voluntary organizations, the Cooperative Extension Service, national education associations, and philanthropies. Most often, these organizations have communication infrastructures capable of reaching their counterparts at the state and community levels. Through horizontal communication among these national organizations, CDC staff can encourage partners in other sectors to support PATCH efforts as a part of their ongoing efforts. For example, leaders within the Cooperative Extension Service are in a better position to stimulate support from state universities and among county extension agents than are personnel from state or local health agencies.

In some states, the education, cooperative extension, and philanthropic sectors joined forces with the CDC. Vertical communications linking the national and local levels through the state or regional level would then carry a uniform and supportive PATCH message. That uniformity in communication facilitated the horizontal communication necessary at all three levels. Although challenging, such conscious efforts to strengthen the vertical and horizontal communication infrastructures will help realize national health objectives like those outlined in Healthy People 2000 and Healthy Communities 2000.

Vertical Integration

The PRECEDE model had five diagnostic phases: social, epidemiological, behavioral, educational, and administrative. The last phase primarily sought to identify resources - within both the sponsoring organization and the community - to mobilize the interventions required to predispose, enable, and reinforce the community behaviors in questions. PATCH applications of PRECEDE went beyond the community level in identifying and deploying resources, coordinating efforts across sectors and levels of government, and enlisting private support for health education. The programs revealed the importance of coordination between levels of organization, from local to state to national. Community-based and community-initiated efforts often flounder because organizations making up the local coalition lack the resources or authority to proceed without help from their state, provincial, or national headquarters or counterparts (Green, 1990).

For example, local organizations seldom have necessary resources to produce mass media programs of sufficient quality to attract prime-time airing. National and regional resources and campaigns need to be coordinated with local needs if they are to have a complementary and supportive role in local efforts. Where appropriate and feasible, community-based programs can coordinate their interventions with larger population campaigns to obtain the media benefits as well as other resources that support the campaign (e.g., Davis & Iverson, 1984; Maloney & Hersey, 1984; Samuels, 1990). Most of the principles and methods that apply to community media initiatives in prevention programs can be adapted and applied at the state/provincial or national level (Arkin, 1990; Green, Mullen, & Maloney, 1984; Shoemaker, 1989; Wallack & Atkin, 1990).

After the administrative diagnosis phase of PRECEDE, PATCH planners often found that the community lacked resources to launch a program and to intervene effectively on the most important predisposing, reinforcing, and especially enabling factors affecting the behavioral and environmental determinants of health. PROCEED adds an additional policy analysis that recognizes political and organizational barriers to using some of the indigenous resources or to tapping some of the state or national resources to which the community is entitled. In response to the experience of resource-poor communities such as some PATCH communities, PROCEED added steps to the PRECEDE model to modify whatever policies, regulations, and organizations might impede changes in the community's social, political, and economic environment.

The Case for Community-Controlled Interventions

PATCH departed from much of the prevention research on community approaches in the 1980s by being initiated and controlled primarily by the community and local health agencies rather than by university research investigators (Blackburn, 1987; Carlaw, Mittlemark, Bracht, & Luepker, 1984; Farquhar, 1978; Farquhar, Fortmann, Wood, & Haskell, 1983). Besides the few community-wide trials supported by the National Institutes of Health, today's health promotion programs largely depend on research carried out in specific settings, such as schools, or in high-risk populations. These programs - interventions in communities, rather than community interventions - have the

apparent advantages of concentrating resources and tailoring interventions, greater experimental control, homogeneity of populations, and generalizability of results to like settings. Nevertheless, PATCH made a case for the need to redirect more program efforts to community-based interventions initiated and controlled by the communities themselves.

Most PATCH programs have included strategies, both from high-risk group or institutionally-based approaches and from community-based approaches. The two approaches have independent and additive effects (Lewis, Mann, & Mancini, 1986; Markland & Vincent, 1990; McCoy, Dodds, & Nolan, 1990; Ostrow, 1989; Petrow, Franks, & Wolfred, 1990; Williams, 1986; Winett, Altman, & King, 1990). Both seek to reduce the incidence of health problems or to improve the health status of the community, but the community-based approach has the potential of complementing and supporting institution-based programs and of engaging more sectors of the community.

The Normative Dimension of Community Health Promotion

A theoretical premise on which the PRECEDE model was based and that guided the PATCH process was the principle of normative influence and reinforcement (Dwore & Kreuter, 1980). This concept of building a social norm for behavior conducive to health is at the heart of the social psychological justification for community approaches to prevention (Dwore & Kreuter, 1980; Green, 1970a,b; Green & McAlister, 1984).

As social marketing and classroom learning experience demonstrates, targeting or "market segmentation" ensures that persuasive messages and tailored, relevant, and effective teaching reach individuals (Kotler & Roberto, 1989; Manoff, 1985). But individual change can be predisposed powerfully by the individual's perception that others have made the change successfully (role models) and satisfyingly (vicarious reinforcement). Further, the individual process of making the change can be enabled by imitation and by help from friends, and reinforced by approval of significant others, if other people and environmental circumstances support the change in the same period of time. This is the fundamental thesis of "reciprocal determinism" in social learning theory (Bandura, 1986; Clark, 1987; Parcel & Baranowski, 1981) and the individual-environmental dyad of force-field theory (Lewin, 1953). It was given greater play in the PROCEED overlay on the PRECEDE model by emphasizing environmental influences on behavior and adding environmental and organizational diagnoses, respectively, to the behavioral and educational diagnostic phases of planning (Figure 1). Accordingly, PATCH program leaders now try to engage state health departments and community coalitions in critical analyses not only of behavioral determinants of each priority health problem but of organizational and environmental determinants as well.

PATCH has trouble achieving this ideal in communities where resources are too limited and the distance too great between CDC and programs requiring technical assistance. State health departments, much less local organizations, usually were ill-equipped to provide both the general environmental and social supports for change through policies and mass media and the coordination of institutional interventions required to strengthen psychological readiness or resistance through families, schools, worksites, and health care settings, where more individualized communications must be organized.

Summary and Conclusions

PATCH community interventions are more than the sum of multiple interventions in the community. The synergism and leverage sought with involvement of citizens in the diagnostic process, the cooperation of several organizations, and vertical integration with state and national resources, produce results that differ qualitatively as well as quantitatively from the additive effects of interventions in, rather than through, the community. Interpersonal and small-group interventions are more common, more manageable, and probably better understood than community-wide programs. Most PATCH programs devolved to this level of intervention after facing the daunting task of mobilizing the resources and political will necessary to sustain a community-wide program.

Institution-based programs lend themselves better to systematic, controlled research - hence their stronger research base. But community-wide programs have greater potential for making significant population changes. These programs can reach large numbers of people through mass media and multiple channels of communication, build widespread normative, economic, and political support for the changes, and possibly stimulate change in a community's policies and social fabric (Bracht, 1990; Green & McAlister, 1984).

PATCH has been an exceptional program of federal origin, in that it attempts to break out of the usual categorical disease restrictions of government funding, engages whole communities rather than grantee institutions on behalf of the communities, facilitates a social and epidemiological diagnosis of problems beyond the bounds of federal priorities, encourages a data-based analysis of behavioral and environmental risk factors, and supports both horizontal and vertical integration. PATCH has applied the most important principles of the original PRECEDE model and has inspired the PROCEED expansion of the model to encompass policy, regulatory, and organizational issues of program implementation - issues that were further tested in the Kaiser Family Foundation's social reconnaissance strategy for its grant program for community health promotion in the southern states.

PRECEDE served PATCH communities well as a diagnostic planning tool, but by itself, it may lead to misplaced precision on the things easiest to measure or analyze. The addition of policy, regulatory, and organizational dimensions of educational and environmental development in the communities will offer more robust programs with greater potential to change community cultures and structures that conspire against healthful living. Finding the resources and political will to tackle all these fronts with comprehensive programs and community-wide interventions will remain problematic until the cost-benefit potential of community health promotion is more widely and deeply appreciated. Until local communities have resources to devote to such comprehensive health promotion, the task of state and national organizations is to find ways to supply technical assistance and other resources without usurping the initiative communities should take to control their own programs.

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