COMMUNITIES EVALUATING COMMUNITY-LEVEL INTERVENTIONS: THE DEVELOPMENT OF COMMUNITY-BASED INDICATORS IN THE COLORADO HEALTHY COMMUNITIES INITIATIVE

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Abstract: This paper reports on two communities that are developing and using community-based indicators to evaluate their progress toward becoming a healthier community. These communities are part of the Colorado Healthy Communities Initiative (CHCI), a project involving 28 diverse communities in the state of Colorado. Following a description of CHCI and the 28 communities involved in it, the article explains the evaluation components for the initiative, one of which is community-based indicators. The community indicators component is illustrated by two case studies. The process the communities used to develop their indicator sets, and the indicator reports they produced are described, with illustrations of specific domains, dimensions, and indicators. The article concludes with a discussion of the indicators evaluation component and the need for responsive design in developing indicators.

Résumé: Cet article traite de deux collectivités qui élaborent et utilisent des indicateurs communautaires afin d'évaluer les progrès qu'elles réalisent pour devenir plus saines. Ces communautés font partie des 28 de l'état du Colorado participant à la Colorado Healthy Communities Initiative (CHCI). L'article décrit la CHCI et les 28 collectivités, puis explique les composantes d'évaluation de l'initiative (dont une se fonde sur des indicateurs communautaires) et présente deux études de cas. Le processus d'élaboration des indicateurs et les rapports sur ces derniers sont exposés, le tout avec des illustrations de domaines, dimensions, et indicateurs spécifiques. L'article se termine par une discussion de la composante d'évaluation des indicateurs et de la nécessité de faire preuve de souplesse dans leur élaboration.

Around the world, there are cities, towns and regions involved in "healthy communities" and "healthy cities" projects. These projects typically involve citizens of these areas defining the important dimensions of health for themselves, then working together to achieve their visions of a healthy community (Ashton, 1992; Hancock & Duhl, 1986; Kichbusch, 1989). The stakeholders involved in these projects are central actors in defining, creating, and implementing the goals, objectives and activities. Likewise, they are centrally involved in evaluating their projects, sometimes in cursory ways and other times in intensive ways (Davies & Kelley, 1993). Evaluation provides a means for the communities to gauge their progress and adjust their activities, in line with the goals many evaluators espouse (Fetterman et al., 1996; Posavac & Carey, 1997; Rossi & Freeman, 1995).

Recently, some communities involved in healthy communities work have adopted a tool from the social indicators and sustainable communities movements (Besleme & Mullin, 1997; Gross & Straussman, 1974; Innes, 1990; Land, 1992). This tool is a community-based index, a set of indicators selected to reflect the important dimensions in a community's definition of health. These indicators are quantitative indices that are collected or compiled over a period of time so that movement and change are identifiable. Used in this way, community indicators become another evaluation tool developed and used by communities themselves. This article reports on two communities, part of the Colorado Healthy Communities Initiative, that are developing and using community-based indicators to assess their progress toward becoming a healthier community. Below, we describe the program in which these communities are involved and the community-indicators component of that program. We then illustrate the community-based indicators developed by several of the communities.

THE COLORADO HEALTHY COMMUNITIES INITIATIVE

Program Background and Principles

The Colorado Healthy Communities Initiative (CHCI) is a US$8.8 million program begun in 1992 by The Colorado Trust, a Colorado-focused philanthropic foundation (The Colorado Trust, 1992). As described in more detail by Conner, Tanjasiri, Davidson, Dempsey and Robles (1998), CHCI was conceived as a response to a statewide environmental scan conducted by the foundation in the early

1990s.[1] In its assessment of the social, economic, political, and technological trends that would affect Colorado's future, the foundation found that citizen participation, sense of community, local action, and prevention were important concerns (The Colorado Trust, 1993). In response to these findings, The Colorado Trust began the Colorado Healthy Communities Initiative based on several healthy cities models then in operation around the world (Ashton, 1992; Kickbusch, 1989).

The CHCI program was based on four general principles. The first principle is the need to have a broad representation of individuals participating in a community-wide process. Representativeness includes both individual characteristics (such as gender, education, income, and race-ethnic group) as well as community sectors or interest groups (such as business, education, environmental groups, religious groups, and seniors). These sectors or interests must be represented in a community-wide effort that truly reflects the community.

The second principle is the adoption of a broad definition of health. For communities, health involves multiple aspects, different for each community, and varied focuses (that is, on the individual, the group, or the community as a whole). For example, the definition of health could focus on disease prevention and treatment in individuals, such as childhood immunizations. In other instances, the definition might focus on wellness promotion at the individual or community level, such as youth self-esteem building or the development of a sense of community. Broader yet, some community-wide definitions of health could embrace a social and political view of a healthy community, including such things as housing, employment, and business development as their targets.

The third principle of CHCI is that participants follow a consensus decision-making approach. Everyone's ideas and comments are encouraged, wide-ranging discussion follows, then the group as a whole reaches agreement on decisions via group discussion toward consensus. In a consensus approach, the decision results from compromise among the participants such that the final choice is satisfactory to all, not just to some, of the group. Finally, the fourth principle is capacity building at both individual and group levels as part of the process. On the individual level, participants have opportunities, both direct and indirect, to develop skills in understanding community issues and problems, facilitating meetings, working with diverse groups of individuals, achieving consensus on issues, and

exercising leadership generally. On the group level, CHCI groups develop a group vision, operating rules, and outreach activities that, if effective, result in successful processes and productive actions that have positive outcomes within the group as well as outside the group, in the larger community.

The CHCI program had several distinctive characteristics. First, CHCI was set up to be a two-phase process, with a strategic planning phase followed by an action-focused implementation phase. The one-year planning phase had well-articulated steps, based on the National Civic League's (NCL) Healthy Communities Model (Norris, 1993), involving such activities as a community health report, an environmental scan, group visioning, key performance area determination, and action plan and project development. The two-year implementation phase was left up to the communities, as they carried out their action projects. Second, outside facilitators assisted CHCI communities during both the planning and implementation phases. The facilitators, all Colorado-based, were skilled professionals, trained in community processes, experienced in community development work, and familiar with the general community realities of Colorado.

A third distinctive characteristic of CHCI was its three-cycle approach to funding. CHCI was intended and budgeted for 30 communities throughout the state of Colorado. The original plan was to fund 10 communities in each of three cycles, with the cycles starting one year apart. Finally, the last important characteristic of CHCI was its funding commitment. Each CHCI community applied to The Colorado Trust for an initial planning grant, then, as the culmination of the planning phase, for an implementation grant. Every community received $7,500 during the planning grant phase, with in-kind contributions via facilitation from NCL at approximately $40,000 per community. Each community also had $8,000 available to hire consultants with specific expertise as it developed its action plans. During the implementation phase, each community received $100,000 along with very limited in-kind services from one of their NCL facilitators.

The CHCI Communities: An Overview

CHCI involved a total of 29 communities in three different cycles. Of these, 28 communities completed the planning phase and 27 completed the implementation phase. As described by Conner et al.

(1998), CHCI communities varied in geographic size, geographic type, population size, racial/ethnic composition, and per capita income. For instance, only six CHCI communities were 20 square miles or less; more than half the CHCI communities were larger than 2,000 square miles. Approximately 59% of the area of the state was included in a CHCI healthy community project.

In terms of community type, the communities were approximately evenly distributed among urban (cities over 50,000 in population), rural (cities and towns under 50,000 but with community-wide population densities greater than six people per square mile), and frontier (population densities of six or fewer per square mile).

Like the state of Colorado, the CHCI communities were largely white, with half of the communities having more than 89% white populations. There were some notable exceptions: Five CHCI communities had Hispanic populations of 30% or more. Only one community had a large African-American population, and only one had a large Native American population. Finally, half of the CHCI communities had per capita incomes of $11,350 or less.[2] By comparison, the average per capita income in 1990 for the state of Colorado was $14,821. Only five (18%) of the CHCI projects had per capita incomes above this level, with the other 21 CHCI projects with known per capita incomes falling below this level. Thus, CHCI communities tended to be poorer than the state average.

Evaluation

CHCI was distinctive in having a comprehensive evaluation and in beginning the design of the evaluation while the program was being designed. While many have called for evaluating healthy cities projects (e.g., Davies & Kelly, 1993), there have been few studies of these programs, and none that has focused on the processes, outcomes and impacts that comprehensive evaluation would require (Rossi & Freeman, 1995). To be sure, comprehensive evaluation is usually done on small, well-contained, and well-defined programs (Shea & Basch, 1990a, 1990b). Projects like CHCI, with multiple sites and multiple, self-determined focuses, present special challenges for evaluation; they also present special opportunities for learning (Fetterman et al., 1996). We developed the evaluation design for CHCI by blending traditional and non-traditional elements designed to capture the diversity of operations, outcomes, and effects.

There were three general goals of the evaluation. First, we tracked the CHCI program as it was put into operation in individual communities. Second, we identified short-term outcomes for the participants and for the projects of which they were a part. Third, we investigated longer-term impacts of the projects on the communities. In addition to using community-based indicators, which will be described in more detail below, we employed several other methods to accomplish these goals: in-depth case studies, stakeholder surveys, community leader interviews, implementation phase progress report assessments, and comparison community case studies. In addition to these primary evaluation components, there are several secondary components: interviews and surveys with the NCL facilitators, assessments of planning-phase products, and occasional focus groups with stakeholders. Throughout the evaluation, we incorporated participants into the design of components relevant to them, revised and adjusted parts of the design as the program changed, and provided feedback on interim findings to the program directors and developers as CHCI progressed.

The remainder of the article focuses on the community indicators component of the CHCI evaluation. At the outset of CHCI, when the evaluation plan was developed, we included a community indicators component even though we were unsure if or how this would be realized. With the anticipated diversity of themes and focuses among CHCI projects, it was clear that no single set of indicators could be sufficient to track community-level impacts of CHCI and of other community-change efforts. Nonetheless, it was also clear that community-based indicators would be necessary to capture these impacts. As CHCI developed, some of the communities themselves included this component in their healthy community projects, and The Colorado Trust made additional funds available to foster this in other communities. Thus, the community-based indicators component of the evaluation plan has been operationalized by communities themselves. We are continuing to work with these communities as they implement their indicator projects, and we are monitoring the process and outcomes via periodic interviews with project directors.

THE COMMUNITY-BASED INDICATORS COMPONENT

Fifteen (15) of the CHCI communities are involved in the Community Indicators Project (CIP) in two different rounds. Round 1 involved eight communities: Round 2, which began one year later, involved seven communities. All communities received extra fund-

ing used primarily to employ a half-time project director for two years and secondarily to pay for some project expenses. The project director is key to the success of the local project. This person, who is selected and hired by the local community, is a community member with some degree of familiarity with research but usually with more experience in community work. Under the guidance of the project director, the CIP communities develop, implement, and maintain a community-relevant set of indicators.

The CIP project directors met periodically with the other CIP directors and with a Steering Committee composed of several members of The Colorado Trust, several members of an outside consulting firm that provides technical assistance to the CIP sites, and the CHCI project evaluator.[3] Although the Steering Committee provided a conceptual framework and general guidance, the CIP project directors were centrally involved in refining the process, and they became cocreators as the process progressed. In the case of individual indicator projects, the community project directors were the main creators and implementors, assisted by community members on an Advisory Committee, Task Force or Working Group (the term used generically below in describing their activities).

The general framework for the CIP process involves several steps, facilitated by the CIP project director:

1. *Vision Statement Revision* The CIP Working Group uses the vision statement developed by the community during the CHCI planning process as the foundation for the indicators set. The vision statement is often used as originally developed; in some communities, it is updated.

2. *Domain Identification* From the vision statement, the Working Group identifies domains contained in the vision. For example, these domains could include education, transportation, environment, or health.

3. *Dimensions Identification* Within each domain, the Working Group identifies specific dimensions that operationalize the domain. For example, within the domain of education, the Working Group may decide that the important dimensions for the community are student achievement levels and teacher training levels.

4. *Indicators Selection* The Working Group then selects indicators to measure the dimensions identified. To continue

the example above, the Working Group selects student scores on a state-wide standardized test and high school graduate rates to measure student achievement levels; it selects teachers' highest degree as the measure of teacher training levels.

5. *Indicators Collection* Data collection often is done by the CIP project director, sometimes aided by Working Group members or others in the community with access to the data the Working Group desires.

6. *Report Creation* Finally, the CIP project director, usually with the help of relevant community members and the advice of the Working Group, prepares the indicators report in a user-friendly format, with appealing graphics and compelling, readable text. The report is released and promoted in the community.

STUDY METHODOLOGY

To monitor the process of the community-based indicators component and to identify its outcomes, we are using a two-part methodology:

1. *Regular interaction and discussion* with the CIP project directors. A form of participant observation, this data-gathering method involves regular contact and discussions with CIP project directors at periodic meetings and occasionally in telephone and e-mail exchanges. The purpose of the discussions is to stay abreast of the developments as the indicators projects progress.

2. *Interviews with CIP project directors at two points* in the process: about the time of the publication of the first indicators report and again 6-12 months later. These individual interviews are conducted over the telephone and are guided by a set of interview questions, focusing on the process and outcomes of the CIP project. The interviews have varied from one to three hours in length. Following the interview, we prepare a summary of the interview, highlighting the main successes and challenges during the process and the significant implications from the experience. These summaries are shared first with the CIP project director, to confirm

the accuracy of details and to answer any remaining questions.

At this time, initial interviews have been conducted with all project directors in both rounds. Second interviews have only been conducted with one project director. Consequently, the results reported below are based on a limited set of data, although they reflect the general results other CIP communities have experienced.

RESULTS: TWO CASES

We described the general steps that communities go through in developing an indicators report for their community. These steps are adapted and individualized by each project director and working group, depending on local realities. Below, we present two case examples, to provide illustrations of how the process occurs in actual implementation. These cases reflect the types of variations that occurred in the other communities, although each CIP process was unique.[4]

Case 1: Operation Healthy Communities

Community Profile

This project covers an area of 3,428 square miles in the southwestern part of the state. The project spans three counties, including one city, four incorporated towns, many small unincorporated towns, five school districts and the Southern Ute Nation. The population of the area is just over 38,000 people, consisting mainly of whites but with Hispanics and Southern Utes also represented. Residents typically have a strong, long-term tie to the area, with many able to trace their heritage to pioneers who settled the land. The economy of the area, which used to be dependent on extractive industries (mining, logging, oil and gas), is now based in tourism, with retirees also contributing to the new economic picture. Overdevelopment and escalating real estate prices (beyond the reach of many local residents) are current issues of concern.

Indicators Project Overview

An Indicators Council was created at the outset of the project (winter 1996), composed of a varied group of people from different areas.

People were selected for a particular focus or interest (e.g., education) but also were encouraged to take a broad, area-wide perspective. There was a conscious effort to include minority perspectives, such as people with disabilities, members of the Southern Ute Tribe, and other racial/ethnic groups.

The Council was guided by its new part-time indicators project coordinator (who also served as the mayor of the main town in the area). The Council reviewed five different vision statements related to the project area; these vision statements had been created by different groups over the previous five years. The Indicators Council identified and grouped the values contained in the vision statements, then chose four broad categories of values: human services (including health care, affordable housing, schools, human services), quality of life (including environment, cultural heritage, recreation, recycling), economy-transportation-communication (including within economy: benchmarks by enterprise zones, sustainable agriculture, healthy and environmentally-friendly economy in general; within transportation: high-quality air service, safe roads; within communications: high-quality communications), and family life (including healthy families and safe families).

The Council was first instructed on how indicators would be chosen, using these criteria: validity, availability and timeliness, stability and reliability, understandability, responsiveness, policy relevance, and representativeness. The Council, once trained, broke into subgroups, based on interests. The subgroups brainstormed possible indicators, with minimal suggestions from the project coordinator related to indicator availability, attainability, and validity. The project coordinator encouraged the use of rates rather than raw numbers (because increases in raw numbers do not necessarily indicate a change, due to increasing population); several members of the Council, however, persisted in requesting raw numbers, largely because of needs and pressures for particular numbers specific to their work or organizational settings.

The Council met as a group to develop their first comprehensive list of potential indicators. This resulted in a list of about 125 indicators. The subgroups met again with the intent of reducing their sublists, but they were generally not successful. This occurred for two main reasons. First, inconsistent attendance of stakeholders at subcommittee meetings resulted in some last-minute additions of new indicators. Second, Council members favored having a diverse set of indicators for particular topics rather than selecting just a

few indicators. After prolonged discussion, the list of indicators was reduced to 96.

The project coordinator then began to collect the data for all of the indicators, with the intent of gathering data for four counties over the past several years. She discovered that data were available from a variety of sources (some in office records and state books, others over the Internet) and with varying degrees of ease. The difference between primary and secondary data collection became very significant to the project coordinator. Primary data collection for a particular indicator meant a significant investment of time and resources by the project coordinator. This investment sometimes paid off and sometimes did not. For example, one suggested indicator was mobile home rental costs (monthly rental rate and site availability). To develop this indicator, the project coordinator had to contact about 30 mobile home parks across the four counties. Many were suspicious, thinking competitors were calling to get rate information, and reluctant even to return phone calls, much less provide data. After much effort, the project coordinator was able to obtain the information. In the case of other potential indicators (for example, weed control), the search for primary data was time-consuming but ultimately unsuccessful.

Secondary data collection also sometimes presented challenges. For instance, one suggested indicator was water quality. The project coordinator discovered that some available data (for example, from the U.S. Geological Survey and the U.S. Environmental Protection Agency) were so complex, technical and detailed that a special consultant would have to be hired to interpret them, and that, even with a specialist, the data would not likely result in a meaningful water quality index. Other available secondary data (for example, on the water quality in one river basin) appeared to be useful but were not available for the other seven river basins in the project area. Even data like well-water quality (collected by the health departments in the counties) were unusable because faulty well seals were generally more of a problem in poor well-water quality than was chemical contamination of the well from the ground. In sum, the project coordinator's search for data for this potential indicator resulted in no meaningful product, although she did develop a good understanding of the complexities of water quality measurement.

A "funneling-down" process, therefore, occurred with the set of 96 possible indicators: due to unavailability, unreliability, or invalidity, particular indicators fell off the list that would constitute the

final set. A related criterion used in the funneling-down process was subjectivity of an indicator. For example, the number of arts events was suggested as a potential indicator. Upon closer inspection, however, it became clear that one city or area's definition of an arts event did not match the definition for another city or area, and no standardized definition was possible or desirable, from a community's standpoint.

Three other processes occurred during the development of the final set of indicators. In about four or five instances, an indicator was substituted for one on the original list because it provided a better measure of the topic or because it was more accessible. In a few cases, several indicators were used for one on the original list because they provided a more complete picture of the situation. Finally, in spite of the attempt to limit the number of indicators, several new indicators made their way onto the list, due to strong advocacy by certain individuals.

In the end, data were collected on 99 indicators. The data were assembled first into four categories (human services, quality of life, economy-transportation-communication, and family life) for the mock report. Council members on the writing committee took on the task of writing up the data for the report sections. The general format for the report (decided by the Council) was, for each topic (which might involve several indicators): definition, interpretation, linkages, current activities related to the area, and future recommendations, plus a page for graphics (e.g., charts, pictures). Different members of the writing committee worked on different topic sections as the data were ready.

As draft sections were ready, the project coordinator began circulating sections to relevant community people (for example, education indicators were shared with community people involved in education; the affordable housing indicators were shared with real estate people, government officials, and ordinary interested citizens). These reviewers were asked to comment on the accuracy of the data and its believability, in their opinion. In several cases, based on this review, indicators were refined or dropped. It is important to note that there were technical, not political, reasons for each of these decisions. No indicators were dropped because a reviewer objected to accurate data or its implications. There was an unexpected side benefit to this wide community review: Many community members were primed for the release of the report.

The final 59-page indicator report is entitled "Pathways to Healthier Communities: Archuleta, Dolores, La Plata, and San Juan Counties" and subtitled, "An Index of Values and Indicators that Measure the Health of our Communities" (Operation Healthy Communities, 1997). The report is organized into four main sections: Quality of Life, Economics Transportation and Communication, Services, and Family Life. Within these sections, there are subsections on particular topics. Within each subsection, a common format is used for presentation. There is a definition of the topic or issue and a listing of values (subdimensions) and associated indicators. Then, there are brief paragraphs on "Interpretation" (of the data presented), "Linkages" (with other community topics and issues), and "Current Activities/Future Suggestions" (related to changing the topic for the better).

An illustration of one section provides a better understanding of the report's contents. The report's first section is entitled "Quality of Life" and begins with this statement of the communities' values in this area:

> We envision strong, cohesive communities where involved citizens of all ethnic backgrounds work together to preserve our small-town, rural lifestyle, promote stewardship of the land, preserve open space, and value clean air. We envision communities where people have a high regard for their neighbors, have a strong sense of place and attachment to the land, and have a commitment to sustaining a community-oriented way of life. We envision communities that establish an open dialogue between leaders and citizens and where volunteerism is strongly valued. Our communities provide ample opportunities to share cultural heritage, enjoy the arts, and participate in a variety of recreational and cultural events. (Operation Healthy Communities, 1997, p. 8)

Following a page of pictures of the community related to this topic, four dimensions are presented: Strong, Cohesive Communities; Recreation; Healthy Environment; and Cultural Heritage. Within each of these dimensions, there are subdimensions (or values), with indicators for each. To illustrate using the first dimension of strong, cohesive communities, there are four values or subdimensions. These are listed below, with the associated indicators:

Value	*Indicator*
Involved citizens	Percentage of registered voters participating in off-year election
Open dialogue between citizens and governments	Number of times last year citizens attended a meeting on a community issue
Strong neighborhoods	Percentage of people who feel safe walking in their neighborhood at night
	Percentage of people who feel comfortable asking for or giving something to a neighbor

The data for each of these indicators are presented; like the data throughout the report, these data are a mix of one-time measures and multiple-time measures. Following the data tables, there are three short paragraphs interpreting the data, explaining the linkages of the data to other community issues, and suggesting actions to improve the situation.

Case 2: Healthy Pueblo 2000

Community Profile

This project, in the southeast part of the state, encompasses 2,400 square miles, including the large city of Pueblo and the surrounding townships and metropolitan areas. The population of about 123,000 is ethnically diverse, with 49% white, 36% Hispanic/Latino, and the remainder a mix of other groups, including African-American and Native American. The over-65-year segment of the population is 15.2% and growing. The county has experienced severe economic hardship and unemployment since the early 1980s, due to plant closures and industry cutbacks. This has resulted in poverty, stress, lessened health-care access, chronic disease, and impaired social-support systems. Pueblo County has the highest proportion of welfare cases in Colorado, with associated problems of teen pregnancy, poverty, and dysfunctional families. The county's minority populations suffer disproportionately from health-related problems.

Indicators Project Overview

The Healthy Pueblo indicators project began in winter, 1996, with a town-gown partnership between Community Research Services at

the University of Southern Colorado and Healthy Pueblo 2000 (HP2000). The indicators project director, a faculty member at the university, had been involved as a stakeholder during the planning phase of HP2000. One of her first challenges was deciding how to address the reality that the HP2000 planning and visioning effort was only one among 12 different planning and visioning efforts in Pueblo. In particular, a group known as the Pueblo 2010 Commission had also developed a vision statement and was very active in the community. The Pueblo 2010 effort was centred in Pueblo City and County government and involved business and human service sectors; the HP2000 effort was largely centred in the human services and non-profit sectors of the city and county. There were, however, many other efforts. These included the Pueblo County Restructuring Committee, a planning effort mandated by 94-HB1005 which merged the Department of Social Services and the Department of Institutions; a regional prevention group, with the core coming from juvenile justice sectors; Build a Generation; the Pueblo Community Wide Collaborative Initiative (organized to facilitate collaboration in response to health and human services RFPs); the Renaissance Project (a downtown revitalization effort); Communities in Schools; the Medically Underserved Committee; and the Community Compact (to improve educational access and outcomes).

Over the first months of the indicators project, the director and her university-based team held individual meetings with representatives from each of these other efforts; the focus of the meetings was understanding the other groups' visions and plans and explaining the goals of the indicators project to them. In the case of the Pueblo 2010 group, the project director herself was a member of one of the group's seven task forces, the Health and Well-Being Task Force. Consequently, she was an active participant in the other main planning and visioning effort then underway. Her involvement in multiple planning efforts was advantageous in introducing more people to the potential of the indicators and, later, in giving the indicators project a wide base in the greater Pueblo community. At the annual retreat for the Pueblo 2010 Commission, for example, the idea of a "scorecard" was discussed, and the project director used this as an opportunity to explain that the aim of the indicators project was to produce just such a measure. The Commission members, from many different community sectors (business, arts and culture, education, etc.) were very supportive of the idea and encouraged its development.

An advisory group composed of about 15 people was established early in the project. The group was composed mainly of stakeholders from

the earlier HP2000 planning phase, plus some other community people, most of whom were data users. This group had a technical bent, but it had a broad representation, including some people in political positions. In its first activities, this group, which met monthly, reviewed the various vision statements from the 12 different planning and visioning efforts and felt that the HP2000 vision was the most inclusive and comprehensive. Consequently, it served as the basis for the selection of domains and dimensions.

Throughout the first year of the Pueblo indicators project, the competition among the 12 different planning and visioning efforts slowed development of the indicators. Because it was tied to one of these 12 efforts, the CIP project was inadvertently caught in the competition. Although the CIP project director envisioned the project as a community-wide effort which would be useful to everyone, she had to sell this idea to others involved in different efforts. Fortunately for progress on the indicators project, the different efforts ended or consolidated due to various reasons (including changes in leadership in some efforts and lethargy or burnout in others). By late 1996, only one effort remained as a result of a merger between the HP2000 group and the Pueblo 2010 Commission. The Pueblo 2010 Commission adopted the vision of the HP2000 group and also endorsed the indicators project as the scorecard for the Pueblo community. The Pueblo 2010 Commission is now the sole effort and has positioned itself as the primary planning advisory group for the city and county of Pueblo.

While all of the discussions were occurring between various community planning efforts, the Community Research Services team was progressing slowly on the development of the indicators. Beginning in the summer of 1996, representatives from the team met with representatives from other planning efforts and from major health and human service providers (the hospitals, the United Way) and asked them for information about the data they used most often, where it came from, and how they used it; in addition, they were asked what data they would use if they could access it. The team collected over 100 data items which formed the starting point for the indicators selection.

Constructing dimensions was an interactive process. The team began with the original HP2000 vision and extracted dimensions relating to environment, health and safety, housing, education, family strength, economic opportunities, and community participation. Once the merger with the 2010 Commission occurred, the team decided

to have an indicator to highlight the concerns of each task force. Consequently, business was added as a subdimension of economic opportunities; and arts, culture and recreation, as well as governance, were added as subdimensions of community participation.

Concerted effort on the composition of the indicators report began in early 1997, following the merger. A number of potential indicators was discarded because of concerns about reliability, validity, or accessibility. The final listing of 24 indicators was created by the advisory group in consultation with the university team. Political considerations did not intrude until the very end, when the team was assigning overall assessments of the status of each indicator to use on the "Indicator Summary" pages. The advisory group was decidedly against a "grade card" approach (i.e., A, B, C). The team considered using directional arrows but decided that they presented interpretive problems (up is a "good" indicator? down is a "bad" indicator?). Instead, the team decided to use the weather icon approach — sun, partly cloudy, storm clouds — even though they knew there might be bad feelings among those involved in sectors with "stormy" assessments. The advisory group was not very concerned about this type of potential backlash from the indicators.

The indicators report, "A Community Snapshot," was published in late spring 1997 (Community Indicators Project, 1997). The 23-page report begins with a statement of the HP2000 vision:

> Our vision: A healthy community is a clean, safe, nurturing environment where education and empowerment are a priority and the most vulnerable are protected, ensuring community opportunities and improvements for the betterment of future generations.

It then provides an overview of the indicators report creation, followed by the Indicators Summary pages that had caused the controversy on the advisory group. For each dimension under one of the eight domains, the indicator label is given, along with a brief status assessment and an appropriate weather icon. For example, under the domain of Environment, this is listed:

Air Quality:
Consistently better than standards   [icon: sun]

Green Space:
Good, but beginning to decline   [icon: sun with some clouds]

(Environment was the first of eight domains; the others were Education, Families, Health, Safety, Housing, Economic Vitality, and Community Participation. Each domain had two to four dimensions (the two for the Environment domain are shown above); there were generally one or two indicators for each dimension. As an illustration, the indicators for the two Environment dimensions are listed below:

Dimension	*Indicator*
Air Quality	Yearly counts of air-borne pollutants of 10 micrograms or smaller (PM10)
Green Space	Acres of parks, recreation, and open space per 1,000 population

A third dimension, Recycling, was listed and described, but a label was "pasted" over the section, "Under construction, watch this space!" The Group wanted to include the dimension as a placeholder for future work, even though data were not available at the time.

The Pueblo report used graphics, tables, and sketches and kept the written text for each indicator to a minimum (generally two to three short paragraphs). The report included a postage-paid evaluation form at the back, asking readers to rate each indicator (from "very bad" to "very good") in terms of the narrative and the graphics presentation.

CONCLUSION

These two examples provide an introduction to the CIP projects for the Colorado Healthy Communities Initiative program. The other 13 communities involved in the CIP component are in various stages of development or implementation of their indicator projects. When all the communities have released their reports and all CIP project directors have been interviewed twice, we will be able to set out some comprehensive implications from the Colorado projects for other communities considering the same process. Based on these two cases of community-based indicator development and use, however, we can set out some implications from these two cases that may generalize to all communities, once the process has been completed. The implications discussed below have been confirmed with the project directors for these two projects and generally match the experiences of the other Round 1 CIP communities.

There were several important implications from the Operation Healthy Communities case. First, having a broad-based advisory council kept the project in touch with the community throughout the development of the indicators set. It also assisted with dissemination of the document and facilitated its quick use. Second, primary data collection for an indicator can take time and resources, sometimes without a good payoff. This has important implications for the future sustainability of index project efforts. Third, there are many more mini-steps in each of the main steps than anticipated at the beginning. It took more time than anyone anticipated. Fourth, it is easy for the citizens council to brainstorm possible indicators without realizing that certain indicators (a) do not exist, (b) would result in primary data collection and therefore be relatively expensive to collect, or (c) are not valid or reliable. Fifth, having citizens reviewing the draft document was valuable not only for finding inaccuracies but also for fostering excitement and beginning utilization of the report. Sixth, having many people involved resulted in more work but it pays off in the end.

There were four main implications from the Healthy Pueblo 2000 project. First, it is advantageous to seize opportunities when they present themselves to advance the idea and goals of the indicators project. Second, the indicators project has to be seen as belonging to, or at least serving, all the other planning/visioning efforts and service delivery systems in the community. Third, it is helpful that people have the perception that the indicators project is neutral and involves objective data. Because of this, there was surprisingly little disagreement about the data themselves, even when they delivered unpleasant news. Fourth, the project can whet appetites for more detailed data. The indicators project team is responding to these requests by locating, posting, or linking to additional data items on its Web site.

Across both projects, it is clear that citizen involvement was key in developing and using the indicator data. While it is too early in these two cases or any of the other CIP projects to assess the degree of use of the indicator sets, interest in the use of the data was high in both projects. Actual use was made more likely by including potential users in the process. Citizen involvement also fostered ownership of the indicators project by the community in a way that rarely occurs with more traditional evaluation components, such as surveys or interviews. This type of ownership would also suggest that actual use will be more likely. It is also possible that this ownership of the

indicators will result in the institutionalization of the indicators within the community, as they become an integral part of community decision-making and action.

Another outcome from both projects was the development of evaluation capacity in these communities. The capacity that was built relates to developing indicators, collecting data, and reporting findings. Community members increased their knowledge about, and in some instances their skills in, data collection and analysis. Aside from individual knowledge and skill development, new partnerships were formed, particularly in the Healthy Pueblo 2000 case, between those with evaluation capabilities and those with evaluation needs (in Pueblo, for example, between the university team and the social service groups respectively).

These outcomes from the two CHCI communities are suggestive of the outcomes coming from the other communities involved in the community-based indicators projects. Through indicators, these communities have found a way to track their visions and their progress toward achieving them. They have also challenged their citizens to think deeply about their community and provided a focus for their actions. The Healthy Pueblo 2000 report states, " While these indicators may provide quick and simple answers to some of our questions, they will also, hopefully, raise important questions, which we need to address as a community: … What do these data mean? Is this good news or bad news? … What is the reason we are seeing these numbers and trends? … Are we there yet? How do we know when we've achieved our goal?" (Community Indicators Project, 1997, p. ii) Community-based indicators not only provide a means to empower individual citizens but they also can empower communities as a whole, as they provide a roadmap and benchmarks along the way. While the results from the Colorado initiative are preliminary and still developing, they provide early evidence that community-based indicators are a powerful tool for community change and development.

NOTES

1. Parts of this section are based on Conner et al. (1998).

2. This figure is based on 26 communities. Per capita income data on two lower-income communities were not available because their boundaries do not correspond to census data boundaries.

3.   The Community Indicators Project for the Colorado Healthy Communities Initiative was developed cooperatively by a steering committee composed of representatives from The Colorado Trust (Doug Easterling and Dana Nickless), OMNI Research and Training (Susan Stein, Jim Adams-Berger and Augie Diana) and the Research Team (Ross Conner).

4.   These case studies are based on interviews with the project directors of these communities, Lynn Shine (Operation Healthy Communities) and Wendy Wintermute (Healthy Pueblo 2000). They gave freely of their time and knowledge; we are grateful for their assistance.

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