CHAPTER 4

Using Data to Shape Your Adolescent Health Program

Contents

Note: Citations are listed by chapter in the reference section at the end of the document.

This chapter offers guidance for creating a local adolescent health profile. It introduces the reader to official data sources for the 21 Critical Health Objectives and to strategies for measuring the concepts of healthy environments and youth development. The chapter also discusses the importance of demonstrating responsible stewardship of the funding for an adolescent health program.

The first part of this document presented background information on adolescent health and the National Initiative, including the 21 Critical Health Objectives; the remaining chapters provide guidance to states and local communities for improving and promoting adolescent health. This chapter discusses the role of data in shaping adolescent health initiatives; subsequent chapters focus on recommended components of state and local action, such as coalition building and program planning, implementation, and evaluation.

The quality of data on adolescent health risk behaviors has advanced considerably over the past decade, and the 21 Critical Health Objectives themselves represent this progress. As noted in Chapter 1, the Critical Health Objectives all have (or will soon have) national- and state-level data. Chapter 3 described emerging approaches that define adolescent health broadly, complementing the traditional focus on "individual problem behaviors" with concepts of healthy adolescent development and health-promoting environments. Although there has been recent progress in measuring these last two concepts, no ongoing national and few state surveys exist that are comparable to efforts providing data on the 21 Critical Health Objectives. The present chapter attempts to balance the relative wealth of data on "problem behaviors" with promising, but less tested, strategies for measuring newer concepts of adolescent health. Most communities will need to work with data experts. To maximize effective use of the data, most states have data contacts within their Title V Maternal and Child Health Program which can provide technical assistance in measuring adolescent health at the state and community level.

How Data Can Shape a Community Adolescent Health Initiative

Data serve several purposes for policy makers and creators of health initiatives. First, data play an important role in ensuring accountability. Both public and private funders increasingly require organizations to evaluate their efforts so as to demonstrate both responsible use of the funds and programmatic effect. Evaluation requires the collection of data. At the local level, data provide benchmarks by which communities can measure their progress in improving adolescent health. Communities can set goals for two areas: (a) individual adolescent behavior change, such as reducing tobacco use; and (b) creating a social environment that fosters healthy adolescent development and supports adolescents in adopting healthy behaviors. Developing indicators for measuring progress toward individual and environmental goals can serve many purposes. For example, indicators that are easily understandable and readily communicated can motivate people and communities to mobilize around a health problem. By monitoring trends in these indicators, communities can begin to assess which of their efforts appear to have a positive influence and which seem less effective. Based on this assessment, communities can modify program priorities and resources as needed. Monitoring their efforts through repeated data collection will help them both to assess their progress and to demonstrate their accountability for adolescent health.

As an example, a community might respond actively to an increase in tobacco use among its teens, especially if its rate of adolescent tobacco use runs counter to a statewide decrease. As the community establishes its goals (e.g., decreasing the teen tobacco use rate from 40% to 20%), it can also define the ideal environment to reduce tobacco use by addressing its antecedents. One aspect of an ideal environment might be limiting exposure to tobacco advertising; another might be decreasing minors' access to tobacco products. An ideal envi-

ronment might also foster healthy adolescent development through programs that create positive future expectations and promote academic achievement.

Developing indicators for, and monitoring progress toward, this ideal environment are both challenging yet crucial elements of using data to shape an adolescent health initiative. Communities can develop measurable indicators of this ideal environment and then measure their progress against their baseline. If teen tobacco use decreases more slowly than anticipated, communities can assess progress on individual and environmental factors antecedent to teen tobacco use. For example, data may indicate progress toward goals related to positive future expectations and school success but no changes in exposure to advertising. Or, the data may reveal a more complex picture. Progress on these variables may vary for different subpopulations (e.g., boys/girls, different racial/ethnic groups, students from different schools, or children of smokers vs. nonsmokers). Wherever the data show less progress, communities may want to redeploy resources to address those antecedent factors and subpopulations where more progress is needed. As part of this process, communities may consider whether new strategies are warranted. For example, a larger focus on families may be appropriate, especially if indicators do not improve among children of smokers (a group more likely to use tobacco). Using data in this way, a community can hold itself accountable for both creating a healthy environment for young people and reducing tobacco use. Communities may wish to use a quality improvement process (such as the rapid cycle described in Chapter 7) as part of their efforts to analyze why goals are not being reached.

Challenges in Using Data

Working with data poses significant challenges: communities may not be comfortable with statistics or may fear being labeled a "problem community" relative to some of the issues covered by the 21 Critical Health Objectives, such as adolescent alcohol, drug, tobacco use, or violence. To address these challenges, people playing leadership roles in adolescent health must work in close collaboration with their community; they need to engage a diverse range of stakeholders and develop a comprehensive strategy for communicating data to the public. These issues are addressed in more detail in Chapters 5 and 6. By using data to shape their programs, communities can develop strategies that make data more useful. For example, they might identify changes that need to be made in the data collection system, or they might need to stretch existing resources through creative collaboration.

Using Data Sources to Create a Local Adolescent Health Profile

Many communities will be able to focus on just one or two content clusters of the 21 Critical Health Objectives (e.g., objectives related to chronic disease prevention). This document presents a two-phase process for using data to drive an adolescent health agenda.

- First, communities can draw on the data sources in Table 4-1 (National, State, and Local Data Sources) to create an adolescent health profile based on the 21 Critical Health Objectives. This table includes major national sources of data, including the official *Healthy People 2010* data source for each Critical Health Objective, state-level sources, and suggested community-based sources. Communities may want to complement this profile by measuring antecedent factors of the health risk behaviors represented by the 21 Critical Health Objectives. Measures of antecedent factors provide a broader picture of adolescent well-being by addressing youth development and the status of the social environment. (There are often significant challenges in obtaining such data locally. The next section of this chapter offers more information about resources for measuring youth development and environmental factors.) Using this initial profile, community leaders can identify priority Critical Health Objectives that are adolescent health priorities for their communities.

Table 4-1: National, State, and Local Data Sources for the 21 Critical Adolescent Health Objectives

Critical Objective (Healthy People 2010 Objective Number)	**Indicator**	**National Sources***	**State Sources**	**Local/County Sources**
Mortality				
Reduce deaths of adolescents and young adults. (16-03)	Rate per 100,000	NVSS[1]; NCIPC [2], CDC	State Department of Health, Vital Statistics; NCIPC	County Department of Health, Death Certificates (Note: large cities maintain registries)
Injury				
Unintentional Injury				
Reduce deaths caused by motor vehicle crashes. (15-15)	Rate per 100,000	NVSS; FARS[3]; NCIPC	FARS, NCIPC	County Department of Transportation; Coroners' office
Reduce deaths and injuries caused by alcohol- and drug-related motor vehicle crashes. (26-01)	Rate per 100,000	FARS	FARS; State Traffic Record Systems	County Department of Transportation
Increase the use of safety belts. (15-19)	Percent	YRBSS[4]	YRBSS	Local surveys of high school students
Reduce the proportion of adolescents who report that they rode, during the previous 30 days, with a driver who had been drinking alcohol. (26-06)	Percent	YRBSS	YRBSS	Local surveys of high school students
Violence				
Reduce homicides. (15-32)	Rate per 100,000	NVSS; NCIPC	State Department of Health, Vital Statistics; NCIPC	State Department of Health Services, Vital Statistics, Coroners' offices, Police departments
Reduce physical fighting among adolescents. (15-38)	Percent	YRBSS	YRBSS	Local surveys of high school students
Reduce weapon carrying by adolescents on school property. (15-39)	Percent	YRBSS	YRBSS	Local surveys of middle and high school students
Reduce the suicide rate. (18-01)	Rate per 100,000	NVSS; NCIPC	State Department of Health Services, Vital Statistics; NCIPC	CDC Wonder; County Department of Health
Reduce the rate of suicide attempts by adolescents that required medical attention. (18-02)	Percent	YRBSS	YRBSS	Local surveys of high school students
Substance Use				
Reduce the proportion of persons engaging in binge drinking of alcoholic beverages. (26-11)	Percent	NSDUH[5]; YRBSS, Monitoring the Future (supported by NIDA)	YRBSS	Local surveys of middle and high school students
Reduce past-month use of illicit substances (marijuana). (26-10)	Percent	NSDUH; YRBSS, Monitoring the Future (supported by NIDA)	YRBSS	Local surveys of middle and high school students
Mental Health				
Reduce the proportion of children and adolescents (with disabilities) who are reported to be sad, unhappy, or depressed. (06-02)	Percent	NHIS[6]	State Department of Mental Health	Local surveys of middle and high school students

Critical Objective (Healthy People 2010 Objective Number)	**Indicator**	**National Sources***	**State Sources**	**Local/County Sources**
(Developmental) Increase the proportion of children with mental health problems who receive treatment. (18-07)	Percent	NSDUH (proposed)		
Reproductive Health				
Reduce pregnancies among adolescent females. (09-07)	Rate per 1,000	NVSS; National Survey of Family Growth (NSFG); Abortion Provider Survey, Alan Guttmacher Institute; CDC Abortion Surveillance	State Department of Health, Vital Statistics	Local Department of Health; State Department of Health, Vital Statistics
Reduce the number of new HIV diagnoses among adolescents and adults. (13-05) (Developmental)	Number of Cases	HIV/AIDS Surveillance System (proposed)	NVSS; State Health Department HIV Office/Control Program	Local Health Department
Reduce the percent of adolescents and young adults with *Chlamydia trachomatis* infections. (25-01)	Rate per 100,000	STD Surveillance System (STDSS)[7]	State Health Department STD Control Programs and Regional Infertility Prevention Programs	Local Health Department
Increase the proportion of adolescents who abstain from sexual intercourse or use condoms if currently sexually active. (25-11)	Percent of sexually abstinent youth, percent of condom use among sexually active youth	YRBSS	YRBSS	Local surveys of high school students
Chronic Disease Prevention				
Reduce tobacco use by adolescents. (27-02)	Percent	YRBSS	State Youth Tobacco Survey; YRBSS	Local surveys of high school students, State Youth Tobacco Survey
Reduce the proportion of children and adolescents who are overweight or obese. (19-03)	Percent	NHANES[8]	YRBSS	Local surveys of middle and high school students
Increase the proportion of young persons who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 minutes or more. (22-07)	Percent	YRBSS	YRBSS	Local surveys of middle and high school students
Demographics	Population & Population Growth; Race/Ethnicity; Socioeconomic Status	U.S. Census Bureau	State Department of Finance; U.S. Census Bureau	County Department of Health, U.S. Census Bureau

KEY:
[1] **NVSS-National Vital Statistics System** Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS)
[2] **NCIPC-National Center for Injury Prevention and Control,** CDC
[3] **FARS- Fatality Analysis Reporting System** Department of Transportation (DOT), National Highway Traffic Safety Administration (NHTSA)
[4] **YRBSS-Youth Risk Behavior Surveillance System**, National Center for Chronic Disease Prevention and Health Promotion, CDC
[5] **NSDUH- National Survey on Drug Use & Health** formerly called the National Household Survey on Drug Abuse (NHSDA)
[6] **NHIS-National Health Interview Survey** CDC, NCHS
[7] **STDSS-STD Surveillance System** CDC, National Center for HIV, STD and TB Prevention
[8] **NHANES-National Health and Nutrition Examination Survey** CDC, NCHS
* Note: The sources used to determine the national baseline and 2010 targets are underlined.

- In the second phase, community leaders can conduct a needs-and-assets assessment to examine community factors related to the selected objectives—including factors such as (a) existing programs and services and (b) attitudes and beliefs among different stakeholders and sectors of the community. This assessment process is described in Chapter 5.

Determining community priorities for adolescent health involves more than reviewing a list of indicators. Leaders must also weigh such issues as local values and the political will to address given topics. Thus, some communities may opt not to focus on an Objective that is likely to lead to divisiveness or controversy among community partners. Chapters 5 and 6 address issues related to community decision-making.

Data Sources for the 21 Critical Health Objectives

Healthy People 2010 identifies an official data source for each of its 467 objectives, including the 107 objectives related to adolescents and young adults and the subset of the 21 Critical Health Objectives. Additional data sources could be used at the state and local levels to monitor progress toward the 21 Critical Health Objectives. These data sources represent a variety of research methodologies, each having its advantages and disadvantages. For example, data from household interviews may underestimate the prevalence of particular behaviors, as some young people may not be candid when talking to a stranger, either on the telephone or face-to-face, with their parents in close proximity. An overview of the different types of data represented in the official data sources for the 21 Critical Health Objectives is presented in Table 4-2. To balance the limitation of any one source of data, communities can use multiple sources to develop an adolescent health profile. This table highlights advantages and disadvantages of the data sources. Communities can work with data experts to decide how best to use available sources in developing the most accurate measures.

Broader Measures of Health and Well-Being

Youth Development

As described in Chapter 3, research on broader measures of adolescent health and well-being has advanced considerably over the past decade, and there are now several approaches for measuring youth development. These approaches and their respective data collection instruments are listed in Table 4-3. Although the approaches differ in some aspects, such as the extent to which they emphasize community context versus individual traits, all share the following:

- a focus on fostering strengths and assets of youth
- recognition of the influence of community/environmental factors
- a philosophy that adolescents' assets can be fostered through programs, policies, and community efforts

In addition, there are several areas of convergence in the domains measured by the youth development approaches, including bonding with adults, social competence, and recognition of positive behavior. Although national consensus is still lacking on the best questions for measuring the domains of youth development, states and communities interested in these measures have several options to consider, and several states currently collect data on some aspects of youth development. For example, states are incorporating youth development measures in their ongoing statewide surveys of youth risk behaviors (see box about collecting youth development data). In addition, many communities are collecting data on positive youth development. Where state and local data are not available, communities may want to review national data sets for applicability. For example, if a community has a large Latino population, it may want to review research from the AddHealth study to see which risk and protective factors have the strongest relationships to adolescents' behaviors in this population.

Table 4-2: Description of Official Data Sources for the 21 Critical Health Objectives

Type of Data Official Data Source (Critical Objective)	Brief Description of Benefits and Limitations	Agency & Web Site
Vital statistics		
▪ National Vital Statistics System - Mortality (NVSS-M), (births; overall mortality; mortality from homicide and suicide and motor vehicle crashes)	▪ Near-complete coverage of events (i.e., deaths and births).	National Center for Health Statistics (NCHS)/Centers for Disease Control and Prevention *http://www.cdc.gov/nchs/nvss.htm*
Household interview surveys		
▪ National Health Interview Survey (NHIS), (for adolescents who are sad, unhappy or depressed) ▪ National Health and Nutrition Examination Survey (NHANES), also includes clinical examinations (for obese/overweight adolescents) ▪ National Survey on Drug Use and Health (NSDUH), (for binge drinking, illicit substance use, and mental health treatment)	▪ Delay in availability; weighting software may be needed to obtain national estimates. ▪ Samples vary across time for a given survey in terms of size, age, and racial/ethnic diversity. ▪ Household surveys generally produce lower estimates of risk behaviors. ▪ Self-reported data may not be reliable.	NHIS & NHANES are administered by NCHS/NHIS: *http://www.cdc.gov/nchs/nhis.htm* *http:/www.cdc.gov/nchs/products* NHANES: *http://www.cdc.gov/nchs/nhanes.htm* NSDUH is administered by the Substance Abuse and Mental Health Services Administration NSDUH: *http://www.samhsa.gov/oas/nhsda.htm*
Anonymous school-based survey		
▪ Youth Risk Behavior Surveillance System (YRBSS), (seat belt use, rode with drinking driver, binge drinking, fighting, weapon carrying, abstained from intercourse/ condom use, suicide attempts, exercise)	▪ School-based sample may not be represent-ative in communities with large populations of adolescents not in school. ▪ Self-reported data may not be reliable.	Division of Adolescent and School Health, Centers for Disease Control and Prevention YRBS: *http://www.cdc.gov/yrbs*
Disease surveillance		
▪ Chlamydia Prevalence Monitoring Project	▪ Because data are gathered from testing of female clinic patients (from family planning clinics, some STD clinics, prenatal clinics, and jails and juvenile detention centers), they are not generalizable to entire population; different settings use different diagnostic tests.	National Center for HIV, STD and TB Prevention, Centers for Disease Control and Prevention *http://cdc.gov/std*
Fatality Analysis Reporting System (FARS)		
▪ Automobile crash reporting system	▪ No race/ethnicity data.	National Highway Traffic Safety Administration, National Center for Statistics and Analysis *http://www-fars.nhtsa.dot.gov*

(Adapted from Family Health Outcomes Project, 2000).

Table 4-3: Overview of Approaches and Instruments that Measure Youth Development

Approach Name ▪ Researchers ▪ Name of Instrument ▪ Web Site	Features of Instrument
Community Change for Youth Development (CCYD)	
▪ J.P. Connell, M.A. Gambone ▪ The Youth Survey ▪ *http://www.ppv.org* (Public/Private Ventures)	▪ includes measures of community support, attitudes, & risk behaviors ▪ appropriate for culturally & socioeconomically diverse populations ▪ length of survey requires individual interviews (extensive focus on how time is spent)
Communities That Care (CTC)	
▪ J.D. Hawkins, R. Catalano ▪ The Youth Survey ▪ *http://depts.washington.edu/sdrg* (Social Development Research Group, University of Washington, Seattle)	▪ focus on adolescents' negative outcomes and their antecedents ▪ measures have high predictive value ▪ appropriate for culturally & socioeconomically diverse populations ▪ requires high reading level ▪ must purchase
Community Youth Development† (CYO)	
▪ Pittman ▪ (no instrument) ▪ www.*forumforyouthinvestment.org*	▪ (no instrument)
Resilience	
▪ B. Bernard et al. ▪ Healthy Kids Resilience Module (HKRM) ▪ *http://www.wested.org*	▪ most rigorously tested instrument focusing on resiliency ▪ relatively short, can be used with younger children ▪ appropriate for culturally & socioeconomically diverse populations
Search Institute	
▪ P. Scales, D. Blythe ▪ Profiles of Student Life: Attitudes & Behaviors (PSL/AB) ▪ *http://www.search-institute.org*	▪ pioneering study, leading first efforts to measure external and internal assets ▪ limited diversity in samples (primarily White, from Midwest) ▪ no published reports of psychometric properties ▪ must purchase
National Longitudinal Study of Adolescent Health* (AddHealth)	
▪ R. Udry et al. ▪ AddHealth ▪ *http://www.cpc.unc.edu/addhealth/*	▪ large national study examining the role of context in shaping adolescents' health and well-being (including health risk behaviors). Contexts examined include family, friends and peers, school, neighborhood, and community.

* We include AddHealth in this table because its findings have contributed significantly to our understanding of how context influences adolescents. Because of the complexity of the survey and study design, most communities cannot use the AddHealth approach. Adapted from Cagampang et al. 2001.
†Although no formal research instrument exists, the Forum has been a leader in the youth development field.

Table 4-4: Domains (External and Individual Assets) in Youth Development Instruments

Domain (General Term)	Approaches Incorporating the Domain: Specific Term(s)**†
External Assets:	
Safe Environment	CYD: Safe places; health; quality schools CCYD: Physical safety
Bonding	CYD: Healthy relationships with adults and peers; supportive community PSL-AB: Support CTC: Caring adult relationships CCYD: Connections with adults/peers HKRM: Caring adults in home, school, community Add Health: Support
High Expectations	CYD: High expectations and standards CTC: High expectations; home, school, and community peers CCYD: High, clear, fair expectations AddHealth: Expectations
Pro-social Involvement	CYD: Challenging experiences; participates, contributes PSL-AB: Empowerment CTC: Opportunities for involvement CCYD: Meaningful involvement; membership; challenge; engaged activities; learning experiences HKRM: Meaningful participation in a pro-social group
Autonomy	HKRM: Autonomy
Recognizes Positive Behavior	PSL-AB: Boundaries & expectations CTC: Monitoring, recognition of positive behaviors CCYD: Sense of boundaries AddHealth: Expectations; boundaries and expectations
Constructive Use of Time	CYD: Role models; resources; networks PSL-AB: Constructive use of time CCYD: Attention to activities; time AddHealth: Constructive use of time
Spirituality	CTC: Belief in moral order, religiosity CCYD: Connection—something larger than self HKRM: Belief system AddHealth: Religious belief
Individual Assets:	
Social Competence	PSL-AB: Social competence CTC: Communication & social skills CCYD: Social relationships HKRM: Cooperation; communications AddHealth: Social relations
Emotional Competence	CYD: Connectedness HKRM: Empathy
Moral Competence	CYD: Character
Cognitive/Behavioral Competence	CYD: Competence CTC: Discipline through problem solving CCYD: Coping positively with vicissitudes HKRM: Problem solving
	CYD: Confidence CCYD: Effectiveness HKRM: Self-efficacy

Domain (General Term)	Approaches Incorporating the Domain: Specific Term(s)**
Contribution	CYD: Contribution CCYD: Cares for self/others
Clear, Positive Identity	PSL-AB: Positive identity HKRM: Self-awareness AddHealth: Identity
Belief in the Future	HKRM: Goals & aspirations AddHealth: Schooling
Monitoring	CTC: Self-control CCYD: Avoids harm
Pro-social Norms	PSL-AB: Positive values; commit to learning CTC: School success

†Specific terms are the actual descriptive terms used by each instrument
**Instrument Abbreviations:

CYD: Community Youth Development
CCYD: Community Change for Youth Development
CTC: Communities That Care
HKRM: Healthy Kids Resilience Assessment
PSL-AB: Profiles of Student Life: Attitudes & Behaviors
AddHealth: National Longitudinal Study of Adolescent Health

Collecting youth development data: State and local example

Vermont: The Agency of Human Services in Vermont has adopted an "outcomes-based" approach in many of its initiatives, including efforts to improve health. In collaboration with local communities and other state agencies, the state established 10 general outcomes it is committed to achieving, including "Youth choose healthy behaviors." For each outcome, there are specific indicators. The "Youth choose healthy behaviors" outcome includes several indicators that directly overlap with the 21 Critical Health Objectives, including pregnancy rates and past-month use of cigarettes, alcohol, and marijuana. The state also includes five questions on its Youth Risk Behavior Survey that measures positive youth development. These questions, taken from the Search Institute's Survey (Profiles of Student Life: Attitudes & Behaviors), include the percentage of students (a) participating in youth programs and (b) volunteering in their community. These measures are included in a comprehensive "Community Profile" that communities and the state use to monitor progress toward its 10 outcomes. When the Community Profiles show troubling trends, communities develop interventions to address the problem areas.

Source: Personal Communication, May 2002; Paula Duncan, M.D., formerly of the Agency of Human Services in Vermont, currently at the University of Vermont. Also see: *http://www.ahs.state.vt.us.*

Rochester, NY: Researchers from the University of Rochester teamed with the local United Way and the County Youth Bureau to develop the READY (Rochester Evaluation of Asset Development for Youth, 2002, 2003), a survey with questions related to youth development for youth-serving community agencies supported by the United Way. The agencies wanted to measure their progress toward youth development goals, but needed a survey that was both shorter than the major surveys and applicable to the goals of some 20 different agencies. In the first phase of the project, the researchers and the agencies' staff worked together to identify outcome areas of common interest. Initially, the team developed a list of 54 individual measures, covering 10 outcome areas. Through an iterative process, this list was eventually narrowed down to four outcome areas that were most important and most able to be affected by programs: productive use of leisure time, social skills, caring adult relationships, and decision making. After pilot-testing of the survey, a factor analysis confirmed the following constructs: basic social skills (self-control, empathy, and communication), caring adult relationships, and decision making. The final instrument is a pencil-and-paper survey consisting of 40 items measuring the four core outcomes along with program participation and sociodemographic information. READY is designed for use with program participants aged 13-19 and takes about 10-15 minutes to complete. More information about this tool is available at: *http://www.urmc.rochester.edu/gchas/div/adol/leah/resources.HTM.*

Source: "Building a Youth Development Outcome Measure," Klein, J.D., Matos, M. Smith, S.M., Lewis, K., Kodjo, C. Ryan, S. & Danbino, C. Division of Adolescent Medicine, University of Rochester, United Way of Rochester, and the Monroe County Youth Bureau, Rochester, New York. Society for Adolescent Medicine, Seattle, WA, March 2003.

Contextual Data

The past decade has also witnessed significant progress in the development of contextual data indicators. Research has demonstrated that the social context in which people live affects their health above and beyond the effects of individual and family factors. For example, adolescents who live in impoverished neighborhoods or neighborhoods with a high percentage of single-parent households are more likely to become pregnant, regardless of whether the individual teen is poor or lives in a single-parent household. The development of Geographic Information Systems (GIS) has driven progress in contextual data. GIS can provide neighborhood-specific data on a wide range of social indicators. National efforts to support local use of GIS to enhance community-building endeavors include the National Neighborhood Indicators Project (NNIP), spearheaded by the Urban Institute in Washington, DC. The Baltimore Neighborhood Indicators Alliance (BNIA), an NNIP partner, provides an example of the range of data that GIS can provide. Neighborhood data available from BNIA include demographic features such as income, age, sex, racial/ethnic composition, and household/family composition; education statistics such as high school dropout and graduation rates; and a wide range of health measures, including hospitalizations, teen enrollment in drug/alcohol treatment programs, births to teenagers, and age-specific homicide rates.

Communities can use these data for many purposes, such as identifying strategies to coordinate neighborhood services more effectively. In developing adolescent health profiles, communities can use these data to better understand the context in which adolescents make health-related decisions. Contextual factors complement individual- and family-level data.

Using data to improve mental health services: An example from Oakland, California

In 1990, the Urban Strategies Council (USC) and the superintendent of the Oakland Unified School District recognized a common challenge: the school system and the city's array of social service agencies were not dealing with children comprehensively. Students' difficulties at school often emanated from problems at home, but the efforts of the schools and other agencies to help were fragmented and sometimes contradictory. Agencies usually became involved only at times of crisis rather than working coherently to address root causes of problems.

Recognizing its advanced data processing capabilities and the fact that it already had some of the relevant information on hand, USC secured, processed, and linked school and social agency data files for the students of one elementary school and their families. The results were presented to agency representatives in a 1991 meeting called "The Same Client." The overlap of service provision was striking, and it motivated agreement to conduct a similar study for additional schools. In 1992, USC published the results in the report "Partnership for Change." It showed that almost 2 of 3 students used public services, and more than a third used at least two different services. The report also documented that the system was investing significantly more in crisis services than in prevention and that there were important differences between racial groups in service needs as well as in actual provision of these services.

Study findings were presented to the county's board of supervisors and other high-level officials, but their most important use was for the creation of Oakland's Interagency Group, which USC convened and facilitated. The process established new working relationships among representatives of different agencies, as it forced them to recognize common challenges. To move forward, they had to "acquaint themselves with agencies outside their normal scope of work," and together "discuss the kinds of joint action they might undertake, patterns of service use, relationship among agencies, and the ultimate effectiveness of existing programs".

This process resulted in the idea of deploying staff from different agencies to form family support teams for individual schools. The teams would "develop new collaborative strategies for working

with troubled families, taking on the crisis situations most taxing for schools, and leaving school resources to be focused on prevention, on establishing more positive activities, and on outreach to parents." This concept has since been tested in several schools, and wider implementation is underway. USC continues to be involved in monitoring performance and providing ongoing guidance and support.

Adapted from: Urban Institute 1999

Creating a Community Adolescent Health Profile

A comprehensive local adolescent health profile includes data for the 21 Critical Health Objectives as well as measures of youth development and the environmental context—measures that have a strong influence on the health issues addressed by the 21 Critical Helath Objectives. Communities need to develop a realistic plan for creating an adolescent health profile that is feasible given existing resources. Because of the limitations in official data sources for the 21 Critical Health Objectives, health officials must be careful in interpreting the national- and state-level statistics and rates provided by these sources. It is even more important to use caution when drawing on these data sources to create a local adolescent health profile. These examples serve to familiarize the reader with data issues and are not intended as comprehensive guidelines for using data. It is important to emphasize that despite their limitations, current data sources represent a significant improvement over the data available a decade ago and permit a greater understanding of adolescent health.

A sample adolescent health profile based on the official data sources for the 21 Critical Health Objectives is presented in Table 4-6. This sample profile reflects the reality that in many communities local measures may not be available for all 21 Critical Health Objectives. Still, the profile serves as a useful starting point. In addition to presenting figures for the 21 Critical Health Objectives, the table suggests some measures (and presents data) for adolescents' feelings of connectedness to family, school, and community. These measures complement the traditional "problem-focused" measures represented by the 21 Critical Helath Objectives.

Using data locally: Multiyear indicators for vital statistics

It is relatively easy to obtain data for the five Critical Health Objectives that are measured by vital statistics (overall mortality, motor vehicle crashes mortality, homicide, suicide, births). In some cases, however, these events are relatively rare among adolescents at the local and sometimes the state level, which results in misleading or unreliable indicators. Even small changes in the number of births or deaths in such cases can change a rate dramatically. To adjust for these distortions, states and communities can calculate multiyear rates.

- The small size of many Kentucky counties makes it difficult to calculate valid county-level teen birth rates. Many of the state's 120 counties have less than 20 births to teens aged 15-17 each year. To adjust for these small numbers, the state calculates 3-year averages. In one county, 11 births in 1998 translated into a birth rate of 39.4/1,000 females aged 15-17. The same county had 35 births for 1996-1998, for a 3-year average birth rate of 46.8/1,000. State officials use the latter figure as the official county rate. Former state adolescent health coordinator John Webb notes that sometimes, when there are two or three births in one high school, for example, he receives calls from local health officials inquiring about the county birth rate. With the 3-year averages, the state can provide accurate rates, which allows local health officials to assess the extent of teen births and establish priorities and allocate resources accordingly.

Source: Personal Communication, May 2003; John Webb, Kentucky Department of Health.

Because many communities can focus on only one cluster or just a few Critical Health Objectives, having a local profile can guide a community's initial decisions on which of the Objectives to address. Chapters 5 and 6 focus on developing and implementing a local initiative for the Objectives selected. In selecting priority Objectives, communities may want to consider different criteria after reviewing the profile itself. For example, a community's profile might suggest that five Objectives warrant further attention because of their prevalence. Communities may consider the following questions in prioritizing those five:

- Which Critical Health Objective(s) is/are most likely to engage the community?
- Which Critical Health Objectives have the most salience for the community?
- Which would be the least divisive?
- How many adolescents are affected by the health issue? (For example, although the community's suicide rate might be very high compared to the national average, physical fighting probably affects more adolescents, even if the community estimate for that behavior is relatively low.)
- For which Objectives are resources (e.g., funding, staff support) already available?
- Would it be logical to address two or three Objectives that cluster (e.g., binge drinking and alcohol-related motor vehicle accidents; or pregnancy, Chlamydia, and HIV prevention)?

Communities should also consider the extent to which a collaborative process might be used in selecting priority Objectives. Because the adolescent health profile can be created with just a few staff people in the local health department, some may prefer to have those people select the Objectives. Others may solicit guidance from a larger group, (e.g., by convening a meeting of key community stakeholders). The next chapter addresses the topic of working collaboratively.

Local health profiles: An example for the general population.

The Community Health Status Indicators (CHSI) project illustrates one approach to developing a community health profile. In response to requests from local health department officials for county-level data, the federal Health Resources and Services Administration funded the CHSI collaboration among the Association of State and Territorial Health Officials, the National Association of County and City Health Officials, and the Public Health Foundation. CHSI developed and published health profiles for all 3,082 U.S. counties (available at www.communityhealth.hrsa.gov). CHSI is based on the premise that "community health improvement begins with an assessment of needs, quantification of vulnerable populations, and measurement of preventable disease, disability, and death." The county profiles use a broad spectrum of health indicators in the following areas:

- Population Characteristics
- Four Summary Measures of Health
- Leading Causes of Death
- Measures of Birth and Death
- Vulnerable Populations
- Environmental Health
- Preventive Services Use
- Risk Factors for Premature Death
- Access to Care

To help local health officials identify priority areas, the CHSI Web site allows counties to compare their health indicators with *Healthy People 2010* targets, 1997 U.S. rates, and peer counties – counties that share characteristics of population size, density, age distribution, and poverty. The health profiles include some local estimates based on national and state data, including estimates of risk behaviors among adults based on the Behavioral Risk Factor Surveillance System.

Accountability to Funders

Both public and private funders are increasingly requiring organizations to demonstrate progress toward program goals. Funders, often in collaboration with grantees, establish indicators to measure such progress. Where progress is slow, funders may provide support to help organizations address perceived barriers. In some cases, funders may reduce funding or take more direct control over programs. The types of data collection that funders require vary considerably, as do their responses to lack of progress. It is worth noting, however, that many community organizations receiving support from government agencies (or private funders) may already be required to collect data on measures related to the 21 Critical Health Objectives. One example of data and accountability, the Title V Maternal and Child Health Block Grant Performance Measures, is presented in the text box.

Using data to promote accountability:
Performance measures for the Maternal and Child Health Block Grant.

The Title V Maternal and Child Health Block Grant (MCHBG), a federal-state partnership administered by the Health Resources and Services Administration's Maternal and Child Health Bureau, focuses broadly on promoting the health of women, children, youth, and families. Within broad funding guidelines, states can use MCHBG funds to meet locally determined needs that are consistent with their priorities. To improve monitoring of state MCHBG-funded programs, the Maternal and Child Health Bureau, in collaboration with states, developed a system of performance measures. States are required to report on 18 national (or "core") performance measures as well as 7-10 state-specific (or "state-negotiated") performance measures. By monitoring progress on these measures, the Maternal and Child Health Bureau and state MCH programs can hold themselves accountable for MCHBG funds. In part, the performance measures were developed in response to the Government Performance and Results Act (passed by Congress in 1993). The national and state-negotiated MCHBG measures include some measures related to adolescents. The overlap between the 21 Critical Health Objectives and core and state-negotiated performance measures monitored by MCHBG is shown in Table 4-5. More detailed information about MCHBG and the performance measures is available at *http://performance.hrsa.gov/mchb/mchreports*.

Table 4-5: Comparison of the 21 Critical Health Objectives and Title V Maternal and Child Health Performance Measures (PMs) and Developmental Health Status Indicators (HSIs) in 2002.

21 Critical Health Objectives	MCH PMs		HSIs
	National	State-Negotiated	
Mortality			
Motor vehicle fatalities		✓ (8)*	✓
Alcohol-drug-related motor vehicle fatalities & injuries			
Safety belt use			
Riding with drinking driver			
Suicides	✓	✓ (2 - prevention)	
Injurious suicide attempts		✓ (1)	
Homicides		✓ (2)	
Physical fighting		✓ (6 - includes intentional injury)	
Weapon carrying			
Binge drinking		✓ (11 - alcohol use)	
Use of marijuana		✓ (1 - substance use)	
Feeling sad, unhappy, or depressed			
Youth with mental health problems who receive treatment		✓ (2)	
Pregnancies among 15-17-year-olds	✓	✓ (13 - some address repeat pregnancy)	
HIV infection			
Chlamydia		✓ (6)	✓
Abstinence or used condom at last intercourse		✓ (2)	
Used any tobacco product		✓ (15)	✓
Overweight/obese		✓ (13)	
Vigorous physical activity			

✓ Indicates the presence of the respective Title V MCH PMs and HSIs, 2002.
*The numbers in parentheses indicate the number of states with this measure.

Source: *http://performance.hrsa.gov/mchb/mchreports/search/neg/negmenu.asp*

Summary

This chapter introduced topics related to the use of data for shaping an adolescent health initiative, familiarized the reader with adolescent health data sources for both the 21 Critical Health Objectives and broader measures of health and well-being, and offered guidance for creating a community adolescent health profile. Chapters 5 and 6 discuss uses of data in specific processes, including a needs-and-assets assessment and evaluation. In developing their adolescent health profiles, communities may identify limitations in their ability to gather data, which may include monitoring too few indicators (e.g., if only risk behaviors are measured) or not enough diversity in the adolescents surveyed (e.g., if only one small high school conducts a survey). As communities begin planning their initiatives to improve adolescent health, it may be helpful to develop strategies for identifying or developing data sources to address these limitations. For example, a community with no local surveys addressing the 21 Critical Health Objectives may want to explore administering such a survey in local high schools. Or a community with a large out-of-school adolescent population may want to develop strategies to reach that population so that their behavior is included in the comprehensive community profile.

In planning for long-term data needs, communities can also develop strategies for measuring youth development and the contextual factors that shape adolescents' environment. This chapter has presented existing surveys and sources for these broader measures of health, including state and local examples. At a minimum, states may benefit from conducting this initial review of their adolescent profile and comparing it with national measures for the 21 Critical Health Objectives, which highlight health issues meriting consideration. This document is intended to support communities in their next wave of efforts—working collaboratively with stakeholders both to focus on specific areas of need and to build opportunities for young people. The next chapters present specific steps and tools to help communities move their data into action.

Table 4-6: Hypothetical Adolescent Health Community Profile

2010 Objective	U.S. Baseline	2010 Target	Example of State Measure	Example of Community Measure
Reduce deaths of adolescents and young adults. (16-03 a,b,c)				
- 10-to 14-year-olds	21.5/100,000 (1998)	16.8/100,000		19.3/100,000 (1999)
- 15-to 19-year-olds	69.5/100,000 (1998)	39.8/100,000		67.4/100,000 (1999)
- 20-to 24-year-olds	92.7/100,000 (1998)	49.0/100,000		90.6/100,000 (1999)
Unintentional Injury				
Reduce deaths caused by motor vehicle crashes. (15-15 a)	25.6/100,000 (1999)	[1]		34.5/100,000 (1999)
Reduce deaths and injuries caused by alcohol- and drug-related motor vehicle crashes. (26-01 a)	13.5/100,000 (1998)	[1]		17.2/100,000 (1999)
Increase the use of safety belts. (15-19)	84% (1999)	92%	78% (1999)	72%
Reduce the proportion of adolescents who report that they rode, during the previous 30 days, with a driver who had been drinking alcohol. (26-06)	33% (1999)	30%	29% (1999)	Data unavailable.
Violence				
Reduce the suicide rate. (18-01)				
- 10-to 14-year-olds	1.2/100,000 (1999)	[1]		1.0/100,000 (1997)
- 15-to 19-year-olds	8.0/100,000 (1999)	[1]		9.0/100,000 (1997)
Reduce the rate of suicide attempts by adolescents that require medical attention. (18-02)	2.6% (1999)	1.0%	8% (1999)	Data unavailable.
Reduce homicides. (15-32)				
- 10-to 14-year-olds	1.2/100,000 (1999)	[1]	34% (1999)	1.2/100,000 (1999)
- 15-to 19-year-olds	10.4/100,000 (1999)	[1]	7% (1999)	8.0/100,000 (1999)
Reduce physical fighting among adolescents. (15-38)	36% (1999)	32%		Data unavailable.
Reduce weapon carrying by adolescents on school property. (15-39)	6.9% (1999)	4.9%		Data unavailable.
Substance Use				
Reduce the proportion of persons engaging in binge drinking of alcoholic beverages. (26-11d)	7.7% (1998)	2.0%	30% (1999)	5.2% (1997)
Reduce past-month use of illicit substances (marijuana). (26-10b)	8.3% (1998)	0.7%	22% (1999)	8.0% (1997)
Mental Health				
Reduce the proportion of children and adolescents with disabilities who are reported to be sad, unhappy, or depressed. (06-02)	[2]	[2]		Data unavailable.

2010 Objective	U.S. Baseline	2010 Target	Example of State Measure	Example of Community Measure
Reproductive Health				
Reduce pregnancies among adolescent females. (09-07)	68/1,000 females (1996)	43/1,000 females		62/1,000 females (1998)
Reduce the number of new HIV diagnoses among adolescents and adults. (13-05)—Developmental	16,479 (1998) [4]	[3]		Data are from 25 states with confidential, name-based HIV reporting prior to 1994.
Reduce the proportion of adolescents and young adults with *Chlamydia trachomatis* infections. (25-01 a, b, c)				
Females attending family planning clinics	5.0% (1997)	3.0%		4.0% (1998)
Females attending STD clinics	12.2% (1997)	3.0%		11.1% (1998)
Males attending STD clinics	15.7% (1997)	3.0%		14.9% (1998)
Increase the proportion of adolescents who abstain from sexual intercourse or use condoms if currently sexually active. (25-11)	85% (1999)	95%	85% (1999)	82% (1997)
Chronic Disease Prevention				
Reduce tobacco use by adolescents. (27-02 a)	40% (1999)	21%	29% (1999)	43% (1997)
Reduce the proportion of children and adolescents who are overweight or obese. (19-03 b)	11% (1988-1994)	5%		17% (1997)
Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiovascular fitness 3 or more times/week for 20 minutes/occasion. (22-07)	65% (1999)	85%	84% (1999)	50% (1997)
Suggested additional measures:				
contextual				
▪ poverty rate	16.9% (1999)		10.1% (1999)	Not available
▪ family structure	63.6% (1999)		69.6% (1999)	
▪ high school graduation rate	5.1% (1998-99)		3.1% (1998-99)	
family & school*				
▪ engagement in school	40.1% (1999)		43.5% (1999)	
▪ parental stress	9.9% (1999)		11.7% (1999)	

[1] 2010 target not provided for adolescent/young adult age group.
[2] Baseline and target inclusive of age groups outside of adolescent/young adult age parameters.
[3] Developmental objective – baseline and 2010 targets will be provided by 2004.
[4] Proposed baseline is shown, but has not yet been approved by the Healthy People 2010 Steering Committee.

* These two measures come from the National Survey of American Families (NSAF) conducted by the Urban Institute. NSAF measures were selected as examples of indicators with state-level data. This survey contains numerous other indicators from which to choose. For more documentation on these two measures and others contained in this survey please see the following Web site: http://www.urban.org/content/Research/NewFederalism/NSAF/Snapshots/Snapshots.htm.