Rural Healthy People 2010

A Companion Document to Healthy People 2010

A Report Prepared by the Southwest Rural Health Research Center
School of Rural Public Health, The Texas A&M University System Health Science Center

VOLUME I

RURAL HEALTHY PEOPLE 2010 • A Companion Document to Healthy People 2010

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Rural Healthy People 2010:

A Companion Document to Healthy People 2010

VOLUME 1

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2003

IN DEDICATION TO DR. PAUL AMBROSE

The Office of Rural Health Policy's interest in working with the School of Rural Public Health within The Texas A&M University System Health Science Center to develop a rural-focused companion piece to Healthy People 2010 was spurred on by the encouragement of the late Dr. Paul Ambrose. Dr. Ambrose, who was the Luther Terry Health Policy Fellow at the U.S. Department of Health and Human Services (DHHS), died in the crash of American Airlines Flight 77 at the Pentagon on September 11, 2001.

Throughout his career, Dr. Ambrose was a strong supporter of rural health care and felt strongly that there needed to be a rural focus to the Healthy People 2010 initiative. A graduate of the Marshall University Medical School, Dr. Ambrose did his residency at Dartmouth and served as a member of the Council of Graduate Medical Education (COGME), an advisory council to the U.S. Congress on residency training and physician workforce needs. At the conclusion of his residency, Dr. Ambrose studied health policy and public health at Harvard University where he received his Masters of Public Health.

In 2000, Dr. Ambrose was named the Association of Teachers of Preventive Medicine (ATPM) Luther Terry Fellow. This position was established to provide the Office of Disease Prevention and Health Promotion (ODPHP) with clinical research and technical expertise in order to support the Department's preventive service goals. This Fellowship provides a critical link between ODPHP and the medical community and offers a valuable experience for clinicians in health policy development. During his tenure at DHHS, Dr. Ambrose continued his strong support of rural health issues as well as public health. He believed that it was important that the Healthy People 2010 initiative become a useful tool for rural communities. This effort is dedicated to the memory of Dr. Ambrose.

PREFACE

This report is comprised of two volumes. Volume 1 contains brief overviews of the top rural health concerns and objectives associated with Healthy People 2010 focus areas, references to key literature about these concerns, and descriptions of models for practice that rural communities can draw upon to achieve key Healthy People 2010 objectives. Volume 2 is an appendix that presents more detailed literature reviews and associated references for the top rural health concerns.

Healthy People 2010 greeted the new century with a report identifying 467 objectives within 28 focus areas intended to stimulate and support action to improve the nation's health. These objectives were intended to guide actions by national, state, and local governments and by numerous health provider and community-based organizations across the country. The Healthy People 2010 (HP2010) document represented the contributions of more than 350 national organizations and 250 state public health, mental health, substance abuse, and environmental agencies—and the activities of thousands of national, state, and local participants addressing HP2010 objectives in America's states and communities. Healthy People 2010 documents can be found at the Healthy People 2010 website (http://www.healthypeople.gov).

The leaders and staff of the Office of Rural Health Policy (ORHP) recognized that the major goals of Healthy People 2010 to increase the quality and years of healthy life and to eliminate health disparities faced significant hurdles in rural America. Because of the Southwest Rural Health Research Center's (Center's) expertise in rural public health, ORHP charged the Center to work with a diverse rural constituency to identify a number of HP2010 focus areas and selected objectives of importance to rural communities and to provide illustrations of approaches taken by rural areas to address rural needs.

The Center proposed to identify Healthy People 2010 focus areas that were of particular significance to rural America, to review the research literature related to the selected areas, and to identify successful practices and programs that rural communities are employing to address major health problems and that might serve as "models" for communities wishing to address one or more of the HP2010 objectives. The Center did not attempt to mirror the wide-ranging work of thousands of people that went into investigating all of the 28 focus areas with 467 objectives in the Healthy People 2010 document. Instead, the Center's approach included the following steps. First, we selected criteria to be used in identifying HP2010 focus areas that could be considered major health priorities in rural America. Second, using those criteria and two rounds of surveys of stakeholders, we identified 10 HP2010 focus areas. Third, for each of the 10 selected priorities, we carried out extensive literature reviews in each of the priority areas to identify the nature of the problem, the special challenges for rural communities, and what was known about effective approaches to addressing the health problems in rural areas. Fourth, we gleaned from our surveys of stakeholders—including state offices of rural health and other state organizations, ORHP and other national agencies, foundations, research centers, and nationwide samples of rural hospitals, rural health centers, rural health clinics, and rural public health agencies—a number of approaches employed in states and communities to address problems in each of the 10 selected focus areas. Finally, we surveyed the "model" programs identified by these sources and described the approaches they used and how they addressed challenges specific to rural communities.

The following materials reflect the work of the Rural Healthy People 2010 team that began in January 2001 and continued through 2002. Additional work on Rural Healthy People 2010 will continue over the next year, and its products will be reported on our

website (www.srph.tamushsc.edu/rhp2010) and in future reports.

This and other Rural Healthy People 2010 reports are intended to better inform readers on current rural health conditions, provide insights into possible points of attack, and offer examples of models that might be employed in practice to improve rural health conditions. As noted above, this is the first of two volumes. Volume 1 contains an introduction to the Rural Healthy People 2010 project, brief discussions of the literature on each of the selected focus areas and objectives, and descriptions of models for practice for each of 10 Healthy People 2010 focus areas selected. Volume 2 contains the more detailed literature reviews on the same 10 rural health topics along with a more lengthy set of references. The two-volume printed copy of this Rural Healthy People 2010 report captures these topics at a point in time and, like the web-based version, is intended as a useful resource for health professionals, administrators, other community leaders, and policy makers. The web-based version—Rural Healthy People 2010 on the Web—is an “organic document” located at www.srph.tamushsc.edu/rhp2010. It will be updated periodically, adding reviews of additional rural health priority areas and adding new “models for practice,” as we identify them, for each of the top health priority areas. Two new focus areas and associated models for practice will be added during 2003—Immunization and Infectious Diseases, and Injury and Violence Prevention. The dynamic nature of the web version will reflect change as new models for practice emerge, new and important research is published, or other relevant and timely sources of information appear on key health issues for rural America.

The Rural Healthy People 2010 contributors explore many of the disadvantages and disparities facing many rural communities with an eye toward creating wider understanding of rural health needs. At the same time, we do not wish to diminish advantages and attractions that many rural areas already offer to their residents and visitors. More important, we want to recognize and highlight the many rural communities, like those featured in Rural Healthy People 2010 "models for practice." They reflect the hard work and commitment of rural people unwilling to accept existing conditions and who, instead, explore new pathways to improve the health of rural people.

This report and the subsequent success of Rural Healthy People 2010 depends on generous sharing of information from a multitude of people. The following pages only begin to reflect the widespread input from rural constituencies in the initial development of our work and its reports. This is the case for the selection of the rural health priorities, some of the materials incorporated in the reviews, and the compilation and analysis of the dozens of models for practice presented here. All of these elements benefited from the cooperation of hundreds of national, state, and local rural health participants. We encourage these people and others who read Rural Healthy People 2010 materials to forward to the Southwest Center additional research articles, models for practice, and other relevant resource material to support our ongoing efforts to provide rural communities, providers, and organizations with information that is accurate, timely, and useful.

ACKNOWLEDGMENTS

From the beginning of the Rural Healthy People 2010 project, starting with the original request from the Office of Rural Health Policy, that office and many other national and state organizations played an active and significant role in the project. The State Offices of Rural Health along with other state and national experts were very responsive from the beginning in nominating rural health priorities and in assessing the most important criteria for identifying rural priorities. Leaders of the other federally funded rural health research centers, along with the ORHP staff, were very helpful in reviewing the study design and initial products from the project and offering recommendations. Based, in part, upon such recommendations, the project was expanded to garner input from a wide range of state and local rural health leaders on nominations of rural health priorities and accompanying models for practices across the county.

More than a dozen research colleagues at The Texas A&M University System's School of Rural Public Health (SRPH) participated in the early discussions leading up to the design of the project. A number of these faculty played a role in authoring chapters and/or providing guidance on models for practice. They include, in alphabetical order, Craig Blakely, Jane Bolin, James Burdine, Susan Carozza, Brian Colwell, Betty Dabney, Ken McLeroy, Jennifer Peck, Stacey Stephens, Tom Tai-Seale, and Miguel Zuniga. Peter Fos of the University of Nevada-Las Vegas, authored the chapter on oral health. We are grateful, too, for the work of an outstanding team of SRPH graduate student research assistants, who offered support in survey research, literature reviews, and research on models for practice for the project. They include: Kristie Alexander, D'Arcie Anderson, Scott Bell, Denise Blevins, Graciela Castillo, Coleman Chandler, Paul Crews, Magda de la Torre, Annie Gosschalk, Stephanie Pittman, Cortney Rawlinson, Leticia Shanley, and Sarah Stone.

We appreciate, too, the contributions of our former colleague, Gail Bellamy, now of the Institute for Health Policy Research and the Robert C. Byrd Health Sciences Center of West Virginia, who played an important role in the development of criteria and guidelines for selecting models for practice and identification of models. Alicia Dorsey of SRPH provided valuable support in editing the literature reviews and models for practice. The final editing work of Susan Lee is visible, too, in the final product.

Catherine Hawes, Director of the Southwest Rural Health Research Center, played a significant leadership role in conceptualizing the initial project and continuing support for it. Betty J. Dabney, in addition to authoring one of the literature reviews, offered technical guidance in conducting and organizing the materials from our literature reviews and participated in development of guidelines for assessment of models for practice. Linnae Hutchison, Project Manager for the Center and for the Rural Healthy People 2010 project, in addition to co-authoring three chapters, provided daily project coordination and supervision of project activities, had major responsibility for website development, and, indeed, played a key role in every facet of the project. Finally, in light of the many contributions of the aforementioned, I had the good fortune to serve as the Principal Investigator of Rural Healthy People 2010. My work on a few of the literature reviews, the surveys for identifying rural health priorities, and project design and management benefited from the contributions of these participants.

We are especially indebted to the Office of Rural Health Policy, particularly Marcia Brand, its director, for providing the impetus and funding for the Rural Healthy People 2010 project. Joan Van Nostrand, Director of Research for ORHP, and Kathy Hayes, the ORHP liaison to the Rural Healthy People 2010 project, were particularly generous in offering feedback, advice, and encouragement. Many other staff members of ORHP, the Healthy People 2010 Consortium, the Bureau of Primary Health Care, the National Organization of State Offices of Rural

Health, and the National Rural Health Association provided assistance and/or provided opportunities to share our work with others and to gain additional valuable information from informed audiences. A number of other national associations provided assistance, as well, including: American Hospital Association's Section on Small or Rural Hospitals, Association of State and Territorial Health Officials, National Association of County and City Health Officials, National Association of Local Boards of Health, National Association of Community Health Centers, and National Association of Rural Health Clinics.

Finally, all of the Southwest Rural Health Research Center team and the ORPH staff gratefully and respectfully acknowledge the contribution and inspiration of the late Dr. Paul Ambrose, to whom this project is dedicated.

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Rural Healthy People 2010:

A Companion Document to Healthy People 2010

VOLUME 1:
Introduction, Overviews, and Models for Practice

INTRODUCTION TO RURAL HEALTHY PEOPLE 2010

This document and the Rural Healthy People 2010 project (RHP2010) described here are intended to maximize the impact of Healthy People 2010 (HP2010) on health conditions in rural America. In particular, Rural Healthy People 2010 provides information to rural communities, administrators, health practitioners, and other leaders at the local, state, and national levels about rural health conditions identified as priorities by rural health leaders. At the same time, it describes promising community-based interventions and approaches currently being pursued in communities across the nation. Moreover, continued support of this project will provide information on other rural health priorities and the regular addition of new models for practice for any of the rural health priorities addressed.

The impetus for this project was the recognition that rural areas frequently pose different and, in some instances, greater challenges than urban areas in addressing a number of HP2010 objectives. There are rural-urban disparities in health conditions associated with particular preventable or chronic diseases and disparities in infrastructure or professional capacity to address health needs. There is ample evidence that some important rural-urban health disparities exist with respect to, for example, shortages of some types of primary care physicians (obstetricians and pediatricians), shortages of specialized mental health providers and oral health providers, prevalence of tobacco use and drinking-and-driving, and delays in screening and diagnosis of cancer. These and many other disparities are referenced later in this introduction and detailed in the following chapters. In addition, particular geographic, demographic, and cultural conditions in rural areas present obstacles to both rural residents seeking services and providers who would deliver them. We should note that although HP2010 publications include some rural-urban comparison data, a urban-rural chartbook[1] provides visual evidence of a number of such disparities across regions of the country. Also, HP2010 documents include indicators for benchmarks and targets for many of the HP2010 objectives. These are not repeated here, but interested readers are encouraged to examine HP2010 documents at their website (http://www.healthypeople.gov).

It is not the purpose of the Rural Healthy People 2010 project to attempt to address all 28 of the Healthy People 2010 focus areas or even 100 of 467 objectives examined by so many experts within the HP2010 process. The purpose of this project and this document is to provide reviews of the literature highlighting rural disparities and needs in rural health priority areas and to offer examples of models for practice addressing selected rural health priority areas.

METHODOLOGY

The starting point for the Rural Healthy People project was to identify those HP2010 focus areas that should be considered rural health priorities. A first step in designing the project involved round-table discussions among many members of the School of Rural Public Health faculty. These discussions addressed HP2010 focus areas, issues addressed in recent publications such as the edited volume on rural health in America by Tom Ricketts and his associates,[2] the *Journal of Rural Health*, and various bases for selecting among HP2010 focus areas for RHP2010 to address. The discussion led to the identification of nine criteria to be considered in the selection of rural health priorities. Many of these criteria (see Table 1) were identified with existing sources of information that rationally linked individual criteria to related HP2010 focus areas; these sources are indicated by footnotes.

A second step was to begin an initial literature review and to identify sources of information that might be used to identify rural health conditions that rated highly on each particular criteria. The nine criteria were then arrayed against the 28 HP2010 focus areas, and each focus area was examined

Table 1. Initial Criteria for Selecting Rural Health Priorities.

- *Identified by rural people* as a high priority.[3]
- Overall *prevalence* in rural areas [1, 4]
- A *disproportionate prevalence* in rural areas[1, 4]
- Impact of the issue on *mortality*[5]
- Impact of the issue on *morbidity*[6]
- The issue is *a contributor* to other health problems[7]
- The condition's *causes are known*[8]
- *Feasible solutions* for rural communities[9]
- Community *interventions are "known" to work*

against indicators identified for each of the nine criteria. A generalized depiction of the initial sources examined for selection of rural health priorities appears in Figure 1.

Rural Health Priority Survey #1 (E-Mail Survey of National and State Experts)

There was scant information on one criteria—priorities identified by rural people. To address this, RHP2010 staff conducted an e-mail survey in spring 2001 targeting 90 national and state rural health experts. Included in this survey were all of the state offices of rural health and selected staff members of ORHP, Congressional rural caucus, and national rural health research centers. Respondents were referred to the HP2010 website and then were asked to list several rural health needs or issues (or goals or objectives from Healthy People 2010) that came immediately to mind as major rural health priorities. Forty-four of 90 state and national experts responded. Table 2 presents the topics that were most frequently nominated as priorities.

Results of this RHP2010 survey (the first of two) show that nearly all of the respondents' statements of priorities fit within the existing 28 focus areas established within the HP2010 document. Of the 14 rural health topics identified by over 20 percent of the respondents, five topics deal with aspects of access — access to emergency medical services,

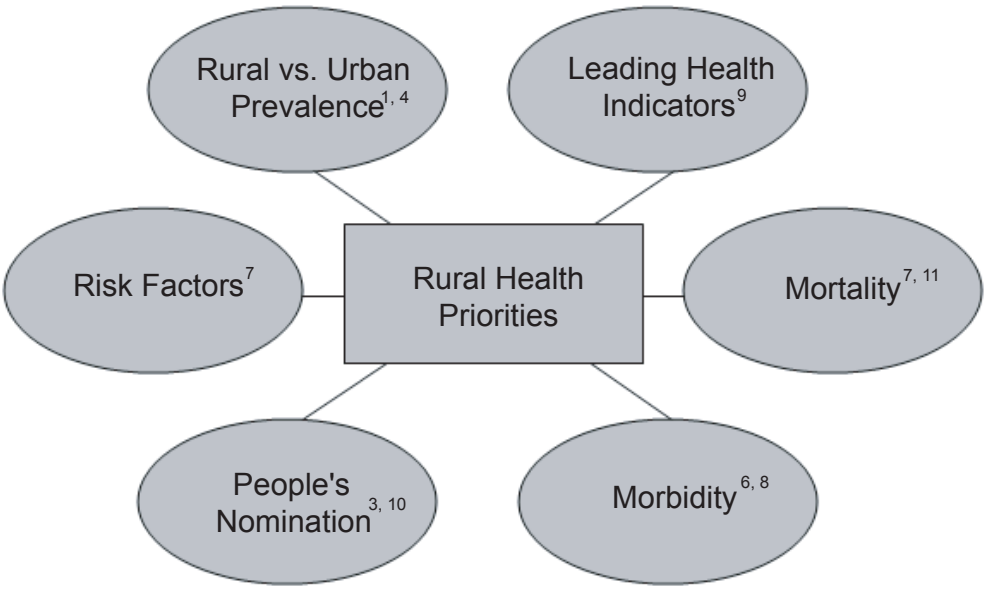

Figure 1. Initial Factors Examined for Selection of Rural Priorities.

Table 2. Rural Health Priorities Identified by National and State Rural Health Experts, Spring 2001.

Rural Priorities (identified by 15% or more)		Percent of Respondents (N=44)
Access to health care (includes one or more of the following):		73%
Access to emergency medical services	32%	
Access to health workforce	29%	
Access to health services (general)	29%	
Access to health insurance	26%	
Access to primary care	24%	
Mental health		49%
Oral health		41%
Educational and community-based programs		29%
Diabetes		26%
Injury and violence prevention		26%
Nutrition and overweight		21%
Public health infrastructure		21%
Tobacco		21%
Maternal, infant, and child health		18%
Occupational safety and health		18%
Cancer		15%
Environmental health		15%
Heart disease and stroke		15%

Adapted from Gamm and Bell, 2001.[10]

health services, health workforce, primary care, and health insurance. Nearly three quarters (73 percent) of the respondents note one or more access-related topics. The next highest percentages of nominations for individual topics appearing in Table 2 are for mental health and oral health. These two areas, too, include other elements of access—access to mental health professionals and dentists. Educational and community programs, diabetes, injury and violence prevention, nutrition and overweight, public health infrastructure, substance abuse, and tobacco were the remaining seven areas nominated by over 20 percent of the respondents.

In this same survey, the national and state rural health experts were asked to rate, on a five-point scale, the degree of importance of each of the nine criteria proposed for selecting rural health priorities for further study. The nine criteria for assessing rural health priorities, grouped according to three general levels of importance reflecting the responses, are presented in Table 3.

Table 3. Importance Ratings for Criteria for Selecting Rural Priorities (Average of Ratings).

Most Important – (4.3)

- Has been *identified by people living in rural areas* as a high priority health issue for them

Very Important - (4.0)

- Overall *prevalence in rural areas* (i.e., how common is the problem or condition)
- Whether there is a *disproportionate prevalence* in rural areas compared to non-rural areas

Important-to-Very Important— (3.7-3.8)

- Impact of the condition or problem on *mortality*
- Impact of the condition or problem on *morbidity*
- Is considered to be a *contributor* to many other health problems
- *Causes* of the condition or problem *are known* so that effective interventions or solutions could be identified
- *Solutions or interventions are feasibile* in rural communities (e.g., not too costly, not too complicated, does not require major system change at state or national level)
- *Community interventions* or model programs exist and *are "known" to work*

Note: Respondents rated the criteria on a five-point scale: 5=Most important, 4=Very Important, 3=Important, 2=Less Important, 1=Not Important. Most respondents chose to score more than one criteria at a rating of "5"; few rated any of the criteria at less than "3." The survey found substantial agreement among the respondents on the importance of all the criteria, with a heavier emphasis on a few of these.

The importance of attending to what "people living in rural areas" identified as rural health priorities was underscored in presentation and discussion of the results of the survey at the National Rural Health Association's (NRHA's) annual conference in Dallas, May 2001.[10] Responses to the survey and feedback from staff of other rural health research centers, ORHP staff members, and other attendees at the conference suggested a need for a second, broader survey seeking more input from state and local representatives.

A second survey, using standard mail survey methodologies[12] was conducted from July through October 2001. Questionnaires were mailed to 975 people representing state and local organizations with a commitment to rural health. The sample included four categories: statewide entities (offices of rural health, state primary care offices, state primary care associations, state rural health associations); local rural public health agencies; rural health clinics and community health centers; and rural hospitals**,** principally critical access hospitals. For the three categories of local respondents, the project attempted to reach equal numbers of randomly selected organizations from each state. The local respondents were selected from lists of the organizations provided by the relevant federal agencies and trade associations. An additional 24 state and local rural experts, nominated by respondents, were surveyed as well. After a reminder and follow-up mailing, 501 leaders of state and local rural health-focused organizations responded, a response rate of 51.4 percent. Rates of response varied from 50 percent for rural hospitals to 61 percent for state agencies and associations.

The respondents, presented with a list of the 28 HP2010 focus areas, were asked to check five of the 28 that they believed to be top rural health priorities**.** The survey results reflected a wide distribution of priority selections, with "access to quality health

services" the one nominated most frequently.[13] The priorities nominated in the second survey were quite consistent with the results of the first survey; a major exception is the higher rating given to the heart and stroke focus area in the second survey. The 10 focus areas that were selected by at least 20 percent of respondents in the second survey were then chosen by project staff as the nominated rural health priorities to be considered for inclusion in the Rural Healthy People 2010 companion document (see Table 4).

Shown in Table 4 are the 16 focus areas that were nominated as one of the rural health priorities by 13 percent or more of the respondents, based on average across the four types of state and local rural leader respondents.[14] Two additional focus areas were nominated by approximately 10 percent of the respondents—physical fitness and activity, and respiratory diseases. All of the remaining 10 HP2010 focus areas were nominated as rural health priorities by an average of 5 percent or less of respondents across the four state and local groups; these focus areas include arthritis, osteoporosis, and chronic back conditions; health communication; occupational safety and health; sexually transmitted diseases; chronic kidney disease; HIV; vision and hearing; disability and secondary conditions; food safety; and medical product safety.[13]

There are some interesting variations in priority selections according to the type of state and local respondent groups and the geographic location of the respondents (classified according to four major census regions in the United States).[14] Such variations are indicated in Table 4 by placing percentages in bold type and are described in the focus area overviews in Volume 1 and literature reviews in Volume 2.[14]

More important may be that there is substantial agreement on the top five rural health priorities across the groups of state and local respondents and the regions. Access, for example, is the top priority among all groups and all regions. The remaining four of the top five ranking priorities, moreover, received percentage ratings placing them in the top five for at least three of the state and local respondent groups and three of the four geographic regions. Additional comments on these priorities are offered after a preview of the literature review component of this work.

Literature Reviews on Selected Rural Health Priorities

Rural Healthy People 2010 literature reviews began in the Spring of 2001. Initial discussion projected that access to primary care, diabetes, mental health, and several other topics would be among the rural health priorities selected for the companion document.

Literature reviews focused on numerous sources including, but not limited to, the following:

- PubMed (combines MEDLINE® and HealthSTAR),
- PsycInfo,
- Sociology Abstracts,
- Social Services Abstracts,
- Foundation websites,
- Government agencies' websites,
- RICHS – USDA,
- CRISP - NIH,
- Non-governmental organizations (NGOs), and
- General Internet sources.

Additionally, several recent books[2, 15, 16] and reports[1] and a supplemental issue of the *Journal of Rural Health* (2002) on rural health research that address a number of RHP2010 conditions were examined. Loue and Quill[16] and the supplemental issue of the *Journal of Rural Health* appeared while the project was underway; a pre-publication draft of the urban-rural chartbook[1] was available to the staff at the beginning of the project.

Selection of specific topics and subjects within each priority area were guided by specific Healthy People 2010 objectives identified by respondents in the survey and/or expertise of the researcher. Initial

Table 4. Rural Health Priorities—Organizational and Regional Comparisons by Percentages and Ranks.

Avg. Pct.	Percents of Organizations Choosing[a]					Priority Rankings by Organization			
	State Orgs	Pub H. Units	Centers Clinics	Rural Hosp	Rank of HP2010 Focus Areas[†]	State Orgs	Public H. Units	Centers Clinics	Rural Hosp
73	**90**	66	68	68	1*** Access to Quality Health Services	1	1	1	1
41	26	37	**43**	**59**	2*** Heart Disease & Stroke	7	3	4	2
40	35	21	**52**	**52**	3*** Diabetes	4	12	2	3
37	**51**	21	**47**	30	4*** Mental Health & Mental Disorders	3	12	3	5
35	**54**	32	**39**	14	5*** Oral Health	2	4	5	14
26	17	**39**	24	25	6** Tobacco Use	11	2	8	7
25	21	31	25	25	6 Substance Abuse	10	5	7	7
25	30	19	20	30	6 Educational & Community-Based Programs	5	10	15	5
24	22	28	24	22	6 Maternal, Infant, & Child Health	9	7	8	9
22	14	**28**	**31**	16	10*** Nutrition & Overweight	12	7	6	13
22	12	24	19	**31**	10** Cancer	14	11	11	4
21	**29**	**27**	12	17	12*** Public Health Infrastructure	6	9	14	11
17	10	**27**	15	17	13** Immunization & Infectious Diseases	15	9	13	11
16	**23**	17	10	13	14* Injury & Violence Prevention	8	16	15	15
13	9	**20**	**17**	6	15** Family Planning	16	14	12	18
13	13	**29**	6	3	15*** Environmental Health	13	6	19	22
Avg. Pct.	Percents within Regions Choosing					Priority Rankings by Region			
	North-east	Mid-west	South	West	Rank of HP2010 Focus Areas[†]	North-east	Mid-west	South	West
73	67	69	74	77	1 Access to Quality Health Services	1	1	1	1
41	33	**52**	**48**	26	2*** Heart Disease & Stroke	7	2	3	8
40	37	38	50	37	3 Diabetes	5	3	2	4
37	**42**	35	32	**48**	4* Mental Health & Mental Disorders	3	4	5	2
35	40	32	36	39	5 Oral Health	4	5	4	3
26	**43**	**31**	25	17	6*** Tobacco Use	2	6	8	13
25	**35**	22	16	**33**	7** Substance Abuse	6	10	12	5
25	18	20	24	32	7 Educational & Community-Based Programs	11	11	9	6
24	22	19	23	30	9 Maternal, Infant, & Child Health	10	12	10	7
22	**30**	**29**	26	15	10* Nutrition & Overweight	8	7	7	14
22	12	**28**	**29**	9	10*** Cancer	15	8	6	16
21	18	24	17	20	12 Public Health Infrastructure	11	9	11	10
17	18	12	16	21	13 Immunization & Infectious Diseases	11	16	12	9
16	**24**	14	6	**20**	14*** Injury & Violence Prevention	9	14	20	10
13	13	11	12	19	15 Family Planning	14	17	14	12
13	10	14	10	13	15 Environmental Health	16	14	14	15

[a] Bold percentages identify priority areas that were significantly more likely to be chosen by some groups than by others.

[†] The top-ranked 16 Healthy People 2010 focus areas according to the average percentages (left side column) of each of four types of state and local rural health organizations selecting the focus areas as one of their top five rural health priorities.

*** Chi Square statistically significant at p<.001; or ** at p<.01; or * at p<.05.

scanning for resources was guided by the nine criteria initially established for selecting rural health priorities for study; an initial, though not exclusive, focus on literature appearing from 1990 and later; and literature focused on American rural health topics (apart from some on basic medical studies). The research literature considered around each of the rural health priorities extends through 2001 and part of, if not all, of 2002. In a couple of instances, work from early 2003 was added.

Two of the top 12 ranked rural health priorities were excluded from consideration in this first round of work—Educational and Community-Based Programs, and Public Health Infrastructure. Initial exploration of these two focus areas revealed a relative paucity of literature providing direct rural and urban comparison of such programs and infrastructures, and difficulty in matching treatment of these topics to the criteria used in researching and reporting the literature reviews. The team recognized, too, that a number of illustrations related to these two topics would be reflected in the models for practice targeting the other focus areas addressed in this volume.

At the same time, objectives within the focus area, access to quality health services, were found to be too diverse to be treated effectively in a single review. Three separate literature reviews appear under this heading—access to insurance, access to primary care, and access to emergency medical services.

Discussion turns now to a brief introduction of each of the 12 areas, drawing on information related to the initial criteria employed in assessing rural health priorities.

Rural Healthy People 2010 Areas Addressed

Access to insurance to support health care continues to be a problem in rural areas—a problem associated with a lower paid workforce reliant upon small employers that are less likely than larger employers to offer health insurance.[17] Although there are some regional variations, the percentages of persons under 65 who are uninsured are higher in rural areas and large central metropolitan counties than in fringe counties in large metropolitan areas or in small metropolitan counties.[1] Insurance is a major factor in assuring "access to health care," one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[9] Access to health insurance is named by over one-quarter of national and state experts as a rural health priority.[10] This topic is included within the HP2010 focus area of Access to Quality Health Services, which is the HP2010 focus area most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Access to primary care remains a major concern in many rural areas across the nation. There is a lower supply of all types of physicians, except family practitioners and general practitioners, in rural areas in all four regions of the nation.[1] Access to timely and effective primary care is deemed critical to avoiding hospitalizations for ambulatory care sensitive conditions. "Access to health care" is one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[9] Health manpower shortages and recruitment and retention of primary care providers are identified as major rural health concerns among state offices of rural health.[3] Nearly 30 percent and nearly one-quarter of national and state rural health experts name access to health workforce and/or access to primary care, respectively, as rural health priorities.[10] This topic is included within the HP2010 focus area of Access to Quality Health Services, which is the HP2010 focus area most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Access to emergency medical services (EMS) from first responders to ambulance and trauma services continue to be problematic in many rural settings. Access to EMS is identified as a major rural health concern among state offices of rural health.[3] Emergency services is the third most often named rural health priority (after mental health and oral health) in a survey of national and state rural health experts invited to state such priorities in their own

words.[10] This topic is included within the HP2010 focus area of Access to Quality Health Services, which is the HP2010 focus area most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Heart and stroke, especially heart disease, continues to be a very serious illness across the country. "Diseases of the heart" ranks first among the leading causes of death in 1999.[11] Stroke is the third ranking leading cause of death in 1999.[11] Heart diseases are the most frequently first-listed diagnoses for hospital discharges nationally.[6] "Heart failure and shock" is the most frequent diagnostic category among hospitalized rural elderly Medicare beneficiaries.[4] This point is all the more important in light of the fact that congestive heart failure, hypertension, and angina are "ambulatory-care-sensitive" conditions that can result in hospitalizations because of the lack of timely and effective primary care and preventive services.[8] Heart disease and stroke is in a virtual tie with diabetes as the second-most frequently selected rural health priority in a survey of state and local rural health leaders.[13]

Diabetes mellitus is the sixth ranking leading cause of death in 1999[11] and is characterized frequently as an "epidemic." Diabetes is an "ambulatory-care-sensitive" condition for which hospitalizations can often be avoided with timely and effective primary care and preventive services.[8] Diabetes was named by over one-quarter of national and state experts as a rural health priority.[10] This illness is in a virtual tie for second place with the area of heart disease and stroke as the HP2010 focus area most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Mental health and mental disorders is another HP2010 focus area widely recognized as a pressing rural health priority. Mental health is one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[9] The suicide rate among rural males is higher than among their urban counterparts across all four regions of the nation.[1] Psychoses are a diagnostic area virtually tied with cancer as the fourth most frequently first-listed diagnoses for hospital discharges nationally.[6] Access to mental health services and concerns for suicide, stress, depression, and anxiety disorders were identified as major rural health concerns among state offices of rural health.[3] Mental health is named by nearly 50 percent of national and state experts as a rural health priority behind access to health care.[10] A survey of state and local rural health leaders finds mental health and mental disorders to be the fourth most often identified rural health priority.[14]

Oral health is increasingly recognized as a serious rural health problem. Nationally, rural areas record higher rates of people 65 and older with total tooth loss than do their urban counterparts. Among the four regions, only in the Midwest is this rural rate exceeded by the small metropolitan counties.[1] Shortages of dentists are more common in rural areas in all four regions of the country.[1] Dental care, as measured by dental visits within the past year, tends to be lower among 18–64 year-old people in rural areas than in urban areas across all four regions of the country.[1] Dental conditions, too, are identified as "ambulatory-care-sensitive conditions."[8] Dental shortages are identified as major rural health concerns among state offices of rural health.[3] Oral health is named by over 50 percent of national and state experts as a rural health priority behind access to health care and mental health.[10] Oral health is the fifth ranking rural health priority in a survey of state and local rural health leaders.[13]

Tobacco use is a practice that continues to disproportionately plague rural people. It is one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[9] Rural adolescents (except in the Midwest) are more likely than their urban counterparts to smoke.[1] Adult men and women in the most rural counties, with some variation across regions, are more likely to smoke than those in urban counties.[1] Tobacco use holds the dubious distinction of being ranked as the leading "actual cause of death" in the United States, i.e., contributing to the diagnosed condition associated with a death.[7] Tobacco use is in a virtual

tie for sixth place (with three other topics) among HP2010 focus areas most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Substance abuse, including alcohol use, is common in many rural areas of the country. Alcohol has been ranked as the third leading "actual causes of death" in the United States, i.e., contributing to the diagnosed condition associated with a death.[7] Illicit use of drugs has been ranked as the ninth leading "actual cause of death" in the United States.[7] Substance abuse is one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[9] Access to mental health and behavioral health services, including substance abuse, were identified as major rural health concerns among state offices of rural health.[3] Substance abuse is in a virtual tie for sixth place (with three other topics) among HP2010 focus areas most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Maternal, infant, and child health are significant challenges in many rural areas. Infant mortality is higher in rural areas in the South and Western regions.[1] Adolescent mortality is higher in rural areas in all four regions of the country.[1] The focus area, maternal, infant, and child health, is in a virtual tie for sixth place (with three other topics) among HP2010 focus areas most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Nutrition and overweight is a HP2010 focus area that is increasingly recognized as a serious problem in many rural areas across the nation. Rural areas exhibit higher self-reported rates of adult obesity than urban areas, but there is considerable variation among men and women in urban and rural areas across regions.[1] Diet and activity patterns have been ranked second only to tobacco as the leading "actual causes of death" in the United States, i.e., contributing to the diagnosed condition associated with a death.[7] Nutritional disorders with complications and comorbidities are the ninth most frequent diagnostic category among hospitalized rural elderly Medicare beneficiaries.[4] Overweight and obesity are one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[9] Nutrition and overweight is in a virtual tie for 10th place (with two other topics) among HP2010 focus areas most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Cancer is the second leading cause of death in 1999.[11] Cancer and psychoses are virtually tied as the fourth most frequently first-listed diagnoses for hospital discharges nationally.[6] Cancer is in a virtual tie for 10th place (with two other topics) among HP2010 focus areas most frequently selected as a rural health priority in a survey of state and local rural health leaders.[13]

Further Consideration of Rural Priorities

The emphasis in this work on rural health priority areas is not meant to imply that other HP2010 focus areas are not important in rural America. In fact, two additional focus areas and associated models for practice are currently under study for release in the Fall of 2003. The research on priorities was driven in large part to guide the RHP2010 team in ordering the work that it has pursued in this project. Drawing on the state and local rural health leaders' survey, the team identified focus areas that are most salient to state rural health leaders and leaders of local rural public health agencies, hospitals, and rural health centers and clinics. The consideration of objective data associated with the other criteria considered in selecting HP2010 areas to address in the initial phase of RHP2010 tends to reinforce the survey results. This does not make any of the HP2010 focus areas a higher priority in rural areas than another in any absolute sense. What it may suggest is that proponents of some health issues may need to employ additional effort to draw state and local health leaders' attention to their concerns. At the same time, HP2010 draws attention to these additional topics, as will RHP2010 as it progresses.

Survey results reported in Table 4 suggest that, for a few of these priorities, one or two groups of rural

health leaders may champion these concerns within rural communities. For other HP2010 focus areas, however, fairly substantial support is reflected across all leader groups: e.g., for areas such as substance abuse, and maternal, infant, and child health.

Fewer significant differences in rural health priorities were noted across regions than across types of respondents. Nonetheless, for some HP2010 focus areas, differences in ratings by types of organization or by region might recommend latitude within rural health policies that allow rural stakeholders to tailor rural health initiatives to certain regional needs or organizational circumstances. Some recognition of unique demands posed in particular regions, for example, is reflected in federally funded or foundation-funded efforts targeting Southern states, frontier regions, border regions, the Appalachian region, and the like.

For those focus areas where there are differences among the four groups of rural health leaders, such differences might reveal strengths in addressing top priorities in a collective fashion. For example, the priority emphasis placed upon chronic diseases such as heart disease and diabetes by rural hospitals and rural health clinics/centers is quite congruent with the emphasis of public health agencies upon tobacco use and nutrition and overweight. The organizations may be addressing the "same" problem at different points of intervention. These rural health stakeholder groups reflect different perspectives, skills, strategies, and points of contact with rural patients, clients, and populations.

Such differences in rural priorities across types of rural leaders may argue in favor of cross-cutting health organizations, coordinating bodies, or associations at state and local levels that can ensure attention to the multiple health priorities facing rural communities. Substantial agreement combined with selective differences on rural health priorities among rural health leaders may be viewed as strengths and ones that can best be optimized by a variety of health professionals and organizations coordinating their efforts on many of these priorities. *Rural Healthy People 2010: A Companion Document to Healthy People 2010* presents dozens of models for practice related to many rural health priorities that reflect just such coordination.

MODELS FOR PRACTICE IN RURAL HEALTHY PEOPLE 2010

A major goal of the Rural Healthy People 2010 project is to offer guidance to states, communities, health organizations, and professionals on how these rural health priorities might be attacked. The approach taken here was to look at what has worked in other settings, analyze key components of such efforts, summarize the particular approaches against a standard set of criteria, and provide a contact person for interested parties to reach for more information.

The first step was to define the set of initiatives or programs we wanted to examine. The terms "best practices" and "model programs" were most often used as a general reference to identify the type of programs and practices considered relevant to this study. We researched these and related concepts to help identify criteria for selecting specific practices or programs we would identify, analyze, and share with others.

Best practices traces its lineage back to "benchmarking," typically wherein some organizations identify "benchmark" organizations to which they aspire and attempt to discover and replicate those practices that appear to account for exceptional performance. Best practices has also come to be associated with performance of professionals and programs, often in association with "evidence-based" successful outcomes. Some of the definitions and attributes we have found to be associated with "best practices" are the following:

- a technique or methodology that, through experience and research, has proven to reliably lead to a desired result;
- fully implemented programs, benchmarked and tested, that demonstrate significant improvement (in processes or outcomes);
- intervention strategies that have been successfully:

- ♦ replicated one or more times and consistently produced positive results, or
- ♦ implemented in different settings, and/or with different populations, and/or across a variety of different problems with positive results.

Model programs is a term that has been employed widely in governmental and nonprofit organizations (especially in health and human services) to characterize organized efforts, frequently in the form of formal programs, that demonstrate success over a period of time. Review of the use of this term found the following characteristics associated with the term "model programs":

- innovative,
- problem-based,
- coordinate organizations and services,
- combine various approaches,
- new technologies,
- new application of an existing technology,
- represent radical changes to existing practices,
- may or may not be theory based, and
- experimental and subject to testing.

Criteria: Models for Practice (MFP)

Conceptual elements from both model programs (MP) and from best practices (BP) were weighed against the purpose of the Rural Healthy People 2010 project and the predominantly public health and community health perspective sought from our team (RHP). From this deliberation, the following criteria were developed to guide the selection and analysis of what we call "models for practice":

- located in or serves rural area (RHP),
- addresses one or more of the high-priority rural health focus areas (RHP),
- community-based (RHP),
- local or regional (RHP),
- clear stakeholders and partners (RHP),
- formal structure (RHP),
- continuity (in place three years or longer) (MP),
- growth (serves more people, larger region, addresses more conditions) (MP),
- movement from pilot mode to full implementation (MP),
- evidence of increased commitment from original stakeholders (MP),
- buy-in by additional stakeholders (MP),
- financial stability (MP),
- positive outcomes (MP, BP),
- replicable across settings (BP),
- breadth of applications (BP),
- dissemination of method/technique (BP), and
- recognition in regulatory and/or funding guidelines (BP).

Ultimately, these criteria were reflected in a very brief "screening survey" that was used to interview MFP nominee spokespersons, in a more detailed survey (executed by phone, e-mail, or mail delivery) for those MFPs that were screened into a pool of potential candidates, and in the four broad topic areas around which each of the selected MFPs is summarized.

Folding MFP criteria into each MFP summary begins with a "Snapshot" that captures the location and priority area addressed along with a brief description of its activity. This is followed by the "Model" section that is organized around four topic areas. The "Blueprint" describes the focus, location, structure, stakeholders, and activities characterizing the model. The "Making a Difference" section addresses in more detail the activities and outcomes flowing from the model. The "Beginnings" section describes the roots and initiation of the model and its initial growth. Finally, the "Challenges and Solutions" section examines such things as barriers and/or opportunities encountered, strategies for

addressing them, and implications for continuity or growth of the MFP.

Identifying Models for Practice

Three principal methods were employed to identify MFPs: a request for nominations for national, state, and local rural health leaders who responded to the RHP2010 survey; contacting professional associations and foundations for nominations; and examining the rural health literature for featured models.

The respondents to the Rural Healthy People 2010 survey nominated over 250 MFPs. In addition, professional associations, foundations, and other individuals identified several dozen MFPs. Over a dozen were encountered in literature reviews or in newsletters and trade journals. Altogether, over 300 MFPs nominations were considered.

Eventually, we examined the "Models that Work" from the Bureau of Primary Health Care to identify one or two models in a couple of rural health priority areas where we had not found enough solid candidate models. Although some of our MFPs turned out to have received one of HRSA's Community Access Program (CAP) grant awards, we did not go to the list of awardees to draw MFPs. These are good sources, to be sure, but we did not wish to duplicate models or otherwise over-rely on those that were already recognized and widely publicized.

For each of the RHP2010 priority areas reviewed in the companion document, three or four MFPs illustrating how some rural areas are addressing these challenges are typically presented for each priority area in the printed copies of RHP2010. Additional Models for Practice appear in the web version of RHP2010.

Some programs have been in place for longer periods of time than others and therefore, are able to share more information allowing the presentation of a more detailed description of the program. It should be noted, too, that the RHP2010 document and website do not include an exhaustive listing of MFPs. Some additional models are being considered for inclusion under two other RHP2010 focus areas that will be added to our website in Fall 2003. Still others are associated with focus areas to be added after that. Some sites that are currently listed MFPs under one priority area are engaged in other MFP-caliber programs addressing other focus areas. Finally, we anticipate that the publication of RHP2010 will encourage the nomination of still other excellent MFPs. The current group of MFPs, of course, covers a wide range of topics, approaches, and geographic areas of the country.

The MFPs can be differentiated along a number of dimensions:

- sponsorship: single organization vs. multiple organizations;
- sector: government, nonprofit, or for-profit vs. multi-sector;
- rural to urban: rural only vs. urban-anchored initiative serving rural region;
- illness targeting: single illness vs. multiple health conditions;
- age targeted: children/youth vs. elderly;
- health system dimensions: formal care providers vs. community health;
- geographic scope: single community vs. multi-state regional;
- degree of institutionalization: active for many years vs. a few years; and
- major barriers identified: transportation, attitudinal-cultural.

One or two of the MFPs considered in this volume are clearly viewed as temporary or transitory interventions that are intended to meet a need until a preferred, longer term solution is attained.

OTHER SOURCES OF INNOVATIVE MODELS

A number of best practices in public health at the state level are published by the Assistant Secretary for Health in the U.S. Department of Health and

Human Services, addressing one or more of the Healthy People 2010 objectives (http://www.osophs.dhhs.gov/ophs/BestPractice).

Other models related to HP2010 objectives can be found at the Bureau of Primary Health Care website focused on "Models that Work." Recent winners of that designation can be found at their website (http://bphc.hrsa.gov/mtw/).

Information on dozens of rural outreach grant recipients of funding from the U.S. Office of Rural Health Policy from 1994 to the current year may be another source of information on promising programs (http://ruralhealth.hrsa.gov/funding/outreach.htm).

The Community Access Program of the Bureau of Primary Health Care provides grant support to networks of organizations intending to improve services to the uninsured and underinsured. The past three years' grantee recipients, a number of them rural focused, are identified on the CAP website (http://bphc.hrsa.gov/cap).

DATA AND DATA SOURCES FOR RHP2010

Data and data sources for many HP2010 objectives, and rural-urban comparisons, in some instances, can be found in HP2010 documents. The documents can be found at the Healthy People 2010 website (http://www.healthypeople.gov).

CDC Wonder is a web-based information resource that enables the user to access a wide variety of Healthy People 2010-related data. It has a specific page that is devoted to a Healthy People 2010 database that can be searched by HP2010 focus area or objective. It includes a wide range of public health data and information resources addressing other topics, as well, at national, state, and, in many instances, county level (CDC Wonder, http://wonder.cdc.gov and http://wonder.cdc.gov/data2010).

The Urban and Rural Health Chartbook (Eberhardt, et al., 2001)[1] cited frequently in this volume provides urban and rural comparisons nationally and across the four census regions for information related to many of the rural health priorities discussed in this document. This resource can also be found at the National Center for Health Statistics website (http://www.cdc.gov/nchs).

Data on ambulatory care sensitive conditions may be available from state agencies in some states that collect hospital discharge (admissions) data, including diagnosis-related data that may be captured and reported by facility, zip code, and/or county.

Rural Populations and Health Care Providers: A Map Book offers maps providing a visual picture of the geographic distribution of rural populations, the racial characteristics of rural populations, and the health care providers who serve rural populations. Among the rural providers mapped are primary care physicians (per 200 population), Critical Access Hospitals, Federally Qualified Health Centers, Rural Health Clinics, and Skilled Nursing Facilities.[18]
The Kaiser Family Foundation provides "state health facts online" at their website (http://www.statehealthfacts.kff.org).

The HRSA Community Health Status Indicators website was retired as of October 11, 2002. The website (http://www.hrsa.gov/CHSINotice.htm) recommends that interested parties contact the following sources:

- U.S. Census Bureau http://www.census.gov;
- National Center for Health Statistics http://www.cdc.gov/nchs; and
- State health departments, which may be a potential source for data by county.

The U.S. Census Bureau State and County Quick Facts can be found at the following website: http://quickfacts.census.gov/qfd/states/48000.html. For each state and its counties, it provides basic data on population (population size, age, ethnicity, education, home ownership, households and household size), income, poverty status, business/employer facts, employment, geographic area, and population density.

The Area Resource File (ARF) is a health resources information system containing more than 6,000 variables (including information over a number of years) for each of the nation's counties. It is designed to be used by planners, policymakers, researchers, and other professionals. It contains data on health professions, health facilities, populations, hospital utilization, and a variety of other subjects (http://www.arfsys.com/main.htm). ARF also identifies a number of more specific sources from which it gathers data. Although much of the ARF data are quite current, more recent data or additional data for some subjects may be available from other sources and/or within particular states.

In addition to state health department data, some states may have one or more "integrative databases" that draw on a number of sources related to many health and population-related topics. A very good example is the Landscape Project at the Texas Institute for Health Policy Research (http://66.241.202.7/index.cfm). It draws upon a number of federal and state government sources for its database, which enables the user to compare the counties in the state with one another or with all counties in the state. Among the topics included in Landscape are:

- communicable diseases,
- crime,
- environmental health,
- government finance,
- the health care sector,
- health insurance,
- household information,
- infant and maternal health,
- mortality statistics,
- needs-based programs,
- population projections,
- population distribution,
- Social Security, and
- socioeconomic characteristics.

These and other sources of information can be used to establish a baseline for a community regarding health conditions. Such information, along with patient, client, and student information from local organizations can be employed (subject to privacy restrictions) to evaluate progress resulting from interventions. The following overviews of the literature suggest some of the types of information that may be important. The overviews and models for practice are intended to be most useful in identifying problems, possible contributing factors and consequences, and organizations and communities that have taken important steps to address such problems.

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ACCESS TO QUALITY HEALTH SERVICES IN RURAL AREAS—INSURANCE

by Jane Bolin and Larry Gamm

SCOPE OF PROBLEM

- A total of 41.2 million people under age 65 are without health insurance, according to estimates using U.S. Census data.[10] If the uninsured population continues to increase at the current rate (0.4 percentage increase between 2001 and 2002), 46 million working-age Americans will be uninsured by 2005.[11]
- Persons living in nonmetropolitan areas are more likely to be uninsured than those in metropolitan areas—20 percent versus 17 percent.[1]
- Access to health insurance has been identified by both national and state experts as a rural health priority.[32]
- African Americans and especially Hispanics are more likely than whites to be uninsured.[10, 33] Uninsured rates are also higher among the poor and chronically ill.[2, 34]
- Health insurance is a critical factor in influencing timely access to health care. Persons without health insurance are less likely to have a "regular" or usual health provider, less likely to obtain preventive care, or to obtain needed tests and prescriptions.[35, 36] The Department of Health and Human Services interagency workgroup has identified health insurance as one of the 10 "leading health indicators" and generally a reliable predictor of overall health status.[37, 38]

GOALS AND OBJECTIVES

The goal of Healthy People 2010's access to quality health services focus area is to improve access to comprehensive, high quality health care service.[1] Access to health insurance is critical to achieving this goal and the related Healthy People 2010 objectives:

- 1-1. Increase the proportion of persons with health insurance.
- 1-2. Increase the proportion of insured persons with coverage for clinical preventive services.

Health insurance is an important determinant of health and disability status, likelihood of physician use, and overall likelihood of health care treatment.[2] An important determinant of access and utilization of all aspects of health care services, including preventive services, health insurance has a strong influence on a person's health.[3-7]

> Health insurance is an important determinant of health and disability status, likelihood of physician use, and overall likelihood of health care treatment.[2]

According to a survey conducted by the Rural Healthy People 2010 team, access to quality health services (which includes access to insurance) was most frequently identified as a rural health priority. Approximately three-quarters of the respondents named access to quality health services as a priority.[8] It was the most often selected priority among all four types of state and local rural health respondents in the survey and across all four geographic areas.

PREVALENCE

Persons living in nonmetropolitan areas are more likely to be uninsured than those in metropolitan areas—20 percent versus 17 percent.[1] The percentages of persons under 65 who are uninsured are higher in rural areas and large central metropolitan counties than in fringe counties in large metropolitan areas or in small metropolitan counties.[9]

Estimates using U.S. Census data show that those without health insurance under age 65 total 41.2 million—an increase of 1.4 million over the 14.2 percent uninsured in the previous year.[10] If this annual increase of 0.4 percentage points between 2000 and 2001 in the percentage of uninsured continues at the same rate, 46 million working-age Americans will be uninsured by 2005.[11]

> Hispanics are more likely than other Americans under age 65 to be uninsured, and African Americans are more likely than whites to be uninsured.

Among racial and ethnic groups, Hispanics are more likely than other Americans under age 65 to be uninsured (36 percent), and African Americans (21 percent) are more likely than whites (14 percent) to be uninsured. Young adults 19-24 years of age are more likely to be uninsured (32 percent) as are those separated from their spouse (33 percent).[12] A total of 8.5 million children, or 11.7 percent of all children, are among the uninsured.[10]

> The majority (57 percent) of the uninsured are full-time workers.

The majority (57 percent) of the uninsured are full-time workers, while 20 percent are part-time workers. Despite Medicaid programs, the highest rates of uninsured are still in the poor and near poor—the two lowest—income groups.[13] Several studies report that people living in the South and West have lower rates of private or job-based insurance.[9, 10, 14]

IMPACT

Studies have shown that in rural areas where there are larger percentages of uninsured, a higher percentage of rural residents also report fair or poor health, no visit to a health professional in the prior year, and less confidence in getting needed health care services.[15] A lack of health insurance coverage is associated with lower utilization of preventive services such as cancer screening, and care for congestive heart failure, diabetes, chronic obstructive pulmonary disease (COPD), oral and dental health, and mental health.[16, 17]

Lower rates of preventive service utilization are documented for rural areas, although differences vary by service. For example, differences in mammogram screening may be more attributable to education or income rather than place of residence. Other preventive services are negatively correlated to rural status and to being uninsured.[18] The uninsured are also more likely to be hospitalized for avoidable conditions, such as pneumonia and uncontrolled diabetes, and more likely to be diagnosed for cancer at later stages.[19]

BARRIERS

A number of studies report that working adults living in rural areas are less likely to be offered health insurance through their jobs, i.e., employer-sponsored insurance programs.[20, 21] Most of this difference is associated with rural dependence on smaller firms and lower wage rates.[21] Prior research shows that rural residents tend to have higher rates of private, self-purchased health insurance and are more likely to be uninsured.[15, 21-25]

Rural areas tend to have smaller businesses, resulting in higher premium costs for employer-based insurance spread across fewer employees. Combined with higher premiums for such occupations as farming, mining, logging, and fishing, many families may not be able to afford insurance.[26] Although only 20 percent of the overall American workforce is employed in firms with less than 25 employees, workers from these small firms account for 42 percent of the uninsured workers in the country.[27]

During difficult economic times, food and basic necessities are purchased before health insurance, and health insurance is more likely to be dropped or deferred.[28] Since persons living in rural areas are more likely to have seasonal work and lower

incomes, they are the most at-risk group of being both uninsured and living below federal poverty levels.[6, 7, 29]

There is a direct correlation between the percentage of those with incomes at or below the federal poverty level and degree of rurality. Twenty-two percent of the population in rural counties away from metropolitan areas have incomes at or below the federal poverty level compared to 13.8 percent for residents of metropolitan counties, and 15.8 percent among rural counties adjacent to metropolitan areas.[15] Higher poverty rates and overall lower wages in rural areas magnify the problem of a lack of employer-based health insurance coverage or coverage that is more costly to workers.

> Prior research shows that rural residents tend to have higher rates of private, self-purchased health insurance and are more likely to be uninsured.[15, 21-25]

PROPOSED SOLUTIONS

Among the proposed solutions are tax incentives and some regulatory protection for developing MEWAs (Multiple Employer Welfare Associations) or health insurance purchasing cooperatives for smaller employer organizations in some regions of the country. Medicaid extensions and waivers and expansion of the State Children's Health Insurance Program (SCHIP) are also proposed for persons who are near poverty but Medicaid ineligible. The current economic downturn and state budget shortfalls are likely to restrict these options for addressing the needs of more of the uninsured, at least in the near future.[30]

A number of communities, led principally by provider groups, have established special health plans or programs for the uninsured. These programs emphasize the provision of key preventive and other primary health services often associated with reducing demands upon very expensive emergency room services or acute care facilities where such admissions might be prevented by timely primary care.

An important step in community efforts to address the problem of the uninsured is the development of reasonably accurate estimates of the number of uninsured locally. A guide has been developed to support the efforts of community groups to arrive at such estimates.[31]

SUMMARY AND CONCLUSIONS

Rural populations in the U.S. tend to face a number of barriers and challenges in accessing affordable health insurance; these may be greater for some populations than others. Existing research shows significant differences in access to insurance between rural and non-rural populations and that these differences are amplified for racial and ethnic minorities.

The relatively larger proportions of small businesses and lower-paying jobs in rural areas are reflected in fewer employers offering health insurance, fewer choices, and less attractive provisions among employer-sponsored plans. At the same time, both poverty and higher incidence of chronic conditions reflect an increased need for care.

Although there is evidence of some success in certain states in reaching more of the uninsured via extending Medicaid program eligibility and enrolling more previously uninsured children in SCHIPs, current budget cutbacks in most states threaten to reverse this progress. There is evidence, too, of innovative community efforts sponsored by local providers to extend coverage or services to the uninsured. Although providers in many rural areas continue to make major efforts to maintain "safety net" services for the uninsured, it is unclear how long they will be able to maintain them in the face of growing economic challenges to rural populations and providers.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (INSURANCE)

Program Name: CHOICE Regional Health Network Regional Access
Location: Olympia, Washington
Problem Addressed: Access to Insurance
Healthy People 2010 Objective: 1-4, 1-5
Web Address: http://www.choicenet.org

SNAPSHOT

The mission of the CHOICE Regional Health Network, a nonprofit consortium of rural and urban providers, is to "improve the health of our community." That "community" represents five counties in central western Washington State, with four being rural counties.

RAP improves access to primary care and other medical services by connecting eligible residents to a medical home and providing guidance on available sources of health insurance.

The Regional Access Program (RAP) serves the uninsured and underinsured at or below the 250 percent federal poverty level in the five county service areas. RAP improves access to primary care and other medical services by connecting eligible residents to a medical home and providing guidance on available sources of health insurance.

THE MODEL

Blueprint: CHOICE Regional Health Network Regional Access Program was created in 1996 to provide intensive outreach to low-income individuals and families. Access coordinators partner with schools, providers, daycare providers, state agencies, hospitals, and other community-based organizations to reach children and adults who are without health insurance.

Access coordinators meet individually with clients to explain the various programs for which they are eligible, help them complete the necessary paperwork, and serve as advocates. In 2002, CHOICE helped enroll more than 3,000 people in public insurance. Since the program began, CHOICE has assisted more than 14,000 people in the region to access needed health care services.

The services provided by RAP include:

- outreach to community-based organizations;
- provide a toll-free phone number that connects to a person who prescreens and schedules appointments;

- provide application assistance to complete necessary paperwork and provide follow-up; offer Spanish translation and interpretive services through a toll-free, dedicated Spanish phone line and through four bilingual staff;
- perform enrollment case management when appropriate;
- serve as a liaison between state agencies and clients to facilitate enrollment or to resolve problems;
- educate consumers by explaining benefits and helping clients choose an affordable health plan and primary care physician;
- connect residents to available social services and programs for which they may be eligible;
- produce and distribute marketing materials to reach the target population; and
- provide information to consumers about being informed and responsible health care users, with a focus on primary care.

Making a Difference: The program conducts annual surveys of providers and patients to assess the effectiveness of the program. The impacts of the program for 2001 include:

- reduced the number of uninsured in the region by 3,331;
- decreased the insurance disenrollment rate of CHOICE clients from 30 percent to 10 percent;
- saved the providers in the region $4.5 million in uncompensated care; and
- reduced hospital bad debt and charity care by 14 percent.

Beginnings: The CHOICE Regional Health Network is a nonprofit consortium begun in 1996. Network membership includes public and non-profit hospitals, local health departments, family practice residency programs, practitioners, schools, and community members.

The CHOICE Regional Health Network takes on new and/or expands existing programs based on an assessment of factors that reflect their mission and vision. The questions asked as criteria for program selection for the Regional Access Program are:

- Does this initiative make sense regionally?
- Is the problem important and in the long-term interests of the community?
- Does it address a coordination, quality, access, or health status objective?

- Is it a step toward better distribution of health resources?
- Is it a prudent investment in a cost-conscious market?

Challenges and Solutions: To address social and cultural issues, case management services were created to connect people to other needed services (e.g., food). Bilingual staff were hired to address language and cultural issues. Special materials were developed to assist clients from other cultures to understand the concepts of insurance, medical home, and managed care. Recently, CHOICE partnered with the Crisis Clinic to manage an Internet-based Regional Resource Directory.

Ongoing funding for the network comes from membership dues that are paid by the six public and non-profit hospitals (member sponsors). This funding is supplemented with state contracts and grants. For example, the Statewide Health Insurance Benefit Advisor (SHIBA) Program was folded into the RAP program. Savings from reductions in uncompensated care are reinvested back into the program. In 2001, the program received a Community Access Program (CAP) grant from the Health Resources and Services Administration. Expanded funding over the last five years allows the program to increase its service population, adding children, the underinsured, and additional counties (from one to five).

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (INSURANCE)

Program Name: Inland Northwest in Charge – coordinated by the Health Improvement Partnership
Location: Spokane, Washington
Problem Addressed: Access to Insurance
Healthy People 2010 Objective: 7
Web Address: www.hipspokane.org

SNAPSHOT

Inland Northwest in Charge (INIC) is a collaborative project providing services aimed at improving health care access for the uninsured and underinsured spanning all age groups and ethnic groups in 11 rural and urban counties in eastern Washington State. INIC utilizes a variety of community strategies to deliver outreach and training services.

INIC seeks to improve health care access for the uninsured and underserved, including outreach and enrollment efforts for state-sponsored health care.

THE MODEL

Blueprint: Inland Northwest in Charge is a collaborative project coordinated by the Health Improvement Partnership (HIP), a 501(c)(3) nonprofit organization involving representatives from over 200 organizations. INIC seeks to improve health care access for the uninsured and underserved, including outreach and enrollment efforts for state-sponsored health care, referrals to primary and specialty/chronic disease care, designing and implementing an affordable insurance product (which combines public and private dollars) for the working uninsured, and access to additional health-related resources (e.g., affordable pharmaceuticals).

HIP serves uninsured children in Washington State through the Healthy Kids Now! project and serves the uninsured/underserved in an 11-county region of eastern Washington through several projects (Health for All, Covering Kids and Families, and other targeted INIC programs). Most of the counties are rural. Of the 556,540 people in the catchment area, 35 percent live in rural counties. The other 65 percent live in Spokane County, a rural/urban county. Several programs serve rural and tribal communities, children under the age of 19, and uninsured adults and pregnant women. INIC also implements specialized outreach to multicultural communities. INIC interventions take place throughout the community through a variety of partners such as clinics, physician offices, hospitals, health plans, employers, schools, and human services agencies.

INIC provides marketing and outreach services, a staffed hotline for client application assistance, training and technical assistance on state-sponsored health care for community professionals and outreach workers, one-on-one outreach in rural and tribal areas, coalition building, assistance to community partners in program and resource development, and capacity building for outreach and health care access in rural communities. Program coordinators at the Health Improvement Partnership work with diverse community stakeholders to define priorities and workplans. Internal staff, consultants, and contracted workers finalize action plans and implement activities.

Making a Difference: INIC tracks the number of people reached, served, and connected with health insurance and/or primary care. Over 16,000 individuals have been enrolled in coverage or directed to primary care since 1999. Surveys are given to clients regarding their coverage retention and satisfaction with the services. INIC works to build more outcome measures to assess the effectiveness of the programs. Base-line data are gathered on hospital charity/uncompensated care levels, emergency room primary care usage, and unnecessary admits to measure the long-term impact the programs have on these indicators.

Beginnings: INIC began in November 1998 and was fully implemented in January 1999. INIC first received funding from a contract with the Department of Social and Health Services' Medical Assistance Administration for designing and conducting Medicaid outreach. Additional significant funding was subsequently received from a Robert Wood Johnson Foundation grant and a Health Resources and Services Administration Community Access Program grant. INIC draws upon a mix of local, regional, state, and national funds.

Challenges and Solutions: Challenges include maintaining enough ongoing funds to test and fully implement new methodologies for serving the population; having adequate time, staffing, and resources to balance both the planning and implementation sides of the programs; and retaining the ongoing involvement of community partners. INIC addresses these challenges in a variety of ways, including:

- pursuing a "cooperative financing" plan with a variety of community partners in which each partner contributes a certain percentage toward sustaining or enhancing health care access strategies;
- working extensively with state and local policymakers to explore partnership opportunities that may allow for more regional tailoring of state-based funding;
- writing grants;
- seeking corporate support; and
- tapping into existing state and federal dollars that support the mission.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (INSURANCE)

Program Name: Lake Plains Community Care Initiative
Location: Batavia, New York
Problem Addressed: Access to Insurance
Healthy People 2010 Objective: 1-4, 1-6
Web Address: None

SNAPSHOT

The Lake Plains Community Care Network (LPCCN) is a not-for-profit corporation formed in 1997 from a network of employers, providers, and community service groups and organizations that have collaborated since 1993. The network addresses rising costs of health care and the dwindling choices of health care services in rural areas. The Lake Plains Community Care Initiative is one of several community-oriented programs under LPCCN.

The Lake Plains Community Care Initiative seeks to better coordinate and strengthen the local health delivery system while at the same time promoting additional competitively priced health insurance options to the communities.

THE MODEL

Blueprint: The Lake Plains Community Care Initiative is a local response strategy that targets growing concerns over access to and affordability of quality health care and health insurance coverage for the area residents. LPCCN exists as a three-county, rural health network located in upstate Western New York. It is a not-for-profit corporation comprised of representatives from three hospitals, three public health departments, area health practitioners, and community/governmental business representatives. The corporation has 13 governing board members with an approximate 25-member community advisory council. A part-time CEO, full-time associate director, full-time care management coordinator, and limited support personnel staff the project.

As a rural health network, LPCCN seeks to offer open-ended service support to all 150,000 individuals residing within the catchment area. Insurance efforts are directed toward offering support to uninsured and underinsured adults and their families. The targets are individuals who are typically self-employed or employed in small group environments (organizations with 50 employees or less). Many of these individuals are employed in agribusiness, retail, or the service industry. The Lake Plains Community Care Initiative seeks to better coordinate and strengthen the local health delivery system while at the same time promoting additional competitively priced health insurance options to the communities. This is accomplished by two methods. First, LPCCN established a three hospital, 160 physician, messenger model

(a type of preferred provider organization [PPO] that was established by the Federal Trade Commission to allow physicians to negotiate reimbursements) to coordinate and strengthen the overall delivery system. Gradually, the PPO will be enhanced through the provision of local support features or functions such as local medical management, case management, community care management, and utilization review efforts. Second, LPCCN attempted to reach local self-insured organizations, employment-sector trusts, and a third party commercial carrier to contract with the PPO and actively take advantage of the enhancements being provided.

Making a Difference: The Lake Plains Community Care Initiative covers approximately 2,400 lives by servicing health insurance plans. The Initiative expects to add 1,000 more covered lives in 2002.

Beginnings: LPCCN was incorporated in 1997, and the first service contract took effect in July 2000. The problem was noticed beginning in the early 1990s when the provider system began losing market share and experienced increasing difficulties in meeting financial objectives and attracting new practitioners to the communities. The numerous insurance carriers decreased as well as the consumer responsiveness of those that remained. As Lake Plains gained in local prominence and stature, LPCCN commissioned a market analysis through the University of Buffalo, School of Medicine and Biomedical Sciences. The results of this study only put numbers to what was known and experienced on a day-to-day basis by businesses and health care consumers alike. It revealed that premiums were too high for the actual utilization, and fewer choices and less customer service was made available.

Challenges and Solutions: Lake Plains Community Care Initiative has experienced varied challenges over the past several years. All health insurance activities in New York State are complex and highly regulated. Finding locally controllable response options that are prudent and fiscally affordable have proven very difficult. The program leaders realize that one strategy is clearly not right for all. An array of strategies (such as self-funded insurance plans, specific trust plans, and an innovative partnership with a large commercial insurance carrier) is needed to effectively get the job done. Another major challenge is the continued pursuit for new options while also seeking to refine those already in place.

LPCCN has been funded as a New York State Rural Health Network since 1997 and has also benefited from a federal rural network development grant, Kellogg Foundation grant award, and member organization contributions. The organization anticipates becoming self-sufficient by 2004 as the revenue stream grows from increased utilization of PPO services within the community.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (INSURANCE)

Program Name: Southeast Kentucky Community Access Program
Location: Harlan, Perry, Leslie, and Knott Counties, Kentucky
Problem Addressed: Access to Health Care, Housing, Education, and Public Safety
Healthy People 2010 Objective: 1-4, 1-6
Web Address: http://www.mc.uky.edu/ruralhealth/community_programs/skycap.htm

SKYCAP is a collaborative demonstration program designed to improve access to health care, social services, and housing for the underinsured and uninsured residents of Harlan and Perry Counties, and most recently through funding from the Good Samaritan Foundation, Inc., Leslie and Knott Counties.

SNAPSHOT

The Southeast Kentucky Community Access Program (SKYCAP) is a rural demonstration and evaluation program funded by the Health Resources and Services Administration, U.S. Department of Health and Human Services, and launched on September 1, 2000. The purpose of SKYCAP is to identify collaborative partners in rural communities in southeast Kentucky to demonstrate ways to develop sustainable health care programs for the medically indigent. The overall SKYCAP goal is 100 percent access and zero disparities. Although it is a rural demonstration program, SKYCAP hopes to become an ongoing program.

THE MODEL

Blueprint: SKYCAP is a collaborative demonstration program designed to improve access to health care, social services, and housing for the underinsured and uninsured residents of Harlan and Perry Counties, and most recently through funding from the Good Samaritan Foundation, Inc., Leslie and Knott Counties. Services provided include, but are not limited to:

- emergency medication access,
- dental care,
- eye care,
- primary providers,
- home visitation,
- education,
- transportation, and
- eligibility for pharmaceutical programs for the indigent.

SKYCAP also takes referrals from different agencies. Delivery of services is achieved by deploying family health navigators (FHNs) in 11 community sites as community health advisors to assist eligible clients with ambulatory care sensitive diseases (asthma, cardiovascular disease, diabetes, hypertension, or severe mental illness) to receive care in the most appropriate settings.

FHNs serve the uninsured and underinsured population by conducting home visits, performing assessments of clients and family needs, and providing referral information to clients and their families. The family health navigators also act as liaisons between clients and their families as well as mental health and health and human service providers. FHNs report to network members the specific characteristics or conditions that impede clients from obtaining available services. In addition, FHNs work with multidisciplinary teams to establish action plans for clients and families. They assure that action plans are carried out, link clients with all needed services, connect clients to support groups, and provide emotional and educational support for clients and their families.

SKYCAP is a community partnership with the University of Kentucky Center for Rural Health in Hazard; Harlan Countians for a Healthy Community, Inc.; Hazard Perry County Community Ministries, Inc.; and Data Futures, Inc. These community partners bring together over 50 other partners and organizations, such as health departments, local hospitals, pharmacies, and mental health centers.

It is estimated that 24 to 45.4 percent of the population in these counties lives in poverty (compared to Kentucky's state average of 15.8 percent). The median household income in these counties ranges from $15,805 to $23,318, compared to a state average of $33,672. Only 49.2 to 58.7 percent have completed high school (compared to the state average of 74.1 percent). While only about 1 percent of the nation's population lives without indoor plumbing, more than 6 percent of Harlan and 7 percent of Perry County's citizens are without running water. Kentucky has the highest smoking rate in the nation (30 percent) and southeastern Kentucky has the highest rate in the state (33 percent). The overall mortality rate per 100,000 in the 45–64 age group is 145 percent higher than in the nation; mortality rates for heart disease, late stage breast cancer and lung cancer are 160–250 percent higher than national rates. The state ties for second place nationally in the percentage of obese adults (33), and the rate in southeastern Kentucky is even higher. The goals of Healthy People 2010 cannot be achieved unless special populations, such as Appalachians, have effective solutions to their health care crisis.

Although Medicare covers 26 percent of the people in these counties, and most children have some sort of public or private insurance, about 12,000 people are still medically indigent. In addition, approximately 10,000 people

are Medicaid recipients, of which the majority are otherwise uninsured. The greatest need in this two-county area is access to pharmaceuticals.

Making a Difference: The SKYCAP program formed a baseline of medical/social care utilization for the following diseases: asthma, diabetes, heart disease, hypertension, and mental illness. By the end of 2001, SKYCAP received over 5,000 referrals from different agencies and provided a total of 13,000 services. These are services that otherwise would probably be unavailable to these people due to being uninsured or underinsured.

Beginnings: The SKYCAP program was fully implemented in December 2000 and provided services to Harlan and Perry Counties. It received one of the original 23 Community Access Program (CAP) grants in September 2000.

Challenges and Solutions: By collaborating across the mountains, SKYCAP attempts to create a comprehensive network for this most distressed area. It supports integrated programming to increase access to health care for the target populations. The program seeks to expand a CAP network of safety net providers that will serve this Appalachian region and can be easily replicated throughout Appalachia in its entirety. The University of Kentucky Center for Rural Health is the bridge that ties the groups together and brings the necessary infrastructures that each group would have difficulty sustaining individually in the present state of rural health care decline. The greatest challenge is building the new networks and infrastructures before losing the safety net providers.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (INSURANCE)

Program Name: Vermont Coalition of Clinics for the Uninsured
Location: Middlebury, Vermont
Problem Addressed: Access to Insurance
Healthy People 2010 Objective: 1-4, 1-6
Web Address: http://http://www.vccu.net/

SNAPSHOT

The Vermont Coalition of Clinics for the Uninsured (VCCU) is a group of free health care clinics and one dental clinic in Vermont that work together to provide a safety net of primary care services to individuals whose household incomes fall below 200 percent of the federal poverty level (FPL) and who either lack health insurance entirely or are underinsured (e.g., high deductibles). The nine member clinics are distributed around the state, and although each has its own board of directors, each clinic maintains its own policies and does its own fundraising. Some funding (from the State of Vermont and private foundations) comes through the coalition. The coalition developed software for uniform data collection, acts as a clearing-house for problem solving, and actively advocates for its constituents.

VCCU is comprised of free health care clinics and one dental clinic that provide safety-net primary care services to uninsured and underinsured individuals.

THE MODEL

Blueprint: VCCU is comprised of free health care clinics and one dental clinic that provide safety-net primary care services to uninsured and underinsured individuals who fall below 200 percent of the poverty level. It specifically serves the low-income uninsured and underinsured between the ages of 18 and 65. Few children need the clinics since Vermont has a state Medicaid extension program that provides insurance to children under 18 years of age in families with incomes at 300 percent of the federal poverty level. Although most programs have income guidelines that go to 200 percent of the FPL, some programs have extended the guideline to 300 percent of the FPL.

The majority of the member clinics operate as freestanding health care facilities and are staffed by medical volunteers. These clinics provide services based on the traditional free clinic model, which means that services are provided on a weekly to tri-weekly basis in the evenings. The remainder of the clinics operate through local hospitals and local medical care practices to incorporate their clients into the mainstream provision of health care services. This method is known as the incorporated model. The success of VCCU relies heavily on the over 500 volunteers who include

physicians, nurses, allied health professionals, and administrative assistants. Examples of free services provided by the clinics include primary health care, referral for testing and specialty care, enrollment in social services and Medicaid extension programs, prescription medications, and case management. The clinics developed a case management model to ensure continuity of care.

Making a Difference: The clinics now serve about 20 percent of the state's uninsured population. Their constituents are the unemployed and working poor. About 60 percent are women, and most clients fall into the 30 to 45 age category. Most are high school graduates and are employed. In fact, there is a trend in the client base toward multiple jobs. Of those with some insurance, 68 percent have insurance with deductibles of $250 or more. According to these data, there are an increasing number of underemployed clients who are also underinsured.

Beginnings: The VCCU program began in 1994 and was fully implemented by 1995. Each clinic was developed by a grassroots effort within that community, and each program works closely with its local hospital and medical community. VCCU offers support to any community wishing to start a free clinic and provides technical assistance to that community. VCCU grew from an informal group of five clinics to a 501(c)(3) organization with nine clinics after receiving funding from the Rural Health Outreach Program of the Federal Office of Rural Health Policy. At the end of that three year funding period, the State of Vermont stepped in and provided funding that exceeded that of the Rural Outreach Program that supports the VCCU office staffed by 1.4 full-time employees and provides partial financial support to the nine free clinics. Each individual clinic is also supported by direct financial support from its local hospital, community contributions, and private foundation contributions.

Challenges and Solutions: The health care situation in Vermont is now in a state of flux and is showing contradictory trends. While employment is up, so too is the cost of medical insurance (a 20 percent cost increase was anticipated in 2001). The state has increased the number of Vermonters covered by Medicaid and Medicaid extension programs by 16 percent, yet the free clinics have seen a steady increase in the number of clients served. Reimbursement to providers from state programs is low, and clients cannot find care in some areas even when services are covered. Clearly, many Vermonters fall through the gaps in private and state programs.

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ACCESS TO QUALITY HEALTH SERVICES IN RURAL AREAS—PRIMARY CARE

by Larry Gamm, Graciela Castillo, and Stephanie Pittman

SCOPE OF PROBLEM

- There are fewer physicians with the exception of family practitioners and general practitioners, in rural areas in all four regions of the nation.[37]
- Health manpower shortages, and recruitment and retention of primary care providers are major rural health concerns among state offices of rural health.[38] Access to quality health services was the most often nominated rural health priority by state and local rural health leaders across the nation.[2, 3]
- Fifteen percent of adults in the United States, according to estimates, do not have a preferred doctor's office, clinic, or any other place in which they receive care.[1]
- Only about 10 percent of physicians in America practice in rural areas despite the fact that one-fourth of the U.S. population lives in these areas.[10]
- As many as 12 percent of all hospitalizations may be avoidable[21] and are disproportionately frequent among the poor and non-white populations.[33-35]

GOALS AND OBJECTIVES

In light of these and other challenges, the first listed Healthy People 2010 goal is to improve access to comprehensive, high quality health care service.[1] Many of the access to primary care issues addressed by Healthy People 2010 are problems experienced in many rural areas of the United States.

This review addresses the following HP2010 objectives:

- 1-4. Have a source of ongoing care.
- 1-5. Have a usual primary care provider (PCP).
- 1-8. Increase the proportion of underrepresented ethnic and racial groups among those awarded degrees in the health professions.
- 1-9. Reduce avoidable hospitalizations associated with three ambulatory-care-sensitive conditions—pediatric asthma, uncontrolled diabetes, and immunization-preventable pneumonia and influenza.

Affecting these objectives in many rural areas are shortages of primary care providers, including primary care physicians and non-physician primary care providers (NPPCPs), such as nurse practitioners (NPs) and physician assistants (PAs); and an under-representation of female and minority PCPs. Progress on these objectives should contribute to effective utilization of preventive services and primary care by all rural population groups to attain reductions in avoidable hospitalizations and to improve overall health status.

According to the Rural Healthy People 2010 survey, access to quality health services (which includes access to primary care) was rated as the top ranking rural health priority.

According to the Rural Healthy People 2010 survey, access to quality health services (which includes access to primary care) was rated as the top ranking rural health priority. Approximately three-quarters of the respondents named access as a priority.[2] It was the most often selected priority among all four types of state and local rural health respondents in the survey and across all four geographic areas. Nine out of 10 leaders of state health organizations nominated

access as a priority, while about two-thirds of the public health agencies, rural health centers and clinics, or hospitals did the same, a statistically significant difference among the groups.[3] No significant differences across regions appeared, as access nominations appeared uniformly high across four geographic regions of the country. Also, in a preliminary survey of state and national rural health experts allowing them to state priorities in an open-ended fashion, three topics related to primary care—access to primary care, access to health workforce, and access to health services—were frequently named as a rural priorities.[4] One or more of these three primary care topics was named by nearly two-thirds (65 percent) of those who nominated priorities in this preliminary survey.

PREVALENCE

Rural and urban populations are relatively equal in having a source of ongoing care (nearly 90 percent) and in having a usual primary care provider (approximately 77 percent). Rural residents are less likely, however, to have regular access to their usual primary care provider during evening or weekend hours.[5]

Hispanics are much less likely than white and African-American populations to have an ongoing source of care. And, rural Hispanics are less likely than their urban counterparts, 77 percent and 72 percent respectively, to have an ongoing source of care.[6] Hispanics and African Americans record, respectively, an estimated 20 percent and 33 percent fewer primary care visits per person than white, non-Hispanic persons.[7]

Uninsured people under the age of 65 are 2.6 times less likely to have a usual source of care than people who have public or private insurance.[1, 8] In 1996, 23 percent of rural residents under the age of 65 were uninsured compared to only 18 percent in urban areas.[6]

The maldistribution of physicians in favor of urban areas is a continuing concern affecting rural access to care. The maldistribution is especially pronounced with respect to specialists and is likely to become an increasing problem with primary health care.[9] Although 25 percent of the nation's population resides in rural areas, less than 9 percent of active physicians in the United States and 14 percent of practicing primary care physicians provide services in rural areas.[10, 11]

The maldistribution of physicians in favor of urban areas is a continuing concern affecting rural access to care.

There has been a general increase in the number of physicians in both rural and urban areas over the past decade; however, a closer analysis of both national productivity data and estimates in two states of those physicians actually practicing suggests little growth in the effective supply of rural physicians and a decline of 9 percent in the supply of family physicians.[12] Moreover, the ratios of physicians per 100,000 population for several other specialties that are frequently classified among primary care physicians—pediatricians, general internists, and obstetrician/gynecologists—are only one-third as large among rural populations as among urban populations.

The increasing number of physicians who are women may further restrict the supply of rural physicians. Women account for almost 43 percent of all general physicians among the most recent medical graduates, but they are less likely to practice in rural areas than in urban areas.[13] Only 13 percent of rural physicians are women compared to 19 percent of physicians in urban locations who are women. The disparities in percentages of female physicians practicing in rural areas are even more pronounced with respect to rural family practitioners/general practitioners (FP/GPs) and obstetrician-gynecologists.[13]

Minority general practitioners are more likely to serve minority populations and larger proportions of the poor and/or uninsured.[14-16] Moreover, there is evidence that minority patients prefer to see physicians who are of the same ethnic/racial group

as themselves.[17] African-American and Hispanic-American physicians are much more likely than white physicians to come from a rural or inner city background and to have graduated with a National Health Service Corp service obligation. These minority physicians also report relatively larger proportions of their patients are poor, reliant on Medicaid, and reflect the same racial/ethnic background as their own.[15]

> Studies reveal that primary care physicians who were raised in rural areas are more likely to practice in rural areas.[24]

Non-physician primary care professionals, such as physician assistants, nurse practitioners, and certified nurse midwives (CNMs), are becoming more important and more common in rural and urban areas. In comparison to rural and urban physician-to-population ratios, NPPCP-to-population ratios appear to slightly favor rural settings. NPPCPs are able to provide needed primary care in most cases and, earning less than physicians, are better able to conform to the resource constraints in rural areas than physicians.[18]

IMPACT

Even in situations where a local physician is available in a rural community, as many as 30 to 40 percent of rural residents may rely on physicians outside of their locality for care. Reasons given usually are associated with seeking better care, or care that exceeds the skills or technologies available in the rural community.[19, 20]

The under-representation of female physicians in rural areas may also have an effect on the health of female residents of rural areas. It has been shown that female patients usually prefer female doctors and are more likely to receive pap smears and mammograms if done by a female physician, especially if the physician is an internist or family physician.[13]

One consequence of an undersupply and/or underutilization of primary care providers may be increased hospitalizations that might have been prevented with the timely provision of preventive services and primary care service. As many as 12 percent of all hospitalizations may be avoidable.[21] Nationally, such hospitalizations have been found to be more prevalent among lower and middle income groups and among African Americans.[21] A 10-state study finds both African Americans (especially adults), Hispanics (especially children), and the elderly in both minority groups more likely than whites to be hospitalized with preventable conditions.[22]

BARRIERS

An Oklahoma statewide study identifies a number of factors associated with a lower likelihood of adult use of primary care-based preventive services. Among those less likely to use such services are residents from rural areas, those lacking access to a usual source of care, those at greater risk for avoidable illness, and the poor lacking health insurance.[23]

Studies reveal that primary care physicians who were raised in rural areas are more likely to practice in rural areas.[24] One study found that greater than 50 percent of rural female physicians were raised in a town with less than 25,000 people.[10] Several recruitment factors, especially family lifestyle factors, serve to differentiate between female and male physicians in their rural practice location choice. Social issues of interest to female physicians include rural-magnified challenges such as balancing work and family, maternity leave, availability of child care, and job opportunity for the spouse or partner.[10, 25] Professional issues include such matters as work overload, lack of female colleagues, fewer opportunities for advanced training, and acceptance by the community.[10]

The undersupply of minority physicians in rural areas is no doubt related, in part, to the relatively smaller number of underrepresented minorities (URMs) who are enrolled in medical colleges and who are applicants to American medical colleges.

The number of URMs enrolled in American medical colleges peaked in 1994, remained steady in 1995, and decreased by 5 percent in 1996. The enrollment of URMs has declined steadily from 1996 through 2001.[26, 27] The decline is attributed in large part to reductions occurring at public medical schools and in states directly affected by 1996 court and referenda decisions on affirmative action.[26-28]

Access to non-physician primary care providers is limited in some instances by scope of practice regulations that vary from state to state, some national and state-specific reimbursement constraints, and by competition from urban areas for limited numbers of providers.[29] NPPCPs practicing in rural, or in more remote rural settings experience greater autonomy or independence than those in other settings.[30-32] Although such conditions may be attractive to some NPPCPs, it is possible that it may be offset by greater monetary benefits and professional support found in larger, urban facilities.[29]

Several state studies examine factors that appear to be associated with ambulatory care sensitive conditions (ACSCs) leading to avoidable hospitalizations, i.e., hospitalization that might have been prevented by proper utilization of primary care. There is unanimity in finding low income to be strongly associated with ACSCs; moderate support for greater prevalence of ACSCs among non-whites; and only mixed support regarding the impact of access to primary care physicians upon ACSCs.[33-35]

PROPOSED SOLUTIONS

Communities, often working through partnerships among providers, can help to develop programs to improve access to care and/or a regular provider to people who are uninsured or otherwise likely to underutilize health care. A number of solutions to access to primary care are dependent upon support from national and state policies affecting medical education and placement of medical graduates in rural and urban underserved areas. At the same time, medical schools can play an important role in developing, often with grant support, special tracks that emphasize family practice and rural placements.[36]

SUMMARY AND CONCLUSIONS

Access to primary care is vital to the achievement of Healthy People 2010's goal of improving access to high quality health services. The objective of maintaining a regular source of care is exceptionally difficult to achieve in rural America given the shortage of not only primary care physicians but also non-physician primary care providers, specialists, female physicians, and minority physicians. Given the higher proportion of elderly and poor in rural areas—two populations often requiring more health care—the consequences of provider shortages are significant.

Practice conditions and personal considerations may lead some physicians away from practice in rural areas. At the same time, there is evidence that those who are from rural areas and/or who have trained in rural areas are more likely than others to pursue rural practice. Although physician assistants and nurse practitioners are somewhat more likely than physicians to pursue positions in rural areas, the opportunities in rural practice, e.g., greater practice autonomy, may be offset by more attractive practice opportunities and salaries in urban settings.

Despite these challenges, viable solutions may exist through training programs with a rural focus for health provider students, loan repayment programs, recruitment of rural students, especially underrepresented minorities for medical school, and continued recruitment and retention efforts directed toward non-physician providers. The desirability of larger numbers of women enrolled in medical schools and in the medical profession needs to be followed by greater efforts to recruit medical students from rural areas and to recruit and retain more female and minority physicians in rural practice.

Finally, increased efforts are needed to reduce avoidable hospitalizations in rural areas, especially among poor and minority groups. Increasing the number of rural providers and their adoption of best

practices in addressing ambulatory care sensitive conditions such as diabetes and asthma are important factors in reducing avoidable hospitalizations and improving the health status of the rural population.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (PRIMARY CARE)

Program Name: Community Health Center of West Yavapai County
Location: Prescott, Arizona
Problem Addressed: Access to Primary Care
Healthy People 2010 Objective: 1-4a
Web Address: None

SNAPSHOT

The Community Health Center of West Yavapai County (CHCWYC) began as a free clinic approximately seven years ago. The clinic became a community health center in January 2001 and plans to apply for 330 funding from the Bureau of Primary Health Care in the Health Resources and Services Administration (HRSA). The program has grown from seeing 25 patients per night, two nights a week, with a volunteer staff, to seeing 3,000 patients (uninsured and underinsured) in the first year. CHCWYC has a paid staff of seven and shares an additional four to five staff with the health department. The center is a 501(c)(3) non-profit organization. It was recently awarded a HRSA Community Access Program (CAP) grant allowing it to purchase equipment and software to set up a practice management system and an electronic medical record system. It is one of 16 programs to receive a Robert Wood Johnson Foundation (RWJF) grant to integrate mental health into primary care.

THE MODEL

Blueprint: The CHCWYC service area covers 8,000 square miles. The center is co-located with the Yavapai County Health Department, with which it shares resources, including staff. The center has close working relationships with a variety of partners including the health department, hospital, laboratories, a mental health center, and the United Way. CHCWYC has grown from one location to two and has plans to double the number of sites. The shift from free clinic to community health center was made possible with funding from state tobacco dollars. The uninsured, Medicaid and Medicare recipients, and the underinsured below 200 percent of the federal poverty level receive primary care services at the center based on a sliding fee schedule. These services include clinical preventive services, colposcopy clinics, contracted laboratory and radiology services, and a small pharmacy benefit. The pharmacy benefit is tied to a limited formulary and has a $10 per prescription co-pay. The community health center, in conjunction with the free clinic, provides mental health services one night per week. A chemical dependency specialist physician and a

clinical pharmacist who specializes in polypharmacy problems staff the clinic on a volunteer basis. Two psychiatrists volunteer their time to provide back up for problems that are more serious.

A HRSA CAP grant awarded in 2001 allows the center to purchase equipment and software to set up systems for sharing of patient data and support patient tracking, demographics, insurance, etc. between their sites and with other provider partners who see the same clientele.

Beginnings: The free clinic began as a class project developed by a nurse in the community who was working on her BSN degree. The clinic almost immediately began seeing 25 patients each night, two nights a week. The success of the free clinic and subsequently of the center was and is attributable, at least in part, to the strong support and commitment of the medical community.

Making a Difference: Evaluation of this grassroots effort up to this point has focused on counting the numbers of people who come through the doors. The program recorded 3,000 uninsured patient visits in the first year plus approximately 400 Medicaid clients. A more sophisticated evaluation is anticipated in response to the CAP grant and RWJF funding; however, these are not yet in place.

Challenges and Solutions: Over the course of seven years, with seeing 25 clients every night, volunteer burnout became an ever-present problem. The move to a community health center daytime operation and the complexity of the computer system resulted in the discontinued use of volunteers. However, the loss of volunteers was offset by state tobacco funding ($358,000 per year) and revenues from Medicaid, Medicare, and self-pay that enabled the center to hire staff. The center hired its first full-time director, a full-time medical director (provider), a part-time physician, and a part-time nurse practitioner. The new mental health clinic has about 10 volunteers.

Currently, the center has two physical locations and plans to expand to three or four sites. There is a mountain range in between the main site and the other location(s). CAP funding will be used for electronic medical records and patient management systems that will support sharing of patient data, patient tracking, demographics, insurance, etc.

Space has been an issue since the free clinic began. Co-location with the local health department, which also enables the sharing of staff resources, has been very successful. A new facility, with 11,000 square feet, is due to open in 2003. The facility represents a pooling of resources—$500,000 received by the center from the state for a building, $1.8 million from Yavapai County, and land plus architectural plans donated by the hospital. The new facility will allow the center to expand services to include dental

The success of the free clinic and subsequently of the center was and is attributable, at least in part, to the strong support and commitment of the medical community.

services and provide a separate location for mental health counseling and six exam rooms.

Continued funding is always a problem. The center has been successful applying for funds that support caring for the uninsured, implementation of mental health services, and a computer infrastructure. The need still exists for funds that cover the staff who deliver the services. The center is applying to become a 330 funded Federally Qualified Health Center to help cover indirect service costs.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (PRIMARY CARE)

Program Name: Fairview University of Minnesota Telemedicine Network
Location: Wadena, Minnesota
Problem Addressed: Access to Primary Care
Healthy People 2010 Objective: 1
Web Address: http://www.fairview.org/telemedicine

SNAPSHOT

The Fairview University of Minnesota Telemedicine Network (FUMTN) is an established means of providing care to rural Minnesota through the use of telemedicine technology. It consists of an urban primary hub site with several spoke sites located in rural areas that are extremely underserved by physicians, especially specialists.

Services encompass the wide span of technologies available, from low-bandwidth video conferencing and Internet access into a patient's home, to high-band live interactive video-conferencing within system sites.

THE MODEL

Blueprint: The Fairview University of Minnesota Telemedicine Network exists to improve access to health care for rural individuals across the lifespan, strengthen linkages with rural practitioners, and foster integrated systems of care. The network currently includes the hub site and seven rural spoke sites. It provides services including cardiology, diabetic management, wound care, dermatology, homecare and hospice, child psychiatry, rheumatology, long-term care, orthopedics, pulmonology, and rural health clinic support by using interactive video-conferencing and store-and-forward telehealth technologies. Services encompass the wide span of technologies available, from low-bandwidth video conferencing and Internet access into a patient's home, to high-band live interactive video-conferencing within system sites.

The hub site at the Fairview University Medical Center in Minneapolis began operation in 1994, and the spoke site at the Tri-County Hospital (TCH) in Wadena began providing services in February 1995. Tri-County Hospital is a private, not-for-profit organization with 49 acute beds. TCH's service area is considered to be 20,000 people within a 25-mile radius, which includes the counties of Todd (the poorest in the state), Otter Tail, and Wadena. This includes 11 additional small, rural communities. These counties are located in north central Minnesota, approximately 170 miles from the St. Paul/Minneapolis metropolitan areas.

Making a Difference: A Minnesota Department of Health statistical report on morbidity shows that deaths from cardiovascular disease in the 11-county

region around Todd, Wadena, and Otter Tail Counties are the highest in the state of Minnesota. Decreased access to cardiology specialists contributes to this problem. Tri-County Hospital has three rural health clinics in designated health professional shortage areas in Todd, Wadena, and Otter Tail Counties that address this and many other health problems. The number of physicians per 10,000 residents in the counties of Todd, Wadena, and Ottertail are lower than the rest of the state of Minnesota. The state of Minnesota has 22.4 physicians per 10,000 residents overall. The number in Todd County is 4.6 physicians per 10,000 residents; Wadena County is 9.3 physicians/10,000, and Otter Tail County is 10.5 physicians per 10,000 residents. The three rural health clinics help alleviate the health professional shortages in combination with the utilization of telemedicine.

Under its current grant schedule, FUMTN has created additional targeted spoke sites that include one additional primary spoke site and four primary rural spoke sites, one of which will serve a federally recognized Indian community. Additional sites specific to Tri-County Hospital include three rural health clinics and a connection to a long-term care facility. Expansion of TCH's current home care/hospice telehome program is also projected.

Beginnings: The lack of access to primary care was identified through needs assessments that were coordinated by the Fairview-University of Minnesota Telemedicine Planning group. Community needs assessments were completed at many sites, and needs were documented at other sites with extensive input from community members, as well as physician and mid-level providers and public health programs.

The original telemedicine program received three years of funding from the U.S. Office of Rural Health; it then functioned independently of external funds for two years with support from Fairview-University Medical Center. A recent additional grant from the Office for Advancement of Telehealth (OAT) allows FUMTN to expand the sites involved in telemedicine, therefore expanding the access of specialists to rural Minnesota. With ongoing changes in reimbursement and facility fees, the program expects to be sustained after the grant period since FUMTN is an established means of providing care to rural Minnesota.

Challenges and Solutions: The challenges encountered by telemedicine sites that have ultimately failed have involved lack of physician "buy in" of the program. The Fairview University Telemedicine Network believes that each potential site needs a "physician champion" who believes in and can educate the medical staff on the telemedicine process, programs, and advantages. This is especially important since telemedicine sites will not be successful without physician referrals.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (PRIMARY CARE)

Program Name: Rural Health Network of Monroe County, Florida – Lifelines Project
Location: Monroe County, Florida
Problem Addressed: Access to Primary Care
Healthy People 2010 Objective: 1-4, 1-5, 1-6
Web Address: http://www.ruralhealth-floridakeys.org

SNAPSHOT

The Lifelines Project is a project of the Rural Health Network of Monroe County (RHNMC) (Florida Keys). This charitable organization provides primary health services to the homeless, uninsured, and others who are underserved. Through the use of two mobile unit medical vans, services such as TB tests and HIV tests, immunizations, and physical exams are provided to populations in need.

Lifelines provides outpatient, primary health care that includes such elements as pharmaceutical assistance, discounted laboratory costs, health education, women's health exams, and referrals.

THE MODEL

Blueprint: Beginning in August 1999, RHNMC, a coalition of 36 agencies and individuals who govern the Lifelines Project and all functions of the network, has provided primary health care to persons in need in the Florida Keys regardless of ability to pay. Lifelines is marketed to the uninsured, underinsured, working poor, and homeless. Income levels of clients usually fall below 200 percent of the federal poverty level (FPL), with a majority of clients with incomes at or below $15,000 per year. Lifelines provides outpatient, primary health care that includes such elements as pharmaceutical assistance, discounted laboratory costs, health education, women's health exams, and referrals. All clients are asked to pay a $10 co-pay if they are able. RHNMC has two mobile unit vans, staffed by two teams of medical practitioners that include two paid registered nurses and advanced registered nurse practitioners. The project also employs health educators, a health services director, and a medical director. The vans travel the islands of the Florida Keys and are scheduled to be in the same specific locations each day of the week. In addition to the mobile vans, RHNMC provides outpatient primary health care services five days a week at the Ruth Ivins Center in Marathon.

Monroe County is a unique area in the continental United States with health care access difficulties. It covers 45,000 square miles, but 95 percent of the county is part of the Big Cypress Preserve and the Florida Everglades on the Florida mainland and is uninhabited and non-taxable. The inhabited portion,

known as the Florida Keys, is populated by about 78,000 people and is a group of over 300 islands, of which only 43 are connected by 42 bridges over a two-lane highway. Key West, the county seat and largest population center, is located 150 miles from Miami, the largest proximal city to the Keys. Many residents of Monroe County experience difficulties in accessing housing and medical care since it has had the highest cost of living in the state for 20 years, and many residents are low-income service personnel serving the tourism industry. For this reason, the Lifelines Project is crucial for many inhabitants of the Florida Keys.

Making a Difference: The Lifelines Project provides health care to the uninsured with a level of service that historically was not available in Monroe County before 1999. About 3,200 services are provided each year. Sixty clients were randomly selected from the multiple service sites to complete a service satisfaction survey. All 60 clients responded positively to overall satisfaction with the services. The health services director reports that 100 percent of the time, responses to inquiries for appointments occur within 24 hours. The project has also reduced the number of visits to the local emergency room, therefore reducing emergency room costs for patients and providers. RHNMC has been successful in securing interim funding from the Health Foundation of South Florida and Catholic Charities. It also received sustaining funding for the first time in the project's history from the Monroe County government in August 2001. RHNMC was asked by Catholic Charities to continue making a difference by building a new clinic in Key West to treat the homeless under a Rural Health Outreach Grant from the Health Resources and Services Administration (HRSA). RHNMC also developed a dental program for the uninsured that was projected to begin June 1, 2002.

Beginnings: The Lifelines Project was created as the result of a reduction in health care services offered by the local health department. In 1998, the director of the county health department notified the RHNMC executive director that the residual services provided by the health department in Key West would be reduced and that total elimination of services was anticipated. In response, the RHNMC executive director and the RHNMC board developed a plan of action to provide countywide primary health care services through the use of medically equipped mobile vans. The program was fully implemented on August 31, 1999, and the Ruth Ivins Center began providing services on May 1, 2001. The Monroe County government, University of Miami School of Medicine, and U.S. Department of Housing and Urban Development (HUD) provided start-up funding for the Lifelines Project.

Challenges and Solutions: The University of Miami, one of the original funders, continues to support the project with the placement of third year medical students, but their funding support has come to an end. Monroe County government and HUD continue to financially support the Lifelines

Project. After completion of its first year, the project was awarded a three-year grant from HRSA and a one-year grant-in-aid from Catholic Charities of the Archdiocese of Miami. The Catholic Charities grant-in-aid was renewed in 2001. In May 2001, the project was awarded a one-year grant from the Health Foundation of Southern Florida. The project is currently seeking sustaining funding from the State of Florida to match that of the Monroe County government. Client co-pays only generate about 10 percent of the project's costs, and the Medicare and Medicaid incomes are negligible.

The Lifelines Project advertises to prospective clients through advertisements on local access television, newsletters, brochures, and radio public service announcements. Changes in service location are placed in printed media ads, and brochures are distributed in neighborhoods of target populations. Additionally, the Lifelines Project markets to the community at large via the RHNMC website.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (PRIMARY CARE)

Program Name: A Rural Minority Geriatric Care Management Model
Location: Charleston, South Carolina
Problem Addressed: Access to Primary Care
Healthy People 2010 Objective: 1
Web Address: None

SNAPSHOT

The Rural Minority Geriatric Care Management Model's purpose is to develop an innovative, integrative, and comprehensive service delivery system of care coordination and management for older African Americans in rural areas of South Carolina. The overall aim is to improve the quality of health, medical care, and social services available to older adults. Often, health center clinicians and staff are called upon to spend a large amount of time performing non-clinical tasks, such as helping patients find transportation, accessing indigent drug programs, or applying for public eligibility programs. To relieve the clinician of non-clinical requests, a new type of paraprofessional—a trained, paid geriatric coordinator—serves as a client advocate through case management, health promotion, and linkages with local social service agencies.

THE MODEL

Blueprint: The Rural Minority Geriatric Care Management Model operates in a Federally Qualified Community Health Center (FQHC), its satellite sites, and a rural health clinic in South Carolina. The program targets primarily African-American adults between the ages of 55 and 98, who have low incomes and are underinsured. The geriatric coordinators provide a number of services to the patients of these clinics, each having an expected caseload of 50-100 clients. They are responsible for tracking older clients' needs for primary care health services, assisting clients in making appointments while reminding clients about them as well, arranging transportation to health care, and monitoring their compliance with the medical care they do receive (i.e., medications, diets, lifestyle, appointments). In addition to assisting in health care utilization, the coordinator also facilitates home health care services as needed by the older patients, documents care management activities in a daily log, and attends meetings with the nurse project coordinator and health care providers to discuss client cases and updates. These individuals contribute significantly to the successful implementation of medical treatment in each client's life.

Making a Difference: Outcome measurements find these efforts to have significant success. These successes can be seen in the clients' physical and financial status. For health care, 50 percent of the clients are up-to-date on preventive health services such as mammograms, prostate checks, flu shots, and cholesterol checks; 88 percent have had home environmental safety assessments with referrals, and 42 percent have been diagnosed with diabetes and are receiving ongoing management and education for this condition. Financially, 100 percent of those eligible have been linked with Supplemental Security Income, Medicare Disability, or Medicaid, as opposed to the 54 percent who were eligible but were not receiving benefits prior to the intervention. Fifty-seven percent of the clients receive medications from indigent drug programs; 54 percent receive energy assistance; 30 percent receive food stamps, and 35 percent receive mobile/congregate meals. The impact on the communities in which the program operates has been one of great accomplishment.

The program targets primarily older African-American adults who have low incomes and are underinsured.

Beginnings: In 1997, the South Carolina Department of Health and Human Services provided funds to the Medical University of South Carolina (MUSC) to establish a "Healthy Community Outreach Initiative." MUSC faculty submitted proposals for community programs that were peer reviewed by a panel of MUSC faculty. This community outreach model was chosen for funding for three years. In 2001, the program director submitted a request to the Duke Endowment and received funds to expand and extend the program an additional two years, with the goal of sustainability. The project director believes that a five-year time period is needed to facilitate infrastructure for community programs. The program targets primarily older African-American adults who have low incomes and are underinsured. This group was specifically targeted because of their need for education, advocacy in navigating the health care system, and assistance with linkages to public benefits and social services.

Challenges and Solutions: Maintaining funding for programs such as the Rural Minority Geriatric Care Management Model is challenging; however, the initiative has been successful in this area. A funding award from the Duke Endowment expanded the program to include five additional health center sites and extended the program for an additional two years. Also, the health centers were willing to pay a percentage of the coordinators' salaries over the two-year extension and currently, as the grant funding cycle nears completion, the health centers have committed to retaining the geriatric coordinators as full-time staff. This allows for 100 percent sustainability to be achieved after funding has ceased. Finally, to further ensure future success, the staff publicizes project outcomes, continues to develop ongoing linkages with community agencies and programs to enhance community capacity building, and provides a system of care for older adults.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (PRIMARY CARE)

Program Name: St. Mary's County Health Department Medical Assistance Transportation Program
Location: St. Mary's County, Maryland
Problem Addressed: Access to Primary Care
Healthy People 2010 Objective: 1-4, 1-5, 1-6
Web Address: http://www.smchd.org

SNAPSHOT

The St. Mary's County Health Department Medical Assistance Transportation Program is a safety net program designed to transport medical assistance patients by a variety of methods to their medical appointments in local and semi-local areas. These individuals have no other means of transportation and would not otherwise be able to attend their appointments and receive care. The program also provides transportation to non-medical assistance individuals for a nominal fee if they have an open seat and are traveling in the same direction.

The primary focus of the Medical Assistance Transportation Program is to get the medical assistance population of St. Mary's County, Maryland, to their medical appointments if they have no other way to get there.

THE MODEL

Blueprint: The Medical Assistance Transportation Program is grant funded by the Maryland State Department of Health and Mental Hygiene and is managed by the St. Mary's County Health Department. Collaborative efforts and partnerships are relied upon for some areas of service delivery. The primary focus of the Medical Assistance Transportation Program is to get the medical assistance population of St. Mary's County, Maryland, to their medical appointments if they have no other way to get there. The secondary focus of the program is to assist others in the county who need transportation to medical appointments since transportation is a major issue for the county. St. Mary's County is a peninsula at the far southern end of Maryland. At 361 square miles, it lies at the confluence of the Potomac River and the Chesapeake Bay, about 40 miles south of Washington D.C. It is a rural county with a population of just under 90,000. The county has a Medicaid population of about 7,000 and a much larger gray zone population (individuals with incomes too high to qualify for Medicaid but who are unable to afford private health insurance), estimated to be in excess of 12 percent of the population. The non-white population consists of 17 percent black, and the Hispanic population is growing at 2–3 percent. Approximately 30 percent of the population is under the age of 18.

All individuals who participate or are eligible for the state Medical Assistance Transportation Program qualify to receive the services of this program. The program provides transportation to scheduled and urgent same-day trips to local and tri-county medical appointments as well as trips to the Washington D.C. and Baltimore areas. Out-of-state trips are also occasionally made. Five drivers provide the ambulatory trips using a fleet of public service commissioned inspected vehicles, sedans, station wagons, minivans, 15-passenger van, mini bus, and wheelchair-accessible vehicles. This is a door-to-door service provided approximately 80 hours/week. The local public transportation service is used at the expense of the program if an individual lives on the public bus route and is traveling to a destination on the bus route. In extreme circumstances, taxi services are utilized as a last resort at the program's expense. The Medical Assistance Transportation Program also issues gasoline vouchers if the person needing care can get someone to take them to their appointments. In addition, the program contracts with ambulance services for 24/7 access.

The St. Mary's County Health Department Medical Assistance Transportation Program has a reciprocal agreement with a neighboring county (Charles County) transportation system to relay some of the patients to city appointments. They often work in cooperation with each other to schedule appointments for the same day and time if patients from each county must see a physician in the neighboring county. The two county transportation units meet in the middle and then exchange riders to shorten the trip for the drivers and conserve resources.

Making a Difference: The St. Mary's County Health Department Medical Assistance Transportation Program currently runs approximately 1,500 trips per month, totaling 15,000-20,000 miles. These trips are critical to enabling the medical assistance population to access needed medical care.

Beginnings: The program began providing transportation services to the citizens of St. Mary's County in fiscal year 1993, and the program was fully implemented in fiscal year 1994. The problem with transportation was identified by examining the high numbers of missed appointments by this medical assistance population. Non-compliance of patients with medical instructions and poor immunization rates for children within this population were also recognized as problems that could be partially attributed to a lack of transportation. In one instance, a vulnerable individual was lost in Baltimore City for six hours when traveling there for a medical appointment. This event and the knowledge that many of the riders have not traveled in the city alone led to developing a "high visibility" card and ID tag with emergency information on it for riders to carry with them while in the city.

Challenges and Solutions: The program has experienced challenges in persuading the local government to extend/expand bus routes to where the lower income individuals live and to where the medical providers are

located. In addition, the increased costs of ambulance transports threaten the program's ability to continue 24/7 access to this service. Helping the riders develop responsibility skills for keeping appointments, calling to cancel, and being on time continue to be important challenges.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (PRIMARY CARE)

Program Name: West Virginia Rural Health Education Partnerships
Location: Morgantown, West Virginia
Problem Addressed: Access to Primary Care, and Recruitment and Retention of Rural Health Professionals
Healthy People 2010 Objective: 1
Web Address: http://wvrhep.org

SNAPSHOT

The West Virginia Rural Health Education Partnerships (RHEP) was created to train health professionals in rural, underserved communities. State law enables rural, community-based facilities to provide this training in underserved, rural areas of the state. The higher education system requires a three-month rotation and service learning for degree completion for 10 disciplines of health professional students in a state-supported program. Students spend 20 percent of their time in the community on prevention and health education service projects. Local boards, site coordinators, and field faculty help the students choose projects that meet the community needs. The program is state funded and consists of 13 regional partnerships and over 47 rural counties in the largely rural West Virginia.

THE MODEL

Blueprint: The program was first developed in 1992 and fully implemented in 1996 with the purpose of addressing three problems: recruitment and retention of the health care workforce in rural, underserved areas; access to primary health care for the underserved population; and rural health leadership and service learning for health professionals. It is a statewide partnership of local rural communities, higher education (19 state and private health professional schools and programs), and state government.

The program consists of 13 regional partnerships, each with its own board, and covers 47 rural, underserved counties in West Virginia. There are 295 rural training sites that include, but are not limited to, community health and primary care centers, small rural hospitals, single specialty clinics, dental offices, pharmacies, home health and hospice agencies, physical therapy services, and substance abuse centers. In addition, there are about 700 local community partners including 498 rural practitioners who serve as preceptors for the students and residents that include physicians, dentists, pharmacists, and a variety of allied health professionals.

The program employs an executive and associate director, administrative secretary, director of research and evaluation, and 17 site coordinators and secretaries. Moreover, the program receives volunteer services from over half of the faculty preceptors and all 200 community member partners. It is funded by appropriations from the state legislature through a direct line item in the higher education budget.

The recruitment/retention program is critical to the state since West Virginia is the second most rural state in the country, with 64 percent of the population living in communities with under 2,500 people and spread over 24,000 square miles. The program covers 47 counties, or 85 percent of all counties in the state. The rural population of these counties represents 1,117,133 of the state's 1.7 million people. Eighteen of these counties are 100 percent rural, and all others are more than 50 percent rural. The state is very mountainous with many secondary two-lane highways and roads. In 1999, West Virginia became the oldest state in the country, with almost 18 percent of the total population over 65 and a median age of 36. The annual median family income is only $25,602.

The recruitment/retention program is critical to the state since West Virginia is the second most rural state in the country, with 64 percent of the population living in communities with under 2,500 people and spread over 24,000 square miles.

Making a Difference: The Rural Health Education Partnerships program primarily focuses on providing prevention and education services to predominantly rural, low-income populations of all ages. In 2001, 216,127 community service contacts were made, and of these 148,593 were prevention and education to the general public; 16,808 were prevention and education for adults, and 50,726 were prevention and education for children. These services are provided by approximately 120 health profession students per month and represent 10 disciplines; 1,402 student rotations were completed in 2001 for a total of 6,822 weeks of training. The program trains and recruits rural physicians in addition to supplying manpower to rural health care facilities through the use of students. An online tracking system called TRACKER© is used to evaluate the program, schedule rotations, and track the practice location following training. This helps the program identify how successful it is in recruiting and retaining health care professionals in rural areas.

Beginnings: In 1990–1991, the West Virginia state legislature examined the issue of the number of rural, underserved areas and the retention rate of state health professional school graduates. They also investigated the expenditures of state dollars to public higher education. This debate sparked community and school interest in developing a statewide system for community-based training as a strategy to improve recruitment and retention of state-trained graduates in the health professions. RHEP was actually created by this legislation and is a program of the higher education system of the state. All health professional students in a state-supported program are required to complete three months of training and service in underserved, rural areas of the state. The partnership began as two programs—the Community Partnership Initiative funded by the W.K. Kellogg Foundation from 1991 to 1996, and the Rural Health Initiative funded by the state's

Rural Health Act of 1991. These programs were merged into the West Virginia Rural Health Education Partnerships in 1995, and the legislature increased the appropriations from $6 million to $7.5 million to cover the Kellogg funding levels. The merger expanded the program into more underserved counties in the state, bringing it to its present level of 47 counties and 13 consortia. Since 1992, the program has been solely funded with state dollars, but many federal and private foundation grants have been received by the partners on the strength of the partnership and the expansiveness of the statewide training network. These have included Health Resources and Services Administration (HRSA) grants for interdisciplinary training in rural areas, research grants, resident training grants, and demonstration and model replication grants.

Challenges and Solutions: Some of the initial challenges included extending the training in rural, underserved communities as a degree requirement; working with lead agencies and some partners in building a partnership that was not a traditional hierarchical organization; devising a decision-making model that was equally shared among all partners; and developing full trust within the partnerships to share resources.

These challenges were overcome by developing a clear, open, and concise system of communication; involving all partners in defining vision, values, mission, strategies, outcomes, and policies regarding operations; and spending time to develop trust. This was facilitated by encouraging partnership interaction and consistently engaging community members and students in the process as the focal point of the partnerships' outcomes. Keeping the focus on the community and the role of the community members as the stewards of the partnership helped to facilitate shared power in decision making.

The program is marketed through local newspapers, websites, and personal advertisements by practitioners. Presentations are also made at civic clubs, churches, social events, and special annual events. The program has been featured in a number of professional publications and is the recipient of numerous awards, including recognition by the U.S. Surgeon General. Examples include receipt of a Community-Campus Partnership, Inc. Award for Leadership, a spotlight in the *New York Times*, and a publication in the *Journal of the American Medical Association*.

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ACCESS TO QUALITY HEALTH SERVICES IN RURAL AREAS—EMERGENCY MEDICAL SERVICES

by Cortney Rawlinson and Paul Crews

SCOPE OF PROBLEM

- Access to emergency medical services (EMS) was identified as a major rural health concern among state offices of rural health.[31]
- Emergency medical services are a major factor in assuring "access to health care," one of the 10 "leading health indicators" selected through a process led by interagency workgroup within the U.S. Department of Health and Human Services.[32]

GOALS AND OBJECTIVES

One Healthy People 2010 goal is to improve access to comprehensive, high quality health care services.[1] According to the Rural Healthy People 2010 (RHP2010) survey, access to quality health services (which includes emergency medical services) was ranked as the top rural health priority. In a preliminary survey of state and national rural experts conducted by RHP2010, emergency medical response was frequently named specifically as a major rural health problem.[2]

The following Healthy People 2010[1] objectives are among those addressed in the discussion of emergency medical services:

- 1-10. Reduce the proportion of persons who delay or have difficulty in getting emergency medical care.
- 1-11. Increase the proportion of persons who have access to rapidly responding pre-hospital emergency services.
- 1-13. Increase the number of Tribes, States, and the District of Columbia with trauma care systems that maximize survival and functional outcomes of trauma patients and help prevent injuries from occurring.
- 1-14. Increase the number of States and the District of Columbia that have implemented guidelines for pre-hospital and hospital pediatric care.

Emergency medical services is the umbrella term for a continuum of health services including pre-hospital medical services, emergency services provided at the hospital or health center, and the trauma system that often serves as the network of coordinated trauma care.

Due to a variety of factors including availability of professional and paraprofessional service providers, geographic barriers, and resource constraints, there is a wide disparity in emergency medical services between rural and urban areas.[3-5] The shortage of qualified medical professionals and other essential personnel, accompanied by a lack of other resources, poses great challenges for the provision of adequate care and treatment to patients following initial stabilization.[6]

PREVALENCE

Emergency medical services are the vital extension of emergency care from the community to the hospital emergency room. Injuries in rural areas tend to be greater in severity than those in urban areas.[4] Only one-third of all motor vehicle accidents occur in rural areas, yet two-thirds of the deaths attributed to these accidents occur on rural roads.[7]

> Trauma patients in rural areas who have a greater likelihood of needing advanced care are less likely to receive it.

Volunteers constitute up to 90 percent of emergency medical service teams in rural frontier areas,[4] and

many of these areas depend on basic emergency medical technicians (EMTs). Therefore, trauma patients in rural areas who have a greater likelihood of needing advanced care are less likely to receive it.

Hospital emergency departments in rural areas encounter many challenges. Chief among these is staffing. Many of the emergency room directors are not specialists in emergency medicine, and for those who are specialized, the low volume of patients creates an environment not conducive to maintaining those skills.[4, 8] Providing 24-hour availability of emergency room staff is also a problem; often nurses are relied on until the physician arrives.[9] Financial constraints also exist for these facilities serving a small population, making it difficult for them to offer needed trauma services.[4]

Trauma systems primarily function as a statewide system, pulling together multiple health-care components in an effort to ensure timely response and transport times of injured patients to facilities that, when patients are received, will provide adequate resources and personnel for their treatment.[10] Studies have been conducted that support the positive effect of these systems for urban areas, with the effect on rural areas now also being discovered.[11]

Children account for 25 percent of injury victims, approximately 10 percent of emergency response transports, and one-third of emergency department visits.[12, 13] For those from age six through 18 in rural areas, vehicular injury is the most common reason for calls made to EMS.[13] One rural study points to motor vehicle crashes along with falls and recreational activities accounting for over one-half of all pediatric injuries.[14]

IMPACT

The timeliness of EMS response is critical to the survival of the patient. The majority of deaths occurring from trauma incidents in rural areas may occur at the scene, rather than in the admitting hospital. One study found that 72 percent of trauma deaths in a rural county occurred at the scene, proving the critical nature of the first hour following the actual incident.[15] The 'golden hour' refers to this first hour from incident to hospital treatment during which, if treatment is received, the patient's likelihood of survival is greatly increased.[16] One study supports this in reporting a seven times higher likelihood of death for those victims who waited longer than 30 minutes for EMS response.[17] National average response times from motor vehicle accident to EMS arrival in rural areas was 18 minutes, eight minutes greater than in urban areas.[18]

The majority of deaths occurring from trauma incidents in rural areas may occur at the scene, rather than in the admitting hospital.

The effectiveness of trauma systems on mortality rates in rural areas has yet to be clearly determined. Many studies compare those patients who were stabilized in an outlying hospital before being transferred to a higher-level facility to those who were directly admitted to the latter facility. One such study found no difference in the mortality rates between those two types of patients. Several other studies show indirect support for the advantages of trauma system implementation.[19, 20] There is also evidence supporting negative consequences associated with the transportation of patients to other facilities after stabilization.[21]

Mortality rates have also been compared between urban pediatric and non-pediatric trauma centers and rural non-pediatric trauma centers. In one study, the urban centers specifically designed for pediatrics received more pedestrian injuries and falls, while rural non-pediatric centers received more motor vehicle accident passengers. Death rates were the greatest for these rural non-pediatric centers, at 6.2 percent. Both pediatric and non-pediatric centers in urban areas had similar death rates yet were significantly lower than their rural counterparts.[12]

BARRIERS

Emergency medical services in rural areas face many challenges, making it difficult to provide adequate and timely service to each surrounding area. Providers of these services are often volunteers who have received only the most basic of training.[3, 4] These volunteers typically must also report to the unit before actually traveling to the scene, contributing to the response delay.[17] Lack of financial resources also factor into a community's ability to provide adequate and efficient EMS equipment and services.[3, 22]

Physician recruitment and retention are two major problems rural hospitals face. General and family practitioners are frequently relied upon to provide hospital-based emergency care in rural areas, while many are not adequately trained or certified to do so.[6] Many hospitals are contracting out these services to provide emergency coverage, but in doing so, incur great financial burdens.[23]

> General and family practitioners are frequently relied upon to provide hospital-based emergency care in rural areas.

Trauma systems experience many of the same challenges as the rest of EMS. Logistical circumstances, longer transport distances, economic hardships of practicing medicine in a small town, lack of sophisticated emergency-care delivery systems, and the critical nature of managing common, blunt-trauma injuries all make creating an effective system for rural areas difficult.[5]

PROPOSED SOLUTIONS

There are a number of solutions that are feasible to improve EMS in rural communities. Geographic information systems (GIS) can be utilized in a number of ways in an effort to improve pre-hospital services in rural areas. This is being used in an effort to dispatch the most efficient mode of transport to the incident sites,[24] as well as in 911 dispatching to aid the responders in determining the quickest route to those sites.[25]

For in-hospital emergency care, telemedicine offers rural facilities the opportunity to take advantage of the skills and knowledge of those in other locations.[26] Trauma systems, when implemented in rural areas, should incorporate other services in addition to making tertiary care available at a Level I or II trauma center. Trauma prevention must be promoted; all participants of the referring and accepting institutions should share responsibility for the trauma patients; and referring patterns should be bi-directional, as to allow for those patients who can be appropriately cared for in a smaller hospital, to be "back referred" from the larger facilities.[27] Cooperation at each of these levels may help achieve a goal of having the Level I and II centers contribute to the development of the Level III centers.

Implementing a statewide surveillance system is one potential solution suggested to aid in providing effective and efficient emergency medical services to children. The system would allow the identification of specific injury patterns, allowing the development of prevention programs that focus on those injuries for which a particular area is at a higher risk.[28] Education of pre-hospital providers in the specific nature of care required for pediatric patients would also allow those children needing trauma services to receive the appropriate level of care.[29, 30]

SUMMARY AND CONCLUSIONS

Access to rural emergency medical services encompasses several elements including pre-hospital care, emergency room care, trauma systems, and pediatric care. Through close interaction, these elements constitute emergency medical care as a whole, but they must be analyzed individually for the entire system to be understood. Each component possesses its own unique challenges and issues, and it is only by taking all aspects of the problem into account that progress will be made.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (EMERGENCY MEDICAL SERVICES)

Program Name: Rural Health Community Systems
Location: Steuben County, New York
Problem Addressed: Rural Emergency Medical Services Access
Healthy People 2010 Objective: 1-11
Web Address: http://www.steubencony.org/emo/rhcs.html

SNAPSHOT

Rural Health Community Systems (RHCS) was created in 1997 when the CEOs of Ira Davenport, Noyes Hospital, and Rural/Metro Medical Services Southern Tier formed an official "Rural Health Network." A rural health network is an administrative tool that has the flexibility to establish new systems that can be used by providers to plan, coordinate, and deliver health care services. This rural health network now covers all of Steuben County and the environs of Allegany, Livingston, Ontario, and other counties in the State of New York. The Rural Health Community Systems Rural Health Network decided to focus on emergency medical services (EMS) and to help EMS agencies in the county recruit and retain even more quality, dedicated, and knowledgeable volunteers. The Rural Health Network developed activities including a regional EMS system review, an EMS youth corps, hospital emergency department and EMS personnel integration, and a program to provide regional law enforcement vehicles with automatic external defibrillators for use in sudden cardiac arrest.

As a result of its activities, RHCS was chosen as an example of "best practice" by the National Rural Health Association EMS vision conference.

RHCS's Rural Health Network focuses on emergency medical services, with the objectives of expanding the scope of access to EMS and expanding system resources for community education about EMS.

THE MODEL

Blueprint: RHCS was created in 1997 and is an association of nonprofit and proprietary corporations, public agencies, and individuals providing health care and related services in central Steuben County in New York State. Steuben County has a population of 98,726 (U.S. Census, 2000) and is classified as non-metropolitan using the rural-urban continuum coding methodology (ERS: USDA, 2000). The organizations came together in a collaborative forum to address common rural health service issues. RHCS's Rural Health Network focuses on emergency medical services, with the objectives of expanding the scope of access to EMS and expanding system resources for community education about EMS. In other words, the network was developed to respond to a crucial need—helping to smooth the rocky

road of service provision and improving access to EMS—not to provide services.

The network identifies, addresses, resolves, and monitors activities considered necessary for an improved EMS service delivery system. An initial project of the network was to facilitate a study of the EMS systems in Steuben and Livingston Counties of New York, which provided a better understanding of the situation and a foundation on which to plan needed activities. In an attempt to foster improvement within the emergency medical care continuum, the network facilitated the integration of the area emergency department and local paramedics. This supplied additional personnel to provide care in the emergency room and provided advanced training to the area paramedics. Another project initiated by the network was the placement of automatic external defibrillation units in county law enforcement vehicles and the training of deputies and troopers in their use. In an attempt to promote awareness and to improve recruitment, the network collaborated to develop and implement an Emergency Medical Services Youth Corps Project. This project is a collaborative effort between RHCS, schools that support the program, interested EMS agencies, and youth participants. The program is open to youth who are at least 14 years of age and exposes them to the world of EMS through fun and educational hands-on activities and meetings with participating volunteer ambulance corps to which they are assigned.

Making a Difference: While RHCS does not report any outcomes measures, they have established community-oriented goals. These include:

- Help youth become more involved in the community, giving them a sense of community service.
- Help EMS agencies in the county recruit and retain even more quality, dedicated, and knowledgeable volunteers.
- Assist schools in helping students' transition from a school environment to a work environment in today's highly complex work setting.
- Give youth a sense of pride in the EMS corps and its accomplishments, a direction for the future, and skills they can always use.

Beginnings: In the early 1990s, a study of primary care needs was done by the Health Systems Agency, which indicated the need for a closer examination of how emergency transportation was being handled in New York State. RHCS was originally organized in 1997 through grant funding of the state's Health Care Reform Act, which authorized over eight million dollars for the improvement of rural health access in New York State. Most of the projects that were initiated by the network are now "stand-alone."

Challenges and Solutions: As do many other community organizations, the network faces challenges with bureaucracy, poor communication, local

tradition, and culture. To address these, RHCS reaches its constituents and promotes its activities through the development and implementation of a media day, press releases, newsletters, a website, word of mouth, community/school presentations, and personal contact. To subsidize funding shortfalls, the network depends on its members to provide in-kind services and continuously canvases for additional support through membership connections.

RHCS received the New York State Department of Health Dr. Martin Luther King Healthy Community award. It was also chosen as an example of "best practice" by the National Rural Health Association EMS vision conference.

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MODELS FOR PRACTICE
FOCUS AREA: ACCESS (EMERGENCY MEDICAL SERVICES)

Program Name: TENKIDS EMS Computer Network
Location: Bozeman, Montana
Problem Addressed: Rural Emergency Medical Services Access
Healthy People 2010 Objective: 1-11
Web Address: www.citmt.org

SNAPSHOT

Providing continuing education opportunities, training, and improved communication are challenges to the provision of emergency medical services across the nation, but they are particularly challenging in remote areas. The TENKIDS EMS Computer Network was established to address this challenge in Montana. The three primary objectives of the network are to provide educational opportunities for remote and volunteer emergency medical services (EMS) providers, to improve patient record keeping and the aggregation of those data for epidemiologic and administrative purposes, and also, and to improve the communication among and between the providers and state-level authorities. The project covers the entire state of Montana, where extremes in weather, terrain, and travel distances to continuing education opportunities isolate many providers.

The network primarily targets EMS providers across the state of Montana, particularly those in the most remote areas.

THE MODEL

Blueprint: A number of organizations contribute to the success of this network. The Critical Illness and Trauma Foundation (CIT) provides leadership, oversight, equipment acquisition, and some technical assistance. Burns Telecommunications Center at Montana State University aids in distance learning, technical assistance, and software support. The Emergency Medical Services and Injury Prevention Section of the Montana Department of Public Health and Human Services helps in equipment upgrade and software support. Finally, there are 123 emergency medical services agencies with over 4,000 members (85 percent of whom are volunteer) serving communities across the state. The network primarily targets EMS providers across the state of Montana, particularly those in the most remote areas. The providers use the information and technology to improve patient care.

The network provides asynchronous learning opportunities via interactive CD-ROM, web-based curricula, and web-cam interaction to responders in the field. The needs of the patient data collection system are met by providing a platform and necessary software. And, finally, an Internet-

accessible bulletin board dedicated to Montana EMS issues helps to alleviate many communications challenges.

The backbone of the system is a multi-media personal computer placed at each ambulance service administrative office in the state. These individual computers are networked together by the Internet, and specific software and programs are provided for data collection and EMS education. The training and communications intervention occurs at the ambulance station or, in some cases, on the individual EMS provider's home computer. The data collection intervention occurs only on the computer at the ambulance station.

Making a Difference: More than 3,000 EMS providers have participated in some form of training using the TENKIDS infrastructure. Data collection processes have begun, and dozens of providers each week utilize the TENKIDS bulletin board system as a routine communications venue. The TENKIDS network has been featured in the premier EMS trade journal, and two peer-reviewed articles have confirmed the efficacy of the project.

Beginnings: In 1995, the Office of Rural Health Policy awarded the Critical Illness and Trauma Foundation with a half million-dollar grant, while the Montana EMS and Injury Prevention Section also received funding. The problems to be addressed were identified through focus groups at various EMS conferences and through feedback provided to the state EMS office and CIT. Working together, project leaders built the infrastructure of the TENKIDS electronic community, installing computer hardware and software in every licensed ambulance service in the state. The Burns Telecommunications Center at Montana State University – Bozeman made access to the electronic bulletin board possible, therefore allowing for the exchange of on-line information. Continuing education is achieved through the development of interactive CD-ROM programs, with electronic patient care records making up the final component of the system. The installation of data collection software allows for ambulance services to analyze local patient care information, as well as to share data that will provide the first statewide information about pre-hospital emergency care.

Challenges and Solutions: High turnover rates among volunteer EMS personnel make the need for ongoing training and technical support ever-present. This has been overcome by periodic "circuit rider" events where technology training is taken to the local level so as many EMS providers as possible are aware of and able to use the network. A second challenge is keeping the network technologically up-to-date. This has been accomplished by building support for the system into a myriad of grant applications and other opportunities. Currently, the network is on its third generation of desk-top computers, and more than a dozen EMS-specific training programs have been developed and delivered over the network.

Other than technology updates and the need for ongoing technology training, both of which are supported through external funding resources, the overall maintenance of the system has been relatively inexpensive. Program staffing is provided via one paid and one donated staff member (each 50 percent time) and six to 10 volunteer staff. National and state publications, feature articles for various levels of media, professional meeting presentations, and "circuit rider" technology training all serve as a means to promote the network and increase awareness of it. The network has also received national recognition through the Peter F. Drucker Foundation for its non-profit leadership and internationally through the Stockholm Challenge for innovative technological applications.

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CANCER IN RURAL AREAS

by Annie Gosschalk and Susan Carozza

SCOPE OF PROBLEM

- Cancer was the second leading cause of death in 1999.[36]
- Cancer is virtually tied with psychoses as the fourth most frequently first-listed diagnoses for hospital discharges nationally.[37]

GOALS AND OBJECTIVES

Cancer is second only to heart disease as a leading cause of death in the United States.[1] The direct and indirect costs in terms of premature death, disability, lost years of productivity, and medical expenditures make cancer a significant public health concern[2] to all population groups regardless of age, gender, race, or geographic region. Nonetheless, certain subgroups including the elderly, African Americans, and special rural populations may be at heightened risk of developing cancer as well as experiencing more negative outcomes.[3-5]

According to the Rural Healthy People 2010 survey, cancer tied with the focus area of nutrition and overweight for 10th and 11th ranks among the Healthy People 2010 focus areas that were rated as rural health priorities; it was nominated by an average of 22 percent of the four groups of state and local rural health leaders.[6] Cancer was most frequently rated as a priority by rural hospitals and least often by state agency respondents in comparison to local public health offices and rural health centers and clinics; this is a statistically significant difference. There were no significant differences in cancer nominations across the four regions of the country.[7]

The goal of the Healthy People 2010 cancer objective is to reduce the number of new cancer cases as well as the illness, disability, and death caused by cancer.[8] The objectives addressed in this review are as follows:

- 3-1. Reduce the overall cancer death rate.
- 3-11. Increase the proportion of women who receive a Pap test.
- 3-12. Increase the number of adults who receive colorectal cancer screening.
- 3-13. Increase the proportion of women aged 40 years and older who received a mammogram within the preceding two years.
- 3-14. Increase the number of states that have statewide population-based cancer registries.
- 3-15. Increase the proportion of cancer survivors who are living five years or longer after diagnosis.

PREVALENCE

Rural areas report a higher prevalence of chronic diseases,[9, 10] including heart disease and cancer, a finding that has been attributed, in part, to a rural population that is older, poorer, and less educated.[11] The disproportionate prevalence of chronic disease is reflected in the higher crude all-causes mortality rates reported for rural areas.[3, 10] However, adjusting the data for age, race, and sex distributions effectively eliminates any rural disadvantage for cancer.[10]

Rural areas report a higher prevalence of chronic diseases,[9, 10] including heart disease and cancer.

Nonetheless, notable exceptions exist among selected rural subpopulations in incidence and mortality. Of note are the cancer incidence and mortality rates for the Appalachian region.[12] The death rate in rural Appalachia (176.3/100,000) for all cancers is higher than all of Appalachia (173.1/100,000), and it is significantly higher than the national cancer death rate (166.7/100,000). Skin and

lip cancer mortality rates, as well, are higher in rural areas[10] and may be attributed to increased sun exposure of rural residents, particularly among farmers.[13]

In reviewing the literature, differences also exist between urban and rural populations in the stage of disease at first diagnosis. Cancer staging refers to the degree of tumor extension and growth[10] at first diagnosis. Early staging is considered an indicator of quality medical care and improves outcomes for many cancer types.[10] A number of state-level studies have analyzed the relationship between rurality (note, the definition of rural is not consistent among studies) and tumor staging and found rural residents to be at risk for late stage diagnosis. African Americans in rural areas are particularly at risk for late stage diagnosis, which significantly impacts cancer progression and outcomes.[4, 5, 14, 15] The findings are suggestive that rural cancer patients may be disadvantaged when compared to their urban counterparts.[4, 10, 16-18]

> Differences exist between urban and rural populations in the stage of disease at first diagnosis.

Among the reasons suggested for this disparity in diagnosis and treatment is that rural areas have a disproportionately high percentage of high-risk groups. Rural residents, who are typically older,[19] less educated, and poorer than urban residents, have less access to or utilization of early cancer detection programs.[20, 21] Rural people also regularly experience variation in the quality, availability, and accessibility of services when evaluated against their urban counterparts.[4] Limited access to quality medical care facilities and particularly cancer prevention programs[4] may negatively affect health outcomes for cancer patients. Studies have also analyzed the impact of insurance and socioeconomic status on cancer, screening, diagnosis, staging, and treatment. Residents in low-income areas (defined as those receiving Medicaid) and the uninsured are at a greater risk of late-stage diagnosis.[21-24]

IMPACT

According to the Centers for Disease Control, 1,284,900 new cancer cases were expected to be diagnosed in 2002, and more than 555,600 people were expected to die from cancer.[1, 25] The number of new cases does not include a projected 1.3 million cases of basal and squamous cell carcinoma of the skin.[26] Overall, cancer mortality has decreased during the period 1993 to 1999 for men and women, while incidence has stabilized during the period 1995-1999.[27]

The National Institute of Health estimates that $180.1 billion was spent in 2000 on direct and indirect cancer-related costs (e.g., medical expenses, lost years of productivity).[2] In 1999, there were an estimated 8.9 million people alive with a history of cancer.[25] The probability of a person recently diagnosed with cancer being alive in five years is 59 percent.[26] However, this number represents an average for *all sites*. Five year survival rates vary considerably depending on cancer type.

Rural residents who are also older, represent minority populations, or are low-income use fewer screening services, thus contributing to late stage at diagnosis and, subsequently, poorer survival rates.[4, 10, 17, 28]

BARRIERS

A number of behavioral and social factors have been identified as related to an increased risk of a variety of cancers. Smoking, excessive alcohol use, other modifiable behaviors associated with cancer risks,[29] and limited knowledge of cancer and the importance of early detection and regular screening are among the areas often addressed through health education efforts to raise awareness and change behavior.

There are a number of other potential barriers that are particularly salient to accessing cancer services in rural settings. These include:

- poorer access to health care services, including specialists;[4, 5, 10, 16]

- limited geographic access to new, effective therapies and technologies;[5, 10, 16]
- minimal transportation options for either cancer screening or treatment;[16, 30]
- limited knowledge of cancer, particularly the importance of early detection through regular screening;[31, 32] and
- prohibitive cost of cancer screening and treatment.[20, 30, 31, 33]

Social factors, such as living in poverty and having limited education, are far more difficult to address but often more significant in terms of contributing to the risk of cancer.

The failure to more fully address both cancer prevention and treatment among the rural populations represents a significant obstacle to diminishing cancer mortality at a national level.[16]

PROPOSED SOLUTIONS

Solutions or interventions are intimately tied to access to health care resources. Many of the solutions most often advanced in the literature are dependent on access to primary care and clinical preventive services—often a challenge in rural areas. Among the solutions most frequently articulated and potentially feasible in rural settings include:

- providing cancer education within the community, particularly emphasizing the importance of early detection through regular cancer screening;[31, 34]
- encouraging primary care providers to comply with current screening regimen within each area of cancer, making use of simple screening devices that possibly already exist in their practice;[34]
- encouraging the use of sun block, hats, and staying inside or in shade during peak sun hours;[2, 13, 31, 35] and
- developing and sponsoring smoking cessation programs within the community.[2]

SUMMARY AND CONCLUSIONS

Mortality rates for various cancers vary by demographic attributes including age, race, sex, and residence, creating a diverse pattern of cancer survival not reflected in mortality rates. The clear conclusion to be made from the literature and data reviewed is that rural residents demonstrate a lesser adjusted rate of cancer than urban residents; this comparative advantage, however, may be offset by higher death rates of rural residents diagnosed at later stages of disease. Even though the adjusted incidence rate of cancer is lower in rural areas than in urban, the factors related to barriers to care increase the likelihood of negative outcomes.

Despite positive strides in reducing cancer incidence and mortality, the prevalence of cancer is expected to increase as the population ages. While urban and rural America are both faced with meeting the health care needs of an aging population, the impact may be especially challenging for rural areas with a disproportionate number of elderly in combination with limited resources. Ultimately, combating cancer requires a multi-dimensional approach aimed at improving access to health services, including the imperative need for early cancer screening and detection, and improving patient knowledge of modifiable risk factors.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: CANCER

Program Name: Kokua Program (Hui No Ke Ola Pono)
Location: Wailuku, Hawaii
Problem Addressed: Cancer
Healthy People 2010 Objective: 3
Web Address: http://www.HuiNo.org

SNAPSHOT

Hui No Ke Ola Pono is a private, non-profit, health enhancement agency. It is a community-based 501(c)(3) organization that serves uninsured or underinsured Native Hawaiian, Pacific Islander, and Filipino women. The agency is accredited by the Commission of Accreditation for Rehab Facilities (CARF). The Kokua Cancer Program is one of many programs of Hui No Ke Ola Pono; other programs are prenatal education, diabetes self-management, and nutrition. The Kokua Program provides breast and cervical cancer education presentations through outreach, enrollment with individuals, ‘ohana’ (family), or with various organizations. Services provided include clinical breast exams (CBE), Pap tests, mammogram screening, blood pressure screening, glucose screening, cholesterol screening, transportation, and case management that consists of following up through resolution of abnormal results or diagnosis and treatment. The geographic service area is the island of Maui covering 727 square miles, with a total population of 117,644. There are 33,093 Native Hawaiians and part-Hawaiians in Maui County. Maui’s geography is varied and poses significant problems when planning for networking and outreach, and it constitutes an accessibility problem for residents.

The Kokua program provides breast and cervical cancer education presentations through outreach, enrollment with individuals, ‘ohana’ (family), or with various organizations.

THE MODEL

Blueprint: The Kokua Cancer Program is a collaborative partnership among six organizations, which include: Hui No Ke Ola Pono, (Maui’s Native Hawaiian health care system); Maui Community College Health Clinic, which consists of a nurse practitioner who supplies CBE and Pap tests; American Cancer Society, which grants educational material on breast cancer, cervical cancer, and cancer resources via the Internet; Maui Medical Group Radiology, which makes mammogram screening available; Maui Radiology Consultants, which also provides mammogram screening; and Cancer Research of Hawaii, which offers cancer information services that provide staff training on breast and cervical cancer, outreach strategies, and skill updating. All six partners are original stakeholders in the Kokua Program. The program is supported in part by a three-year $600,000 Federal

Rural Outreach Grant (1999–2002) to provide breast and cervical screening for Native Hawaiians, Pacific Islanders, and Filipino women.

Kokua's paid staff consists of a registered nurse who is also a health educator and clinical case manager, a program coordinator, two outreach health care workers, and a clerk receptionist. Hui's Medical Director and program medical doctor donate their time for clinical and case management to the Kokua Program. The volunteer staff for the Kokua Program consists of seven gatekeepers to access the Native Hawaiian community, Pacific Islander community, Tongan community, and Filipino community. These gatekeepers provide information to the program staff on the communities' culture, beliefs, norms, traditions, customs, history, and language and also volunteer as interpreters.

Health Care Workers (HCWs) provide education upon clinical intake and through the enrollment process. HCWs provide presentations at various organizations, such as Hawaiian civic clubs, Hawaiian churches where Pacific Islanders attend, senior adult organizations, health fairs, women's prisons, women's rehabilitation centers, homeless shelters, and community events. HCWs provide transportation to clients from their residence to enrollment, Pap test, and mammogram screening appointments. Medical problems that are identified as a result of the clinical assessment/screenings are referred out to a primary care physician. All clients are provided enabling and entitlement services, such as transportation, applications for Social Security, MedQuest (the state's Medicaid program), and emergency funding for health needs.

Making a Difference: The program's goals are measured against two Healthy People 2010 outcomes and outreach targets: 1) increase to 70 percent the proportion of female clients aged 40+ who have had a clinical breast exam and a mammogram within the preceding two years and who have been instructed in self breast exams; and 2) increase, to at least 95 percent, the proportion of female clients age 18 and older who have ever had a Pap test and increase to at least 90 percent those who received a Pap test within the preceding three years.

Outreach: The program is based on the Hawaiian value "Kokua" (helping each other). The focus of the program is to outreach and educate women who have not participated in regular screenings. One outreach strategy is to use 'ohana' (family) style outreach to three or four women of the same family or friends helping the women feel more comfortable. This works for the Pacific Islanders also.

Enrollment: A clinical intake and education approach are used as a bridge between traditional Hawaiian culture and medicine and Western medicine. This is accomplished by providing health education in a "talk-story" manner that demystifies Western clinical practices. In Hawaii, "talk-story" is an important social convention for sharing information informally, finding

common ground, and getting to know each other. The staff have established close relationships with this target group of women and have gained their trust.

Completing the Screening: One-stop screening is achieved by scheduling the CBE, Pap test, and mammogram screening on the same day. The convenience of one-stop screening is attractive, especially because women find it hard to take off work, find childcare, etc.

Providing transportation eliminates geographical barriers. Clients are picked up and transported, scheduling five and six women at a time. The 'ohana' style scheduled screening for family and friends, with same day Pap test and mammogram screening, helps eliminate fear and shame.

Makana (gifts) are given as incentives after the women complete the Pap test and mammogram screening. The first year of the program, t-shirts with the program's logo were given. The second year, a tote bag with the program's logo was given.

Tracking and Case Management: The Health Pro Database is used to manage the client roster, results, and tracking of clinical encounters. A program/case management algorithm was developed to show the flow of clients from education and outreach through basic case management and, if needed, resolution or treatment and intermediate case management with the case management team.

Performance Measurement: The program has also established outreach target goals for Hawaiian, Pacific Islander, and Filipino women.

Beginnings: Pre-grant meetings and a series of focus groups composed of underserved women set about to address the questions of defining barriers to cancer screening in the region. A survey was developed to gauge clients, the community, and program partners. A Maui Cancer Research Team performed a study to determine motivational factors and specific barriers to breast and cervical cancer screening.

Challenges and Solutions: Barriers encountered include: cultural beliefs regarding health, language, fear, shame, mistrust of Western medicine, financial, accessing health care services, limited knowledge of available health resources, and geographic isolation in remote rural areas.

The majority of the population in the service area mistrust Western medicine. The staff provides culturally sensitive services and clinical counseling by focusing on outreach services, which integrate modern medical care with traditional Hawaiian values, beliefs, and practices.

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MODELS FOR PRACTICE
FOCUS AREA: CANCER

Program Name: Real Men Checkin' It Out
Location: Columbia, South Carolina
Problem Addressed: Cancer
Healthy People 2010 Objective: 3
Web Address: http://www.scdhec.net

SNAPSHOT

The South Carolina Department of Health and Environmental Control's (SCDHEC) Office of Minority Health (OMH), under contract with the U.S. Department of Health and Human Services Office of Minority Health (DHHS OMH), developed and implemented Real Men Checkin' It Out, a community-driven, culturally appropriate education and communication initiative addressing prostate cancer in the African-American community. Real Men Checkin' It Out provides prostate cancer screening, follow-up and educational sessions, technical assistance, training services, one-to-one screening, one-to-one follow-up, and culturally appropriate social marketing outreach initiatives.

THE MODEL

Blueprint: There has been limited attention directed toward men's health issues in the area of primary prevention. Within the last decade, prostate cancer emerged as a major health problem and a critical health issue in South Carolina. The prostate cancer mortality rate in South Carolina is one of the highest in the nation. African-American men are particularly at risk for the disease, with black males being two times more likely to die from this cancer than their white counterparts.

Real Men Checkin' It Out is a two-phase demonstration project. Phase I focused on community prostate cancer education and awareness through various community-based grantees in one county. The current Phase II of the project expands activities to include prostate cancer screening through specific partnership grants with Historically Black Colleges and Universities (HBCUs) in three counties.

The project activities target at risk African-American/black men ages 40–70. The project also focuses on African-American/black men (21–39) who are less at risk; African-American/black females (ages 21 and over); and young adults (ages 17–20) as secondary target groups for reaching and providing

information and education to the priority targeted African-American/black males.

The goal of Real Men Checkin' It Out is to educate African-American men about prostate cancer and to ensure the provision of appropriate screening and follow-up services by engaging the state's HBCUs located in Orangeburg, Bamberg, and Richland Counties—two of which are rural counties. The emphasis for the current initiative (Phase II) is screening. Benedict College, Claflin University, and Palmetto Health in collaboration with Allen University, and Omicron Phi Chapter, Columbia South Carolina of the Omega Psi Phi Fraternity, Inc., implemented the project activities.

The goal of Real Men Checkin' It Out is to educate African-American men about prostate cancer and to ensure the provision of appropriate screening and follow-up services.

The staffing required for Real Men Checkin' It Out includes a South Carolina OMH director who provides oversight and direction for the project, a health disparities consultant who serves as the program coordinator, an epidemiologist who provides guidance with data and evaluation, a media consultant who assists with an awareness campaign, and an administrative assistant who provides administrative support.

OMH provides administrative and programmatic staff support to assist with the coordination of project activities with the grant recipients (partners). Each partnership/grantee has a non-paid project coordinator. Individuals from the grantees and other organizations, which include nurses, administrators, counselors and instructors, etc., provide other in-kind or donated services. Volunteer staff is from the faith community, media, and civic and fraternal organizations who provide support to implement the outlined project activities.

Making a Difference: The plan incorporates three separate categories/stages of evaluation to address the process of implementation, provision of technical assistance/support, and outcome assessment. The process evaluation seeks to address:

- the types of activities that will be carried out by the prostate cancer initiative and by whom,
- the timely manner in which activities were initiated/performed (contractor),
- the barriers that were encountered and how were they overcome,
- to what extent the actual cost of project implementation is in line with initial budget expectations.

The process evaluation tools include: Real Men Checkin' It Out Time-Line, Program Activity Check List, and Budget Proposal vs. Actual Budget.

The performance evaluation provides feedback on OMH's execution of its role as contractor for the initiative. The evaluation seeks to address: to what

extent did OMH provide technical assistance/support, the effectiveness and efficiency of services/trainings provided by the contractor, and to what extent were resources identified to sustain activities beyond the project period. The evaluation tools for the performance evaluation include: Grantees Focus Group, Real Men Training Evaluation, and Resource Guide.

The outcome evaluation provides data on the community response to the initiative and the effectiveness of the education and screening components. The evaluation addresses the receptiveness of the community toward the initiative, to what extent community members were willing to be screened, was the initiative viewed as a successful venture by the community and program implementers, and obstacles/challenges in implementing the program and/or gaining community buy-in. The outcome evaluation tools include: Education Seminar Evaluation, Log Sheet for PSA Screening, Community-Based Organizations (CBOs) Evaluation of Initiative, and Grantees Focus Group.

Beginnings: In 1998, the South Carolina Department of Health and Environmental Control's Office of Minority Health, under contract with the U.S. Department of Health and Human Services Office of Minority Health, developed and implemented Real Men Checkin' It Out, a community-driven, culturally appropriate education and communication initiative addressing prostate cancer in the African-American community. The program recently received additional funding to continue its efforts and to expand the Real Men Checkin' It Out prostate cancer education community initiative.

Within the last five years, several organizations in South Carolina have given attention to prostate cancer, focusing on both education and screening. While these efforts have played an important role in addressing this disease and identifying the lack of education and screening as critical gaps in early intervention, they have not taken into consideration the need to seek community involvement in the development and implementation of acceptable educational programs for the target population. A culturally appropriate, public-health-based educational outreach approach was needed to enhance current efforts.

Challenges and Solutions: Initial funding supported a one-year demonstration project, and additional funding was received in 2001. Between the two-year break in the funding cycle, the community, including churches and fraternal organizations, either funded or voluntarily carried out the project activities. If additional funding becomes available, SCDHEC-OMH will apply to continue this prostate cancer initiative. SCDHEC-OMH will also assist in identifying other funding opportunities for the current grantees as well as other organizations to sustain and implement the existing prostate cancer project.

The most difficult challenges for the program have been timely submission of initial Requests for Proposals, identifying physicians to participate, and recruitment of men for screening.

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MODELS FOR PRACTICE
FOCUS AREA: CANCER

Program Name: Women's Way
Location: Mandan, North Dakota
Problem Addressed: Cancer
Healthy People 2010 Objective: 3
Web Address: http://www.health.state.nd.us/localhd/CDHU

SNAPSHOT

Custer Health, a local public health unit serving five counties in North Dakota, is affiliated with Women's Way—the North Dakota Breast and Cervical Cancer Early Detection Program. Women's Way has a statewide network system where the state health department, local public health units, and health care providers work together to provide breast and cervical cancer screening for eligible women. The program provides counsel on screening guidelines for breast and cervical cancer, education, and case management for women enrolled in the program to ensure that the women are screened. Custer Health's service area is considered rural and has one of the state's reservations within its boundaries. Minority women, primarily the Standing Rock Indian Reservation women, are a focus for the program. Thirty percent of all women enrolled with the Women's Way program from the Custer Health service area are American Indian.

Women's Way has a statewide network system where the state health department, local public health units, and health care providers work together to provide breast and cervical cancer screening for eligible women.

THE MODEL

Blueprint: Women's Way is a statewide federally funded program that pays for breast and cervical cancer screening. Women's Way is the North Dakota component of the National Breast and Cervical Cancer Early Detection program. They work with all area clinics and have a volunteer network system that is referred to as outreach or recruitment. On the state level, there are many partners such as American Cancer Society, the Governor's wife, Blue Cross Blue Shield, and the Avon Corporation. Custer Health, the umbrella organization, serves five counties in North Dakota and provides services via the Women's Way program. Women's Way has had great success with this program throughout the service area, but in particular in the Standing Rock Indian Reservation in Sioux County. Women's Way works with the Indian Health Services and Tribal Health throughout the reservation.

At Custer Health, there are approximately 60 hours per week of paid time divided among three staff people. An Avon grant pays for an additional part-time nurse (16 hours per week) on the Standing Rock Indian Reservation.

All Custer Health public health nurses work with the program enrolling women into the program at the community level. Their time is all donated to the program. Custer Health has approximately 75 volunteers in the Women's Way program serving the five county areas. Some volunteers may work four to six hours per month, and others may donate one to two hours per year.

The Women's Way program serves all women ages 18 through 64 who are either uninsured or underinsured and meet the financial guidelines for the program. The primary minority group in the state is American-Indian women, and this is the focus of the program. Women's Way pays for breast and cervical cancer screening for eligible women. Women's Way provides case management of women enrolled in the program to ensure that they receive appropriate and timely screening, which includes a diagnostic work up and treatment if needed. Women's Way also counsels women on screening guidelines for breast and cervical cancer. They educate women on breast and cervical health, including teaching women how to do a breast self-exam, assisting women with scheduling appointments for breast and cervical cancer screening, and serving as a community resource regarding breast and cervical cancer screening. The program works directly with clients by enrolling them into the Women's Way program and teaching them about screening guidelines and women's health issues. Women's Way then refers clients to their provider to schedule appointments for breast and cervical cancer screenings. The clients undergo follow-up and continue through the screening process, including assistance with scheduling diagnostic work if needed. The program promotes annual screening, contacting women annually to re-enroll if eligible and re-schedule appointments and screenings.

Making a Difference: Women's Way sets goals every year, based on the population of potentially eligible women. Their goal is to serve 10 percent of potentially eligible women within the service area and then measure the number of women served on a monthly basis. The data manager with the state health department for the Women's Way program provides each local public health unit with this information. Women's Way also tracks the number of women served locally. Currently, about 19 percent of eligible women are being reached by the program.

Beginnings: The Women's Way program started in North Dakota in 1993 at four pilot sites, with screening of women beginning in September 1997. Custer Health was not a pilot site and came into the program April 1997. Women's Way began enrolling women into the program November 1997. The program was fully implemented by spring of 1998, with enrollments occurring in all five counties in the service area. Currently, Women's Way serves 420 women in the service area. A total of 575 women have been in the program since its initiation in 1997.

Challenges and Solutions: Women's Way has encountered several challenges with the program. State and local Women's Way staff continuously work to sustain the program by networking with CDC at the national level, and health care providers and the community at the local level.

Due to the ruralness of the area, availability of mammogram screening is a significant barrier. There is no mobile mammography throughout southwest North Dakota, thus some women may not get a mammogram at all during the course of the year. Many women have no transportation to go 50 to 150 miles for a mammogram. Time off work may also prohibit them from going that distance for a mammogram.

This is especially true for the women of Standing Rock. With support from an Avon grant, transportation is arranged for women to travel from Fort Yates to Bismarck for mammography. This enables 170 women to have access to mammography who otherwise would not have had access to the service. This is certainly not enough for everyone, but it is a start. Women's Way is encouraging local providers to bring a mobile mammography unit into the area, which would increase access.

Trust in the program and staff working with the program is another challenge, especially for the women of Standing Rock. Women's Way has been working in the Standing Rock community for four years, and it is slowly seeing more women willing to come in to the local clinic for screening and inquire about the program. With the addition of the Sioux County nurse, the county in which the Standing Rock Indian Reservation is located, the Women's Way program continues to build trust among the community members.

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DIABETES IN RURAL AMERICA

by Betty Dabney and Annie Gosschalk

SCOPE OF PROBLEM

- Diabetes mellitus was the sixth ranking leading cause of death in 1999.[78]
- Diabetes is an "ambulatory-care-sensitive" condition.[77]

GOALS AND OBJECTIVES

America is in the midst of an epidemic of diabetes. Approximately 17 million Americans, 6 percent of the population, are diabetic, with another estimated 16 million having "pre-diabetes."[1-3] Type 2 diabetes (formerly termed adult onset or non-insulin dependent) accounts for 90 to 95 percent of all cases and is primarily responsible for the increase in prevalence over the past 10 years. Because the U.S. population is steadily aging and is also disproportionately increasing in high-risk groups, the prevalence of diabetes is expected to double by 2050.[4]

> Six percent of the population are diabetic, with another estimated 16 million having "pre-diabetes."[1-3]

The nation's vested interest in addressing this public health crisis is articulated as follows in the Healthy People 2010 goal relating to diabetes: "Through prevention programs, reduce the disease and economic burden of diabetes, and improve the quality of life for all persons who have or are at risk for diabetes."[5] Those at risk include rural Americans by virtue of their unique demographic profile. According to the Rural Healthy People 2010 survey, diabetes was identified as the third highest-ranking rural health concern after access and heart disease and stroke.[6] Diabetes was consistently among the top five priorities in all four geographic regions. The South, more than the other three regions, rated diabetes as a priority—the second-ranked rural priority in the South. The difference across the regions fell just short of statistical significance.[7]

This diabetes section emphasizes the following HP2010 objectives:[5]

- 5-1. Increase the proportion of persons with diabetes who receive formal diabetes education.
- 5-2. Prevent new cases of diabetes.
- 5-3. Reduce the overall rate of diabetes that is clinically diagnosed.
- 5-4. Increase the proportion of adults with diabetes whose condition has been diagnosed.
- 5-5. Reduce the diabetes death rate.
- 5-6. Reduce diabetes-related deaths among persons with diabetes.
- 5-7. Reduce deaths from cardiovascular disease in persons with diabetes.

PREVALENCE

Diabetes impacts every area of society. It occurs across all racial/ethnic and socioeconomic groups, but it is two to five times more common in African Americans, Hispanics, Native Americans, Pacific Islanders, and Asians.[8-12] The prevalence of diabetes varies by urbanicity and degree of rurality. In 1995, the self-reported prevalence of diabetes in non-metropolitan statistical areas (MSAs) of the U.S. was 17 percent higher than in central cities and 11.7 percent higher than all MSAs (3.6 percent, 3.19 percent, and 3.24 percent, respectively).[13] The prevalence of

> Diabetes was identified as the third highest-ranking rural health concern after access and oral health.[6]

diabetes may vary significantly across different rural regions of the country. It is generally more common in the Southeast and Southwest.[12, 14-16] Migrant farmworkers, estimated at 750,000 to 5 million, are also at risk. According to two studies of this group, diabetes rose in rank from the sixth most frequent diagnosis or reason for physician visits in 1980 to first place in 1986-1987.[17, 18]

The issue of rural-urban disparities for diabetes is quite complex. Typically, diabetes is a more serious problem in rural areas as they adopt a more "developed" or urban lifestyle.[19-21] As the differences between rural and urban lifestyles disappear, higher rural prevalences may reflect differences in socioeconomic, racial/ethnic, or age status, more so than rurality *per se*. However, rural-urban disparities in diabetes are more pronounced for African Americans.[22]

> The prevalence of diabetes may vary significantly across different rural regions of the country.

IMPACT

Diabetes was the sixth leading cause of death in the U.S. for the year 2000, accounting for a preliminary 68,662 deaths in 2000.[23] Death rates for diabetics are two times higher than for non-diabetics and higher for both genders and for all ages and races.[24] Diabetics are two to four times more likely to die from heart disease; those with pre-diabetes are twice as likely to die from heart disease.[3, 25] Diabetes is the leading cause of deaths from kidney disease.[26]

Mortality from diabetes is not geographically uniform and follows a similar pattern to prevalence rates, with age-adjusted death rates generally highest in the Southeast and Southwest.[27] As with prevalence, racial/ethnic differences account for much larger differences in mortality from diabetes than rural-urban differences.[28, 29]

Diabetes is the sixth leading cause of hospitalization in the U.S. for men at least 45 years old and the seventh overall cause for women of comparable ages.[30] In 1996, diabetes accounted for 3.8 million hospital discharges, 64 million physician office visits, 1.2 million emergency room visits, 14 million work-loss days, and 88 million disability days.[31]

Diabetes also has major consequences for virtually every system in the body that may become chronic, debilitating, and costly to the health care system and to quality of life. Besides cardiovascular disease, diabetes is a major risk factor for end-stage renal disease, peripheral neuropathy, nontraumatic limb amputations, blindness, lipid abnormalities, impotence, periodontal disease, infections, and depression.[25, 26, 32-35] The duration of the disease is a major factor for development of complications.[36-38] This is a major concern for the increasingly younger age of onset of type 2 diabetes.

Gestational diabetes is associated with pregnancy complications, increased neonatal morbidity and mortality, birth defects, and increased risk for developing diabetes in both mother and child.[1, 25, 39, 40]

Type 2 diabetes is closely associated with obesity, and the sedentary, high-fat American lifestyle is thought to be largely responsible for the epidemic sweeping the world.[41] Obesity and lack of leisure activity are also more common in rural than in urban areas.[30]

Other factors contributing to development of type 2 diabetes are genetics,[42-45] lower socioeconomic status,[9, 11, 12, 46-49] belonging to a minority group or the female gender, gestational diabetes, lack of early detection,[50-52] acanthosis nigricans,[53] and possibly exposure to certain environmental chemicals.[54-56]

BARRIERS

The American health care system has not been very effective in preventing, diagnosing, or managing diabetes, especially in rural and low-income patients.[31, 57-61] Rural residents are less likely to visit doctors and to receive specialized care or adequate posthospital home health care.[57, 62-66] Rural residence is also a significant risk factor for never receiving an ophthalmic examination,[65] which can detect early

signs of diabetic retinopathy. Other challenges to slowing the epidemic, irrespective of location, include personal lifestyle choices relating to diet and exercise (see the Nutrition and Overweight section).[49]

PROPOSED SOLUTIONS

While improving all detection and treatment methods in rural areas is desirable, the Diabetes Prevention Program Research Group recommends prevention as the preferable approach.[67] The onset and progression of type 2 diabetes and its complications can be delayed or prevented by significant changes in lifestyle that are feasible to implement in rural communities, including modest exercise and weight loss.[67-69]

Where prevention has not been possible, the risk of developing complications can be minimized by effective metabolic control, regular examinations, and patient education.[25, 26, 70-72] Based on strict review of published studies, the HHS Task Force on Community Preventive Services recommends four types of interventions for reducing morbidity and mortality from diabetes. These are case and disease management by health care providers, community-based self-management education programs for adults with type 2 diabetes, and home-based programs for children and adolescents with type 1 diabetes.[73]

Most published community studies address only one component of diabetes education, prevention, detection, and care. While many innovative programs record short-term success, few demonstrate long-term improvement in clinical outcomes.[74] New cost-effective approaches need to be developed around a chronic disease model,[75, 76] using the existing health care and public health infrastructure, and based upon preventive and routine patient care clustered at the community level by allied health professionals.

SUMMARY AND CONCLUSIONS

The prevalence of diabetes is somewhat higher in rural than in urban areas, but racial/ethnic, socioeconomic, and lifestyle factors appear to be stronger risk factors for diabetes than rural residence. Compounding the problem in rural areas are limited resources to effectively diagnose and manage diabetes, reinforcing the need for an emphasis on prevention efforts. All types of prevention have a place in management of diabetes from a medical and public health perspective, but primary prevention is ultimately the most cost effective and the most desirable from an ethical standpoint. Unchecked, the diabetes epidemic will produce an intolerable burden on the health system and quality of life over the next generation.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: DIABETES

Program Name: Diabetes Collaborative
Location: Laurel Health System, Wellsboro, Pennsylvania (Tioga County)
Problem Addressed: Diabetes and Access to Primary Care
Healthy People 2010 Objective: 1-9
Web Address: http://www.laurelhs.org; http://www.tiogapartners.org

SNAPSHOT

The Laurel Health System (LHS), with its six Federally Qualified Health Centers (FQHCs), is a participant in a national diabetes collaborative. The collaborative supports a systematic approach to diabetes care and management and development of an electronic registry of patient data in the primary care environment.

The collaborative supports a systematic approach to diabetes care and management.

This model reflects improved access to quality primary care addressing medical conditions (such as diabetes, hypertension, and asthma) for which improved primary care management results in reduced hospitalization. It includes a diabetes electronic management system that:

- monitors patient care and ensures continuous, consistent care for the diabetic patient;
- supports effective self-management through exams, referrals for eye and foot care, nutritional counseling, and documentation of self-management goal setting; and
- estimates the financial impacts of this intervention with another tool, known as IMPACT.

The model enhances clinical care enhancement and promotes the effective use of a countywide health partnership to extend effective prevention and primary care interventions for diabetes to other providers and to people in the community.

THE MODEL

Blueprint: Beginning in January 2000, LHS's health centers were accepted for participation in the National Diabetes Collaborative. By participating, the health centers were able to establish a systematic approach to diabetes treatment and electronic management of patient data. Beginning with the patients in one of the six FQHCs, the program was implemented at all six centers over the next nine months. A key element in the program, the

Diabetes Electronic Management System (DEMS), is a registry for all Laurel Health Center patients with diabetes. When a patient with diabetes schedules an appointment, a DEMS report is printed, attached to the patient's chart, and employed by the nurse or clinician with the patient in reviewing the patient's condition and engaging the patient in continuing self-management of diabetes. The registry supports ongoing analysis of the impact of this program upon patients' health status and cost of treatment. This analysis is supported by IMPACT software specially designed for organizations participating in the diabetes collaborative program. The diabetes collaborative model, fully implemented at LHS's FQHCs, is currently being extended, under the sponsorship of the countywide health partnership and regional Area Health Education Center (AHEC), to other primary care providers in this rural county.

Making a Difference: Beginning in January 2000, the use of DEMS and education for clinicians and office staff on diabetes management produced immediate small improvements in diabetes outcomes. These improvements increased and affected more patients as the program was extended to all of the six health centers over the next nine months. The program collects the following data on patients with diabetes: percent with Hemoglobin A_{1c} (HbA_{1c}) measured yearly; percent maintaining HbA_{1c} <8 percent, percent with annual foot exam, percent with influenza and pneumovax immunizations, percent controlling blood pressure at <135/85, and percent with an annual lipid profile performed. As of April 2002, there is documentation of an average HbA_{1c} of 7.1 in a population of 622 diabetic patients, with an average total cholesterol of 201 and an average LDL of 110. These factors have been demonstrated to decrease diabetic morbidity and mortality from secondary end organ failure (such as renal failure or heart failure secondary to diabetes). Cost savings for averted stroke, myocardial infarction, or coronary artery bypass graft are estimated at between $10,000 and $20,000 for each occurrence. Conversely, primary care revenue increased as a result of the more aggressive disease management in the first year of the program. The population of focus, 116 patients in the pre-collaborative year, yielded 115 diabetic patient visits with a revenue of $5,410 compared to 550 visits and $27,827 in the first year of the collaborative.

Beginnings: The model grew out of a community needs assessment sponsored by the countywide Tioga County Partnership for Community Health (TCPCH) in 1994. The assessment found the self-reported diabetes rate in Tioga County to be one-quarter higher than the national average (8 percent versus 6 percent, nationally). The 1998 county mortality rate for diabetes at 20.2/100,000 was 45 percent higher than the state average. Beginning in 1995, patient education and community health education components for diabetes were implemented by LHS, a local integrated rural health system within the county. LHS's Laurel Health Center Diabetes Education and Nutrition Counseling program was launched shortly after the

local study. In 1996, a few providers from among the six FQHCs began ongoing evaluation of HbA_{1c} levels and provision of specified care.

Challenges and Solutions: The diabetes collaborative is associated with a northeast regional cluster of such initiatives supported by U.S. Health Resources and Services Administration's Bureau of Primary Health Care. The program has become institutionalized in diabetes treatment within the LHS FQHCs. At the same time, additional grant funding has been attained from the Pennsylvania Department of Health by the county partnership (TCPCH) to extend the LHS diabetes collaborative model to other primary care providers inside the county but outside the LHS umbrella. The success of the diabetes collaborative has led LHS to seek similar benefits for other conditions. It recently became a participant in the national cardiovascular collaborative.

LHS and TCPCH communicate to the community and the larger world through its regular newsletters and websites. Staff of both organizations actively participate in state and national conferences in telling their story.

Many recent events reflect the successes that these organizations have had in their disease management efforts. In 1999, LHS's Diabetes Education and Nutrition Counseling program received the American Diabetes Association's Education Recognition Certificate for its diabetes self-management education program. This recognition, successful work within the diabetes collaborative, and state support for expansion of the diabetes management work to other providers are among a string of successes for LHS and the larger TCPCH that have contributed to an award of a Community Access Program grant in 2001 to support development of a Community Health Plan, a jointly sponsored LHS-TCPCH managed care organization.

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MODELS FOR PRACTICE
FOCUS AREA: DIABETES

Program Name: Delta Community Partners in Care
Location: Clarksdale, Mississippi
Problem Addressed: Diabetes/Hypertension
Healthy People 2010 Objective: 5, 12
Web Address: None

SNAPSHOT

Delta Community Partners in Care (DCPIC) is a coalition of 19 partners serving a 10-county rural area in the Mississippi Delta region of northwest Mississippi. The region's economy is based primarily on agribusinesses associated with raising soybeans, cotton, and catfish. This is a historically underserved area for health care, where 29.5 percent of the population lives below poverty. Its target population is the uninsured or underinsured between the ages of 21 and 64 who have a diagnosis of diabetes, hypertension, or both. The demographics are 92.1 percent African American, 7.6 percent white, and 0.3 percent other.

DCPIC attempts to reduce the barriers affecting its target population by providing outreach case management services.

DCPIC attempts to reduce the barriers affecting its target population by providing outreach case management services. These services include case management, financial assistance, transportation to provider clinics for assistance, referral and follow-up of social issues presenting barriers to a patient's response to care, individualized health education/self-care planning, and organized support services, such as support groups, walking groups, etc. Community health education programs are also provided for the community residents throughout the target area.

THE MODEL

Blueprint: DCPIC is a 501(c)(3) non-profit organization with a Board of Directors and elected officers. The original stakeholders are still involved in the program. The operation has grown to include 19 collaborative partners: four hospitals, four Federally Qualified Community Health Centers (FQHC), three rural health centers, two state department of health districts, one mental health center, three state agencies, and two federally funded agencies. Currently, funding is from the Health Resources and Services Administration (HRSA), and DCPIC has an advisory council composed of representatives from the partnership members. The lead agency for the HRSA grant is one of the original members and an FQHC. Staff includes five persons at the central office and a caseworker at each of the 19 clinical sites.

DCPIC uses a community-based case management model to improve the health status and risk factors in its target population. Caseworkers are trained social workers, nurses, and lay health workers who work directly with patients who have a diagnosis of diabetes, hypertension, or both. The caseworkers use a holistic approach, and the environment is such that the caseworkers and patients are able to learn from each other. As required by HRSA funding, they use several prevention indicators: reminders for doctors to perform foot checks, Hemoglobin A_{1c} (HbA_{1c}) tests every six months, and annual eye exams.

Making a Difference: From its modest beginnings, DCPIC has grown to provide comprehensive community-based education, prevention, and treatment services for 1,570 patients. In this growth, they developed extensive tools and materials for their program. A baseline survey provides a patient profile at enrollment; all tracking and data collection forms are standardized, and training materials have been developed for staff. Health status surveys, knowledge assessments, health profiles, and patient satisfaction surveys are used to gather information on the program's success. Indicators employed not only measure the effectiveness of the program but are also used to identify key policy issues for change. These indicators are decreases in multiple clinic utilization, emergency services utilization for primary care, the number of nights hospitalized, and the amount of sick and bed days; an increased knowledge of high blood pressure and diabetes, an increased utilization of primary care, health status changes, better blood pressure and sugar control, patient satisfaction, and improved overall health. The University of Mississippi Research Institute of Pharmaceutical Sciences provides ongoing statistical analysis and outcomes assessments.

In their Final Outcome Evaluation in 1999, prepared by the University of Mississippi Preventive Medicine Department, many successful outcomes were reported. Of the clients currently enrolled at the time the data were collected, emergency room utilization in the past year had decreased significantly from 1.01 visits to 0.65 from time of entry into the program to the time of the study. The number of outpatient visits in the last year decreased from 0.68 to 0.31; and of the patients hospitalized in the past year, the number of nights stayed decreased as well from 6.37 nights to 3.40. The number of sick days in the past year also declined, dropping from 26.74 days to 15.77. Not only did the physical health of the enrollees seem to improve but their knowledge of their conditions did as well. Knowledge of both hypertension and diabetes increased significantly, corresponding with an increase of the patients' ability to control their own blood pressure and blood sugar. A new study is currently being planned comparing patients who have been in the program since its inception to newer patients, for the 21 to 64-year-old age group.

Beginnings: DCPIC began as a vision of the Northwest Mississippi Regional Medical Center (NWMRMC) in Clarksville, from concerns in the local medical community. Greater than expected numbers of patients were

presenting in the emergency rooms or were found to have previously undiagnosed diabetes, were suffering strokes, or were requiring amputations. Young patients were also developing hypertension and strokes. The uninsured and underinsured chronically ill population faced many barriers in accessing health care services that resulted in poor health outcomes. Community meetings were held to identify these barriers as well as other existing problems within the health care systems.

It was originally a grassroots operation involving four hospitals, one community health center, three state agencies and three rural health centers, to serve a five-county area. DCPIC received a planning grant from the W.K. Kellogg Foundation for the period from May 1, 1994, through April 30, 1995. The planning committee consisted of representatives from NWMRMC, health care providers within a 15 to 30-mile radius of NWMRMC, and the Mississippi Division of Medicaid. During the planning stage, meetings were held with providers in each county. The planning was implemented in 1996, and funding ended in 1999. DCPIC had a HRSA Community Access Program (CAP) grant for evaluating sustainability.

Challenges and Solutions: Initial funding ended in 1999, creating a challenge to program continuation. DCPIC is brought to the attention of potential funders through presentations at state and national conferences as well as in published articles. Funding is continuously being sought; however, the program has maintained its focus.

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MODELS FOR PRACTICE
FOCUS AREA: DIABETES

Program Name: Holy Cross Hospital Diabetes Self-Management Program
Location: Taos, New Mexico
Problem Addressed: Diabetes
Healthy People 2010 Objective: 5
Web Address: http://www.taoshospital.org

SNAPSHOT

The Holy Cross Hospital (HCH) Diabetes Self-Management Program (DSMP) is a participant in the NMMRA (New Mexico Medical Review Association) Diabetes Collaborative. HCH DSMP offers four curriculum visits covering 15 content areas from the National Standards and an integration of community specialists, at no cost to the patients, to provide a weekly exercise class, bimonthly coping skills education, a monthly diabetes support group, and annual foot exams. HCH DSMP also has an electronic patient registry using the DEMS-Lite software. Currently, the Diabetes Self-Management Program at Holy Cross Hospital can offer 100 percent access to quality diabetes education and support regardless of an individual's ability to pay.

THE MODEL

Blueprint: Susan Kargula, RN, MSN, CDE (Certified Diabetes Educator) began the Diabetes Self-Management Program in 1992 at Holy Cross Hospital as one of the hospital's community wellness programs. HCH DSMP serves the rural area in northern New Mexico, which encompasses Taos County (population size 26,556, population density =12) and several surrounding smaller rural areas such as Penasco, Questa, and Angel Fire. It is estimated that 2,586 individuals within the community have diabetes, and the ethnicity of the target population is predominately Hispanic (66.3 percent) and white. HCH DSMP offers four curriculum visits and follow up as necessary in an individual and group setting for adults with type 1, type 2, and gestational diabetes. The four curriculum visits cover the 15 content areas from the National Standards: "diabetes overview and initial assessment; blood glucose monitoring and use of results; medications; nutrition; exercise and activity; stress and psychosocial adjustment; family involvement and social support; relationships among nutrition, exercise, medication, and blood glucose levels; prevention, detection, and treatment of acute and chronic complications; foot, skin, and dental care; behavior change strategies; goal setting and risk factor reduction; problem solving; benefits, risks, and management options for improving glucose control;

preconception care, pregnancy, and gestational diabetes; and use of health care systems and community resources."

Grant awards have made it possible for weekly exercise classes, bimonthly coping skills education, a monthly diabetes support group, and annual foot exams to be offered to patients at no cost by a community specialist. These community specialists include a medical director, exercise physiologist, stress reduction specialist, and certified pedorthist (a trained professional who specializes in designing or modifying footwear to alleviate problems associated with injury or disease—such as diabetic foot). To be considered for the program, patients must have written referrals through their primary care physician. If self-referred, a DSMP staff member assists the individual in obtaining a written referral prior to the initiation of services. The HCH DSMP staff also obtain registration information, insurance prior authorizations, Medicare coverage, and ensure coverage for uninsured patients through grants and hospital in-kind donations. The education portion of the program is either provided individually, or in some cases, in a group setting (exercise and stress reduction classes).

Making a Difference: As a participant in the NMMRA Diabetes Collaborative, HCH DSMP has a strong quality improvement plan. Also, HCH DSMP has an electronic patient registry using the DEMS-Lite software. The DEMS-Lite patient registry is used to identify patients, proactively manage their care, and track outcomes for the population. The program's current goals include: Hemoglobin A_{1c} < 7.0 percent, LDL cholesterol < 100 mg, documented annual retinal eye exam, documented annual micro albumin, and documented annual sensory foot exam. The outcomes are tracked electronically, and annotated run charts are reviewed and posted monthly. In the prior 12 months, HSH DSMP recorded 869 participant visits. The participant distribution was 93 percent type 2, 6 percent type 1, and 1 percent gestational diabetes.

HCH DSMP's overarching goal has been to transfer financial responsibility for education and management from the individual patient to public resources. In the long-term, providing "free" care for such services is not fiscally sound, nor does it ensure the viability of the program. It will also diminish public motivation to politically assist DSMP in achieving payment from governmental resources.

The program's goal to provide 100 percent access to excellence in diabetes management and support will be reached by the following routes:

- Obtaining the American Diabetes Association (ADA) "Certificate of Recognition" for the diabetes management program on June 7, 2001, allows the program to provide Medicare reimbursement and enables 40 percent of the population to access services without undue hardship.

- With the ADA Certificate of Recognition and the move on December 5, 2000, to an independent location, HCH DSMP is well positioned to seek grants that will fund access to services for its underinsured patients.
- Relocation to an independent site diminishes fragmentation of financial services. Diabetes educators, prior to delivery of services, obtain registration and financial information as well as all insurance prior authorizations.

The program is presently in the planning stages of providing a diabetes support group (as funded by grant monies). In addition, because greater than 30 percent of the population is uninsured, the program is in the planning stages of developing a prescription assistance program that will provide patients with diabetes medications at no cost. Collaborating with the hospital discharge planning team, organizers are developing an inpatient diabetes education referral and education checklist to ensure that all patients admitted to Holy Cross Hospital with a primary or secondary diagnosis of diabetes will receive basic education and support before discharge.

Beginnings: What became the Diabetes Self-Management Program grew out of the current director's pursuit of her Masters of Science in Nursing degree when she was granted a mentorship with a certified diabetes educator in 1992. She began to imbed this education into the HCH community wellness programs, with the goal of preventing diabetes complications in Taos County and surrounding areas. She began the diabetes education program at HCH the same year, initially offering the program on lunch hours at the hospital library with no source of funds.

HCH DSMP can offer 100 percent access to quality diabetes education and support regardless of an individual's ability to pay.

Challenges and Solutions: Additional support for the program was garnered through establishment of a fee schedule for the program in 1998. More important, by obtaining an American Diabetes Association "Certificate of Recognition" in 2001, the diabetes education program became eligible for Medicare reimbursement. Such recognition increased opportunities to obtain grants to provide coverage to uninsured individuals with diabetes. The combined effect was to enable the program to acquire its own space and to assume responsibilities for registration and processing of charges for education.

Currently, HCH DSMP can offer 100 percent access to quality diabetes education and support regardless of an individual's ability to pay. This excellent outcome was made possible through efforts to obtain the ADA Certificate of Recognition and grants awarded in the past year, as well as in-kind donations from the hospital. HCH DSMP has become a "central" area for referrals from 21 Taos area clinicians for diabetes education, resources, and support. In 2000, Diabetes Clinical Care Guidelines were adopted by the HCH Primary Care Committee. At that time, the certified diabetes educators requested and were approved to order lab work at their education sessions that were recommended within the Clinical Care Guidelines (HbA_{1c}, annual

micro albumin, and annual lipid profile). As a participant in the NMMRA Diabetes Collaborative, HCH DSMP has a very strong quality improvement plan.

PROGRAM CONTACT INFORMATION

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MODELS FOR PRACTICE
FOCUS AREA: DIABETES

Program Name: White River Rural Health Center, Inc. Diabetes Collaborative
Location: Augusta, Arkansas
Problem Addressed: Diabetes and Access to Primary Care
Healthy People 2010 Objective: 5, 12
Web Address: None

SNAPSHOT

The White River Rural Health Center, Inc. Diabetes Collaborative (WRRHCDC) is a self-contained Federally Qualified Community Health Center (FQHC) and a participant in the Arkansas Diabetes Collaborative and the National Diabetes Collaborative. It is funded by the Bureau of Primary Health Care (BPHC) and provides primary care and management of diabetes and associated conditions regardless of the ability of the patient to pay.

This model focuses on elimination of health disparities between populations of persons with diabetes. WRRHCDC uses continuous quality control outcome measurements based on the Cardiovascular and Diabetes Electronic Management System (CVDEMS) software program from BPHC. Improved clinical practices and other information are shared between sites. This model demonstrates that a network of FQHCs can cooperate to improve access and quality of health care for diabetics in rural areas.

THE MODEL

Blueprint: WRRHCDC, a 501(c)(3) non-profit organization, is part of the National Diabetes Collaborative (NDC), which is comprised of FQHCs across the U.S. WRRHC receives no additional funds for the DC, but it did receive staff training from BPHC during the first year. WRRHC covers a four-county area in east central Arkansas. This area is highly rural, and the main economic activity is farming. WRRHC is the only health care provider for three of the four counties, and there is only one local hospital. There are fewer than 5,000 residents in all but one of the communities.

While each FQHC is independent, they share information and clinical practices. They are organized into various levels, including state, “clusters” (regions composed of more than one state), and nationally. Currently, there are at least four additional FQHCs participating in the Arkansas DC.

WRRHCDC provides primary care and management of diabetes and associated conditions, regardless of the ability of the patient to pay. It provides all primary care on-site, including laboratory and radiology services. Staff at the WRRHCDC clinic consists of one licensed practical nurse and one medical doctor, one or two secretaries, and sometimes a certified nursing assistant as needed. A half-time nutritionist was recently hired. No donated or volunteer staff are used. Additional data entry staff will be hired as the program spreads to include multiple physician sites.

Information on newly diagnosed diabetes patients is entered into a diabetes patient registry. The registry is used to track the services needed and delivered. The software is the CVDEMS program provided by BPHC.

WRRHCDC serves all ages and also provides perinatal services. As an FQHC, it serves all individuals, regardless of their ability to pay. Their target population is approximately 20 percent black, 78 percent white, and 2 percent Hispanic. Almost half of their population is below 200 percent of the federal poverty level.

Making a Difference: WRRHCDC undergoes continuous quality improvement. CVDEMS software is used to track progress, practices, and outcomes at the level of the individual patient, specific provider, or clinic site. Data and outcomes are reported monthly.

Specific indicators reported by each site are percent of patients having HbA_{1c} <9.0 percent, having two HbA_{1c} determinations in one year >91 days apart, blood pressure <135/80, goal setting in self management, annual influenza vaccination, current pneumococcal vaccination, and annual lipid profile. Outcomes are determined monthly by searching the registry on the last working day of the month for all diabetic patients who have met the criteria for the past 12-month period. The percentage of patients meeting the goals is based on the total number of patients in the registry on that day.

In addition to the two original sites, two additional sites have been added, and the Collaborative expects to add eight sites in 2002.

Beginnings: The Collaborative began in January 1998 and is comprised of FQHCs across the U.S. The Arkansas DC originally consisted of two sites.

Challenges and Solutions: The strategic plan of WRRHC includes its commitment to the BHPC's objectives of 100 percent access, 0 percent disparities. The Diabetes Collaborative is only one of several programs at WRRHC committed to these goals. WRRHC also began participating in the BPHC's Cardiovascular Collaborative in April 2001, which operates under the same principles.

WRRHCDC provides primary care and management of diabetes and associated conditions, regardless of the ability of the patient to pay.

So far, WRRHC has operated the DC with no additional funding or staffing levels. Their only source of external funding is BPHC, and WRRHC participates in as many of BPHC's initiatives as possible. The main challenge has been finding resources for retinal eye exams, podiatry, and other specialized services for treatment of complications, especially for patients who are unable to pay. These problems are ongoing. WRRHCDC is working with the Arkansas Department of Health Diabetes Coalition and Arkansas Disease Management Collaborative to review external funding opportunities to fund mobile services to cover rural areas.

WRRHCDC publicizes its successes to BPHC by participating in the latter's initiatives. Its public relations in the community consist of newspaper announcements, letters, and health fairs.

WRRHC feels that its participation in the DC was instrumental in WRRHC receiving Joint Commission on Accreditation of Health Organizations (JCAHO) accreditation in December 1998. WRRHCDC was chosen to participate as a "high intensity" site in a three-year study by the University of Chicago, beginning in 2001. This program is designed to enhance WRRHCDC clinicians' ability to assist in behavioral change in their patients, to develop better patient communication skills, to improve patient self-management, and to continue intensive continuous quality improvement efforts.

Stakeholders include the state primary care association for Arkansas Community Health Centers for technical assistance, the Arkansas Department of Health Diabetes Coalition for training staff and developing culturally appropriate patient educational materials, county Extension agents and local hospital dietitians for nutritional education, and University of Arkansas for Medical Sciences for teleconferencing support.

PROGRAM CONTACT INFORMATION

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HEART DISEASE AND STROKE IN RURAL AMERICA

by Miguel Zuniga, D'Arcie Anderson, and Kristie Alexander

SCOPE OF PROBLEM

- Disease of the heart is the first ranking among the leading causes of death in 1999.[29]
- Stroke is the third ranking leading cause of death in 1999.[29]
- Heart diseases are the most frequently first-listed diagnoses for hospital discharges nationally.[26]
- Heart failure and stroke is the most frequent diagnostic category among hospitalized rural elderly Medicare beneficiaries.[27]
- Congestive heart failure, hypertension, and angina are "ambulatory-care-sensitive" conditions.[28]
- Pacemaker insertion, coronary artery bypass surgery, and coronary angioplasty are "referral-sensitive" conditions.[28]

GOALS AND OBJECTIVES

Combating heart disease and stroke are pivotal to improving the nation's health. Given this disease is the leading cause of death in the United States,[1] a key goal of the Healthy People 2010 heart disease and stroke objective is to "improve cardiovascular health and quality of life through the prevention, detection, and treatment of risk factors; early identification and treatment of heart attacks and strokes; and prevention of recurrent cardiovascular events."[2] Despite a 50 percent reduction in coronary heart disease and stroke in the past 30 years,[3] mostly attributable to advances in therapy and technology, disparities among certain subgroups have become more exaggerated.[4] Among these vulnerable subgroups include rural populations,[5, 6] particularly those in the South and Appalachian region.[4] According to the Rural Healthy People 2010 survey, this disease was ranked second only to access as a top rural health concern by the four groups of rural health leaders across the states.[7]

The objectives[2] addressed in the heart disease and stroke review are as follows:

- 12-1. Reduce coronary heart disease deaths.
- 12-3. Increase artery-opening therapy.
- 12-7. Reduce stroke deaths.
- 12-9. Reduce the proportion of adults with high blood pressure.
- 12-12. Increase blood pressure monitoring.
- 12-15. Increase blood cholesterol screening.

PREVALENCE

Approximately 61 million individuals in the United States suffer from some form of cardiovascular disease, which includes heart disease and stroke.[8] Although heart disease is sometimes considered a disease mostly affecting men, half of all cardiovascular disease deaths occur in women.[8] The highest rates of heart disease deaths among women occur in northeastern large urban areas followed by the South's most rural counties. For men, the highest heart disease-related deaths occur in the South's most rural counties.[9] For women and men, the lowest death rates from heart disease occur in the West.[9]

> The death rate for African-American males from cardiovascular disease is 42 percent higher than white males.

The death rate for African-American males from cardiovascular disease is 42 percent higher than white males, and the rate for African-American females is 65 percent higher than white females.[10] Other vulnerable populations to heart disease and stroke include older Hispanic Americans,[3] individuals of lower socioeconomic status,[11] and

rural populations,[5, 6] particularly those in the South and Appalachian region.[4, 12]

According to self-reported data in the 1996 National Health Interview Survey, heart disease, cerebrovascular disease, and hypertension were more prevalent in nonmetropolitan than metropolitan areas.[13] From 1985–1995, declines in mortality rates for premature coronary heart disease in African Americans and whites were found to be slower in the rural South than their counterparts in other geographic areas.[12]

> Vulnerable populations to heart disease and stroke include older Hispanic Americans,[3] individuals of lower socioeconomic status,[11] and rural populations.[5, 6]

IMPACT

Heart disease and stroke are respectively the first and third leading causes of death in the United States.[1] In 1999, there were 725,192 heart disease deaths and 167,366 stroke deaths. The age-adjusted death rate for heart disease was 265.9 deaths per 100,000, and for stroke was 61.4 deaths per 100,000.[14]

Other measures of the effects of cardiovascular disease are the associated long-term costs. Heart disease and stroke are leading causes of disability, annually costing the United States an estimated $19 billion and $5.6 billion, respectively.[15] With both heart disease and stroke, there is an increased likelihood of recurrence and other macrovascular complications.[16] Depression is also significantly associated with both heart disease[17] and stroke.[18, 19]

BARRIERS AND CHALLENGES

Rural populations are faced with certain behaviors, attitudes, and access challenges that may contribute to their heightened risks of coronary heart disease and stroke. Among these include a comparatively decreased rate of lifestyle change from behaviors associated with heart disease such as smoking, high-fat diets, sedentary lifestyle,[5] and decreased perception of heart disease risk especially among older rural women.[20] Other factors include long travel distances to comprehensive post discharge care for heart failure,[21] limited access to screening services, variances in utilization of antithrombolytic therapy,[22, 23] availability of technology and specialists,[24] and limited access to cardiac rehabilitation services.[6]

> Rural populations are faced with certain behaviors, attitudes, and access challenges that may contribute to their heightened risks of coronary heart disease and stroke.

PROPOSED SOLUTIONS

Modifiable risk factors such as smoking, high cholesterol, hypertension, physical activity, obesity, diabetes, and stress[5] can be influenced through evidence-based preventive measures. Assessing the presence of risk factors and targeting modifiable risk factors should begin as early as 20 years of age.[25] Secondary prevention strategies are those that increase the likelihood of early diagnosis, such as through screening efforts and warning-sign information dissemination, and those that address the treatment of the disease.

Tertiary prevention strategies are those that aggressively treat heart disease and stroke, endeavoring to decrease their severity and occurrence of complications, such as through antithrombolytic therapy.

> Heart disease and stroke are respectively the first and third leading causes of death in the United States.[1]

SUMMARY AND CONCLUSIONS

Heart disease and stroke are the leading causes of morbidity and mortality. Rates of reduction are varied, and certain populations are particularly vulnerable, including rural populations. Several modifiable risk factors for heart disease and stroke are more predominant in rural areas; however, access to services and preventive measures, such as screening, are not as readily available. This disease will continue to be a priority health issue in rural areas as long as access to quality care and prevention efforts are not addressed and modifiable risk factors are not effectively changed.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health concern.

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Chapter Suggested Citation

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MODELS FOR PRACTICE
FOCUS AREA: HEART DISEASE AND STROKE

Program Name: Western Maine Center for Heart Health
Location: Farmington, Maine
Problem Addressed: Heart Disease and Stroke
Healthy People 2010 Objective: 12-1, 12-11, 12-15
Web Address: http://www.fchn.org (click "Heart Health") and http://www.franklinscorekeeper.org

SNAPSHOT

The Western Maine Center for Heart Health (WMCHH) reflects collaboration between the county's 70-bed hospital, doctors, business leaders, and community residents. The center, which is a department within Franklin Memorial Hospital, is composed of four main divisions: HeartWarmers (for highest risk people with cardiovascular disease), Franklin ScoreKeeper (for individual children and adults at all risk levels), Research and Development, and Consultation and Training (to help other organizations and communities implement similar programs). The center works closely with the Healthy Community Coalition to promote healthy behaviors related to tobacco, nutrition, and physical activity. The mission of the center is to reduce the health and economic burdens of cardiovascular disease through coordinated community approaches. The death rate in Franklin County went from the fifth highest to the lowest in Maine, despite the county being poor and rural.

The center works closely with the Healthy Community Coalition to promote healthy behaviors related to tobacco, nutrition, and physical activity.

THE MODEL

Blueprint: WMCHH, an individual department in a not-for-profit hospital, works with other entities, such as physician practices, school systems, employers, insurers, Bureau of Health, Maine Cardiovascular Health, universities, and research departments. The center's mission is to develop coordinated community approaches to reduce the health and economic burdens of cardiovascular disease in rural West-Central Maine.

WMCHH is composed of four main divisions: HeartWarmers, Franklin ScoreKeeper, Research and Development, and Consultation and Training. The Franklin HeartWarmers program offers education, supervised exercise, lifestyle modification, and emotional support following a heart attack, bypass surgery, unstable angina, or congestive heart failure through a unique program that integrates traditional cardiac rehabilitation and sustained nurse-managed telephonic contacts with enrolled clients. The program began four years ago, and the model has been adopted by 34 of Maine's 36

hospitals, creating the Maine Cares Coalition. Among HeartWarmers patients, 90 percent have achieved LDL-cholesterol levels below 100 mg/dl, well above the national average for this important risk factor.

The Franklin ScoreKeeper system is an innovative cardiovascular disease prevention program based on decades of documented success by the Franklin Cardiovascular Wellness Program in reducing cardiovascular mortality in West Central Maine. The program is founded on research endorsed by the American Heart Association and focuses on identifying five risk factors specific to cardiovascular disease: high blood pressure, high total cholesterol and/or low HDL cholesterol, smoking, physical inactivity, and overweight. The program works by promoting five behaviors for heart healthy living including: a heart healthy diet, regular physical activity, being tobacco free, using medications as directed, and improving coping skills and managing stress. Franklin ScoreKeeper software reflects the "Franklin Health Model" of care; has guidelines based on internal logic; is intuitive and easy to use; and efficiently shapes, tracks, documents, reports, and evaluates both process and outcomes of risk factor screening and control in multiple settings. ScoreKeeper nurses and other counselors provide one-on-one screening, counseling, and follow-up services in many community settings, including schools, worksites, medical practices, hospital, and community. The client/patient leaves the session with an individualized cardiovascular risk and behavior "ScoreCard," an action plan for heart-healthy living, pertinent educational materials, linkage to community resources, and an appropriate follow-up strategy.

The Consultation and Training portion of the center involves leaders and staff of the center welcoming the opportunity to share their knowledge and expertise based on over a quarter of a century of experience in developing and implementing successful community programs that integrate public health and medical practice. Consultation may be provided at a location and via media of the client's choice, i.e., face-to-face, telephone, electronically, or by mail.

The center treats citizens of West Central Maine of all ages and ethnicities. No patient is turned away, and insurance is not a consideration. Currently, the center has eight full and part-time employees, including two co-directors. In addition, students do preceptorships and internships from University of Maine and elsewhere.

Making a Difference: The death rate in Franklin County went from the fifth highest in the state to the absolute lowest, despite the county being poor and rural. In particular, the death rate from heart attacks and strokes has plummeted. It went from being slightly above the state average in the 1960s to 10 percent below the state average over the next 25 years. The smoking rate dropped to the lowest in Maine. Only 15 percent of residents smoke, compared to a statewide average of 23 percent. In 1997, Franklin County

had the very lowest rate of preventable hospitalizations among Medicare and Medicaid enrollees. If the rest of Maine had the same rate of cardiovascular hospitalization charges as Franklin, Maine payers might have saved $88 million in 1997.

Beginnings: In the early 1970s, a group of idealistic, young doctors with new ideas about health care and medical organization assembled in Farmington, forming a group called Rural Health Associates (RHA). They believed there were new ways to bring medicine to rural people, especially the uninsured, who typically have not had equal access to medical services. At the time, the idea of doctors in the area forming a group practice was unusual and controversial.

The idea of the group innovation was underscored by the formation of the state's first HMO in the late 1970s. Designed to give more people health care, it failed financially in the mid-1980s because it did not achieve sufficient scale.

Dr. Burgess Record, one of the young RHA doctors, wanted to do more than help people when they became ill. He and his wife, Sandy, a nurse, decided to take their blood-pressure cuffs and other equipment to grocery stores, businesses, and fairs to screen for problems and talk about prevention measures. The number of screenings grew when Record, who had Army Reserve duty every month in Auburn, asked if he could spend half of his required time performing screenings and counseling back in Franklin County. His superiors agreed but asked him to get approval of the hospital's medical staff. The medical staff's endorsement provided a foundation for the program to develop medical community support and minimal political opposition.

Thus the Franklin Cardiovascular Health Program has served the region continuously for 29+ years. The high blood pressure program was implemented in 1974; cholesterol was added in 1986, smoking in 1988, and Center for Heart Health in 1998. The mortality impact of this integrated community program has been reported in the American Journal of Preventive Medicine (Record, N.B.; et al. *American Journal of Preventive Medicine* 19(1):30-38, 2000) and highlighted by the American College of Cardiology in the report of its 33rd Bethesda Conference (Task Force #3, Preventive cardiology: How can we do better? Presented at the 33rd Bethesda Conference, Bethesda, MD, December 18, 2001, *Journal of the American College of Cardiology* 40:579-651, 2002).

Challenges and Solutions: Paul Judkins, former RHA head, asserts that the program is completely replicable. In addition, he points out that the biggest ingredient for any area trying to replicate the program is for community leaders to have the will. Lastly, he points out that the RHA

doctors were community leaders and were interested in doing this for the people, not to make "bundles of money."

Other issues that may be encountered include funding and physician/administrator buy-in. The Center is constantly looking for funds. Originally, funding was 33 percent fee-for-service, 33 percent external state grants, and 33 percent in-kind contributions. Now, with its focus on environmental and policy changes, Maine's Bureau of Medical Services no longer provides financial support for direct one-on-one service. A three-year Rural Health Outreach Grant just ended, and currently the center is without grant funding. The center hopes to become financially self-sufficient by providing consultation and training and selling licenses for its innovative Franklin ScoreKeeper software. Nurturing supportive relationships with community physicians is an ongoing process. Having active health professional champions and institutional support have been crucial for program success.

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MODELS FOR PRACTICE
FOCUS AREA: HEART DISEASE AND STROKE

Program Name: Well Valdosta-Lowndes County
Location: Valdosta, Georgia
Problem Addressed: Chronic Disease including Heart Disease
Healthy People 2010 Objective: 12
Web Address: http://www.lcpfh.org

SNAPSHOT

The Well Valdosta-Lowndes County program was developed to combat the problems associated with preventable chronic disease within the community. The program targets risky behaviors with a three-fold approach designed to guide individuals through a continuum of change that results in a healthier lifestyle. The program utilizes a proven model called the Well Workplace that was developed by the Wellness Councils of America. As an incentive to implementing the Well Workplace model, a company, church, or school may apply to be recognized nationally as a Well Workplace once it has fully implemented all seven steps. In addition to recognizing individual entities as Well Workplaces, the Well Councils of America will recognize the community as a Well City if 20 percent of the workforce is employed by companies that have been designated as Well Workplaces.

The program targets risky behaviors with a three-fold approach designed to guide individuals through a continuum of change that results in a healthier lifestyle.

THE MODEL

Blueprint: The Well Valdosta-Lowndes County program is a collaborative effort between Lowndes County Partnership for Health, Public Health, South Georgia Medical Center, Smith Hospital, Valdosta State University, two public school systems, local industry representatives, and other health-related organizations. The project targets risky behaviors with a three-fold approach designed to guide individuals through a continuum of change that results in a healthier lifestyle. Services are delivered at the place of employment, schools, or churches. The first approach focuses on awareness through health screens, literature distribution, newsletters, posters, and paycheck stuffers that are designed to help individuals realize the benefits of a healthier lifestyle. The second approach is education and motivation, which concentrates on education programs such as seminars and lunch-and-learns. The final component of the model concerns intervention. This includes nutrition and physical activity courses along with individual case management for individuals who recognize the need to change and are ready to take action to implement the desired changes.

In 1999, the Lowndes County Partnership for Health (LCPH) received a three-year Federal Rural Health Outreach grant to combat cardiovascular disease in Lowndes County. This program utilizes the above-mentioned methods and was successfully implemented in five of the larger employers in Lowndes County, 10 local African-American churches, and a public middle school.

The Well Valdosta-Lowndes County project was developed to build upon the success of the Rural Health Outreach grant project. To successfully implement this project, LCPH is utilizing a proven model called the Well Workplace developed by the Wellness Councils of America. The Well Workplace program outlines seven basic steps that a company, church, or school should take to implement a health management program that addresses all aspects of disease prevention. The seven-step (or seven C's) Well Workplace model includes:

- concentrating of senior level support,
- creating cohesive wellness teams,
- collecting data to drive programming efforts,
- crafting an operating plan,
- choosing appropriate interventions,
- creating a supportive environment, and
- consistently evaluating outcomes.

The program is staffed with three full-time salaried staff members, 20 nursing students, four community volunteers, and is overseen by a 24 member board of directors.

Making a Difference: The program was initiated after LCPH received a three-year Federal Rural Health Outreach grant to combat cardiovascular disease in Lowndes County. The program will be sustained through a combination of grants and fee-for-service programs. Currently, 18 companies, 20 churches, and a local middle school are participating in the project (over 10,900 adults and students). Additional companies and churches will be added to the project, and there are plans to begin a childhood obesity clinic within the next two years.

Currently, success is measured by the number of companies that have signed up to participate in the project. Most worksite wellness programs require three to five years of operation before measurable results are available. As the program progresses, success will be measured by health screen data and progress through the stages of behavior change by individuals.

Beginnings: The program began in November 2001 after a community health needs assessment identified chronic disease as a problem in Lowndes County. The organization is a 501(c)(3) with a hired executive director, board of directors, and elected officers. The original stakeholders include the Lowndes County Partnership for Health, Public Health, South Georgia Medical Center, Valdosta State University, Georgia Power, and Langdale Forest Products. New stakeholders continue to be added.

Challenges and Solutions: The primary challenge facing the program today is keeping up with the demand for services. The program is the only agency providing worksite wellness programs, and demand at this point is overwhelming.

The original program was funded through Georgia's Indigent Care Trust Fund. Also, the program received a Federal Rural Health Outreach grant to implement a program called the Well City Diabetes Initiative.

The program is brought to the attention of potential funders through grant proposals and speaking engagements. The program is publicized to the public through company and church communication channels, newspaper articles, speaking engagements, and through the board of directors' contacts with state officials.

Currently, the program has received the endorsement of the Mayor and City Council, the County Commissioners, and the Chamber of Commerce.

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MODELS FOR PRACTICE
FOCUS AREA: HEART DISEASE AND STROKE

Program Name: Healthy Hearts Program
Location: Ellaville, Georgia
Problem Addressed: Heart Disease and Stroke
Healthy People 2010 Objective: 12-8
Web Address: None

SNAPSHOT

The Healthy Hearts Program was developed by the Ellaville Primary Medicine Center (EPMC), a hospital-based rural health clinic, to identify and reduce modifiable risk factors for heart disease in Schley County. The program is a collaborative effort between EPMC, Georgia Southwestern State University School of Nursing, Schley County Board of Education, and Schley County Health Department. The program conducts screening and health education for employers, and elementary and high school students. In addition, the program assists with the purchase of hypertension medications. Local industries participate in the program by having employees screened at work and also receiving health education during working hours.

The Healthy Hearts Program is a collaborative effort designed to identify and reduce modifiable risk factors for heart disease.

THE MODEL

Blueprint: The Healthy Hearts Program is a collaborative effort designed to identify and reduce modifiable risk factors for heart disease in Schley County through screening and health education for employers, and elementary and high school students. EPMC provides overall project responsibility and coordination while the School of Nursing is responsible for developing the Healthy Hearts nutrition program at the Schley County Elementary School. The Schley County Board of Education provides space for screenings, notifies parents of the program, and obtains permission for student participation. The Schley County Health Department works with EPMC to develop and implement a referral system for clients who are identified as hypertensive but cannot access the Georgia State Hypertension program. In addition, the program assists with the purchase of hypertension medications. The local pharmacy agreed to charge the program Medicaid rates on all drugs. The patient is responsible for half of the cost of the medication, and the grant purchases the other half.

The project was designed by EPMC to allow nurse practitioners (NPs) together with registered nurses (RNs) to provide screening, health education, and follow up. The services are offered at the clinic and in a community setting, such as schools and industries. Outreach is also provided to local

churches, senior citizen centers, and recreation programs. Services are available to the entire community, and the outreach programs are targeted to county elementary and high school students, and factory employees. Bilingual outreach workers assist with health education to those with limited English proficiency. NPs manage chronic, stable, and common acute episodic health problems at EPMC and refer more complicated medical problems to a physician, who like EPMC, provides care on a sliding fee scale. Eight local industries agreed to participate in the program by allowing employees to be screened at work and receive health education during working hours.

A Federal Rural Health Outreach grant supports the program. It is funded for three years, with decreasing funding over the course of the grant's life. The program supports an NP (0.5 full-time employee [FTE]), half-time RN, and licensed practical nurse (0.5 FTE). Office personnel are paid by EPMC, while three health outreach workers are paid from a Migrant Health Program federal/state grant. In addition, there are limited in-kind donations from a local internal medicine doctor and pediatrician in the community.

Making a Difference: The program was fully implemented in September 2001. Currently, the program works with local industries to develop an ongoing work wellness program. The program intends to measure success by:

- meeting the action plan objectives;
- increasing participation in health screening;
- increasing individual employee and student participation in health promotion activities and focus groups; and
- demonstrating a measurable and sustained change in modifiable risk factors, such as how many people have stopped smoking, how many people have controlled hypertension, and how many people have reached their targeted weight.

Beginnings: The program, in the demonstration phase, was initiated in May 2001 and fully implemented in September after the family nurse practitioner and health outreach workers began health screenings at the local industries and elementary school. The screening results showed that there were a high number of adults and children who had modifiable risk factors, undiagnosed or untreated hypertension.

The program was developed by EPMC, which enlisted the help of the above mentioned network members. Local industries participated in the program by having employees screened at work and receiving health education during working hours.

Challenges and Solutions: Currently, the program faces challenges relating to the participating employer setting aside time and space for the program to do the screening. It is also difficult to coordinate efforts with the School of Nursing. The school did not have nursing classes scheduled during the summer and did not have a “community health” nursing course, so students were not always available.

The program only works with clients in Schley County. The clinic is well established and known in the community and the surrounding area. The targeted work force is reached through flyers. The program also uses local newspapers and radio to announce other events. In addition, the project has been presented at a national conference.

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MODELS FOR PRACTICE
FOCUS AREA: HEART DISEASE AND STROKE

Program Name: Oregon County Heart Health Coalition
Location: Alton, Missouri
Problem Addressed: Heart Disease and Stroke
Healthy People 2010 Objective: 12-1, 12-11
Web Address: http://www.dhss.state.mo.us

SNAPSHOT

The Oregon County Heart Health Coalition began in May 2001 and primarily addresses heart disease, diet/meal planning, and fitness and health. The program is a collaborative effort between the BB Road Fire Department, Oregon County Health Department, senior citizens, and local churches. The coalition's goal is to provide the community with education, equipment, literature, videos, smoking cessation classes, and water aerobics classes. Services are delivered through individual coalition members.

The coalition's goal is to provide the community with education, equipment, literature, videos, smoking cessation classes, and water aerobics classes.

THE MODEL

Blueprint: The Oregon County Heart Health Coalition serves all age groups, with a primary emphasis on senior citizens. The Oregon County Health Department assisted in the initiation of the program by providing start-up money and staff support. Currently, the program staff includes three registered nurses (RNs), one licensed practical nurse, one health educator, five paid staff, one donated staff person, and one retired RN who provides exercise programs on a volunteer basis.

Making a Difference: Historically, the Health Department provides health education to the community. The coalition anticipates that other agencies will initiate the other aspects of the program, and outside funding will not be needed. The program will measure outcomes based on attendance of programs initially and, in the long run, will reevaluate the health statistics.

Beginnings: The program was initiated in Oregon County in May 2001 after an assessment of county statistics and lifestyle factors identified heart disease as the number one cause of death in the county for individuals 45 years and up. Several counties around the state have been providing similar successful programs for several years. The Oregon County program mirrors these successful programs.

Challenges and Solutions: This program is still in its infancy. Major challenges have not been encountered because the coalition is made up of

individuals who are concerned about the health of their county. As the program matures, issues of funding may surface.

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MATERNAL, INFANT, AND CHILD HEALTH IN RURAL AREAS

by Jennifer Peck and Kristie Alexander

SCOPE OF PROBLEM

- Infant mortality is higher in rural areas in the South and Western regions.[3]
- Adolescent mortality is higher in rural areas in all four regions of the country.[3]

GOALS AND OBJECTIVES

Improving the health of women, infants, children, and families, a Healthy People 2010 goal,[1] involves identifying and eliminating health disparities in underserved populations. According to the Rural Healthy People 2010 survey, maternal, infant, and child health was ranked as the ninth highest rural health priority and was nominated by 25 percent of state and local rural health respondents as a rural health priority.[2]

> Maternal, infant, and child health was ranked as the ninth highest rural health priority.[2]

This overview of maternal, infant, and child health addresses the following Healthy People 2010 objectives:[1]

- 16-1. Reduce fetal and infant deaths.
- 16-6. Increase the proportion of pregnant women who receive early and adequate prenatal care.
- 16-8. Increase the proportion of very low birth weight (VLBW) infants born at Level III hospitals or subspecialty perinatal centers.
- 16-11. Reduce preterm births.

PREVALENCE

Differences across key indicators of maternal and infant health (infant mortality, birth outcomes, prenatal care) have been observed across urban and rural locations. According to national data from 1996 through 1998,[3] infant mortality rates for nonmetropolitan counties appear similar to metropolitan counties. However, as a whole, a number of state-based studies have found increased rates of infant mortality among rural residents.[4-7] One study[4] found that rural residents have a slightly higher rate of neonatal mortality compared to the rest of the state; however, the rate of neonatal mortality in the most rural counties (populations less than 2,500) far exceeds all other areas of the state. In another state study, rural residents with normal birth weight infants were found to have higher rates of postneonatal mortality than urban residents.[5] Yet another study found rural residents have poorer birth outcomes than women residing in urban counties. Here, rural residents are reported to have lower birth weights, shorter gestations, lower Apgar scores, longer hospital stays, higher costs, and greater distances traveled for delivery than urban women or women living in rural areas adjacent to urban areas.[8]

> State-based studies have found increased rates of infant mortality among rural residents.[4-7]

When other known social and biological risk factors are taken into account, there is growing evidence that rural residence may have an indirect effect on infant mortality rather than a direct association. Thus, disparities in infant mortality by area of residence may result from the disproportionate distribution of poverty, race/ethnicity, age, education, and availability and access to medical resources.

IMPACT

Among industrialized nations, the United States ranked 26th in infant mortality in 1996.[9] Low birth weight and premature births are major sources of both infant mortality and morbidity.[1] Long-term impairments associated with low birth weight and preterm birth include cerebral palsy, autism, mental retardation, vision and hearing difficulties, learning disabilities, and delayed development.[10] Respiratory distress is the most common cause of death among low birth weight infants.[11]

> More nonmetropolitan than suburban women receive delayed or no prenatal care.[16]

Risk factors for infant death include low birth weight, preterm birth, delayed or lack of prenatal care, mother under age 20 or over age 40, low educational attainment of mother, maternal smoking during pregnancy, and more than three previous births.[12] Additionally, maternal and infant morbidity and mortality more commonly result from unintended pregnancies,[13, 14] because these women are more likely to engage in high-risk behaviors such as smoking, alcohol intake, and poor nutrition,[13] and delay prenatal care beyond the first trimester.[13]

BARRIERS

There have been several studies reporting less adequate prenatal care among rural women than among urban women. The 1988 National Maternal and Infant Health Survey showed that U.S. women residing in nonmetropolitan areas were more likely to receive inadequate prenatal care than metropolitan residents.[15] The most current comparison, the 1995 National Survey of Family Growth, indicates that more nonmetropolitan than suburban women receive delayed or no prenatal care.[16] Lack of available local prenatal and obstetrical care in rural areas has been reported to be associated with higher rates of preterm delivery, infant mortality, and complications during delivery.[17-20] Moreover, pregnant women residing in rural areas with fewer available obstetric services, who frequently opt to deliver outside their communities, often experience more complications during delivery and higher rates of preterm birth compared to rural mothers who deliver at local facilities.[18]

Other barriers to prenatal care for women living in rural communities include less access to health insurance,[21] greater distance and travel time to providers,[22] transportation problems,[11, 23, 24] and child-care difficulties for larger families.[23, 24]

PROPOSED SOLUTIONS

Prenatal care is regarded as a successful approach for improving pregnancy outcomes. However, nearly 20 percent of pregnant women in the United States continue to refuse or delay prenatal care.[25] Women who do not receive prenatal care or who delay prenatal care beyond the first trimester are at risk for severe maternal morbidity and possible mortality due to undetected complications of pregnancy.[25] The effectiveness of prenatal care is believed to be due to three primary components: early and continuous risk assessment, health education, and medical and psychological intervention.[26] Thus, maternal mortality can potentially be reduced through quality prenatal and obstetrical care. It is estimated that early diagnosis and effective treatment of pregnancy complications may prevent over half of all maternal deaths.[27, 28]

SUMMARY AND CONCLUSIONS

Rural mothers and their children comprise a large segment of the U.S. population. Thus, health disparities between rural and urban groups are of national concern. Increased rates of adverse pregnancy outcomes in rural areas, such as preterm birth and low birth weight, have been observed, as well as higher rates of infant mortality. Access to prenatal care is critical for reducing maternal and infant morbidity and mortality, though rural women tend to receive less adequate prenatal care than their urban counterparts. Although the risk factors for these conditions tend to disproportionately affect women in rural areas, the health status of rural mothers and infants can be largely improved by eliminating existing barriers to quality and

comprehensive prenatal care. Ultimately, improving the health of rural mothers and infants, from preconception to pregnancy to birth and beyond, advances the health of the next generation.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health concern.

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MODELS FOR PRACTICE
FOCUS AREA: MATERNAL, INFANT, AND CHILD HEALTH

Program Name: Rural Healthcare Cooperative Network and Panhandle Partnership for Health and Human Services
Location: Chadron, Nebraska
Problem Addressed: Maternal, Infant, and Children Services
Healthy People 2010 Objective: 1-6
Web Address: http://www.nehelp.net

SNAPSHOT

The Children's Outreach Program was the first collaborative project of the Panhandle Partnership for Health and Human Services (PPHHS). PPHHS is a collaborative of organizations, agencies, and individuals dedicated to the common vision of creating, supporting, and facilitating "a health and human service system that is community driven and focuses on meeting diverse needs through protection, prevention, promotion, and provision of accessible services." Nearly 400 miles west of Nebraska's urban centers, PPHHS serves 11 counties covering 14,000 square miles in western Nebraska.

The partnership does not provide direct services; however, each of the collaborative projects was developed as part of a continuum of prevention services to ensure quality care and community health.

The program promotes the health of newborns by providing free home visits within a few days of discharge from the hospital as well as nursing and family development visits to children zero to five years of age and their families.

THE MODEL

Blueprint: Founded in 1998, the Children's Outreach Program is designed to promote the health of newborns and children under the age of five. Funding is provided via $260,000 from a Federal Outreach Grant; $164,000 of matching contributions by members of the Rural Healthcare Cooperative Network (the collaboration of regional hospitals); and funds from the Nebraska Child Abuse Prevention Fund, Nebraska Children and Families Foundation, and the Nebraska Cash Fund. The program promotes the health of newborns by providing free home visits within a few days of discharge from the hospital as well as nursing and family development visits to children zero to five years of age and their families. Approximately 30 health care providers from hospitals and health centers from around the region donate their time and expertise, while administration for the program is provided by Volunteers of America.

Making a Difference: Since 1998, the program has provided 10,000 home visits reaching approximately 750 families per year. Annually, between 75–82 percent of all newborns in the Panhandle region have received at least

one home visit. The success of the PPHHS partnership is measured through active involvement and membership in the coalition as well as through outcomes, indicators, and performance measures.

Beginnings: PPHHS was informally established in 1997 and subsequently became incorporated as a 501(c)(3) in 1998. In this geographically large frontier area, the impetus for PPHHS was the recognition of a disparity of services, decreasing financial and personnel resources, political and policy isolation, a sagging agricultural economy, low wages, and unmet children's health needs. Founded on the premise of building a culture of collaboration, PPHHS has grown to include 60 member organizations and agencies. Members represent a broad spectrum of health and human services providers.

Guided by a 20-year vision plan, the goal of PPHHS is not to increase layers of bureaucracy but to enhance existing services. PPHHS contracts with a coordinator at the agency level while the agency provides all other resources (including volunteers). For grants, projects and services are housed in host agencies wherein the space represents an in-kind donation. Key staffing positions are covered under grant monies.

PPHHS completed a comprehensive community-based planning process, which included an independent health behavior risk survey. The survey, conducted in 1999-2000 was administered to 7,500 homes in the Panhandle. Additionally, the PPHHS planning process included 71 participatory action groups and the hosting of special focus groups for various special populations.

For each disparate area identified (health care, mental health, education, etc.) by PPHHS, a set of four to six goals was developed to focus the group's efforts. As with the Children's Outreach Program, each program or service has its own outcomes, indicators, and performance measures. With the integration of an information system via a Community Access Program (CAP) grant, PPHHS plans to utilize uniform baselines on a countywide basis.

Challenges and Solutions: The primary challenges to address are reported to be issues of "turf, territory, and trust." The partnership continues to expand through membership and new projects funded. PPHHS works to involve the schools in the partnership.

Financial viability requires a strong emphasis on sustainable programs that integrate existing resources and practices. PPHHS received a $984,000 Community Access Program grant from the Health Resources and Services Administration in October 2001 for the purpose of developing and integrating an Internet-based information, referral, and management system throughout the Panhandle region. Nominal membership fees and a Maternal

Child Health (MCH) Title V Infrastructure Development Grant support the contract and office functions. The collaborative planning process is funded through existing planning dollars in various agencies and groups. Training conferences are cross-funded through agency training dollars and registration fees. Programs and services are funded through collaborative grants submitted through PPHHS and through allocation of agency resources.

PPHHS developed and maintains a website (http://www.nehelp.net) for all Panhandle services and resources as well as a brochure. Specific programs are advertised through referral, such as distributing pamphlets to new mothers (to advertise children's programs), as well as by radio ads. Information is also disseminated through networking among partnership members. Press releases, mail-outs, and list-servers disseminate information to the public. Internally, PPHHS presents an annual report to the members, which outlines the action steps taken to address each goal.

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MODELS FOR PRACTICE
FOCUS AREA: MATERNAL, INFANT, AND CHILD HEALTH

Program Name: Nurse-Family Partnership
Location: Denver, Colorado
Problem Addressed: Maternal, Infant, and Child Health
Healthy People 2010 Objective: 16-6, 16-17
Web Address: http://www.nccfc.org

SNAPSHOT

The Nurse-Family Partnership represents a highly refined approach to the long-established service strategy of home visiting. Nurse home visitors follow a visitation schedule that has been designed to meet two needs: 1) enable the nurse home visitor to provide the different services and information required during the different phases of pregnancy and early childhood, and 2) foster a relationship that supports the families' efforts to meet small, achievable goals that lead to positive program outcomes.

The program reflects improved women's prenatal health, infant health and development, and maternal life course. The program is implemented at the local level but is aided by the national office in program implementation. Each program uses the Clinical Information System as part of the national evaluation process to monitor program performance and identify factors that contribute to the program's success or failure.

THE MODEL

Blueprint: The Nurse-Family Partnership is a home visiting program using trained nurses as home visitors. The program has been tested, refined, and found to be consistently effective over the past 20 years in three scientifically controlled studies. Since 1996, the program has been developed in over 250 counties in 23 states. The target population is low-income women, first-time mothers, and their families through the first-born child's second birthday. The program is implemented at the state and local levels. At the state level, support is provided through a partnership between a state agency and the National Nurse-Family Partnership Office based at the University of Colorado Health Science Center. The national office provides assistance with community and organizational planning; provides training for the nurse home visitors, their supervisors, and administrators responsible for managing the program; and conducts evaluation services. Each agency that operates the program hires nurses to serve as home visitors and supervisors.

Women are referred to local program staff from prenatal care providers in the community served. The program is introduced to the prospective client, and if she chooses to join, nurses begin visiting every one to two weeks. The nurses' goal is to improve health behaviors that can affect preterm delivery, low birth weight, and infant development. After delivery, the focus turns to the enhancement of family care of infants and toddlers. In addition, the program focuses on preventing unintended subsequent pregnancies, failure to find work, and welfare dependence—factors that lead to chronic poverty, higher risk for crime and delinquency, and suboptimal care for children.

Making a Difference: The three randomized controlled trials have been maintained over the past 25 years with longitudinal follow-up of all program participants. In addition, program staff use the Clinical Information System to keep track of family characteristics, needs, services provided, progress toward accomplishing objectives, and to help nurses and program staff continuously improve the implementation of the program.

The nurses' goal is to improve health behaviors that can affect preterm delivery, low birth weight, and infant development.

Beginnings: In the 1970s, Dr. Olds, the program founder, examined society's most difficult health and social problems. He concentrated on problems that could be impacted through preventive intervention early in the life cycle. The Nurse-Family Partnership was designed to improve health behavior during pregnancy, nurturing competent caregiving for infants and toddlers, and promoting attainment of positive life goals that resulted in family economic self-sufficiency. The program began in the 1970s strictly in the research setting and since 1996 has been available to the public.

Challenges and Solutions: Challenges vary from site to site but include issues related to efficient program delivery, funding sustainability, client retention, staff recruitment for significant expansion of the program, and higher costs to deliver the program in rural areas. Funding sustainability is addressed by not allowing sites to initiate the program without solid funding (e.g., Medicaid, Temporary Assistance for Needy Families). Client retention is being addressed through quality improvements initiatives led by the national office, which includes bringing together staff from sites that have successfully retained families. Nurse recruitment and retention are addressed prior to the initiation of the program. Costs of the program may be higher in rural areas due to the distances home visitors must travel to visit families, with the result being that each nurse may not be able to successfully serve a caseload as high as those carried by nurses in more urban locations. National office site developers assist communities in considering various implementation and management models, and to design program management systems that are most likely to work in particular settings.

The national office provides written reports, presentations, and a website to educate potential referral sources and community members about the Nurse-Family Partnership.

The Nurse-Family Partnership has received numerous awards and honors from national and international organizations dedicated to violence prevention, child abuse prevention, substance abuse prevention, prevention research, health, and juvenile justice.

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MODELS FOR PRACTICE
FOCUS AREA: MATERNAL, INFANT, AND CHILD HEALTH

Program Name: Maternal Infant Care Program
Location: Peekskill, New York
Problem Addressed: Maternal, Infant, and Child Health
Healthy People 2010 Objective: 16-6, 16-7, 16-19
Web Address: http://www.hrhcare.org

SNAPSHOT

The Maternal Infant Care Program is an innovative program that seeks to improve the emotional and physical health outcomes of new mothers and their children. Community women are recruited and trained to serve as partners during the prenatal through postpartum period. Support is offered to break down barriers to care through a variety of venues including driving the mother to her appointments, childbirth education classes, or translation at the time of her visit to the doctor. Prenatal classes are offered weekly to participants; women are able to pick up their Women, Infant, and Children (WIC) program checks; and earn incentive points for attending the class and redeem them for baby care items, strollers, and car seats, etc.

This model focuses on low birth weight (LBW) babies, breast feeding, access to all services, increased access to prenatal care during the first trimester, and increased rates for well-baby check ups and for women coming in for their postpartum visit.

THE MODEL

Blueprint: The Maternal Infant Care Program operates in community health centers and migrant camps. The program began in 1996 and is a collaborative between 10 organizations including the March of Dimes, Zeta Phi Beta sorority, and area churches and businesses. Key staff who are directly involved in the model for practice include WIC-nutritionists, nurse midwives, educators, lactation consultants, childbirth educators, family health services, behavioral health specialists, and social workers.

This model focuses on low birth weight (LBW) babies, breastfeeding, access to all services, increased access to prenatal care during the first trimester, and increased rates for well-baby check ups and for women coming in for their postpartum visit. The target population includes all women of childbearing age but primarily focuses on racial/ethnic minorities and migrant farm worker women. The rural sites are 75 percent Hispanic and 25 percent African American or other. The program is carried out in education sessions and offers all services under one program.

Making a Difference: The program is ongoing and continues to request donations from churches, etc. Data are collected and reported annually on the rate of LBW babies, rate of breastfeeding, and length of breastfeeding.

The percentage of LBW babies decreased from 7 percent in 1999 to 1 percent in 2001. In addition, the percentage breastfeeding at eight weeks postpartum increased from 67 percent in 1999 to 72 percent in 2001.

Beginnings: The program was initiated in 1996 after a review of statistics for women's health and WIC programs. The original stakeholders included March of Dimes, Zeta Phi Beta, area churches and businesses, and patients. New stakeholders have been added including the Warwick United Methodist Church and the Migrant Head Start program. Services are provided through a community health center that has two paid staff, two donated staff, and three volunteer staff.

Challenges and Solutions: The program was initiated with a small start-up grant from the St. Faith Foundation. Since that time though, financial support of this program has been through a collaboration of private and public organizations that donate services or people power. The Hudson River Health Care Program provides the majority of funding needed through its grant-operated WIC and women's health services.

The program is publicized primarily through the WIC and prenatal department and word of mouth. The program received the Models that Work Award in May 2000 through the Bureau of Primary Health Care (BPHC), Health Resources and Services Administration (HRSA). The curriculum is available on the HRSA/BPHC website (http://www.bphc.hrsa.gov/mtw/MTW_PLANETREE.HTM), which provides detailed information on how to implement the program.

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MENTAL HEALTH AND MENTAL DISORDERS—A RURAL CHALLENGE

by Larry Gamm, Sarah Stone, and Stephanie Pittman

SCOPE OF PROBLEM

- A survey of state and local rural health leaders finds mental health and mental disorders to be the fourth most often identified rural health priority.[43]
- Mental health is one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[44]
- Psychoses is virtually tied with cancer as the fourth most frequently first-listed diagnoses for hospital discharges nationally.[45]
- The suicide rate among rural males is higher than among their urban counterparts across all four regions of the nation.[20]
- Among 1,253 smaller rural counties with populations of 2,500 to 20,000, nearly three-fourths of these rural counties lack a psychiatrist, and 95 percent lack a child psychiatrist.[16]
- Access to mental health care and concerns for suicide, stress, depression, and anxiety disorders were identified as major rural health concerns among state offices of rural health.[46]

GOALS AND OBJECTIVES

> Mental disorders affect approximately one-half of the population over a lifetime.[1]

Mental disorders affect approximately one-half of the population over a lifetime[1] and are among the most impairing of chronic diseases.[2, 3] In a recent survey of state and local rural health leaders, mental health was the fourth most often selected topic as a high rural health priority. Mental health was rated a priority most frequently by rural health centers and clinics and by state organizations associated with rural health. It was among the top five most frequently selected rural health priorities in all four regions of the country.[4]

This summary addresses the Healthy People 2010 mental health and mental illness goal—improve mental health and ensure access to appropriate, quality mental health services[5] emphasizing access to treatment by mental health providers in rural areas. This overall goal encompasses three of the 467 specific Healthy People 2010 objectives. These include:

- 18-6. Primary care screening and assessment.
- 18-7. Treatment for children with mental health problems.
- 18-9. Treatment for adults with mental disorders.

PREVALENCE

Mental disorders are widespread in urban and rural areas alike and affect approximately 20 percent of the population in a given year.[6, 7] Moreover, mental illness is distributed across all age groups. An estimated 20 percent of children and adolescents age 9 to 17,[8] and as many as 25 percent of those 65 years and older[9] suffer from mental illness each year. Of those who experience a mental disorder, only a minority report treatment in the preceding year.[10]

The prevalence of mental disorders appears to be similar in rural and urban areas;[6, 11, 12] however, there are some noteworthy exceptions. Poverty, age, being African American, and living in a rural area have been associated with a low, or a lower, likelihood of receiving mental health care.[13] African Americans and rural residents underutilize mental health services and seek help later in the course of the disease.[14, 15] Rural areas are especially disadvantaged in meeting the needs of children with serious mental health problems because of the relative lack of

psychiatrists, and especially child psychiatrists, in rural areas.[16] The elderly are also at risk. While as many as a quarter of elderly people may suffer from mental disorders, less than 5 percent of mental health professional's practice time is spent with elderly.[17]

> Rural areas are especially disadvantaged in meeting the needs of children with serious mental health problems.

IMPACT

Among all illnesses and health behaviors, mental disorders have been identified as one of the leading contributors to disability and associated disease burden, defined as years of life lost to premature death and weakened by disability.[3, 18] Also, mental illness is often a contributor to and/or a consequence of disabilities or other serious health-related conditions among the nation's most vulnerable populations such as the homeless, alcohol or substance abusers, and abusing families.[19]

The impact of mental health and mental disorders on mortality in rural areas appears in several forms. Suicide rates, a standard indicator of mental illness, are higher in rural areas, particularly among adult males and children.[12, 20] More suicide attempts, too, occur among depressed adults in rural areas than in urban areas.[21]

Depression is an important cause of morbidity and a frequent co-morbidity for other illnesses. According to a report from the U.S. Surgeon General,[18] depression is the second leading cause of years lost because of premature death or disability among established market economies. More specifically, there is evidence that depression, anxiety, and other psychosocial factors contribute to progression and outcomes associated with chronic illnesses, such as heart disease.[22]

Morbidity differences associated with mental illness among rural versus urban residents are not consistent. No differences in one-year symptom outcomes are observed in studies comparing rural and urban people with depression.[23] Worse symptom outcomes in rural areas, however, are observed among those with more serious mental illness, especially with co-occurring substance abuse.[24]

Although relatively little is known about the causes of mental illness, a number of factors have been identified that may contribute to mental disorders, to their consequences, or to failure to adequately treat the disorders. Stress is frequently associated with the appearance of mental disorders such as anxiety and depression. Stresses associated with economic hardship, e.g., the farm crisis of the 1980s or loss of a major employer, can affect the mental health of rural populations.[25, 26] Stressful life events along with mental disorders and substance abuse disorders are among the risk factors for suicide.[27]

BARRIERS

Rural areas suffer shortages in mental health infrastructure and supply of mental health professionals. Twenty percent of non-metro counties lack mental health services; the same is true in only 5 percent of metro counties. Non-metro counties have on average less than two specialty mental health organizations, while metro counties report an average in excess of 13 mental health organizations.[12, 28] In 1999, 87 percent of the 1,669 Mental Health Professional Shortage Areas (MHPSAs) in the United States were in non-metropolitan counties.[29]

> Use of outpatient mental health services is lower in rural areas than in urban areas.

Greater travel distance to outpatient services is common in rural settings. It is associated with fewer mental health visits by patients and with a lesser likelihood of receiving care in accordance with treatment guidelines.[30] This and other barriers may account for findings that use of outpatient mental health services is lower in rural areas than in urban areas.[13, 21, 31-34] However, according to one recent national study, rural residents are less likely to report

unmet treatment needs for serious mental illness than young adults and those residing in nonrural areas.[35] Primary care physicians who practice in rural and frontier areas play an even larger role in mental health care than their urban counterparts.[36] This may be attributed both to the scarcity of mental health professionals[11] and to the stigma-associated reluctance among rural residents to see a mental health professional.[37, 38]

Treatment of mental illness by primary care practitioners, however, faces a number of practice and professional constraints including insufficient training and skills, heavy patient case load,[32, 36] lack of time,[36] and lack of specialized backup.[39] Some researchers find that primary care physicians deliberately underdiagnose mental illness because of stigma, doubts about the patient's acceptance of a mental disorder diagnosis, or a concern for the patient's future insurability.[40, 41]

Finally, recognition and perception of mental illness may reduce utilization of mental health care in rural areas. Evidence indicates rural persons suffering from mental disorders may be less likely than their urban counterparts to perceive a need for mental health care.[13] A lack of anonymity in rural communities and the perceived social stigma associated with mental illness may also prevent treatment-seeking behavior.[26, 42] In one recent national study, however, rural residents with serious mental illness were less likely than nonrural residents to report stigma as a reason for not seeking treatment.[35]

PROPOSED SOLUTIONS

A number of solutions to the rural undersupply of mental health professionals have been proposed and attempted. Among these are:

- identification of MHPSAs,
- improved training and recruitment of rural mental health professionals,
- greater reliance upon primary care practitioners for mental health care,
- improving linkages between primary care physicians and mental health specialists, and
- dependence on managed behavioral health care programs to attract mental health professionals.

SUMMARY AND CONCLUSIONS

Mental health and mental disorders are serious problems in rural areas. These problems arise because of the frequent failure to identify such conditions early on, lack of access to mental health professionals to treat such conditions, and the tremendous consequences of mental illness for treatment of physical illnesses and for day-to-day life. Mental health needs occur among men, women, and children of all ages, ethnic groups, and social backgrounds. Some of these groups appear particularly disadvantaged in rural areas in gaining necessary treatment. Among these groups experiencing rural disparities are children, the poor, the elderly, and African Americans and other minority groups.

Concerns regarding anonymity in treatment and the associated stigma may be more pronounced among rural populations. These factors, combined with the existence of stressful occupations and the lack of knowledge of mental illness symptoms or treatments, may reduce utilization of mental health care. The continuing shortage of mental health professionals in rural areas creates serious access problems. It is all the more important, therefore, that rural primary care practitioners receive continuing training in mental health diagnosis and treatment. Similarly, ongoing attention to coordination between physicians, mental health specialists, and other formal and informal sources of mental health support is all the more critical to rural areas.

MODELS FOR PRACTICE

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MODELS FOR PRACTICE
FOCUS AREA: MENTAL HEALTH AND MENTAL DISORDERS

Program Name: Pro Bono Counseling Program, Mental Health Association of the New River Valley, Inc.
Location: Blacksburg, Virginia
Problem Addressed: Access to Mental Health Services for the Uninsured
Healthy People 2010 Objective: 18
Web Address: http://www.mhanrv.org

SNAPSHOT

The Pro Bono Counseling Program is designed to provide mental health services to those who are low to moderate income, uninsured, and ineligible for Medicaid. Through partnerships with local mental health providers, the program provides free mental health services to eligible adults, children, and families. The program also provides free prescription services. Currently, the program serves 280 persons per year and provides nearly $45,000 in free psychiatric medications. Each patient receives an average of seven units of counseling or medication-related services.

The Pro Bono Counseling Program is designed to provide mental health services to those who are low to moderate income, uninsured, and ineligible for Medicaid.

THE MODEL

Blueprint: The Pro Bono Counseling Program provides mental health counseling and psychiatric services to low to moderate-income individuals up to 200 percent of the federal poverty level (FPL). The program's clients are uninsured and/or ineligible for assistance programs such as Medicaid. It delivers free mental health services, short-term solution-focused counseling, and medication evaluations. The program currently partners with 35 mental health providers throughout the 1,400 square mile region, with nearly 40 percent of the mental health providers donating their time. To expand their pool of service providers, the program also partners with local universities. Unlicensed graduates of masters and Ph.D. programs in mental health related fields see four clients per week; the program pays a qualified supervisor to provide the required clinical supervision once a week. Services are delivered in the provider offices as well as during special clinic nights and at nonprofit locations such as libraries in the more rural areas.

Additionally, the program coordinates medication evaluations. While pharmaceutical companies provide free samples, the program also uses a voucher system to pay for medications when free samples are not available. The program also benefits from The Pharmacy Connection software, which expedites applications to pharmaceutical companies' indigent drug programs.

Making a Difference: To measure the program's effectiveness, an outcome and satisfaction survey is annually administered to randomly selected clients. All responding clients report they would refer a friend to the program. On a scale of 1 to 10 (10 being the highest satisfaction rating), the program has received a rating of nine. Outcome measurement finds that nearly 60 percent of clients complete their treatment, and there is a no-show rate of only 10 percent. Severity of symptoms and difficulties in work life and personal life were cut in half.

Beginnings: The Pro Bono Counseling Program is a collaborative initiative of the New River Valley Partnership for Access to Healthcare (PATH). PATH is a community-focused alliance comprised of over 40 health and human services organizations, community organizations, and businesses. PATH was created to address the health concerns of the New River Health District, which consists of 1,400 square miles encompassing rural and suburban regions in southwest Virginia. A needs assessment conducted in 1996 revealed stress, anxiety, and depression occurred in 31 percent of the homes surveyed, prompting the need for increased access to mental health services.

The Mental Health Association of New River Valley serves as the coordinating agency for the Pro Bono Counseling Program. The program began with receipt of a four-year grant from a local hospital foundation. Using the grant money, the Pro Bono Counseling Program has grown and currently has three part-time paid staff who coordinate the clinical services provided by the volunteer and trainee providers.

Challenges and Solutions: One of the foremost challenges encountered by the Pro Bono Counseling Program is the pursuit of funding sources. While a local hospital foundation provided initial funding, the Pro Bono Counseling Program sought and received additional funding from a statewide health care foundation. In addition, the program faced challenges in recruiting mental health provider volunteers. By partnering with local universities, post-graduate, license-eligible trainees are utilized to provide direct services to clients and also gain valuable experience. Medicaid requirements in the state of Virginia require that state mental health agencies see only the priority population (defined as severe and emergency). Therefore, as fewer patients are seen by state agencies, more patients seek the services of the Pro Bono Counseling Program.

The majority of the program's clients are referred by word of mouth; however, the program does utilize a variety of other marketing tools to publicize their program. The program advertises through program brochures and ads in the newspaper. It recently initiated an anti-stigma campaign to address societal barriers to seeking mental health care.

The program has received a number of awards. It won the 2000 Innovation in Programming Award by the National Mental Health Association. It was also a semifinalist for the American Psychiatric Association's Golden Community Award and the Premier Cares Award.

Finally, to offer the opportunity for other areas of the country to replicate the program, the program offers a Program Development Guide, which includes a program handbook and all the forms and documents (including the original grant) needed for other sites to create their own Pro Bono Counseling Program. The guide may be purchased from the program.

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MODELS FOR PRACTICE
FOCUS AREA: MENTAL HEALTH AND MENTAL DISORDERS

Program Name: Sowing the Seeds of Hope
Location: Iowa, Kansas, Minnesota, Nebraska, North Dakota, South Dakota, and Wisconsin
Problem Addressed: Mental Health Access for Rural Farm Families
Healthy People 2010 Objective: 18-7, 18-9
Web Address: http://www.agriwellness.org

SNAPSHOT

Sowing the Seeds of Hope: Responding to the Mental Health Needs of Farm Families is a collaborative effort of project leaders in seven predominantly rural states: Iowa, Kansas, Minnesota, Nebraska, North Dakota, South Dakota, and Wisconsin. The program is establishing an integrated regional network of behavioral health care supports for the rural agricultural population.

The project in the seven states addresses the underserved rural agricultural population without regard to age, income, availability of insurance, racial/ethnic group, or location.

THE MODEL

Blueprint: Sowing the Seeds of Hope provides behavioral health assistance in participating states to those involved in the agricultural business and their families. The project in the seven states addresses the underserved rural agricultural population without regard to age, income, availability of insurance, racial/ethnic group, or location.

The program provides services to individuals and families who do not have health insurance or adequate behavioral health coverage, and others who are unable to pay for necessary care. Often, these individuals and families experience an accumulation of stresses that result in the breakdown of coping mechanisms. Common associated behavioral health problems include interpersonal distress, depression, anxiety, substance misuse, and loss of hope. Negative stigma about mental health services, geographic barriers, and a perception that providers do not understand their agricultural issues often deters some families from seeking necessary assistance. Additionally, there is a scarcity of qualified professional service providers in rural areas, necessitating the training and utilization of informal networks of support, such as clergy, Extension staff, trained natural helpers who reside in the farm community, and primary care providers (e.g., physicians, nurse practitioners, and physician assistants).

Sowing the Seeds of Hope was designed and initiated in 1999 by the Wisconsin Office of Rural Health and Wisconsin Primary Health Care

Association. It was supported by grants from the U.S. Department of Health and Human Services Office of Rural Health Policy and Bureau of Primary Health Care. Administrative support for Sowing the Seeds of Hope is now coordinated by AgriWellness, Inc., a 501(c)(3) nonprofit corporation that assists project leaders in the seven states, provides proposal and grant writing, and explores funding opportunities.

Many individuals and organizations serve voluntarily in their specific states to carry out portions of the work. A central aim of each state project is the formation of a coalition of individuals (both paid staff members and volunteers), agencies, and organizations to maximize information about access and cost of services, options for additional funding, and continuation of the state projects.

Project leaders identified 11 core services for the underserved rural agricultural community:

- outreach;
- training and education of traditional and non-traditional behavioral health care providers;
- education of the community on agricultural behavioral health issues;
- information clearinghouses;
- crisis hotlines;
- direct services through vouchers, contracts with approved providers, and other means to ensure access to necessary services;
- prevention of more serious difficulties through early intervention;
- coalition building with organizations, agencies, and communities;
- advocacy for behavioral health of the underserved;
- social marketing through publications, press releases, and other media activities; and
- retreats and support group activities for farm couples and families.

Making a Difference: To evaluate the core activities of the program, the following evaluation measures are used:

- outreach: documentation of the type of outreach and purpose;
- training and education: community education—documentation of the type of participants and training, numbers of people and sessions, and duration of sessions;
- clearinghouse: number of requests, referrals, and types of information;
- crisis hotline: number of people calling, referrals, and outcomes;

- direct services: numbers of vouchers, types of services, demographic information, and dollars allocated;
- prevention/early intervention: numbers of people served, type of activity, and demographic information;
- coalition building: type and number of meetings; direct/indirect;
- advocacy: number of contacts, amounts of finances received/leveraged; and
- retreats/support activities: type of activity, numbers of participants, and duration of sessions.

Since the outcome criteria were not established until December 10, 2001, not all the reported data are usable. Thus, the outcomes/results reported here for 2001 are probably underestimates.

More than 14,000 farm residents were reached in 420+ outreach events. More than 400 providers were documented as having received professional training in 40+ documented training programs. At least 5,850 farm residents received community education. The crisis hotlines in the seven states reported more than 20,000 callers during the first two years of the project. At least 3,811 farm residents received direct services, which were partially or completely funded by Sowing the Seeds of Hope. Project personnel were successful in generating an additional $3,150,000 of federal, state, and private funds to augment $1,035,000 received from the Federal Office of Rural Health Policy, $90,000 from the Federal Bureau of Primary Health Care, and $28,000 from the Land O' Lakes Foundation. At least 556 persons participated in 95 support group meetings or farm couple/farm family retreats.

Beginnings: The Sowing the Seeds of Hope project was developed to respond to the mental health needs of farm families in the seven-state region. Behavioral health threats increase among the rural agricultural population during eras of economic stress. The suicide rate among farmers rose three to four times the national average during episodes of financial distress in several of the states in the Sowing the Seeds of Hope region.

The program began in May 1999 and was fully implemented in September 2000. The first three years of funding were considered the pilot phase. The Sowing the Seeds of Hope project leaders are now ready at the next level—implementing the basic services on an ongoing basis.

Challenges and Solutions: Insufficient funding is the greatest challenge to the projects in each state. Although project leaders in each state have been very successful leveraging additional state, private, and federal resources to augment their projects, the needs of the population surpass available resources. The program is working very actively with federal, state, and

private organizations to both secure additional funds and to maximize pursuit of the program's objectives.

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MODELS FOR PRACTICE
FOCUS AREA: MENTAL HEALTH AND MENTAL DISORDERS

Program Name: Thomas E. Langley Medical Center—Behavioral Health Department
Location: Sumterville, Florida
Problem Addressed: Mental Health and Mental Disorders
Healthy People 2010 Objective: 18
Web Address: thomaselangleymedical.com

SNAPSHOT

The Behavioral Health Department at the Thomas E. Langley Medical Center (TELMC) is a recently created department within this Federally Qualified Health Center that focuses on the mental health needs of the people of rural Sumter County. The program's mission is to serve all residents regardless of their ability to pay. This is accomplished through grant funding and some billing through Medicare, Medicaid, and private insurance.

The department addresses all mental/behavioral health issues of people in all age groups within the catchment area, including a large Hispanic population.

THE MODEL

Blueprint: The Behavioral Health Department serves all residents of Sumter County, Florida, regardless of ability to pay. The staff for this department consists of a full-time psychologist, two full-time licensed clinical social workers, a part-time psychologist, a case manager, and an office manager. Behavioral Health receives referrals from many specialists ranging from pediatricians to gerontologists. The department addresses all mental/behavioral health issues of people in all age groups within the catchment area, including a large Hispanic population.

The services are delivered on-site at TELMC, in a building designated for Behavioral Health Services. The department provides psychological evaluation services, traditional therapeutic services, specialized programs, and services for attorneys and courts. The psychological evaluation services include psychological testing, intellectual testing, psycho-educational testing, and alcohol and drug addiction evaluations. The traditional therapeutic services include child, adolescent, and geriatric therapy; employee assistance programs; and coping/life management skill development. Specialized programs address attention deficit hyperactivity disorder (ADHD), pain management, loss and grief issues, stress management, domestic violence, and sexual abuse. It also provides social skills training, addictions education and counseling, cognitive assistance programs, random drug screening, and rapid saliva alcohol testing.

Additionally, the program provides services for attorneys and courts, including competency determinations, diversion programs, custody evaluations, identifying substance abuse, and making treatment recommendations. Group therapy, marital counseling, family therapy, conjoint therapy, pain management group, parenting and educational seminars, couples counseling, teen group, and children's group round out the complement of behavioral health services offered by TELMC.

The department coordinates the center's participation in the National Health Disparities Depression Collaborative. The Collaborative allows the center to share data and exchange best practices with other centers throughout the country. The Collaborative is an ongoing endeavor to ensure the highest quality of patient care.

Also, there are many outreach endeavors that are ongoing to serve the entire Sumter County population. Sumter County is approximately 546 square miles with a total population of just over 50,000. Many of the residents are seasonal—from retired persons who live in the area from October to April to migrant workers who stay through the citrus harvest season. The median income falls within the lower middle class range.

Making a Difference: To measure the success of the program, the following indicators are monitored: psychologists' productivity, decrease in the number of "no-shows" from baseline data, number of network panels in which staff are accepted for third-party payment, and patient satisfaction. Other quality-related indicators include quality assurance chart reviews, physician review for medical necessity as appropriate, and annual internal quality council review accessing progress on the above measures and developing new goals.

Beginnings: Behavioral Health began in August 2000 and was fully implemented in February 2001. It started in response to several primary care physicians' recognition of mental health problems in many of their established patients. Before it was established, these mental health needs had to be addressed by outside referrals, which limited access to care and follow-up and resulted in inadequate treatment of behavioral health problems.

Challenges and Solutions: Behavioral Health has been successful in its endeavors to integrate primary health care and mental health, and to sustain itself financially. Lack of funds, however, has prevented expansion of the program to meet all of the needs of the community. Behavioral Health's pursuit of increased access is complicated in part by the fact that Florida does not require insurance companies to include mental health coverage as part of their plans. Also, of the companies that do provide coverage, it is often difficult for new professionals and organizations to become a part of the panel of licensed professionals permitted to be reimbursed for services

provided. During the initial year, TELMC made a commitment to absorb any losses. Behavioral Health is applying for a grant to provide services to children and families who are affected by domestic abuse. In addition, Behavioral Health is seeking funding through a hospital-based foundation for equipment and direct services for patients and their families who cannot afford care. Behavioral Health is marketed to new clients through newspapers, its web page, and community involvement.

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MODELS FOR PRACTICE
FOCUS AREA: MENTAL HEALTH AND MENTAL DISORDERS

Program Name: Turning Point Counseling Services, Inc.
Location: Corpus Christi, Texas
Problem Addressed: Mental Health and Mental Disorders
Healthy People 2010 Objective: 18
Web Address: None

SNAPSHOT

TPCS addresses the problem of limited access to mental health services in the community.

Turning Point Counseling Services, Inc. (TPCS) is an independent agency that collaborates with other agencies to build a network of support and services for the Texas counties of Nueces, San Patricio, and non-metropolitan Aransas. TPCS addresses the problem of limited access to mental health services in the community. Other problems addressed are the high incidence of abuse, neglect, and exposure to violence and trauma in children, adults, and families in the area. TPCS also addresses the lack of access by families of "at risk" youth to community-based prevention and intervention services in San Patricio County. The populations served are low-income individuals and families who would generally not seek help because of the cost. TPCS provides free counseling services without limitations to the number of sessions.

THE MODEL

Blueprint: TPCS is organized as a 501(c)(3) not-for-profit agency. It utilizes volunteer services provided by Texas A&M University – Corpus Christi's Master's level counseling students to provide the majority of the free services. The number of volunteer students varies with each school semester. Additionally, TPCS has five paid staff members: an executive director, administrative assistant, victim's services case management coordinator, and family intervention specialists. TPCS also has licensed counselors to see clients who have insurance. Beginning May 2002, a part-time clinical director was added to the team.

TPCS has three main programs: Victims of Crime, Outreach Services, and Familias Unidas. Victims of Crime serves individuals, children, and families from Aransas, Nueces, and San Patricio Counties who are child victims of physical and sexual abuse, domestic violence victims, adult survivors of abuse, and victims of sexual and physical assault. The majority of this group is uninsured, and the services to them are free. The Outreach Services Program serves children 5-17 and their families from Nueces and Aransas Counties who have been identified in some manner (self-report, referral

from a collaborating agency) as at risk. This group also has limited access to mental health care due to the lack of adequate insurance. The Familias Unidas Program targets families and children in San Patricio County and focuses on prevention and intervention for “at risk” youth.

TPCS provides individual, couple, family, and group counseling. TPCS also uses play therapy with children and goes to the schools to provide counseling as needed. If transportation is a problem, home visits for counseling are available. TPCS provides referral services, follow-up services, and collaborations with other area agencies. TPCS also provides educational/informational group presentations to agencies and groups who request this service.

The main office for TPCS is located in downtown Corpus Christi. On-site are two therapy rooms and a play therapy room, both with video capabilities. TPCS relies on donated space from several agencies such as churches, schools, and other buildings with office space to provide off-site services.

Making a Difference: TPCS utilizes a variety of measures to determine the elements of each program. The Victims of Crime Program uses a client case tracking system. Each client is placed in this system and tracked according to seven important categories: number of sessions utilized, type of victimization, age, ethnicity, county served, referral source, and disability.

To measure the level of activity, TPCS looks at the number of new victims as well as the number of sessions provided. Current data for the Victims of Crime Program are shown in the following table.

Tracking Categories	Reporting Year 1999–2000	Reporting Year 2000–2001
Number of Sessions*	1,128	1,868
Number of New Victims	379	646
Average Number of Sessions per Victim	2.97	2.89

*“Session” refers to direct service and group presentation.

Through the use of these outcome measures, TPCS is better able to determine the approximate length of treatment needed for each specific referral, the services most utilized by clients, the category of victimization group that needs services in the Tri-County area, and the referral sources that most utilize the agency for referrals/services to their clients. TPCS uses a mental health outcomes questionnaire and discharge follow-up as two measurement devices to ensure that clients are receiving therapeutic services. The same methods and categories for tracking clients used in the Victims of Crime Program are used in the Outreach Services Program.

For the “Familias Unidas” Program, TPCS developed a tracking system for all clients that identifies six important categories: referral source, county/city served, number of sessions/groups attended, age group, ethnicity, and disability.

Historically, although parents of youth involved in Familias Unidas participate in initial sessions, they frequently drop out and do not actively participate in ongoing services. The percentage of parents who stay in treatment after the initial session will be monitored as an indicator of effectiveness.

Beginnings: TPCS was started in 1997 by a group of licensed professionals as a clinical internship and was fully implemented in 1999. The program began in response to increasing violence and neglect identified in the community. These problems were identified in the Nueces County Community Plan as well as in the Community Plan for Aransas, Bee, Live Oak, McMullen, and San Patricio Counties. Of these counties, Aransas, Bee, Live Oak, and McMullen are non-metropolitan. The statistics for this area support that these problems are on the rise.

Challenges and Solutions: The program has been awarded several grants that will fund positions and programs for a minimum of one year and up to three years. The first funding source came from the Criminal Justice Division/421 fund in 1999. A Victims of Crime Act (VOCA) grant was received that same year. These two grants funded the executive director position, administrative assistant position, and one counselor position. A series of grants since January 2001 have enabled the organization to launch the Familias Unidas Program and to hire staff members to support the program efforts.

TPCS expanded at a rapid rate. While this expansion was beneficial, adequate time is needed to implement effective tracking systems to keep up with the expansion.

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NUTRITION AND OVERWEIGHT CONCERNS IN RURAL AREAS

by Tom Tai-Seale and Coleman Chandler

SCOPE OF PROBLEM

- Overweight and obesity are one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[40]
- Nutritional disorders with complications and comorbidities are the ninth most frequent diagnostic category among hospitalized rural elderly Medicare beneficiaries.[41]
- Nationally, rural areas have higher self-reported rates of adult obesity than urban areas, but there is considerable variation among men and women across the region.[42]
- Diet and activity patterns have been ranked second only to tobacco as the leading "actual causes of death" in the United States, i.e., contributing to the diagnosed condition associated with death.[43]

GOALS AND OBJECTIVES

The goal of Healthy People 2010's nutrition and overweight focus area is to promote health and reduce chronic disease associated with diet and weight.[1] According to the Rural Healthy People 2010 survey, nutrition and overweight tied with cancer for 10th and 11th ranks among the Healthy People 2010 focus areas that were rated as rural health priorities; it was nominated by an average of 22 percent of the four groups for state and rural health respondents.[3] The Northeast and Midwest produced statistically significantly higher percentages of nominations for nutrition and overweight as a priority than did the South and West.

This summary addresses five of the Healthy People 2010 objectives:

- 19-1. Increase the proportion of adults who are at a healthy weight.
- 19-2. Reduce the proportion of adults who are obese.
- 19-3. Reduce the proportion of children and adolescents who are overweight or obese.
- 19-15. Increase the proportion of children and adolescents ages six to 19 years whose intake of meals and snacks at school contributes to good overall dietary quality.
- 19-16. Increase the proportion of worksites that offer nutrition or weight management classes or counseling.

PREVALENCE

Obesity and overweight in America are described by the Surgeon General as epidemic in proportion,[2] with 61 percent of American adults overweight or obese, and 13 percent of children and adolescents overweight. One shift in the trend toward obesity and overweight is the increasing proportion of rural residents combating this problem.

> Sixty-one percent of American adults are overweight or obese, and 13 percent of children and adolescents are overweight.

While overweight and obesity are prevalent throughout the United States, the problem may be especially severe in rural areas. Prior to 1980, obesity was more common in children in large metropolitan areas.[4, 5] However, a number of relevant studies indicate a reversal of the situation wherein, childhood and adolescent obesity appear to be worse in rural areas. The trend is mirrored among adults as

well wherein, for adults (male and female), national survey data and smaller regional studies[6-9] support the view that obesity is more common in rural areas.

IMPACT

Obesity and overweight are associated with a myriad of health-related consequences. It is estimated that obesity accounts for between 6 to 7 percent of total health care expenditures and costs this nation over $100 billion dollars annually.[10, 11]

> Childhood and adolescent obesity appear to be worse in rural areas.

Current estimates are that obesity increases the risk of death from all causes about 1.5 fold and from coronary heart disease about two-fold.[12-15] The age-adjusted coronary heart disease death rate in the South is highest in rural areas and second highest (most years) in the rural Northeast.[16]

Obese children suffer more psychosocial dysfunction, hypertension, abnormal cholesterol metabolism, and orthopedic conditions like Blount's disease and hip problems such as slipped capital femoral epiphysis.[17] Excess weight on an adolescent tends to be carried into adulthood,[18-21] facilitating the early beginning of atherosclerosis or buildup of fatty tissue in the arteries.[22] For both men and women who were overweight as adolescents, the rates of atherosclerosis, diabetes, coronary heart disease, hip fractures, and gout are increased.[14]

Overweight and obesity increase the risk of a great variety of serious diseases including heart disease; stroke; hypertension; gallbladder disease; cancer of the endometrium, colon, kidney, gallbladder, and postmenopausal breast.[23] Overweight and obesity is also associated with high cholesterol, type 2 diabetes, glucose intolerance, menstrual irregularities, pregnancy complications, stress incontinence, and psychosocial disorders.[23] Further, the number of chronic medical conditions increases and the quality of life decreases with increasing body mass index.[12]

In addition to physical health-related problems, the overweight bear the brunt of severe social criticism that characterizes them as unhealthy, diseased, emotionally immature, weak, lazy, and impulsive.[24] Consequently, they face a wide variety of social problems including stigmatization and discrimination.[25]

BARRIERS

A fair portion of the disproportionate prevalence of obesity in rural areas is caused by the distinctive demographic composition of rural communities. Rural residents are on average older, less educated, and have a lower income than urban residents; and those who are older, less educated, and have a lower income have greater obesity.[26-33]

There is evidence that rural life presents special cultural and structural challenges to maintaining a healthy weight. Cultural factors contributing to the problem include higher dietary fat and calorie consumption; declining frequency of exercise; increased television watching (including video game use); decreased compliance with dietary recommendations; and differential amounts of exercise among rural residents. Structural factors contributing to obesity in rural areas include lack of nutrition education, decreased access to nutritionists, fewer physical education classes in schools, and fewer exercise facilities. Rural areas, in particular, face other unique challenges such as fewer prevention and treatment facilities, and further distances to reach them.

> There is evidence that rural life presents special cultural and structural challenges to maintaining a healthy weight.

PROPOSED SOLUTIONS

According to the Surgeon General, the most effective prevention and treatment strategies for obesity are unknown.[2] Nevertheless, the outlines of a model

program can be discerned from the Surgeon General's recent suggestions for developing a public health response.[2] The Surgeon General calls for communication, action, research, and evaluation to address obesity at each of five social settings: family and community, school, health care, media and communications, and worksites. Thus, the best overall program ensures that there are effective and complimentary interventions at each setting.

More specifically, the best place to start in preventing obesity is with preventing the development of it in young children. Diets for children as early as preschool, for example, should be comprised of no more than 30 percent of their caloric intake from fat and less than 10 percent of the calories from saturated fat. Fat-lowering diet interventions using a variety of techniques (e.g., purchasing food with less fat content, eliminating excess or added fat in food preparation, baking rather than frying food, and increasing the amount of fresh fruits and vegetables) have proven successful.[34, 35] Overall, combining fat-lowering school food service programs with enhanced physical activity in physical education classes and classroom-based health education offer effective intervention to obesity among children.

Community or home-based programs have also been found to be successful. One such example, the Children's Health Project, introduced a self-instruction program consisting of 10 lessons, complete with an audiotape, picture booklet, paper and pencil activities, and a parent manual for guidance.[36, 37] Children using this program significantly lowered their total fat and saturated fat intake in comparison to children in control groups. Other community or home-based programs, such as nutrition and physical exercise counseling programs and behavior therapy programs, have also produced positive results over time.[23]

Numerous programs have been designed to address overweight and obesity among adults, with many mirroring the strategies outlined above. Relatively new innovations such as weight-loss programs broadcast over cable television[38] or more traditional correspondence courses[39] may well be able to address some of the barriers facing individuals in rural settings with less access to weight-loss programs or centers. Structural changes may be warranted as well to address the growing problem of overweight and obesity in rural settings. Such changes could include increased offerings of continuing education for rural physicians and other care providers related to nutrition and weight management, or developing community incentive programs for worksite weight management and nutrition programs or activities.

SUMMARY AND CONCLUSIONS

It is not clear why living in a rural area increases the odds of being obese and suffering its effects. Certainly, the demographic composition of rural areas accounts for some, perhaps a large portion, of the extra risk. However, individuals residing in rural communities face other challenges as well as those enumerated above. Despite these challenges, designers of interventions are encouraged to remember the basic goals: decrease fat and calorie intake, and increase physical exercise. The Surgeon General's Call to Action makes it clear that progress can be made if interventions are introduced at multiple levels of society: from individual to community, school to worksite, media to health care. Surely one of the more important steps is to initiate coalition formation in rural communities charged with raising awareness of the growing problem of overweight and obesity in rural settings as well as to martial all available resources to address it to enhance the health of rural America.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health concern.

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MODELS FOR PRACTICE
FOCUS AREA: NUTRITION AND OVERWEIGHT

Program Name: Physical Dimensions/Focus
Location: Wichita, Kansas
Problem Addressed: Lack of Physical Education in the Kansas Schools
Healthy People 2010 Objective: 19
Web Address: None

SNAPSHOT

Physical Focus is one of three physical activity programs integrated in Kansas schools. It is designed to provide middle school students with the ability and knowledge to enjoy a healthy lifestyle.

The overall purpose of both programs is to increase awareness and knowledge of the benefits of living a healthy lifestyle and how to actually live one.

Physical Dimensions is another physical activity program integrated in Kansas high schools. The purpose of this program is to increase student awareness about living a healthy lifestyle, stress management, and in general, to help improve their decision-making skills about taking drugs, alcohol, or engaging in risky sexual activity.

Physical Focus covers three principal areas, as described below:

- Area 1: Healthy Heart develops the skills and knowledge for a health-enhancing level of fitness and regular habits of physical activity.
- Area 2: Team Power (Team Cardio) develops the students' ability to compete and cooperate together to achieve a common goal.
- Area 3: Life Adventures develops life-long goals of recreational and leisure skills.*

Physical Dimensions is delivered through a one-year course, divided into nine weeks (three weeks per topic area). Each segment focuses on a particular health topic, achievements, and successful outcomes. One of the advantages of participating in Physical Dimensions is that it offers high school students the chance to be recognized with a certificate for completing the program.

THE MODEL

Blueprint: The following groups were responsible for integrating the Physical Dimensions/Focus programs in the Kansas school district: Kansas Health Foundation; Kansas State Department of Education; Kansas Public Schools (over 300); Kansas Association for Health, Physical Education,

Recreation and Dance (KAHPERD); Wichita State University; Emporia State University; Fort Hays State University; Pittsburg State University; and Kansas University.

The Physical Dimensions/Focus project is a grant-funded operation, which is housed at Wichita State University, and is fully staffed with a full-time project director and on-site full-time administrative assistant. The secondary staff members are consultants who serve as part-time curriculum writers and curriculum trainers.

Physical Dimensions/Focus staff identified several problems focusing on physical education, such as low enrollment in elective physical education classes, one year physical education requirement for Kansas schools, high rates of students reporting that physical education was not enjoyable or beneficial to them, and physical education no longer being required in elementary and middle schools. The problems were identified through a series of surveys and interviews conducted by educators in the Kansas schools. From that point, the staff focused on disseminating letters, newsletters, and participating in conferences to promote services to all Kansas schools and physical education teachers.

Making a Difference: Physical Dimension/Focus started in 1995, but the models were not fully implemented until 2001. Presently, the two programs are still growing in the Kansas schools. The Physical Dimension/Focus project evaluates its outcomes by keeping a chart of those schools participating in the program and by students' achievement of the program curriculum.

Beginnings: Educators in participating Kansas schools made observations regarding the lack of physical activity in the Kansas schools. From the data that were collected, the acclaimed Hellison Model was used to model the two physical activity programs. Physical Dimensions/Focus was integrated in seven middle schools and five high schools to teach young people about the importance of exercising and maintaining a healthy lifestyle.

Challenges and Solutions: The Kansas Health Foundation originally funded the program, and now the state universities support the program. The program disseminates information by sending out an annual newsletter to the stakeholders, issuing media releases, and organizing statewide conferences for educators.

Physical Dimensions/Focus received the National Health Information Gold Award for its promotional and educational video in 2000. The program has been highlighted in *The Wall Street Journal*, *Better Homes and Gardens*, *USA Today*, *Sports Illustrated*, and several of Kansas's newspapers, magazines, and television news programs.

PROGRAM CONTACT INFORMATION

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MODELS FOR PRACTICE
FOCUS AREA: NUTRITION AND OVERWEIGHT

Program Name: Daya Tibi "House of Good Living"/Fort Peck Community College Wellness Center
Location: Poplar, Montana
Problem Addressed: Nutrition and Diet
Healthy People 2010 Objective: 19
Web Address: None

SNAPSHOT

The Daya Tibi, "House of Good Living," Wellness Center was established to combat the problem of obesity in Native Americans. The Wellness Center delivers several programs to address the problems of obesity. Generally, the Wellness Center focus is directed toward nutritional matters.

The Wellness Center was built to serve toddlers, adolescents, adults, and the elderly of Native American descent.

Initially, the city of Poplar received a grant from the Kellogg Foundation to create a wellness center. The Wellness Center is now funded by a United States Department of Agriculture (USDA) Nutrition, Diet, and Health grant and benefits from collaboration with other health groups. Those groups involved in the growth and establishment of Daya Tibi Wellness Center include the Fort Peck Tribal Health Department (638 Contract Diabetic Program), USDA Commodity Program – Fort Peck Tribes, USDA Food Stamp Nutrition Program, and the Native American Hunger Program through Phillip Morris Companies, Inc.

THE MODEL

Blueprint: The Wellness Center, associated with Fort Peck Community College (FPCC), is located on a Indian reservation in the city of Poplar, which is located in the northeastern corner of Montana and bordered on the south by the Missouri River. The reservation is 110 miles east to west and 40 miles north to south, encompassing 2,093,318 acres. The initial objective for creating the Daya Tibia Wellness Center was to address the problem of obesity and diabetes. The Wellness Center was built to serve toddlers, adolescents, adults, and the elderly of Native American descent. The Wellness Center created a nutrition awareness program, which is a six-week program where a nutritionalist assists individuals with their nutrition intake level, cholesterol level, food choices, etc. In conjunction with the nutrition program, the Wellness Center implemented the "Cooking for Kids Program" that teaches children proper food usage, kitchen safety, meal planning, table setting, and sufficient food preparation. It shows children the proper usage of the food pyramid and other visuals related to their nutritional intake.

Furthermore, the Wellness Center provides an exercise physiologist to assist those individuals who participate in the six-week program.

Making a Difference: During the six-week program, the exercise physiologist makes assessments of the individual's physique and health. A personal wellness profile is used to measure the success of the program. The profile consists of pre- and post-tests of fat levels; blood sugar; cholesterol check; blood pressure; and measurement of arms, biceps, hips, and waist. It also records participation in nutrition classes. The personal wellness profile helps individuals attack their problems through weight loss or by reducing their risks of developing diabetes. The overall goal of the personal wellness profile is to motivate participants in the program to stick with a nutritional diet supporting a healthier lifestyle. One of the USDA grant objectives measured the success of 86 participants' weight and health improvements. Of the 86 participants, 44 showed improvements in several categories (i.e., weight; blood pressure; blood sugar; and arm, wrist, and chest measurements).

Beginnings: The Fort Peck Community College Department of Community Services and several key community leaders observed the growing trends of obesity and diabetes among the community's youth and adults. This recognition led to the development of the Wellness Center program to address the problem of obesity, diabetes, and poor nutritional habits.

Challenges and Solutions: Implementation of the nutrition awareness program was viewed as a trial to see if the community was ready to change its nutritional habits. The goal of the nutritional program is to change participants' behavior toward living a better life. Demonstration of the program led to applying for the USDA Nutrition, Diet, and Health Grant for 2001–2002 and 2002–2003.

The Wellness Center monitors the success of the participants after completing the six-week program by conducting regular follow-ups and health screenings. Currently, the Wellness Center is modifying its objectives and goals for the program and plans to build two more wellness centers for the west and east sides of the reservation, based in Poplar and Wolf Point.

PROGRAM CONTACT INFORMATION

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THE STATE OF RURAL ORAL HEALTH

by Pete Fos and Linnae Hutchison

SCOPE OF PROBLEM

- Nationally, rural areas record higher rates of people 65 and older with total tooth loss than do their urban counterparts. Among the four regions, only in the Midwest is this rural rate exceeded by the small metropolitan counties.[8]
- Shortages of dentists are much greater in rural areas in all four regions of the country.[8]
- Dental visits within the past year tend to be lower among 18-64 year-old people in rural areas than in urban areas across all four regions of the country.[8]
- Dental shortages were identified as major rural health concerns among state offices of rural health.[19]
- Dental conditions are "ambulatory-care-sensitive" conditions.[20]

GOALS AND OBJECTIVES

> Dental caries is the most common chronic disease suffered by children.[1]

While safe and effective prevention measures exist for the most common dental diseases,[1] i.e., dental caries and periodontal diseases, there are disparities in access to and utilization of these measures. The goal of the Healthy People 2010 oral health focus area is to prevent and control oral and craniofacial disease, conditions, and injuries, and improve access to related services.[2] According to the Rural Healthy People 2010 survey, oral health ranked in fifth place among the 28 Healthy People 2010 focus areas, receiving priority ratings from about 35 percent of the respondents.[3] It was rated as a priority most frequently by state organizations, rural health centers and clinics, and local public health agencies; it was least frequently identified as a priority by hospitals. No significant differences emerged in this regard across geographic regions.

The report describes methods to address the following Healthy People objectives:[2]

- 21-1. Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.
- 21-2. Focus on untreated dental caries. The objective is to reduce the proportion of children, adolescents, and adults with untreated dental decay.
- 21-3. Increase the proportion of adults who have never had a permanent tooth extracted because of dental caries or periodontal disease.
- 21-4. Reduce the proportion of older adults who have had their natural teeth extracted.
- 21-5. Reduce periodontal disease.
- 21-6. Increase the proportion of oral and pharyngeal cancers detected at the earliest stage.
- 21-7. Increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancers.
- 21-8. Increase the proportion of children who have received dental sealants to their molar teeth.
- 21-9. Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water.
- 21-10. Increase the proportion of children and adults who use the oral health care system each year.
- 21-12. Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year.

- 21-13. Increase the proportion of school-based health centers with an oral health component.
- 21-14. Increase the proportion of local health departments and community-based health centers, including community, migrant, and homeless health centers that have an oral health component.

PREVALENCE

Dental caries is the most common chronic disease suffered by children.[1] More than 50 percent of all children experience dental caries by the age of eight years, and about 80 percent of all children have dental caries by age 18.[4] Compounding the problem is the fact that 25 percent of children in the U.S. have not seen a dentist by age six.[1]

While the incidence of dental caries in permanent teeth has significantly decreased in school-aged children since 1970, a disparity exists in prevalence of dental caries across socioeconomic and geographic subgroups in the population. Low-income children have two times greater prevalence of dental caries when compared to other children. While dental sealants have been proven effective in reducing the incidence of dental caries among children, only 3 percent of poor children have dental sealants compared to 23 percent of children overall.[2] Racial disparities are also striking. Among children, 36 percent of African Americans and 43 percent of Hispanics have untreated dental caries, compared to 26 percent of whites.[2]

> A disparity exists in prevalence of dental caries across socioeconomic and geographic subgroups in the population.

Periodontal disease is positively correlated with age across all socioeconomic and geographic subgroups in the population. Periodontal disease is more frequently found in African Americans and low-income adults. Thirty-five percent of adults with less than a high school education have periodontal disease compared to 28 percent of high school graduates, and only 15 percent of those with some college.[5]

Oral and pharyngeal cancers account for approximately 2 to 4 percent of all cancer cases in the United States.[6] Overall, men have an incidence rate 2.6 times that of women, with 14.8 per 100,000 versus 5.8 per 100,000 among women. African Americans have a higher rate than whites (12.4 per 100,000 and 9.7 per 100,000, respectively). In particular, African-American males have the highest reported rates.

A distinct disparity is seen in the survey data between urban and rural areas, revealing dental caries among children and adults to be more prevalent in rural populations than in urban populations. In 1999, rural adults were less likely than urban adults to have had a dental visit in the past year. Within urban areas, 67.1 percent of the total survey sample had a dental visit in the past year. In rural areas, only 58.3 percent of the sample survey had a dental visit in the past year. Studies also indicate that children in rural areas have more dental caries experience than urban children.[7]

> A distinct disparity is seen in the survey data between urban and rural areas revealing dental caries among children and adults to be more prevalent in rural populations than in urban populations.

The age-adjusted prevalence rate of edentulism, total tooth loss, in the United States is higher in rural areas than in urban areas.[8] The same condition is more prevalent, also, among low income than high income people. Those in rural areas are more likely to have such loss.

IMPACT

Oral health directly affects general health. Oral diseases and conditions are not limited to the oral cavity and supporting structures, but they affect the

entire body and body systems. Associated health problems include pre-term low birth weight babies, cardiovascular disease, diabetes, and respiratory disease.

About 30,000 new cases of oral and pharyngeal cancers are diagnosed annually, along with the occurrence of about 7,500 deaths.[9] While being a relatively rare occurrence, these cancers carry one of the lowest survival rates of all. Eighty-two percent of these patients will survive at least one year after diagnosis, while only 50 percent will have a survival of greater than five years.[10]

> Oral diseases and conditions are not limited to the oral cavity and supporting structures, but they affect the entire body and body systems.

BARRIERS

Overall, the trend in the proportion of persons who experienced a dental visit in the past year has remained constant over recent years, and the same is true for most subgroups. But, disparities among subgroups in the population are observable across urban/rural areas, race, ethnic group, age, and income level. The causes of the oral health disparity between urban and rural areas can be traced to several factors that can be categorized as access to care and utilization, economic, and dental resources.

Challenges to access to care include lack of dentists, inadequate supply of dentists who accept Medicaid or other discounted fee schedules, reluctance by dentists to participate in managed care programs, socioeconomic nature of rural populations (poverty, low educational attainment, cultural differences, lack of transportation), and absence of a coordinated screening and referral network.[11]

Ability-to-pay, including access to health and dental insurance, is an important determinant of receiving adequate and necessary dental care. According to the Surgeon General's report, children with dental insurance are 2.5 times more likely to receive dental care than children without dental insurance. However, less than 20 percent of children with Medicaid insurance coverage receive one dental visit each year.[1]

Income level is a major factor contributing to utilization of access to care. Adults living in poverty (income at 200 percent of the federal poverty level or below) are less likely to receive dental care than wealthier adults. Among people who are considered non-poor (incomes 200 percent or greater than the Bureau of the Census poverty threshold), 72 percent had a dental visit the past year.[12] Among the near poor (incomes of 100 percent to less than 200 percent of the poverty threshold), the percentage dropped to 48.5 percent in 1999. Among the poor (incomes below the poverty threshold), the percentage is even lower at 46.2 percent having a dental visit the past year.[12]

A significant barrier to oral health care in rural areas is the lack of an adequate dental workforce. The distribution of dentists in large metropolitan areas is over 60 per 100,000. In rural cities, the ratio is 40 dentists per 100,000; and in rural non-city areas, it decreases to about 30 per 100,000 population. This disparity may become more serious as the supply of dentists decreases due to declining numbers of dental students and an increase in the number of retiring dentists.[13]

PROPOSED SOLUTIONS

A number of approaches have been utilized in an attempt to improve the oral health status of the United States—especially for at-risk populations. Partnerships between states and dental providers have been attempted to increase access to care through Medicaid. "Health commons" is an approach that has been used for low-income rural populations.[14] "Health commons" is a creative, community-based approach that is designed to develop collaborative activities in an attempt to solve oral health problems in disadvantaged populations. "Health commons" sites are integrated primary care practices that include medical, dental, behavioral, social, and public health services.

It has been found that children who participate in Head Start have high rates of dental caries.[15] Given this finding, another method proposed to address the oral health dilemma is expansion of the Head Start programs to target areas in which children demonstrate unmet need as well as move toward a comprehensive, integrated treatment program.[15]

Another mechanism that may prove effective in improving oral health is dental insurance reforms. Less than 20 percent of all Medicaid children receive preventive dental services each year.[16] Additionally, Medicaid programs in most states do not provide any adult dental services. Expansion of Medicaid coverage and improvement of access to Medicaid dental services could have a beneficial effect in eliminating the disparity seen in rural areas, provided expansion includes addressing the lack of dental providers.

Flouridation or alternative methods to deliver fluoride (toothpastes, mouth rinses, and professionally applied gels) may also improve the oral health status of rural areas. Benefits from fluoridated community water supplies have been reported to range from an 11 to 40 percent reduction in dental caries.[17] Dental sealants have also been proven to be a cost-effective preventive strategy.

Finally, improving oral health is contingent on the availability of professionals, especially in underserved areas. Given the decreasing trend in the number of dental care professionals, other health care professionals must be included in the dental team. A coordinated, collaborative effort is needed to address the disparity in oral health status throughout the nation. Several potential efforts include involving pediatricians and others in the oral health care of children. Establishment and/or expansion of school-based dental services utilizing school nurses may also prove valuable in improving children's oral health.

Regarding oral and pharyngeal cancers, over three-fourths of these cancers are present in areas readily visible or palpatable during an oral examination. Regular examinations by a health professional offer primary and secondary prevention opportunities by diagnosing the cancer in its early stages.[18]

SUMMARY AND CONCLUSIONS

While the overall oral health status has improved in this nation over the past 30 years, there is a stark contrast in oral health and dental caries experience among specific subgroups in the population. These groups include rural populations, racial and ethnic minorities, low-income populations, elderly, and special needs populations.

The overriding cause of this disparity seems to be access to care. There are many determining factors for access to care, including: income, educational attainment, area of residence, dental workforce, and dental insurance. An interaction effect exists among these factors, compounded by specific subgroup characteristics. Many efforts have been undertaken to improve access to care, with some success. Ultimately, it is important to recognize and understand that no one intervention will successfully eliminate the existing oral health disparity in the United States.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: ORAL HEALTH

Program Name: Choptank Community Health System's Oral Health Prevention Program
Location: Federalsburg, Maryland
Problem Addressed: Oral Health
Healthy People 2010 Objective: 21-1, 21-8, 21-10, 21-12
Web Address: None

SNAPSHOT

The Eastern Shore of Maryland suffers from a disproportionately high incidence of children's dental disease compared with national averages. To combat this problem, the Choptank Community Health System (CCHS) embarked on an innovative approach to not only provide primary dental services to an otherwise underserved population but also oral health prevention services. By using a school-based oral health prevention program combined with the establishment of a dedicated dental clinic for restorative and diagnostic care, CCHS has begun to address the serious oral health problem facing this underserved rural community.

THE MODEL

Blueprint: The school-based oral health prevention program is delivered in two rural counties of Maryland's Eastern Shore—Caroline and Talbot. Using portable dental equipment set up onsite at elementary schools, the program provides screenings, topical fluoride applications, and dental sealants to all grades at an elementary school in Caroline County and second graders at all elementary schools in Talbot County. The program also uses an inter-oral camera that takes a picture of the children's teeth. This picture is then sent home to parents as a means to inform parents who may be unaware of the status of their children's oral health.

Employed by CCHS, a Federally Qualified Health Center (FQHC), are two part-time dental hygienists and a dental assistant who provide services three days per week in Caroline County and two days per week in Talbot County. Through a waiver from the Maryland State Board of Dental Examiners, the hygienists are allowed to work under the indirect supervision of the dental director. The CCHS dental director serves as the director of the school-based programs. A case manager assists with coordinating referrals and follow-ups of children requiring diagnostic and restorative care. These case management services are provided via in-kind services by the Eastern Shore Oral Health Outreach Project (OHOP).

The dental programs are designed to deliver oral health prevention services to low-income children living in rural areas, regardless of their ability to pay. All children enrolled in the school-based wellness center program are eligible to receive services through the school-based dental programs. Children requiring diagnostic and restorative care are referred to their family dentist or the Choptank Community Dental Clinic, which opened in 2001.

Making a Difference: During the initial pilot period of March through May 2001, approximately 58 percent of Caroline County Federalsburg Elementary School's 538 students were evaluated through the school-based dental program (SBDP). Since the program's full implementation, 229 students have received dental cleaning, oral hygiene instruction, and fluoride; 144 have received dental sealants. In the Talbot County "Jump Start" sealant program, 60 percent of second graders in the Talbot County schools were evaluated, including 154 receiving dental cleaning, oral hygiene instruction, fluoride, and 144 children receiving sealants. The program established three goals for 2002: 70 percent enrollment of children in SBDP and of those, a 50 percent sealant rate, and no more than a 35 percent rate of untreated dental caries.

The program has expanded to a second elementary school in Caroline County. Preliminary discussions are underway to expand services to another underserved county in the Eastern Shore area of Maryland, as well.

Beginnings: In the state of Maryland, only 14 percent of children on public assistance received oral health services, and in the Choptank community area, there were no dental providers for this population group prior to the initiation of the school-based dental program. The Eastern Shore counties were found to have significantly higher rates of untreated dental decay and dental caries in youth as compared to national averages. In fact, while the U.S. average for untreated dental decay in five-year-olds is 29 percent, in the Eastern Shore area, the rate of untreated dental decay in five-year-olds is 82 percent. To address this problem, a local dentist was instrumental in coordinating the initiation of the school-based dental program to coincide with the 2001 establishment of the Choptank Community Health System Dental Clinic. This clinic now serves as a referral source. This same dentist now serves as the program director.

SBDP was initiated in spring 2001 in two locations: Caroline County and Talbot County, Maryland. Also during this same time period, the Choptank Community Health System Primary Care Clinic was undergoing an expansion to house the Dental Clinic. SBDP in Caroline County is a partnership between the Choptank Community Health System, the Caroline County School-Based Wellness Center Program, the Caroline County Human Services Council, and the Eastern Shore Oral Health Outreach Project. The Talbot County SBDP "Jump Start" represents a collaborative effort between CCHS, Talbot County Health Department, Talbot County public schools, and Eastern Shore OHOP.

The dental programs are designed to deliver oral health prevention services to low-income children living in rural areas, regardless of their ability to pay.

Year One initial funding for the Caroline County SBDP came from a grant from the Maryland Governor's Office for Children, Youth, and Families through the Caroline Human Services Council. The Caroline County SBDP received approval for Year Two funding from the same grant source. In Talbot County, initial funding was provided by the Maryland Department of Health and Mental Hygiene. Year Two funding in Talbot County will be dependent on program income through third party patient billing, particularly Medicaid.

Challenges and Solutions: Recruitment of allied dental health professionals is the foremost challenge facing the program. Caroline County is designated as a health professionals shortage area, and there are no local training programs for dental hygienists or assistants in the local area. So dire is the need for providers, the Choptank Community Health Center paid to send one staff member to become a dental assistant.

To its funding challenge, SBDP, which operates under CCHS (a FQHC), is able to bill all third-party insurers and to bill medical assistance programs at the FQHC rate, which is cost based. It is anticipated the program will be self-sustaining in the future through third-party reimbursements.

To promote the dental program, a variety of dissemination channels are utilized including newsletter mailings, brochures, direct mailings, assistance through the Eastern Shore Oral Health Outreach Project, and local publicity.

PROGRAM CONTACT INFORMATION

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MODELS FOR PRACTICE
FOCUS AREA: ORAL HEALTH

Program Name: FirstHealth of the Carolinas Dental Health Program
Location: Pinehurst, North Carolina
Problem Addressed: Oral Health
Healthy People 2010 Objective: 21-1; 21-2a, b, c; 21-8; 21-10; 21-12; 21-14
Web Address: http://www.firsthealth.org

SNAPSHOT

The FirstHealth of the Carolinas Dental Health Program serves five counties in central North Carolina. The program is designed to deliver education, primary and secondary prevention including early screening programs, treatment, and emergency care to low-income, Medicaid-eligible children from birth to 18.

The program addresses the problem of inadequate access to dental care, health education, and prevention services for low-income and Medicaid-eligible children between the ages of birth and 18 years old.

THE MODEL

Blueprint: The FirstHealth of the Carolinas Dental Health Program delivers dental health services through three established clinics to five nonmetropolitan counties in central North Carolina. The program addresses the problem of inadequate access to dental care, health education, and prevention services for low-income and Medicaid-eligible children between the ages of birth and 18 years old. The program is served by the following staff: full-time dental director, dental coordinator, three full-time dentists (plus six fill-in dentists), pediatric dentist, program manager, dental hygienists, dental assistants, receptionists, and a volunteer staff including interns from the University of North Carolina School of Dentistry and students from area high schools.

Making a Difference: FirstHealth Dental Program opened the first of three clinics in 1998. To keep the doors open, it embarked on a diligent mission of seeking financial sustainability. In addition to maintaining strong relationships with charitable foundations, FirstHealth also seeks funding through national, state, and local resources. A significant portion of FirstHealth's funding was obtained through the Community Voices Initiative of the W.K. Kellogg Foundation.

FirstHealth utilizes a variety of performance measurements including process, outcome, and perception indicators. By tracking the number of patient encounters, health care coverage status, and demographics, the data revealed that as of April 2002, the three centers had treated almost 65

percent of the approximately 12,000 underserved and uninsured children in the service area. This is in stark contrast to the state average of 22 percent. Outcome indicators reveal that the centers increased by 600 percent the number of children receiving sealants, transitioned more than 30 percent of children into preventive maintenance status, and achieved a no-show rate of 16 percent. Comparatively, the national no-show rate is 30 percent. The program also monitors financial indicators. As anticipated, FirstHealth's expenses exceed revenues by 9 percent; however, the difference is supplemented by grants and the FirstHealth Community Benefit Program.

Finally, FirstHealth is a pioneer in the use of nontraditional providers as a mechanism to address the shortage of dental providers. FirstHealth offers training sessions to pediatricians and family practitioners, which are designed to instruct these providers on applying fluoride varnishes to small children's teeth. To date, 140 physicians, nurses, and clinical staff have been trained to deliver this service.

Beginnings: FirstHealth Dental Health Program began with a public outcry from public health hygienists and school nurses to FirstHealth of the Carolinas, which is a not-for-profit, integrated health care system serving the mid Carolinas. Private dentists, physicians, local school personnel, health departments, and the Oral Health Section of the North Carolina Division of Public Health joined together in a task force designed to assess the problem of access to dental care. State data were reinforced by the number of dental-related problems being addressed in emergency rooms, physician offices, dental practices, and reports from school personnel that children were inattentive at school due to dental pain. Data also confirmed the number one problem in the area was lack of dental care for low-income children.

Three clinics (one full time and two part-time) were opened in the nonmetropolitan counties of Moore, Montgomery, and Hoke within a one year time frame. The Duke Endowment of Charlotte, North Carolina, and the Kate B. Reynolds Charitable Trust of Winston-Salem, North Carolina, provided start-up funding. One center was new construction; one center was a renovated office owned by FirstHealth, and the third was a house that was refurbished. A local dentist provided some of the dental chairs. In addition to dental care provided in the clinics, the program includes an outreach component that involves providing sealants in the schools and encouraging the use of fluoride varnish services in providers' offices. FirstHealth screens Special Olympics children, provides screening and treatment for Head Start three- and four-year-olds, and summer camp for children of migrant farmworkers and institutionalized youth. The centers also provide assistance to patients in completing the applications for public assistance and arranging for transportation services.

Challenges and Solutions: FirstHealth of the Carolinas has institutionalized the dental program utilizing the health care system's departments to support them in the areas of finance, information systems, education, and communications.

FirstHealth also realized that since the patients were not privately insured, a deficit was inevitable. Therefore, FirstHealth subsidizes the program through the FirstHealth Community Benefit Program. FirstHealth has also pursued a variety of other funding sources including the American Dental Association, Academy of General Dentistry, North Carolina Smart Start program, Salvation Army, Migrant Farmworkers Programs, Junior League of Moore County, Sandhills Dental Study Club, and the FirstHealth Moore Regional Hospital Auxillary.

Another challenge encountered by the program was uncertainty by local dentists as to the need for FirstHealth to provide dental services. However, the task force (which included local dentists) reviewed data on the dental crisis and determined the need for FirstHealth's Dental Program.

FirstHealth Dental Program utilizes a variety of channels to publicize its program to clients at the community and state level. The program also pursues policy changes in order to have the greatest impact on improving access. Locally, FirstHealth works closely with local schools and provides informational materials to every elementary school child. The program has also implemented a variety of other creative publicity measures targeting local, state, and charitable sponsors.

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MODELS FOR PRACTICE
FOCUS AREA: ORAL HEALTH

Program Name: Miles for Smiles Mobile Dental Clinic
Location: Western Slope Region of Colorado
Problem Addressed: Oral Health
Healthy People 2010 Objective: 21
Web Address: http://www.kindsmiles.org

SNAPSHOT

Miles for Smiles provides comprehensive dental services and school-based dental education to children and families residing in the western slope region of Colorado. Utilizing a fully equipped coach bus, the unit travels year round and covers a service area of 16 rural and frontier counties equaling 31,019 square miles. This service area is larger than Connecticut, Massachusetts, New Hampshire, and Vermont combined. The program targets children ages 0-18 from low-income (working poor) families who would not otherwise have access to dental services. To foster community involvement and support, Miles for Smiles was designed with full partnership from local communities and is a collaboration of multiple entities.

The mobile clinic functions as a full-service dental office including two operatories, x-ray, lab, sterilization system, and computer network for medical records and scheduling.

THE MODEL

Blueprint: Miles for Smiles is a collaborative effort between Denver, Colorado-based KIND (Kids in Need of Dentistry); Southwest Community Resources (SCR) under which Miles for Smiles is housed; Montrose Memorial Hospital, which provides oversight of the mobile clinic and non-profit dental clinic; Northwest Colorado Dental Coalition; and Catholic Charities.

Miles for Smiles delivers comprehensive dental services and school-based dental education to children ages 0 to 18. These children fall through the safety net between public assistance (Medicaid) and private insurance. The mobile clinic functions as a full-service dental office including two operatories, x-ray, lab, sterilization system, and computer network for medical records and scheduling. A full-time staff dentist, dental assistant, and dental technician travel with the unit. A program director oversees the program while volunteer dentists, hygienists, dental assistants, and community volunteers aid in the program's delivery at the local level.

Although the mobile unit travels to 16 counties, the program is operated locally through the involvement of each community. The local community is

responsible for daily operations and ensuring continued community support, partnerships, and local financial sustainability. The key players at the community level include a local advisory board, sponsoring organization, local dental professionals, and a local coordinator. The local program coordinator is responsible for scheduling appointments; determining patient eligibility; coordinating and scheduling local dental professionals; invoicing, billing, and monthly reporting to KIND; and coordinating oral health education programs, marketing, outreach, and public awareness. Given the vast service area, it is impossible for the unit to provide after hours and emergency care. Therefore, local dental professionals play a vital role by providing emergency and after-hours dental services when the unit is out of town. Local dental professionals also donate in-kind storage space, supplies, equipment, and provide assistance with fundraising and community partnering. KIND staff provide supervisory support and expertise in the operation of the program.

Making a Difference: The program contracts out the evaluation component. Process, program, and outcome evaluations are conducted. The process evaluation component looks at timelines, support, and collaboration. The program evaluation looks at patient demographics, number of visits, types of follow-up, and number of dental caries. Finally, the outcome evaluation concentrates on determining if the program has made a difference in the clients served. Variables included in this measure are dental health access, dental disease, and decay. Since the program's initiation, the Miles for Smiles unit has visited 11 communities, provided $246,000 worth of service, and seen over 600 children. For approximately half of the new patients, the mobile unit visit is the first visit to a dentist.

Beginnings: In a 1994 study of the oral health status of Coloradoans, nearly 300,000 underserved children needed restorative care, and over 50 percent of Colorado adolescents had gum disease. In a 1999 Medicaid report, it was found that 40 percent of Colorado counties (primarily rural and frontier) had no dental provider, and over 80 percent of Medicaid-eligible children are not accessing dental services. In rural areas, the predominant form of dental care is crisis and emergency care.

Denver-based Kids in Need of Dentistry is the parent organization for Miles for Smiles. KIND is a non-profit charitable organization founded in 1912 and is the oldest dental charity in the country. Until 1997, KIND focused on delivering dental services to metropolitan Denver through its five clinics. In 1997, KIND was approached by Blue Cross and Blue Shield (now ANTHEM) to determine if KIND was interested in expanding services to rural areas. KIND representatives traveled Colorado for one year to determine the most effective method(s) to provide dental health services to children. During this year-long evaluation that looked at the number of providers and the population served, it was determined children of the working poor were falling through the cracks and not receiving adequate

dental care. Fully implemented in 1999, Anthem Blue Cross and Blue Shield provided the planning grant, funds for three years of operation, and purchased the van. Dental equipment was provided by Patterson Dental. Additional Year One support was derived from foundations and local community partners. Currently, the program is in Year Two of a four-year funding grant from the Robert Wood Johnson Foundation. It is necessary for the program to maintain diverse funding streams, including cash and in-kind support from local organizations. Remaining program costs are deferred by patient fees, fundraising events, and state and national grantors.

Challenges and Solutions: The western slope of Colorado presents unique challenges to the delivery of dental care. Weather and geography make delivery of and access to dental care problematic. The economy, which is largely tourist driven, presents unique challenges for families who live and work in this area as well. The cost of living is high, and service industry employees often receive low wages, do not have insurance, and do not qualify for public assistance medical and dental programs. In addition, many communities have low levels of or no fluoride in the water systems. Finally, the rural area has a dental provider shortage, making access to dental providers and staffing of the program difficult.

To address the problem of a lack of dentists, the program posted position opening notices at 54 dental schools, the American Academy of Pediatric Dentistry, the American Dental Association web pages, and international publications.

Another obstacle is the lack of data regarding school absences and emergency room visits attributable to dental problems. To address this problem, the program developed an oral health classification scheme for each patient, which allows patients to be tracked at each dental visit.

While the program is relatively new, the program's oral health education campaign has received endorsement by the Colorado Dental Hygienists Association.

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MODELS FOR PRACTICE
FOCUS AREA: ORAL HEALTH

Program Name: Price County Seal a Smile
Location: Phillips, Wisconsin
Problem Addressed: Oral Health
Healthy People 2010 Objective: 21
Web Address: None

SNAPSHOT

Seal a Smile, part of the Price County Health Department, is an oral health program providing services to all second and seventh grade students in public, private, and home schools, as well as the uninsured and underinsured in Price County, Wisconsin. Seal a Smile also serves the Medicaid/Badger Care population (the State Children's Health Insurance Program [SCHIP]); Women, Infant, and Children (WIC) program; Family Planning, Prenatal Care Coordination program; and early Head Start.

Seal a Smile delivers services through the schools, Price County Health Department, and Head Start.

THE MODEL

Blueprint: Seal a Smile delivers services through the schools, Price County Health Department, and Head Start. Seal a Smile provides several programs including:

- community and school-based dental sealant program,
- countywide fluoride supplement program,
- non-fluoridated schools host a school-based fluoride rinse program,
- *lift-the-lip* screenings for early childhood caries, and
- case management and referral for children with oral health needs.

Price County, population 15,822, is a rural county and is a designated health professional shortage area and dental health professional shortage area; it is being reviewed as a mental health provider shortage area. There is no public transportation in the county, and the federal free and reduced lunch participation within the schools was 58 percent for the 2000–2001 school year.

Seal a Smile is staffed by one paid staff member, donated time by three staff members of Price County Health Department's Dental Health Program, and volunteer staff consisting of six dentists, nine registered dental hygienists, and five dental assistants. The WIC program, Prenatal Care Coordination

program, and Family Planning and Medical Assistances are all part of the Health Department and provide referrals and support staff to the Seal a Smile Program.

Making a Difference: For the 2001–2002 school year, 255 students (68 percent of the student population) received dental screening services; 183 students (73 percent of students screened) received sealants, with a total of 800 sealants applied. Placing the sealants represents a $20,000 cost savings to parents. The dental sealant program retention rates for second and seventh graders was 98 percent. These numbers reflect a significant increase in program utilization and services provided each year since the program's inception.

Beginnings: Seal a Smile began in September 1999 and was fully implemented in October 2000 in response to the need for children's dental care. The problem of dental access was identified by the Health Department through needs assessments and lack of providers who would accept Price County dental referrals. Partnerships providing initial funding and valuable financial support for the program include the State of Wisconsin, Department of Health and Family Services, Family Health Center through the Marshfield Clinic, Northern Area Health and Education Center (NAHEC), Children's Miracle Network, the AnnMarie Foundation, Weathershield Lite Foundation, the Price County service organizations, Price County Health Department, and the March of Dimes. Healthy Smiles for Wisconsin, a coalition focusing on improving the oral health of all children in Wisconsin, and the Center for Disease Control provided technical support for the project.

Challenges and Solutions: The greatest challenge for the program is finding continued funding. The overall goal of the Price County Health Department is to continue the Seal a Smile Program as long as funding is available. The potential to charge for some services through the State of Wisconsin Medical Assistance Program will help to sustain the program. The Board of Supervisors in Price County is looking to reduce the tax levy, thereby expanding the program to include a permanent oral health coordinator position in the county.

A second challenge is in finding a dentist who will accept children identified as acute care clients, including low-income children. Additionally, a dentist is needed to conduct the state-law-required prescription examinations on the children in the schools, giving dental hygienists permission to place the sealants. There is overwhelming evidence that the Seal a Smile program would become a permanent program if it was possible to overcome the challenge of finding a dentist to take clients through the program's case management services.

Future plans for the program include beginning a Fluoride Varnish Program through the WIC and Health Check programs and an Elder Care Dental Health Program. Public presentations, writing to Wisconsin legislators, testifying before the Governmental Dental Access Committee, writing for all available grants, and publishing articles in the State Dental Journal and the two State Dental Hygiene Associations serve to bring the program to the attention of potential funders and supporters.

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MODELS FOR PRACTICE
FOCUS AREA: ORAL HEALTH

Program Name: Rural Health Dental Clinic
Location: Turtle Lake, Wisconsin
Problem Addressed: Oral Health
Healthy People 2010 Objective: 21
Web Address: None

SNAPSHOT

The Rural Health Dental Program of northwestern Wisconsin represents a collaborative effort to provide oral health education and treatment to a 15-county rural area. Utilizing a combination of rural dental clinics and mobile clinics, the program provides dental services to low-income families, disabled individuals, and residents of nursing facilities—a population that would not otherwise have access to dental care.

The Rural Health Dental Program, through its outreach efforts, serves nearly one-third of the northwestern portion of Wisconsin.

THE MODEL

Blueprint: The Rural Health Dental Program, through its outreach efforts, serves nearly one-third of the northwestern portion of Wisconsin. The program is a collaborative effort between the Cooperative Educational Services Agency #11 (CESA 11); Chippewa Valley Technical College (CVTC); Northern Wisconsin Center for the Developmentally Delayed; and Barron, Polk, Chippewa, Dunn, and Sawyer County Health Departments. CESA 11 serves as the fiscal and operational managing agency. CVTC houses one of the dental clinics, and dental hygiene and dental assistance students at the college provide services while gaining valuable experience. The Center for the Developmentally Delayed allows the program to utilize its clinic space to provide outreach to disabled patients. The five health departments provide outreach services by assisting patients with information and scheduling at the four clinics.

The program provides complete oral health treatment and prevention services, with the exception of endodonics and orthodonics. Due to the lack of major industry, most families live below the federal poverty level, and most communities lack a water fluoridation system. Although families qualify for public assistance, low reimbursement to providers prevents many from accepting medical assistance patients. Therefore, this population is extremely vulnerable to oral disease. To provide this service, four clinics are located throughout the area and housed in consortium member agency buildings (CVTC College, a health department, a nursing facility, and a community dental clinic) at no cost. In addition, there is a mobile unit

component that transports dental equipment to schools, Head Start centers, and nursing facilities allowing on-site dental care. The dental equipment is state of the art, and patient information is managed through dental-practice-specific software.

Staffing has expanded over the course of the past five years to include four part-time dentists, two full-time dentists, two full-time dental hygienists, four full-time dental assistants, and a director. The patient population includes low-income families (below 185 percent of federal poverty level), individuals with disabilities, and those living in supervised-care facilities.

Making a Difference: In 2002, the program anticipated over 6,000 visits. The clinics historically report 4,000 patient encounters per year, and each clinic has a waiting list of over 300 patients. As part of the program's evaluation and assessment, patients are tracked by age, ethnicity, disability, income level, and type of services received.

Beginnings: The program began in 1996 in response to the frustration of the CESA 11 Head Start health coordinator in finding dental providers for Head Start children. Annual dental exams are required for children enrolled in the Head Start program; however, due to low reimbursements, many dental providers stopped accepting medical assistance patients. The coordinator applied for and received a three year Federal Rural Health Outreach Grant. Continuation funding for 1999–2001 was facilitated by the region's U.S. Congressman. Funding for the center for 2002–2003 is through establishment of funding as a state budget line item.

Challenges and Solutions: The primary challenge is the difficulty in recruiting dentists to work with this patient population. Another challenge involves educating state and federal policymakers as to the need to expand medical assistance funding to encourage dental providers to accept more of these patients. The program is 50 percent self-sustaining through Medicaid reimbursement. Unfortunately, costs continue to exceed revenue.

The program has received numerous awards and recognitions, including the Wisconsin Public Health Association Distinguished Service to Public Health Award (1998); Head Start Award for Promoting Oral Health (1998); and Wisconsin Maternal and Child Health Coalition Achievement Award (1999). It was named as one of Wisconsin's Top Ten Rural Health Initiatives (2000).

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SUBSTANCE ABUSE—TRENDS IN RURAL AREAS

by Linnae Hutchison and Craig Blakely

SCOPE OF PROBLEM

- Substance abuse is one of the 10 "leading health indicators" selected through a process led by an interagency workgroup with the U.S. Department of Health and Human Services.[15]
- Men and women in metropolitan areas of the Northeast and West are less likely to report consumption of five or more drinks in one day in the previous year than their nonmetropolitan counterparts.[16]
- Alcohol has been ranked as the third leading "actual cause of death" in the United States, i.e., contributing to the diagnosed condition associated with a death.[17]
- Illicit use of drugs has been ranked as the ninth leading "actual cause of death" in the United States, i.e., contributing to the diagnosed condition associated with a death.[17]
- Substance abuse was identified as a major rural health concern among state offices of rural health.[18]

GOALS AND OBJECTIVES

A goal of Healthy People 2010 is to reduce substance abuse to protect the health, safety, and quality of life for all, especially children.[1] According to the Rural Healthy People 2010 survey, substance abuse was selected by 25 percent of the respondents as a rural health priority among the 28 Healthy People 2010 focus areas. In a recent survey of state and local rural health leaders, substance abuse was one of four topics in a virtual tie for sixth place among topics most often selected as a rural health priority. Substance abuse was especially likely to be rated in the top rural health priorities by rural health leaders from the West and Northeast regions of the country.[2]

For the purposes of this summary, abuse of alcohol, methamphetamines, and inhalants serve as the primary focus. The discussion addresses the following Healthy People 2010 objectives:

- 26-1. Reduction in motor vehicle crash deaths.
- 26-2. Cirrhosis deaths.
- 26-3. Drug-induced deaths.
- 26-7. Alcohol and drug-related violence.
- 26-8. Lost productivity.
- 26-9. Increase age and proportion of drug-free youth.
- 26-10. Reduction in adolescent and adult use of illicit substances.
- 26-11. Binge drinking.
- 26-12. Average annual alcohol consumption.
- 26-15. Reduction of inhalant use among adolescents.
- 26-16. Increase proportions of youth disapproving of substance abuse.
- 26-17. Perceiving risk associated with substance abuse.

PREVALENCE

In urban and rural America, alcohol and tobacco are by far the most frequently abused substances spanning geographic, demographic, social, and economic boundaries. Nationally, an estimated 15.1 million people abuse alcohol.[3] Drug abuse, though considerably less prevalent than tobacco and alcohol abuse, affects 7.1 percent of the population, and youths exhibit a higher incidence of drug use than adults with approximately 10.8 percent of 12–17 year olds reporting using an illicit drug in 2000.[4]

Heavy alcohol use (defined in this case as consumption of five or more alcoholic drinks in one day in the last year), nationally, appears to vary little by urbanicity among 18 to 49 year olds.[16] However, there is some regional variation in this level of alcohol use, with nonmetropolitan areas of the Northeast and West reporting a higher prevalence than their metropolitan counterparts in these regions.[16] Binge drinking rates among nonmetro residents are also reported equal[4] to or higher than rates for metropolitan residents.[6]

> While rural and urban areas experience drug use problems, the consequences may be greater in rural areas because of their limited availability of substance abuse treatment.

On average across all age groups, residents of large metropolitan counties have the highest rate of illicit drug use (7.65 percent), followed by nonmetropolitan (5.8 percent), and completely rural counties (4.8 percent).[4] However, the prevalence of illicit drug use among *youth* reveals an emergent pattern—14.4 percent in rural areas, 10.4 percent in counties with small metropolitan areas, and 10.4 percent in large metropolitan areas.[4] More specifically, growing evidence suggests that for certain substances such as alcohol, methamphetamines, and inhalants, usage rates are higher among rural youth than urban youth.[5]

IMPACT

Approximately 38,900 deaths are related to drug abuse.[6] Illicit drug use is also associated with many health-related consequences including hepatitis, tuberculosis, sexually transmitted diseases, various bacterial infections, and HIV infection.[7] Some of the adverse effects of inhalant use include depression, kidney or liver damage, and heart failure.[8]

Alcohol contributes significantly to mortality in the United States. Alcohol consumption is the fourth leading cause of death in the United States; annually, over 100,000 deaths, both accidental and non-accidental, are related to alcohol consumption, or 5 percent of all deaths.[9]

Alcohol consumption is associated with a myriad of health consequences from cirrhosis of the liver to diabetes.[7] Abuse of alcohol is a particular concern for pregnant women and the developing fetus due to the risk of birth defects.

Alcohol abuse is associated with a number of other health-related issues. For example, a higher prevalence of driving while under the influence of alcohol is found in rural areas compared to urban areas. This may result from greater distances traveled and greater reliance on automobile transportation in rural areas.[10] Additionally, alcohol is related to accidents and violence. Thirty-one percent of unintentional injury death victims, 23 percent of suicide victims, and 32 percent of homicide victims were intoxicated at the time of death.[11] Finally, the link between psychiatric disorders and alcoholism is well documented, although the direction of causality requires further research.

> A higher prevalence of driving while under the influence of alcohol is found in rural areas as compared to urban areas.

BARRIERS

While rural and urban areas experience drug-use problems, the consequences may be greater in rural areas because of limited access to substance abuse treatment. For example, only 10.7 percent of hospitals in rural areas offer substance abuse treatment services compared to 26.5 percent of metropolitan hospitals.[12]

A number of barriers to substance abuse treatment in rural areas have been identified. Among these are the perceived social stigma associated with substance abuse treatment,[3] geographical isolation,[13] and financial burden as health plans shift greater

financial responsibility to the patient leading to a reduction in services used.[13] A related challenge is that federal funding goes mostly to urban substance abuse services rather than rural despite the fact that alcohol dependence is higher in rural areas, and drug use is not significantly different for urban and rural settings.[14]

There are a number of contributors to the growing prevalence of substance abuse in rural areas. Among these are the lack of access to treatment programs in rural areas combined with the reluctance of substance abusers to seek available treatment. Increased substance abuse may also be associated with a reported increase in drug trafficking.[10]

Other challenges to substance abuse prevention and treatment relate to regulatory and legislative policy. Commercial marketing continues to target the young, contributing to the perception that alcohol and tobacco are culturally acceptable and readily available. The perceived ease of access to alcohol and other abused substances by rural and urban youth may be one indicator of the gap between regulation and enforcement.

PROPOSED SOLUTIONS

There are feasible solutions to substance abuse in rural areas. Since access to treatment services is a fundamental hurdle to addressing substance abuse in rural areas, increasing the participation of the rural primary care provider in substance abuse treatment may be particularly important in rural areas. In the absence of traditional treatment in rural areas, alternative methods of providing education and counseling are relevant, such as those offered through Alcoholics Anonymous meetings, schools, churches, and community-sponsored awareness campaigns.[13]

Feasible community-level interventions for reducing substance abuse among youth include supporting formalized activities for youth, integrating drug abuse prevention and education into existing school-based health programs, investing in peer-focused prevention programs, and programs designed to improve self-esteem. The effectiveness of drug prevention programs does not appear to differ between rural and urban areas. In general, programs that focus on peers are more effective than knowledge-based programs.

SUMMARY AND CONCLUSIONS

Prevention, education, enforcement of drug laws, and access to care are key to combating substance abuse in rural areas. Rural youths are particularly at risk for developing substance abuse disorders. Needed prevention programs and treatment initiatives tend to be in shorter supply in rural areas than in urban settings. Increased school-based educational efforts (beginning in elementary school) and active involvement of parents, peers, and the community are measures available to rural areas to combat substance abuse.

To address access issues, primary care providers may play a vital link by educating their office staff on identifying substance abuse in the primary care setting and providing brief counseling. Too frequently, providers only intervene when patients present with clinical conditions attributable to substance abuse. Ultimately, the ability to quell the growing problem of substance abuse in rural areas hinges on a clear understanding of the behavioral and social conditions associated with substance abuse and a recognition of the unique barriers to prevention and treatment.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: SUBSTANCE ABUSE

Program Name: Community Family Services Program
Location: Sitka, Alaska
Problem Addressed: Substance Abuse and Mental Health
Healthy People 2010 Objective: 18
Web Address: http://www.searhc.org

SNAPSHOT

The Community Family Services Program is a non-profit health consortium of several Native groups to pool resources for health care. The program delivers mental health and substance abuse services on site at several remote villages in southeast Alaska through the use of lay providers certified as chemical dependency counselors by the state of Alaska.

THE MODEL

Blueprint: The Community Family Services Program is part of SEARHC (Southeast Alaska Regional Health Consortium), the third largest Native health organization in Alaska. The program serves the Native and non-Native people in rural southeast Alaska. Southeast Alaska consists primarily of remote island communities ranging from population 30,000 in Juneau to 19 in Port Alice. Most of the funding for the program is provided through contracts by the Indian Health Service and State of Alaska grants.

The program is staffed by 18 paid employees including nine village providers, four licensed mental health clinicians, one clinical director, two administrative personnel, one health systems technician, and one health systems specialist. The village providers are cross-trained to work with both mental health issues and substance abuse disorders. Professional staff supervise the village providers by visiting each community every six to eight weeks and by providing day-to-day support via telephone.

The program's clientele is mostly Native Alaskan with substance abuse disorders. Specifically, the program provides outreach, prevention, assessment services, early intervention, education, emergency and crisis intervention, outpatient counseling, aftercare/continuing care, relapse prevention, community development, and telepsychiatry/telehealth for individuals with substance use disorders, mental illness, or co-occurring disorders.

The services are delivered in a variety of ways. Village-based counselors and itinerant clinicians offer services to individuals, couples, families, and groups. The services are offered primarily in counseling offices but can be offered in homes, schools, and medical offices. These services employ various technologies including telephones, fax, e-mail, computers, polycom units, and palm pilots.

SEARHC developed its own program to combat substance abuse and suicide. The program assesses individual needs and tailors treatment to the individual. All counselors are cross-trained in the treatment of substance use disorders and mental health disorders, such as motivational interviewing and culturally relevant interventions such as the *Red Road to Recovery* curricula. A key element of the program's success is the philosophy of identifying natural helpers from the villages and training them as counselors, which: 1) increases the odds of provider longevity, 2) promotes culturally competent providers for this unique underserved population, and 3) provides career development in isolated economically depressed areas.

Making a Difference: Since the program began, information has been gathered and assessed based on the number of people served. Factors considered in the follow-up include client satisfaction, improvement in productive activity for clients, decrease in the use of alcohol, and increase in support from others. The program expanded its focus to include more prevention and early intervention and training concerning these issues. Initially, this may be more difficult to evaluate, but it is thought that in the long run, longitudinal studies will prove the efficacy of this direction. Additionally, prevention and early intervention are more cost-effective than treatment.

In 2000, 71 percent of the clients were treated for substance use disorders, 20 percent for mental health disorders, and 9 percent for co-occurring disorders. In 2001, 51 percent of the clients were treated for substance use disorders, 16 percent for mental health disorders, and 33 percent for co-occurring disorders. In 2001, of the 222 discharged clients, 155 completed their treatment plans compared to 104 of the 144 discharged clients in 2000. The substance abuse program does pre- and post-assessments to determine program effectiveness, as well. In 2000, 65 percent of program clients contacted for follow-up reported they had not relapsed at the six-month mark, and 59 percent of the contacted clients had not relapsed at the 12-month mark. In 2000, 90 percent of follow-up contacts rated their relationships as good or above average at the six-month mark and 97 percent as good or above average at the 12-month mark. In 2000, 83 percent of respondents rated family support as above average at the six-month mark and 88 percent as above average at the 12-month mark. In 2001, 81 percent of respondents rated family support as above average at the six-month mark and 81 percent above average at the 12-month mark.

The program received accreditation for its work, including CARF (Commission on Accreditation of Rehabilitation Facilities) accreditation for outpatient services for children and adolescents; and State of Alaska accreditation for outpatient care, aftercare/continuing care, and Alcohol Drug Information School (ADIS).

Beginnings: The program began in 1989 in response to the need to address suicide and alcohol problems. Seven years later, in 1996, the program was fully implemented. The program began with the cooperation of the Native villages of Klukwan, Haines, Kake, Angoon, Pelican, Hydaburg, Hoonah, and Yakutat. Since the program began, Hoonah and Yakutat have withdrawn, and a new village, Klawock, joined. These villages range in size from 160 in Klukwan to 1,429 in Haines.

Challenges and Solutions: The funding for sustaining this program is through grants; the depressed economy in southeast Alaska makes support through fees for services unrealistic. Currently, the program receives funding from federal monies and four state grants. The program reaches out to its consumers through the use of the media, brochures, radio public service announcements, CB announcements, newspaper articles, and its website. The program reaches prospective clients through presentations and trainings; reaches the community through media, presentations, and trainings; and reaches the state through reports and involvement on committees.

Geographical and cultural barriers present major challenges in accessing and delivering mental health services in southeast Alaska.

Geographical and cultural barriers present major challenges in accessing and delivering mental health services in this part of Alaska. Most of the villages are accessible only by plane or ferry. Extreme weather conditions in this area inhibit site visits and access to training, and cultural differences complicate the approach to providing care. The Community Family Services Program is investigating the use of a secure on-line client record-keeping system for use as a tool to strengthen its treatment component. The program training emphasis is on increasing provider competence in treating co-occurring disorders.

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MODELS FOR PRACTICE
FOCUS AREA: SUBSTANCE ABUSE

Program Name: Project Forward, a Program of the Center for Community Outreach, Marshfield Clinic
Location: Marshfield, Wisconsin
Problem Addressed: Substance Abuse
Healthy People 2010 Objective: 26-6, 26-9, 26-10, 26-10b, 26-10c, 26-11, 26-15, 26-16, 26-17, 26-23
Web Address: http://www.marshfieldclinic.org/research/dept/outreach

SNAPSHOT

Project Forward is a community-based youth development program designed to address behavioral health issues, particularly alcohol, tobacco, and drug abuse. Project Forward is active in 24 community partnerships and three ethnic communities (Ho Chunk Nation, the Lac Courte Oreilles Reservation, and the Hmong Association of Wood County) in rural and urban Wisconsin.

Including the youth, parents, community members, and governmental officials, 3,321 members are involved in Project Forward.

THE MODEL

Blueprint: Project Forward is a program of the Center for Community Outreach, Marshfield Clinic. The program serves males and females ages 12-18 and their adult partners and families by providing technical assistance, consultation, education, training, and resources to the community partnerships and ethnic communities. Currently, 1,776 youth are enrolled in the program. Including the youth, parents, community members, and governmental officials, 3,321 members are involved in Project Forward. Surveys are administered upon program initiation to test the hypothesis that youth who are more actively involved in the learning events throughout the year will have scores that document a greater level of knowledge, more positive attitudes, and fewer alcohol, tobacco, and other drug abuse-related behaviors.

The Marshfield Clinic, a 501(c)(3), provides a base budget, facilities, and support services offset by grants and contracts that also help support the project. Staffing includes 12 full-time professional and support staff, in addition to 21 part-time Project Forward coordinators, one full-time National Guard member, and 20 AmeriCorps members. The program is administered at the community level.

The program is multiphasic and delivered through a variety of channels. Prevention specialists attend partner community meetings and organize community teams to address the issue of substance abuse. Project Forward

coordinators and AmeriCorps members are also placed in the community to work with youth. Each Project Forward community has a prevention services plan that includes a goals statement, target population, measurable outcome objectives, evaluation component, and budget. Each plan is tailored to the unique characteristics of each community.

A series of learning events are designed to develop the knowledge and skills in adults and young people that are needed to change individual lives and affect community norms. These learning events are hosted by the community partnerships and ethnic communities. Camps, retreats, and single day learning events are provided to serve as educational resources for Project Forward participants.

Making a Difference: Using baseline data collected since 1998, an evaluation strategy utilizes change scores in knowledge, attitude, and behavior as key outcome measures. These measures include age or grade of onset, perception of risk and social disapproval, and recent use. Additionally, the program measures community-based citizen participation, improved partnership capabilities, and level of community participation in prevention planning.

Since the program's inception, it has continued to expand to include new community partners. Currently, there is a waiting list of communities interested in implementing the program. Expansion decisions are based on capacity and funding.

Beginnings: The original stakeholder, the Northwoods Coalition, was founded in 1995 by a grant from the Center for Substance Abuse Prevention. The coalition compared rates of alcohol, drug, and tobacco use in the five counties and three ethnic communities comprising the Northwoods Coalition to state and national data. For grades 8, 10, and 12, the coalition member counties and communities reported higher usage rates than the state and national averages for all substances including alcohol, tobacco, inhalants, and marijuana. With a Drug Free Community Support Program grant from the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and matching funds from the Marshfield Medical Research and Education Foundation, Project Forward was launched in 1998.

Using funds from the Wisconsin Department of Transportation/Bureau of Transportation Safety, Wisconsin National Service Board, and the Wisconsin Department of Health and Family Services (DHFS) Alliance for Wisconsin Youth, the program has been replicated in 27 Wisconsin communities.

Challenges and Solutions: Distance and weather are the major challenges faced by the program. Therefore, the program relies on video conferencing and teleconferencing as well as traditional face-to-face meetings.

Project Forward is communicated via a variety of avenues locally, regionally, and nationally. Community involvement, newspapers, a website, and word of mouth are powerful publicity measures. The project also includes an active approach to networking across the state. The Center for Community Outreach develops relationships with prevention providers as well as presenting at conferences and workshops.

Ultimately, program developers believe it is the quality of the program that has brought the most attention to the program and gained the most support. A primary goal is to develop a program that is replicable across communities. The program is currently under review as a science-based model program by the Pacific Institute for Research and Evaluation.

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MODELS FOR PRACTICE
FOCUS AREA: SUBSTANCE ABUSE

Program Name: Project Northland
Location: Center City, Minnesota
Problem Addressed: Alcohol Use and Other Substances of Abuse
Healthy People 2010 Objective: 26
Web Address: http://hazelden.org

SNAPSHOT

Project Northland is a program that effectively addresses the problem of alcohol use by youth and has also been successful in reducing tobacco and marijuana use. While the program is now implemented throughout the United States, it began in a rural area of northeast Minnesota in response to a disproportionately high level of alcohol-related morbidity and mortality in a six-county area. Targeting sixth through eighth grades, the program is based on the social learning theory and is focused on the role of parents, peers, and the community in influencing alcohol use as well as other substances of abuse.

Targeting sixth through eighth grades, the program is based on the social learning theory and is focused on the role of parents, peers, and the community in influencing alcohol use as well as other substances of abuse.

THE MODEL

Blueprint: Project Northland is a substance abuse program that is initiated in sixth grade and follows students through eighth grade. These grades were selected because these are the grades of first use of substances of abuse. Each curriculum year has a theme and is tailored toward the developmental level of the adolescents. In sixth grade, students learn reasons not to use alcohol. In seventh grade, students learn strategies to deal with peer pressure. Finally, in eighth grade, the focus shifts from individual and peer pressure to community-level changes. A critical element of the program's success is the use of peer leaders and involvement of parents and the community. Successful replication of the model is achieved through student involvement during sixth through eighth grade, teacher training, and use of peer leaders.

Making a Difference: The original study was designed to follow 2,400 students from sixth through eighth grade to determine the impact of the program, if any, on alcohol-use patterns, as well as tobacco and marijuana use. After three years of study, it was found that students participating in the program were significantly less likely to be users of alcohol, marijuana, and tobacco at the end of eighth grade compared to the control group. At the end of the eighth grade, students participating in the study exhibited a 28 percent reduction in monthly drinking, a 46 percent reduction in weekly drinking,

and a 27 percent reduction in alcohol and tobacco use compared to the control group. For those students who were non-users at the initiation of the study (in sixth grade), the results revealed a 37 percent lower rate of cigarette smoking and a 50 percent lower rate of marijuana use at the end of eighth grade compared to the control group.

Beginnings: The project was initially developed by the University of Minnesota School of Public Health under a grant from the National Institute on Alcohol Abuse and Alcoholism. The research-based program was designed to address individual behavioral change and environmental change. The specific goals are to delay the onset of drinking, reduce alcohol use by current users, and limit alcohol-related problems of youth. While the majority of the students were Caucasian (94 percent), American-Indian students comprised 5.5 percent of the study's participants (seven American-Indian reservations are in the study area). The study was conducted in this six-county, extremely rural area of northeastern Minnesota because it had the highest alcohol-related morbidity and mortality in the state, with one county being number one in the state.

Challenges and Solutions: Project Northland is a research-based program designed to be replicated in other school districts. Interested schools have turned to State Incentive Grants (SIG) and Drug Free School money as mechanisms to fund the program's implementation. Community involvement is also a critical element. Drug Free Communities money (through the Office of Juvenile Justice and Delinquency Prevention [OJJDP]) is one funding source utilized by communities to implement the program.

Project Northland has received numerous awards including identification by the Center for Substance Abuse Prevention (CSAP) as a Model Program, recommendation by the U.S. Department of Education, and an "A" rating in *Making the Grade: A Guide to School Drug Prevention Programs* (published by Drug Strategies). It also was published in the *Journal of School Health* (1994, 1996), and *American Journal of Public Health* (1996).

Beginning fall 2002, the program will expand to address substance abuse among high school students.

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TOBACCO USE IN RURAL AREAS

by Stacey Stevens, Brian Colwell, and Linnae Hutchison

SCOPE OF PROBLEM

- Tobacco use is one of the 10 "leading health indicators" selected through a process led by an interagency workgroup within the U.S. Department of Health and Human Services.[16]
- Rural adolescents (except in the Midwest) are more likely than their urban counterparts to smoke.[4]
- Adult men and women in the most rural counties, with some variation across regions, are more likely to smoke than those in urban counties.[4]
- Tobacco has been ranked as the leading "actual cause of death" in the United States, i.e., contributing to the diagnosed condition associated with a death.[17]

GOALS AND OBJECTIVES

One Healthy People 2010 goal is to reduce illness, disability, and death related to tobacco use and exposure to secondhand smoke.[1] Tobacco use shared a sixth-place ranking among the Healthy People 2010 focus areas in terms of rural health priority rating, selected by an average of 26 percent of four groups of rural health leaders across the states.[2]

This summary addresses the following Healthy People 2010 objectives:

- 27-1. Adult tobacco use.
- 27-2. Adolescent tobacco use.
- 27-3. Initiation of tobacco use.
- 27-4. Age of first tobacco use.
- 27-6. Smoking cessation during pregnancy.
- 27-7. Smoking cessation by adolescents.
- 27-9. Exposure to tobacco smoke at home among children.
- 27-10. Exposure to second hand smoke (SHS).
- 27-14. Enforcement of illegal tobacco sales to minors.
- 27-16. Tobacco advertising and promotion targeting adolescents/young adults.

PREVALENCE

> Cigarette use is more prevalent in rural areas than in large and small metropolitan areas.[3]

Cigarette use is more prevalent in rural areas than in large and small metropolitan areas.[3] Adults living in the most rural areas have the highest prevalence rates for smoking.[4] This trend reflects two factors, delayed access to medical and media resources and lower educational attainment.[4] Smokeless tobacco use is also more prevalent among adults in rural settings,[5] particularly among young males aged 18 to 24 years.[6]

Of all groups, tobacco use by adolescents has experienced the sharpest increase—nearly 78 percent between 1988 and 1996.[7] There is wide disparity in tobacco use between adolescents living in rural versus urban settings. This is the case in terms of the prevalence of past month smoking in adolescents aged 12 to 17;[4] eighth graders likely to smoke cigarettes and use smokeless tobacco;[8] and age at first use of smokeless tobacco.[9]

> Smokeless tobacco use is also more prevalent among adults in rural settings.[5]

There is evidence suggesting that smoking rates among rural pregnant women remain higher than

Tobacco use remains the leading cause of preventable death, resulting in 430,000 deaths annually.

smoking rates among urban pregnant women.[10] Tobacco-related illnesses as a result of exposure to SHS are present in both rural and urban settings; however, some evidence suggests a great acceptance of SHS and associated SHS illnesses in rural settings.[11] Thus, we might expect to find a higher prevalence of SHS-related illnesses in rural settings, though sufficient research has yet to be completed. Studies conducted in rural areas indicate the most common reasons for tobacco use in rural areas are a lack of knowledge, issues related to susceptibility, and modeling of the social environment.

IMPACT

The impact of tobacco use on mortality and morbidity is well known. Tobacco use remains the leading cause of preventable death, resulting in 430,000 deaths annually. The resulting cost is an estimated 50-73 billion dollars in medical bills.[7]

Tobacco use is also a significant contributor to many health problems including coronary heart disease, lung disease, cancer, damage to the female reproductive system, and injury to the unborn fetus.[12] More than five million youth under 18 years old living today will die prematurely as a result of their involvement with tobacco.[13] Additionally, SHS contributes to an estimated 3,000 lung cancer deaths and 62,000 coronary heart disease deaths in nonsmokers annually, as well as contributing to increased severity and frequency of asthma, sudden infant death syndrome (SIDS), bronchitis, chronic middle ear infection, and pneumonia.[14]

BARRIERS

There are several barriers in rural settings to tobacco intervention efforts. These include a lack of resources, lack of transportation, lower median income to pay for treatment, lower prevalence of insurance coverage, limited media resources designed to change unhealthy habits, and minimal access to medical services for cessation assistance and treatment.[8] In addition, rural dwellers face limited access to care providers.

PROPOSED SOLUTIONS

To identify potentially effective interventions or solutions to tobacco use, particularly among the high-risk populations identified previously such as adolescents and pregnant women, it is necessary to isolate factors contributing to tobacco use.

Nicotine dependence, lack of educational resources, proximity to tobacco growers, and failure to adequately enforce laws regarding tobacco sales to minors may contribute to an increased prevalence in rural areas. While the number of community tobacco prevention policies has increased in the past decade, rural communities do not necessarily comply with these policies.

There is a clear difference in tobacco use prevalence among those living in rural versus urban areas, whether the individual is an adolescent, adult, or a pregnant woman.

Seven basic components to community tobacco control have been identified. These include surveillance, problem assessment, legislation, health department and community-based programs, public information campaigns, technical information collection and dissemination, and coalition building.[15] While interventions have been conducted in rural communities, applicability and feasibility of implementation in other rural communities is not known.

SUMMARY AND CONCLUSIONS

There is a clear difference in tobacco use prevalence among those living in rural versus urban areas, whether the individual is an adolescent, adult, or

pregnant woman. Higher tobacco use in rural areas will eventually lead to increased mortality rates and to higher numbers of people with health problems that rural areas are ill equipped to handle. Past research has shown that education, enforcement of existing laws, product labeling, and anti-tobacco advertising campaigns may reduce tobacco use. More research is needed to understand the factors that contribute to higher prevalence of both smoke and smokeless tobacco use in rural areas and to understand how to effectively intervene with rural populations.

MODELS FOR PRACTICE

The following models for practice are examples of programs utilized to address this rural health issue.

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MODELS FOR PRACTICE
FOCUS AREA: TOBACCO USE

Program Name: Stickers-Suckers-Smokers Pregnancy Tobacco Cessation Program
Location: Mesa County, Colorado
Problem Addressed: Tobacco Use among Pregnant Women
Healthy People 2010 Objective: 27
Web Address: http://www.rmhp.org

SNAPSHOT

Smoking is associated with low birth weight infants and preterm deliveries. Stickers-Suckers-Smokers Pregnancy Tobacco Cessation Program is a collaborative effort to reduce the incidence of smoking-related preterm births and low birth weight infants in rural Mesa County, Colorado. The program addresses tobacco use among pregnant women through a program of screening, assessment, and cessation education. The founding agency for the tobacco cessation program, Rocky Mountain Health Plans (RMHP), has expanded its outreach to pregnant women to include a prenatal dental care program as well.

The program addresses tobacco use among pregnant women through a program of screening, assessment, and cessation education.

THE MODEL

Blueprint: The program represents a collaborative effort between Rocky Mountain Health Plans, Rocky Mountain Health Foundation (RMHF—a 501[c][3]), Hilltop Community Resources B4 Babies and Beyond program, Mesa County Tobacco Education Coalition (MCTEC), and March of Dimes. The core staff consists of a Rocky Mountain Health Plans care coordinator and obstetrics (OB) screener/tobacco cessation counselor, and B4 Babies and Beyond provides intake staff, a director, and a paid counselor/statistician. B4 Babies is a unique program that provides a one-stop site for prenatal services to low-income women in Mesa County. MCTEC provides incentives and funding; the March of Dimes provides a grant for the B4 Babies counselor; and RMHF provides grant-writing services.

The program provides assessment, education, and incentives for patients. Caregivers get educational information, a chart sticker program that identifies smokers for follow-up and tracking, and “train-the-trainer” educational programs. Pregnant women who smoke are identified, through entry into the B4 Babies and Beyond program, by health care providers and by RMHP OB screeners.

Pregnant women who smoke and agree to participate in the program receive one-on-one assessment of stage and counseling at the point of entry (physician office, B4 Babies, or RMHP). They are sent quit kits, and their primary care providers are notified of the patient's participation. The primary care providers play a vital role as screeners, educators, counselors, and supporters by closely tracking the patient's progress at each prenatal visit.

One strength of the program is providing care providers with the tools to screen and counsel patients. Counselors and providers use the 5A's Method (Ask, Advise, Assess, Assist, and Arrange) to help patients to quit or reduce smoking. Prochaska stages of change modified for pregnancy is also used.

Making a Difference: Birth certificate data from 2001 in Mesa County revealed a 28 percent smoking rate for pregnant women as compared to the Colorado state average of 12 percent. The B4 Babies and Beyond program showed a smoking rate of 35 to 45 percent of their clients. Prior to 2001, there was evidence of a greater prevalence of pregnant women smoking in Mesa County.

To date, 570 prospective clients have been seen, and 213 smokers have been identified. Of those, 100 clients agreed to enroll in the program. Of the 100 clients, 16 percent agreed to either quit or reduce their cigarette use to under five per day. The low birth weight rate in Mesa County declined from 7.1 percent in previous years to 6.3 percent in 2001. B4 Babies and Beyond program participant data are collected in a registry to track quit rates and reductions in smoking.

Beginnings: Rocky Mountain Health Plans spearheaded the development of the smoking cessation program for pregnant women in Mesa County. The county had one of the highest rates of smoking among pregnant women in the state. Rocky Mountain Health Plans case managers asked providers to identify at-risk patients and offer education and cessation options to patients; however, providers were unable to comply due to a lack of resources in the area. In response, Rocky Mountain Health Plans created the Stickers-Suckers-Smokers program to serve as a method to address the issue of smoking during pregnancy. The program began in June 2001.

The program is funded through a variety of sources. The Rocky Mountain Health Foundation obtained a grant from the March of Dimes to fund the program initially. Community businesses and organizations have also contributed to maintaining the program's success.

Challenges and Solutions: Although the program has completed Year One, plans are underway to expand the program's services and service area. The program hopes to expand the smoking cessation program to two additional counties.

The program has also expanded to include a dental care component specifically for pregnant women. Evidence indicates that there is a link between periodontal disease and preterm labor. Pregnant women can receive no-cost to reduced-cost dental care through the Marillac Dental Clinic.

The program is publicized through word of mouth, brochures, community programs, and presentations by the Rocky Mountain Health Plans case manager. She has presented to the Colorado Care Council, a statewide organization composed of obstetricians, perinatologists, neonatologists, and related practitioners. Rocky Mountain Health Plans has also mailed providers information about smoking education/cessation and Marillac Dental Clinic services.

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MODELS FOR PRACTICE
FOCUS AREA: TOBACCO USE

Program Name: Tobacco Intervention and Prevention Strategy
Location: Prosperity, South Carolina
Problem Addressed: Tobacco Use
Healthy People 2010 Objective: 27
Web Address: Under Construction

SNAPSHOT

Tobacco Intervention and Prevention Strategy (TIPS) is a tobacco education, prevention, cessation, policy development, and community empowerment program implemented in rural Newberry County, South Carolina. TIPS targets adults, teenagers, adolescents, and pregnant mothers.

THE MODEL

Community empowerment is achieved through the development of a TIPS task force, which is comprised of local community leaders.

Blueprint: The Tobacco Intervention and Prevention Strategy program is multifaceted and delivered in a variety of settings including worksites, schools, the health department (during prenatal and Women, Infant, and Children [WIC] program visits), and the physician's office. TIPS is a coalition between the Lovelace Family Medicine Practice and the South Carolina Department of Health and Environmental Control (SC DHEC). Community empowerment is achieved through the development of a TIPS task force, which is comprised of local community leaders. The program is designed around the Stages of Change Theory and Clinical Practice Guidelines. The components of TIPS include smoking cessation, education, and prevention; policy development and change; and community empowerment.

The program office is located in the Lovelace Family Medicine Practice. Staffing includes one full-time program manager, and Dr. Lovelace acts as the principle investigator. Volunteer and donated staff are also utilized. The program manager, office space, computer equipment, and telephone lines are provided as an in-kind donation by the Lovelace Family Medicine Practice. As a 501(c)(3) organization, the program is eligible to receive funding from a variety of sources, including its original funder—the Lovelace Family Medicine Practice, as well as the South Carolina Department of Health and Environmental Control, the American Cancer Society, the March of Dimes, the Tobacco Free Midlands Coalition, and various pharmaceutical companies and community members.

The program is designed as a comprehensive approach to combating tobacco use. Smoking cessation interventions include the Stages of Change assessment, health education, stress management, and behavior modifications. Worksite and prenatal cessation is a primary focus of the cessation component. Free bassinets (paid for by a grant from the March of Dimes) are provided to pregnant women who complete the program. Smoking prevention is delivered through strategies targeting youth and adolescents, including programs such as the National Lung Association's NOT (Not on Tobacco) program and Tar Wars (a program endorsed by the American Academy of Family Practice). The program also uses the American Cancer Society's Fresh Start Program and Counseling Women Who Smoke Program. Policy development includes promotion of smoke-free environments. Community empowerment is achieved through establishment of a TIPS task force.

Making a Difference: Both process and outcome measures are utilized to determine the program's effectiveness. During workshops, presentations, and training events, participants are given evaluation forms that include qualitative and quantitative questions. Data on participant demographics, opinions, program delivery, and logistics are collected at each activity.

Beginnings: Dr. Oscar Lovelace, MD, an established Newberry County family physician, saw the devastating effects of tobacco abuse among his patients in rural Newberry County. In 1998, Dr. Lovelace, with assistance from the School of Public Health Community Oriented Primary Care (COPC) residents, began a grassroots effort to not only raise community awareness of the problem but devise a smoking prevention, education, cessation, and policy development strategy for the county. The initial costs of underwriting the program were borne by the Lovelace Family Medicine Practice. As the program grew, it became necessary to involve additional partners. The TIPS program is currently a collaboration between the Lovelace Family Medicine Practice and the South Carolina Department of Health and Environmental control. The program also applied for and received status as a 501(c)(3) organization chartered by the Living Water Foundation, Inc. A TIPS task force, comprised of local community leaders, was also initiated, which serves as an advisory body to the program. The program was fully implemented in April 2001 and has received funding through 2003.

The program was developed to respond to the county's alarming tobacco use statistics when compared to state data. The smoking rate for Newberry County High School was equal to the state average of 36 percent. Ten percent of the high school students use smokeless tobacco compared to the state average of 7.7 percent. Lung cancer in the county exceeded the state average. Adult tobacco use was only slightly less than the state average. Most disturbing was the rate of tobacco use among pregnant women. In South Carolina, 15.1 percent of pregnant women are smokers compared to

Newberry County where nearly 16.3 percent are smokers. Newberry County also has a low birth weight rate of 9.9 percent, with a ranking of 36 out of 46 counties.

Challenges and Solutions: Transportation is a hurdle that is overcome by delivering the program to the people in worksite, school, and community settings. Enlisting the help of other physicians requires the program manager to build relationships with providers. The South Carolina Department of Health and Environmental Control's Tobacco Control Program has expressed interest in replicating TIPS throughout South Carolina.

The program manager acts as the community liaison and is responsible for community awareness. In addition to local newspaper advertising, billboards, and public service announcements to the community, TIPS is promoted at the state and national levels through abstracts, policy papers, and a policy advocacy video. Dr. Lovelace also promotes the program through presentations at the state level.

The program received the National Tar Wars Star Award through the American Academy of Family Practice in 2001.

PROGRAM CONTACT INFORMATION

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MODELS FOR PRACTICE
FOCUS AREA: TOBACCO USE

Program Name: Too Smart to Smoke Tobacco Prevention Campaign
Location: Newport, Vermont
Problem Addressed: Tobacco Use
Healthy People 2010 Objective: 27
Web Address: http://www.nchsi.org

SNAPSHOT

The vision of the Health and Traffic Safety Coalition for Orleans and Northern Essex (HTS ONE) in Vermont is to promote the health and well being of the community. Fundamental to this pursuit is the mission of HTS ONE to support and foster freedom from tobacco and other substances of abuse as well as providing healthy behavior choices to community youth and adults. Too Smart to Smoke is a tobacco prevention campaign implemented in two rural counties in economically disadvantaged areas of Vermont—Orleans and Essex Counties.

THE MODEL

Blueprint: The tobacco prevention program is spearheaded by North Country Hospital's (NCH) community health planner and is implemented by a part-time coordinator hired by the hospital. The Tobacco Prevention coordinator is responsible for organizing and implementing the tobacco prevention activities and events according to grant guidelines. The grant-funded coordinator's role is to enlist participation of community groups, primarily youth, to engage in tobacco prevention activities and events. The coordinator is supervised by the NCH community health planner who initiates the grant process, completes all reports, and generally oversees the direction of the grant.

NCH provides a significant amount of funding and in-kind support in the form of space, supplies, supervision, and program administration. Funding is also through the Vermont Department of Health, first from Centers for Disease Control (CDC) money that came to the state and since 2001, tobacco settlement money.

The goals of the program are to:

- reduce the percentage of youth in the HTS ONE area who smoked cigarettes in the past month to 16 percent by 2010;

- reduce the percentage of adults in the ONE area who smoke to 12 percent by 2010; and
- reduce the percentage of young children in the ONE area who are regularly exposed to tobacco smoke in the home to 10 percent by 2010.

These goals are congruent with Healthy Vermonters 2010. To accomplish these goals, a variety of cessation and prevention strategies are used, aimed at changing perceptions regarding tobacco use.

The following list of events and programs are used in tandem to meet the objectives:

- recruitment of local youth and adults to write and record tobacco prevention messages that are aired on local radio stations;
- a youth summit, youth and family day sponsorship;
- poster contests in all elementary schools;
- anti-drug theatre productions at local schools;
- a "Clear the Air" program aimed at reducing exposure to second-hand smoke in the area;
- a Focus on Life photo workshop where teens learn the basics of picture-taking while focusing on healthy lifestyles. The photos are then exhibited for public viewing throughout the area; and
- support of healthy youth behaviors, such as community winter carnivals, school/community dinner dances, scholarships for local summer camps, wilderness camps and teen leadership workshops, and school projects that focus on healthy hearts, aerobic exercise, and not using tobacco.

Each of these activities is a collaborative effort between the Tobacco Prevention Program and various community members. The program attributes its success to a strong sense of cooperation and collaboration held in this rural area.

Making a Difference: Orleans and Essex Counties are rural, economically disadvantaged areas of Vermont. Smoking contributes to chronic obstructive pulmonary disease (COPD) at higher incidence in these counties compared to state rates. State COPD-related deaths were 44 per 100,000 adults in 1998 compared to Essex and Orleans Counties with a rate of 57 per 100,000 adults. Smoking during pregnancy rates are also higher in the North Country Hospital area (ranging from an all time high of 40 percent to a current 33 percent) compared to the state average in 2001 of 21 percent. However, as of 2001, the rate of smoking cessation among pregnant women before the fourth month is 28 percent in the NCH service area compared to the state average of 22 percent.

In 1999, the state's estimated smoking rate among eighth and twelfth graders was 22 percent and 42 percent, respectively. At the same time, twelfth graders in two of the three school districts in Orleans and Essex Counties reported higher smoking rates of 48 percent and 54 percent, respectively. One of the school districts reported a prevalence of smoking (28 percent) among eighth graders.

Data from 2001 revealed significant progress toward smoking cessation in not only Vermont as a whole but also in Essex and Orleans Counties. In 2001, the state rate of smoking among twelfth graders was 30 percent (a 12 point drop from 1999). All three of the school districts in Orleans and Essex Counties were below or equal to the state average. Among eighth graders, the Vermont smoking rate dropped from 22 percent in 1999 to 13 percent in 2001. In Orleans and Essex Counties, one school district showed a significant decrease in smoking among eighth graders from 28 percent in 1999 to 18 percent in 2001. However, an increase was seen in another school district (from 20 percent to 25 percent). The adult smoking rates for Orleans (23.6 percent) is slightly higher than the state rate (22.7 percent); however, the Orleans rate has decreased since 1999. In Essex County, the adult smoking rate has remained consistently lower than the state average at 20.9 percent.

Data from 2001 revealed significant progress toward smoking cessation in not only Vermont as a whole but also in Essex and Orleans Counties.

These data indicate that rates of smoking for twelfth graders in these two counties have significantly declined from 1999 to 2001; rates among eighth graders reveal mixed results. Adult rates have declined as well.

In designing the various programs and events, program organizers also consider the Developmental Assets as one mechanism to improve program effectiveness. The Developmental Assets were developed by the Search Institute and are now used by the state of Vermont.

Beginnings: The Health and Traffic Safety Coalition for Orleans and Northern Essex was initiated by the North Country Hospital in 1991. The coalition was originally formed to allow various members of the community to join together with the mission of improving traffic safety, with a particular focus on preventing and reducing the incidence of driving while under the influence of alcohol and increasing seat belt use. Over the years, the coalition's mission has expanded to include broader community health issues including combating tobacco and substance use. Today, the coalition's membership exceeds 40, with representation from a broad cross-section of the community ranging from businesses, health agencies, youth groups, schools, and legislators.

North Country Hospital has been instrumental in the development of the smoking prevention program. NCH, a leader and the facilitator of the HTS ONE coalition, acts as the fiscal agent of the tobacco prevention funds.

NCH provided tobacco prevention/cessation assistance through its Wellness Center for almost 20 years. However, in 1996, with the receipt of increased grant funding, the tobacco prevention program became more structured and firmly established. In 1998, tobacco prevention strategies for the community were officially implemented. The rural counties of Orleans and Essex were targeted due to a higher prevalence of tobacco use compared to state rates. The program serves three school districts comprised of 21 elementary schools (public and private), a junior high school, and four high schools (public and private).

Challenges and Solutions: The primary challenges to the HTS ONE coalition are continued funding. As the program has expanded, funding has expanded from both the national level as well as the local level, including grants from NCH and HTS ONE. The program utilizes a variety of communication channels to disseminate information on the program including newspapers, newsletters to students, press releases, radio, and informational booths at numerous community events.

PROGRAM CONTACT INFORMATION

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Literature reviews for each of the focus areas addressed in Volume 1 are presented in Volume 2 (Appendix) of Rural Healthy People 2010: A Companion Document to Healthy People 2010.

The Rural Healthy People 2010 contributors explore many of the disadvantages and disparities facing many rural communities with an eye toward creating wider understanding of rural health needs. At the same time, we do not wish to diminish advantages and attractions that many rural areas already offer to their residents and visitors. More important, we want to recognize and highlight many rural communities, like those featured in Rural Healthy People 2010 "models for practice." They reflect the hard work and commitment of rural people unwilling to accept existing conditions and who, instead, explore new pathways to improve the health of rural people.

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