



Community Analysis for Health Planning With Vulnerable Populations

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This article describes how advanced practice nurses used a theory-based community health analysis process to examine the healthcare services most needed and used by an adult public housing community and to examine the satisfaction of the community with those services. The goal of the project was to determine if the identified needs would be amenable to an alternative healthcare delivery model, such as an academic nursing clinic. Data were collected using the Health Needs and Health Status Survey, Center for Epidemiological Studies–Depression scale, interactive participant interviews, key informant interviews and observations. Community residents (N = 242) were typically unmarried, middle-aged, and low income and had multiple chronic physical illnesses, serious and persistent mental illnesses, and/or disabilities. Despite the high identified service need, use of preventative or routine healthcare services was low, with residents using emergency services inappropriately or delaying care until requiring more expensive intensive healthcare services.

KEY WORDS: community analysis, community partnering, partnering, needs assessment, vulnerable populations, needs analysis, community health analysis

As healthcare undergoes rapid changes in both the public and the private sectors, advanced practice nurses (APNs) have unique opportunities to develop alternative healthcare delivery models for vulnerable populations. Alternative healthcare delivery models provide quality, integrated mental health, substance abuse, and general medical care services while keeping costs down.^{1,2} Alternative healthcare delivery models contrast the current fragmented healthcare delivery system, in which consumers receive general medical care in one setting and mental healthcare in another.

One method to ensure that appropriate alternative healthcare delivery models are designed for vulnerable populations is to conduct a community health analysis before

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Portions of this manuscript were presented at the Western Institute of Nursing's 31st Annual Communicating Nursing Research: Quality Research for Quality Practice conference in Phoenix, AZ, May 7–9, 1998. Funding provided by Lawrence B. Emmons Award, The University of Arizona, College of Nursing, and Sigma Theta Tau International, Beta Mu Chapter, Faculty Research Award, Tucson, AZ.

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implementing an alternative model. Community health analysis, or needs assessment, has had a substantial role in assessing healthcare needs to develop such models with vulnerable populations.³ Community health analysis will play an increasingly important role in planning nursing and healthcare services because APNs practice more independently as community practitioners.⁴⁻⁷

In this study, two doctorally prepared APNs (psychiatric-mental health clinical nurse specialist [CNS] and family nurse practitioner) conducted a community health analysis to examine the healthcare services most needed and used by vulnerable populations in a low-income public housing community. The community's satisfaction with these services was also examined. The goal of this analysis was to determine if the healthcare needs identified by the vulnerable populations would be amenable to an alternative healthcare delivery model, an academic nursing clinic (ANC).

RELATED LITERATURE

Vulnerable populations are social groups who have an increased risk of poor physical, psychologic, and/or social health outcomes because of poverty, aging, ethnicity, gender, low educational levels and limited access to healthcare.⁸⁻¹¹ Women, children, members of minority groups, the elderly, the chronically ill and disabled, and those with serious and persistent mental illnesses are typical vulnerable groups. All of these groups are increasing in the U.S.,¹² and all are at risk for increased morbidity, increased mortality, and decreased quality of life.

One alternative healthcare delivery model that shows promise to influence health outcomes for at-risk vulnerable groups is an ANC.¹³ A community-based ANC merges the practice, research, and service roles of APNs into an innovative, collaborative effort to provide essential healthcare to vulnerable groups who may not otherwise receive care. If they are located where many vulnerable populations reside, ANCs can remove many of the barriers to health care. Although ANCs are one alternative health care delivery model that may provide a solution to many of the healthcare needs for at-risk groups,^{14,15} without a community health analysis, it would be impossible to determine if an ANC is acceptable to the community.

Community health analysis uses a social ecologic perspective for understanding the interrelationships among diverse personal and environmental factors in human health and illness.^{16,17} This perspective emphasizes that each community must be actively involved in determining its unmet health needs and the types of services that would be most beneficial for it. Communities are defined in this perspective by more than just a geographic location. They are defined rather as people living in proximity to each another who have formed relationships through overlapping and intersecting social networks and who have a shared sense of common good.¹⁸

Community health analysis is a systematic data-gathering process that uses data from various sources to determine the health needs, strengths, and limitations of the community.¹⁸⁻²⁰ The data sources used in community health analysis include surveys of the community, interviews with key informants, direct observations, and reviews of existing databases about health problems.^{21,22}

Each data source, whether qualitative or quantitative in nature, adds to a more complete picture of community health and validates the data from all other sources. From these multiple data sources, unique community profiles are developed that reflect the problems and solutions appropriate for that particular community. Each community defines itself from its own perspective.

The essential first step in any community health analysis is to develop a partnership with the community, because this partnership guides all future actions.^{11,22} Trust is an essential component of establishing and maintaining the partnership, and an integral part of trust is clarifying the roles and expectations for each partner. APNs must be clear about the roles and expectations for themselves and for the community both during and after the community health analysis. For example, during the initial phases of the community health analysis, expectations of the APNs were to provide research expertise to conduct the community health analysis in contrast to the expectations of the community of providing entrée to the community and informational expertise. Roles and expectations for both APNs and the community must be renegotiated throughout the life of the partnership.

Another critical element of trust is time. Sufficient time must be allocated to establish and maintain trust in the partnership, including resolving conflicts as they occur. Communities have all too often experienced the enthusiasm of well-meaning health professionals who propose projects that fail because professionals do not understand the unique community needs, the time commitments (months to years) involved, or the financial resources required. Unfortunately, these types of experiences only aggravate the already existing feelings of mistrust and powerlessness found in many vulnerable communities and jeopardize any future partnerships.^{6,21,23}

Issues such as community needs, time commitments, and finances must be openly and realistically discussed, and roles and expectations renegotiated as the partnership moves toward common goals. It is through this collaboration and partnership that the purpose and scope of the community health analysis is developed. Without clear communication between the APNs and the community, the partnership will fail.

The social ecologic perspective dictates that community members are actively involved throughout the community analysis process in developing a community profile or diagnosis of the community. After a community-specific diagnosis is developed, appropriate solutions for the community's unmet healthcare needs are proposed. This approach differs from more traditional approaches in which healthcare providers determine the needs and solutions for the community.²⁴ In the community analysis approach, APNs work with the community to identify the community problems and solutions. APNs first ask vulnerable groups about their health needs and then present the findings to the community to ensure that both the diagnosis and the proposed solutions are correct for that community. This article uses an example from a community health analysis with vulnerable populations to describe how APNs can use the community health analysis process in planning cost-effective high-quality healthcare services for vulnerable populations.

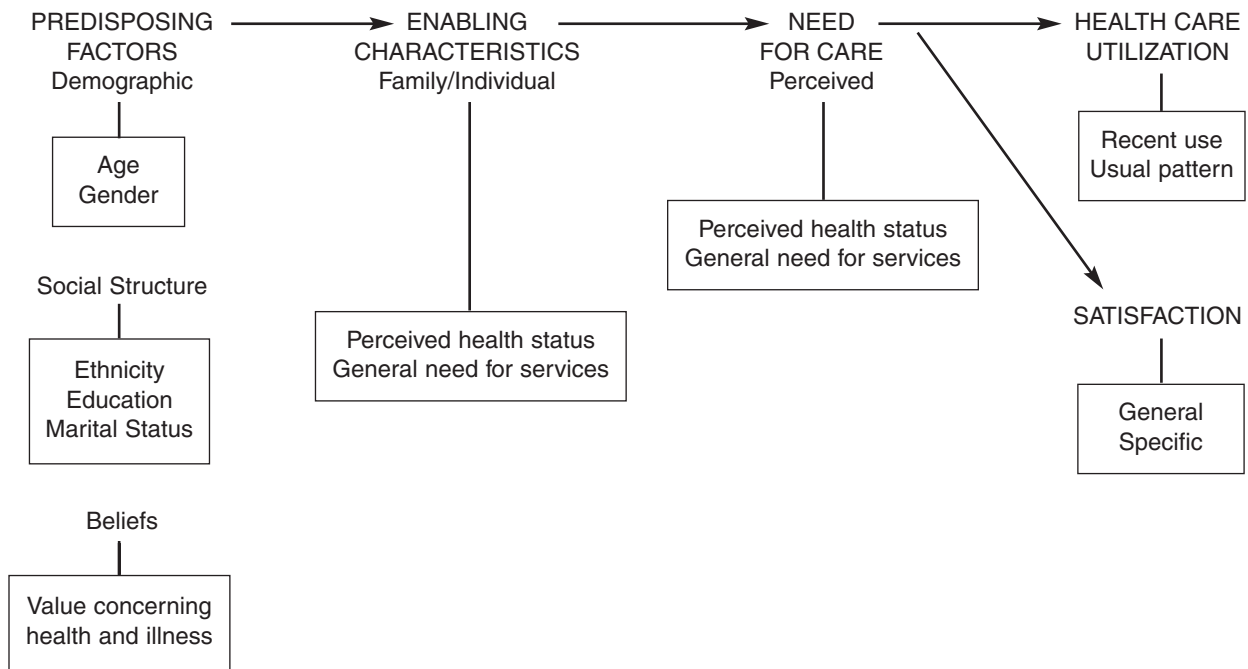


Figure 1. Model of use of health services.²⁶

CONCEPTUAL FRAMEWORK

This project used a framework derived from Anderson and Aday²⁵ and Ferketich, Phillips, and Verran²⁶ (Figure 1). In this framework, individual and system characteristics are used to explain health services use. Individual characteristics include 1) predisposing factors, attributes that allow a person to seek care; 2) enabling characteristics, traits that assist or inhibit an individual seeking care; and 3) need-for-care factors, the subjective (perceived) health status of the client and objective (assessed) health status that may motivate the individual to seek services.²⁷ System characteristics are the availability and accessibility of healthcare services.

Predisposing factors are the demographic characteristics (eg, age, gender), the social structure characteristics (eg, ethnicity, educational level, literacy, family composition), and the beliefs or values concerning health and illness. Enabling factors are the individual characteristics of perceived financial status and system characteristics of accessibility to services and availability of care. The need-for-care factors consist of the individual's perceived general state of health (physical and mental well-being) and need for health services. All these factors influence health service use and satisfaction with services.

METHOD

The community health analysis was conducted over a 4-month period using surveys, interactive participant interviews, key informant interviews, and direct observation. The participants (N = 242) lived at Tucson House (TH), a low-income public housing facility for adults. TH is located in a downtown area near a freeway in an older, low-income neighborhood in Arizona, with no nearby grocery store, pharmacy, or healthcare facility. Less than 5% of residents refused to participate in the health analysis,

citing lack of time or interest. Approximately 250 additional residents who had been temporarily relocated to accommodate building renovations did not participate in the survey but did voice their opinions in several residents' meetings.

Procedure

The community was actively involved in all facets of the community health analysis. The researchers (APNs), research assistants (3 graduate nursing students), members of the Resident's Executive Council (governing body of elected residents), community residents, and TH staff met together many times. The multiple meetings were because we (APNs and community) believed that the majority of residents should participate in the health analysis to accurately reflect the whole community. During these meetings, residents voiced their concerns about the large number of residents with chronic and acute physical illnesses and with mental illnesses, especially depression. Residents gave suggestions about strategies to increase community participation and identified key stakeholders within the community. Key stakeholders were individuals who were well known and respected throughout the community (eg, leaders of powerful TH committees, such as the library or grocery store committees, public housing facility manager, other healthcare providers who served TH, police, and fire departments).

Participants were recruited using fliers distributed under each apartment door and by asking residents to participate in the community common areas (eg, lobby or laundry room). When participation was less than desired by the partners, the council suggested the interviewers go door to door after the council members went door to door themselves to introduce the study. This method increased participation dramatically. A strategy, that was both a recruit-

ment and information tool, was the use of a large poster located in the lobby. The poster displayed pictures of the data collectors to familiarize the community with who would be conducting the interviews and a large graphic of a thermometer to indicate weekly participation level. When residents saw the weekly participation level, they would frequently state that they would “get their neighbors to participate.” The community repeatedly commented how much it liked the poster, and several residents regularly checked the participation levels.

Two instruments were used to collect the survey data: the Survey of Health Status and Health Needs (SHSHN)²⁸ and the Center for Epidemiological Studies–Depression (CES-D) scale.²⁹ The CES-D was added to the assessment protocol because during the initial meetings, community members identified depression as a major community health problem. Interviews took approximately 25 minutes. Data collectors met periodically with the principal investigator throughout the health assessment to discuss techniques, problems, and evolving data. The percentage agreement (> 95%) on duplicate interviews with five residents determined the consistency of interview results. The results were presented to the community for validation when data collection and analysis were completed.

Instruments

Predisposing factors, enabling characteristics, need-for-care factors, healthcare use and satisfaction were measured by the SHSHN.²⁸ The SHSHN, developed from Aday and Anderson’s²⁵ sociobehavioral model, has been used in large cross-cultural community samples with satisfactory reliability and validity.²⁸ Table 1 lists the number of items and reliabilities for each of the subscales in

this study. All reliabilities were considered satisfactory and given the number of items, except for the mental health services subscale.

The *predisposing factors* were the demographic characteristics, social structure characteristics, and health-related values and beliefs. Participants selected, from a list of 22 conditions, those conditions for which they would seek healthcare. Conditions were divided into those needing either low, moderate, immediate, and urgent attention. Low-need conditions included ear pain, back pain, colds, or fevers. Moderate conditions included prolonged vomiting, stomach pain, dizziness, or migraine headaches. Immediate conditions were suicide threats, family violence, and alcohol and drug overdoses. Urgent conditions were severe bleeding, severe burns, chest pain, and difficulty breathing. Three conditions failed to load onto any of the four urgency subscales during the factor analysis and were discarded. Scores for each condition level were summed, with higher scores reflecting greater numbers of conditions needing attention.

Participants were also asked about *enabling factors* (financial status, insurance, and accessibility of facilities, practitioners, and services). Participants were asked to rate (yes or no) the accessibility of eight types of facilities (eg, emergency room, outpatient clinics), of 22 types of practitioners (eg, dentist, physician, nurse practitioners) and of 13 types of services (eg, substance abuse treatment, routine physical exam). Scores were summed for each subscale, with higher scores reflecting more access to facilities, practitioners or services.

The *need-for-care* factors provided information about the need for health services and general well-being. Participants were asked to indicate whether they needed family services (eg, care for pregnancy, pediatricians), acute services (eg, emergency department, hospitalization), mental health services (eg, counseling, substance abuse treatment), or routine services (eg, pharmacy, routine health care). Scores were summed, with higher scores reflecting greater need for each of the four types of services.

Use of services within the last year, reasons services were used or not used, and usual patterns of preventative services were measured by the SHSHN, as well as both *specific and general satisfaction* with healthcare. Each subscale was summed, with higher scores reflecting greater use of and satisfaction with services.

Depression was measured using the 20-item CES-D²⁹ and reflected another need-for-care factor. The CES-D has been used in both general and clinical populations to measure the frequency and severity of depression symptomatology. Participants were asked to rate each depressive symptom experienced in the past week on a four-point Likert-type scale, ranging from 0 (rarely or none of the time) to 3 (most or all of the time). Scores are summed and can range from 0 to 60, with higher scores reflecting greater depressive symptoms. Although scores ≥ 16 are typically used to indicate significant depressive symptoms, in this study the more conservative criterion of ≥ 27 was used. The more conservative score is recommended when the participants have multiple chronic illnesses or disabling conditions.³⁰ Adequate reliability and validity with other community samples has been established.^{31,32} Cronbach’s alpha in this study was 0.92.



TABLE 1 Reliability Coefficients and Number of Items for the Survey of Health Status and Health Needs Subscales (N = 242)

Subscales	No. of Items	Reliability
Predisposing factor: conditions needing attention		
Low	6	.83
Moderate	4	.79
Immediate	5	.86
Urgent	4	.75
Enabling characteristic: accessibility		
Facilities	8	.55
Practitioners	13	.71
Services	22	.84
Need-for-care		
Family services	4	.76
Acute services	3	.57
Mental health services	3	.34
Routine services	3	.58

Open-ended questions. Residents and key informants were asked open-ended questions about their perceptions of health needs and their proposed solutions for the community. Residents and key informants were asked, “What do you think are the most important health problems at TH?” and “What do you think would help with those problems?” Residents were encouraged “to dream” about all possibilities, including whether an ANC, as envisioned by the APNs, would be an acceptable solution. If an ANC was not acceptable, residents were asked if they had any other ideas. Comments were recorded verbatim and provided additional validity for the questionnaire data.

RESULTS

Results of the survey, qualitative comments from interactive-participant interviews, interviews with key informants, and direct observations are discussed by the individual and system characteristics that explain healthcare use. In addition, the proposed solution to the health needs of this community is reported following the individual and system characteristic findings. Data from each source validated data from the other sources and provided another essential piece of information to the community profile.

Predisposing factors are demographic characteristics, social structure characteristics, and beliefs about health and illness that allow people to seek care. Participants ranged in age from 18 to 92 years ($M = 57.85$, $SD = 16.05$). More than 41% of the residents were older than 60 years. Slightly more than half of the residents were women (58%). Approximately two thirds of the community were White (63.2%), with the remaining one third comprising Mexican-Americans (13.2%), African-American (11.2%), Native American (2.9%), and Asian American (2.5%). Most residents were unmarried (87.2%), widowed or divorced, and lived alone. Approximately one third had less than a high school education, one third graduated from high school or had a GED, and one third had some college or had graduated from college. Table 2 lists the means, standard deviations, and ranges for the health conditions for which residents would seek care.

Enabling characteristics assist or inhibit individuals seeking healthcare. Most TH residents were poor; the vast majority had incomes well below 50% of the federal

poverty level. Median income was \$3,500 per year. Only a small percentage of residents (4.6%) were employed full- or part-time, and the majority (68.6%) believed they had barely enough or not enough money to cover expenses. Two thirds of the residents (66.3%) were covered by state or federally funded managed healthcare programs, and 10% were without health insurance. More than half the residents (53%) stressed the difficulty of getting to and from healthcare appointments. When asked about one-way transportation time, the average time was 48 minutes ($SD = 27.88$). Usual daytime transportation methods were limited bus service, with usual evening or weekend transportation provided by paramedics or police officers.

Table 2 lists the mean number of facilities, practitioners, and services identified as accessible to the TH community. Four facilities were identified as accessible: private clinics, hospital emergency departments, urgent care facilities, and outpatient hospital clinics. Of the 22 listed practitioners, only four were accessible: the physician, paramedic, pharmacist, and social worker. The practitioners with the highest accessibility were the paramedic and physician. Of the 13 listed services, only two services were deemed accessible: pharmacy and ambulance services. In sum, emergency-type providers, facilities, and services were identified as the most accessible to this community.

Information gathered from established state and county databases, from key informants, and from direct observations validated the survey results. Although the information was not new or surprising, the key informants emphasized difficulty in getting to and from services (enabling characteristic of transportation), fragmentation of services, and inappropriate use of emergency services for nonemergency situations. More than one quarter of paramedic calls to TH were to solve transportation difficulties for healthcare services rather than for true emergencies. In general, the key informants believed many participants either used emergency services inappropriately or, worse, delayed seeking care because of lack of access until requiring more intensive costly services, such as hospitalization. A general consensus was that the current system was not working to meet the healthcare needs of this community.

Need-for-care factors are perceived state of health and need for services. Half the participants reported they were not at all to only somewhat healthy; less than 12%



TABLE 2 Means, Standard Deviations, and Ranges for Conditions Needing Attention and Accessibility Subscales ($N = 242$)

Subscales	<i>M</i>	<i>SD</i>	Range
Predisposing factor: conditions needing attention			
Low	2.24	2.10	0–6
Moderate	2.53	1.50	0–4
Immediate	2.41	1.99	0–5
Urgent	3.03	1.27	0–4
Enabling characteristic: accessibility			
Facilities	2.56	1.32	0–8
Practitioners	2.35	1.92	0–13
Services	4.55	3.78	0–22

reported their health status as very to extremely healthy. Twenty-eight percent (n = 64) suffered from depression (as measured by the CES-D), and most were untreated for this depression. Table 3 lists the mean number of needed services by category. Residents identified the need for cardiopulmonary resuscitation education, education about various illnesses and medications, recreation services, and depression support groups. Residents reported that a majority of the community suffered from acute problems, such as frequent accidents or falls; chronic problems, such as diabetes, heart disease, and unresolved pain; and from mental health problems, such as depression and stress.

The following observation proves especially relevant because it provided additional data about residents' need-for-care. TH was built in the 1960s and was undergoing much needed, yet extensive, renovations. Although residents supported the proposed renovations, many experienced increased stress related to the disruption of the renovations. For example, residents were moved from one apartment to another, then after the renovations, relocated again. Others were moved to temporary facilities elsewhere. For those residents who had lived in TH for decades, the renovations were especially stressful. Although the community was provided social service support during the moves, some residents experienced an exacerbation in their illnesses. These renovations increased residents' need for care and support that the interrelationships between individual and system characteristics do indeed influence health.

Healthcare use and satisfaction. The community used only two services in each category of service: family health, acute care, mental health, and routine healthcare services (Table 3). Key informants also reported that healthcare use was low, despite the high number of residents with chronic and acute illnesses. The patterns of use also showed that residents used few preventative services and did not adhere to the recommended guidelines for preventative services. For example, immunizations or routine physical examina-

tions were often past due. Residents averaged 5.36 preventative services (blood pressure checks, cholesterol screening, routine physical examination, urine analysis, and immunizations). Finally, although residents were satisfied with their last healthcare visit (specific satisfaction), they were less satisfied with their overall healthcare (general satisfaction).

Community Solutions

Each resident was asked not only about community problems but also about community solutions. Given that the majority identified themselves as part of TH, but not of the larger community, it is not surprising that the proposed solution for their identified health needs was located on-site. The residents proposed a community-based clinic that would provide healthcare for all residents of TH, not just for selected age or ethnic groups. The community stressed that the clinic should be on-site so that everyone could access the clinic. Although the specific type of on-site clinic was not specified, the community identified that both primary healthcare services and behavioral healthcare services should be provided. The key informants also believed that an on-site clinic would provide much-needed healthcare and would resolve many of the access issues for the chronically ill and disabled population that lived at TH. Further, access to healthcare would reduce the inappropriate use of emergency-type services.

DISCUSSION

The APNs in this study used the community health analysis process to effectively partner with a community to identify healthcare problems and to suggest appropriate solutions for those problems identified. Residents were able to fully express their opinions about problems and solutions because multiple data sources, including open-ended questions, were used. Some residents reported that without these questions they would have believed the community health analysis was "just another survey and what I really think won't count." Many residents commented that by asking the open-ended questions during the meetings and as part of the survey, the APNs demonstrated that the residents were true partners in the community health analysis process. It was important to the community "to get it right."³³ Thus, the community became invested in working toward a solution for its health problems rather than being passive recipients of whatever solution was proposed.

The conceptual framework used in this study guided the APNs to examine the factors that would explain service use in vulnerable populations. The relationships strongly supported were those between health status and need for services, health status and use of services, mental health status and use of specific services, health status and transportation, and health status and satisfaction. These findings were consistent with previous research.^{8,10,22}

The TH community had large numbers of people who were poor, elderly, women, and/or members of minority groups (predisposing characteristics) similar to other vulnerable communities. However, this community was dissimilar to other public housing communities in the higher-than-average incidence and prevalence of chronic physical



TABLE 3 Means, Standard Deviations, and Ranges for Need-for-Care, Healthcare Use, and Satisfaction Subscales (N = 242)

Subscales	M	SD	Range
Need-for-care			
Family services	.09	.46	0-4
Acute services	1.04	1.13	0-3
Mental health services	.55	.79	0-3
Routine services	2.25	1.02	0-3
Healthcare use			
Family services	1.57	1.15	0-4
Acute services	1.58	.75	0-3
Mental health services	1.17	.68	0-3
Routine services	2.43	.75	0-3
Preventative services	5.36	2.62	0-11
Satisfaction with healthcare			
Specific satisfaction	44.18	11.68	0-55
General satisfaction	37.94	10.44	0-50

illnesses, serious and persistent mental illnesses, and disabilities. Almost every resident had multiple acute and/or chronic illnesses and disabilities, and there were plans to relocate more disabled residents into the community after the renovations were completed. Thus, the health status (perceived need for care) of this community was poor and determined the use of care.

These findings also highlight that depression remains a major undiagnosed and untreated public health problem and influences healthcare service need and use.⁴ Although depression was high in this community, the use of mental health services was quite low, which was consistent with previous research.^{2,3,31} The large numbers of members of minority groups and elderly in this community, coupled with the other access barriers to care, reduced the use of mental health services.

Despite the high reported need for specific services, however, healthcare use was low regardless of the type of services needed. It was equally low for primary healthcare and for behavioral health services. This was principally because residents lacked access to those factors that assist individuals to seek care. Most residents did not have insurance to cover the needed services or were unable to pay for the services out-of-pocket. For many residents, going to the dentist or audiologist was totally unrealistic. Most could not conceive of ever having sufficient funds or insurance to pay for these types of services. As a result, device sharing was common. For example, two elderly ladies shared a hearing device so that both could hear when important (eg, when attending healthcare visits).

Transportation was a second reason for not obtaining needed services. Residents who had access to healthcare rated their health status better than did those who could not access care. Although public transportation was available (eg, bus, van service) and many healthcare professionals thought a satisfactory system was in place, many residents did not perceive the system as satisfactory. Residents cited it was very difficult to negotiate the multiple bus transfers or spend the time required to obtain needed services. For example, chronically ill residents had to call one week in advance for the van service and when using the van, often had to wait hours after their appointments before returning home.

Satisfaction with both the last healthcare visit and with healthcare in general was low, particularly for those in poor health. This dissatisfaction generally stemmed from the inability to obtain needed healthcare. Together, these findings provide a diagnosis of the community as one whose residents suffer from multiple chronic physical and mental illnesses and who are at risk for increased morbidity, increased mortality, and decreased quality of life without intervention. Further, they were dissatisfied with the current healthcare system because it was not meeting their needs.

Implications for Nursing Practice

The findings of this study have implications for advanced nursing practice. This project demonstrated how APNs of different specialties (eg, psychiatric-mental health clinical specialist, family nurse practitioner) can form effective partnerships with vulnerable groups to develop a commu-

nity profile or diagnosis for the community. Because of the relationship developed throughout the community health analysis, the APNs and the community became invested in using the diagnosis of the community's health problems to enact the proposed solution. The APNs and the community partnered to make a reality the proposed solution acceptable to the partners, an on-site ANC. The APNs used the findings from the analysis to obtain funding and supplies for the clinic from community grant mechanisms and from the College of Nursing. The community negotiated space for the ANC and donated money to the clinic for supplies from the council budget. Further, the community devised methods to inform residents of the services provided by the clinic once the clinic opened and volunteered to provide whatever additional assistance was needed to maintain the ANC (eg, support staff, chairs for the lobby waiting area, membership on the advisory board). Most important, the community became vocal advocates with other future potential partners (eg, the city, other healthcare providers).

In sum, a theory-based community health analysis is an appropriate method for APNs and vulnerable communities to work together to assess healthcare needs and to plan solutions appropriate to meet the identified health needs identified. APNs can meet the challenges of the 21st century by partnering with communities to remove many of the access barriers to healthcare. APNs practicing collaboratively in innovative healthcare delivery models, such as ANCs, can provide high-quality cost-effective primary healthcare and behavioral healthcare to vulnerable groups.

Acknowledgments

The authors thank Drs. Kathleen May and Joyce Verran for comments on earlier drafts of this manuscript. The authors also thank the TH community for its willingness to form a partnership.

References

1. Haber JD, Mitchell GE. *Primary care meets mental health care. Tools for the 21st century*. Tiburon, CA: Centralink; 1997.
2. Ware JE Jr, Bayliss MS, Rogers WH, Kosinski M, Tarlov AR. Differences in 4-year health outcomes for elderly and poor, chronically ill patients treated in HMO and fee-for-service systems. *JAMA* 1996;276:1039–1047.
3. Mechanic D. Emerging trends in mental health policy and practice. *Health Aff*. 1998;17(6):82–98.
4. Badger TA, McNiece C, Gagan M. Depression, service needs, and use in vulnerable populations. *Arch Psychiatr Nurs*. 2000;14:173–182.
5. Courtney R, Ballard E, Fauver S, Gariota M, Holland L. The partnership model: working with individuals, families, and communities toward a new vision of health. *Public Health Nurs*. 1996;13(3):177–186.
6. Farley S. The community as partner in primary health care. *Nurs Health Care*. 1993;14(5):244–249.
7. Meleis AI. Community participation and involvement: theoretical and empirical issues. *Health Serv Manage Res*. 1992;5:5–16.
8. Aday LA. *At-risk in America: The health and health care needs of vulnerable populations in the United States*. San Francisco: Jossey-Bass; 1993.
9. Flaskerud JH. Vulnerable populations. In: Fitzpatrick JJ, ed. *Encyclopedia of nursing research*. New York: Springer; 1998:591–592.

10. Flaskerud JH, Winslow BJ. Conceptualizing vulnerable populations health-related research. *Nurs Res*. 1998;47(2):69–78.
11. Link BG, Phelen JC. Understanding sociodemographic differences in health. The role of fundamental social causes. *Am J Public Health*. 1996;86(4):471–472.
12. Bureau of Census. *Statistical abstract of the United States*. 113th ed. Washington, DC: Government Printing Office; 1997.
13. Zachariah P, Lundeen PS. Research and practice in an academic nursing center. *Image J Nurs Schol*. 1997;29(3):255–260.
14. Badger TA, McArthur DB. Academic nursing clinic: impact on health outcomes of vulnerable populations. In press.
15. Barger SE. Establishing a nursing center: learning from the literature and the experience of others. *J Prof Nurs*. 1995;11(4):203–212.
16. Green LW, Richard L, Potvin L. Ecological foundations of health promotion. *Am J Health Promot*. 1996;10(4):270–281.
17. Stokols D. Translating social ecological theory into guidelines for community health promotion. *Am J Health Promot*. 1996;10(4):282–298.
18. Eng E, Blanchard L. Action-oriented community diagnosis: a health education tool. *Int Q Community Health Educ*. 1991;11(2):93–110.
19. Aday LA. *Designing and conducting health surveys*. 2nd ed. San Francisco: Jossey-Bass; 1996.
20. Reece SM. Community analysis for health planning: strategies for primary care practitioners. *Nurse Pract*. 1998;23(10):46–59.
21. Wallerstein N, Bernstein E. Introduction to community empowerment, participatory education, and health. *Health Educ Q*. 1994;21(2):141–148.
22. Jenkins M, Torrisi D. Community partnership in primary care case study: Abbottsford community health center. *Nurse Pract Forum*. 1997;8:21–27.
23. Eng E, Salmon ME, Mullan F. Community empowerment: the critical base for primary health care. *Fam Community Health*. 1992;15:1–12.
24. Billings JR, Cowley S. Approaches to community needs assessment: A Literature review. *J Adv Nurs*. 1995;22(4):721–730.
25. Anderson R, Aday LA. *Access to medical care*. Ann Arbor, MI: Health Administration Press; 1996.
26. Ferketich S, Phillips L, Verran, J. *A comprehensive multi-level nursing practice model for rural Hispanics*. (Grant No. HS06801). Funded by the Agency for Health Care Policy and Research; 1990.
27. Wan TT. The behavioral model of health care utilization by older people. In: M. G. Ory, & K. Bends, eds. *Aging and primary care: social science and policy perspectives*. New York: Routledge; 1989:52–77.
28. Ferketich S, Phillips L, Verran J. Focus on psychometrics: development and administration of a survey instrument for cross-cultural research. *Res Nurs Health*. 1993;16:227–230.
29. Radloff LS. The CES-D Scale: A self-report depression scale for research in the general population. *Appl Psychol Measures*. 1977;1:385–394.
30. Schulberg HC, Saul M, McClelland M, Ganguli M, Christy W, Frank R. Assessing depression in primary medical and psychiatric practices. *Arch Gen Psychiatry*. 1985;42:1164–1170.
31. Badger TA. Depression, physical health impairment, and service use among older adults. *Public Health Nurs*. 1993;15:136–145.
32. Davidson H, Feldman PH, Crawford S. Measuring depressive symptoms in the frail elderly. *J Gerontol B Psychol Sci Soc Sci*. 1994;49(4):P159–P184.
33. McNiece C. Facilitating the research process: interactive participant interviewing. In press.

Educational Calendar

Upcoming Conferences and Seminars

June 22–26, 2001, American Diabetes Association Annual Scientific Sessions in Philadelphia, PA. Contact Wyndam Jade at 703-549-1500 or online at www.diabetes.org/am01.

July 15–18, 2001, National Alzheimer's Association Education Conference in Chicago, IL. Call the conference information line at 312-335-5790 or online at www.alz.org.

July 28–August 3, 2001, American Society of Clinical Oncology/American Association Cancer Research Workshop: Methods in Cancer Research in Vail, CO. Call Mark Mendenhall at 215-440-9300.

August 15–19, 2001, Association of Rehabilitation Nurses: Professional Rehabilitation Nursing Course. For more information call Association of Rehabilitation Nurses member services at 800-229-7530 (toll-free).

October 10–13, 2001, Association of Rehabilitation Nurses 27th Annual Conference in Philadelphia, PA. Call 800-229-7530 (toll-free) or visit Association of Rehabilitation Nurses at www.rehabnurse.org.

The journal will gladly publish information about your upcoming conference at no cost on a space-available basis. Submissions must be received at least 4 months prior to the date of the conference for timely inclusion.