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THE QUALITY OF HOME CARE

Home care refers to health care and social services provided to individuals and families in their home or in community and home-like settings (Russell, 1977); it includes a wide array of nursing, rehabilitation, social work, home health aide, and other services. It can include short-term and long-term services that may "supplement, complement, or substitute for institutional care" (Bell, 1987). Although many consider home care services to be those formal services delivered by certified home health care agencies and paid for by the Medicaid and Medicare programs, home care is also provided by numerous unlicensed and uncertified agencies. These different types of home care providers vary in terms of regulatory agencies and requirements, sources of payment, duration of care, supervision, services offered, and payment arrangements. In 1987, there were 5,953 home health agencies certified in the U.S. to provide Medicare and Medicaid services, almost double the 3,012 certified agencies that existed in 1981 (Watkins & Kirby, 1987). In 1988, there was an estimated total of 11,000 home care agencies in the U.S., suggesting that almost half of the agencies were unlicensed and uncertified (U.S. Department of Commerce (DOC), 1990). Because the total number of agencies is unknown, the exact number of individuals receiving formal home care services is also unknown. There have been estimates that over 1.4 million individuals receive care in the home setting (U.S. House of Representatives, 1986; Spiegel, 1987; U.S. General Accounting Office (GAO), 1986b). The demand for home care services is increasing rapidly with the aging of the population. The adoption of prospective payment for Medicare hospital patients has increased the discharge rates of hospital patients and their acuity level upon discharge (Guterman, Egger, Riley, Greene & Terrell, 1988; Goldberg & Estes, 1990). This development has increased both the referrals to home care agencies and the demand for high-technology services (U.S. GAO, 1986b, 1987; Leader, 1987; Binney, Estes, & Ingman, 1990). At the same time, expenditures for home health care have grown from $1.8 billion in 1982 to $9 billion in 1989 (U.S. DOC, 1990). This discussion reviews the regulation of care and issues of the quality of home care services, in terms of structural measures (including organizational structure and staffing), process of care, outcomes of care, home care client characteristics, access to care, efficacy of home care, and nursing roles and innovations in home care.

State of the Science

Regulation of Care

Because the federal government pays for a major portion of services, it regulates home health care agencies to ensure quality (Bayer, 1986-87). Regulatory responsibility for home health care is assumed by the federal government for those agencies that wish to receive Medicare and Medicaid payments. Home health agencies must meet the minimum federal Conditions of Participation for certification, administered by the Health Care Financing Administration

(HCFA). State governments survey and monitor home health agencies for compliance, using a federal survey instrument and guidelines for annual surveys (Federal Code of Regulations, 42 CFR 484). State licensure gives permission to organizations to operate and is necessary for certification but does not necessarily assure quality (Spiegel, 1987). State licensing standards for home health care typically do not go beyond federal Medicare standards and are relatively weak or non-existent (U.S.House of Representatives, 1986; Leader, 1986; Spiegel, 1987). Most states tie licensing to the federal Medicare reimbursement standards (Johnson, 1988). In 1985, only 32 states required any licensure of home health agencies (Leader, 1986). Johnson (1988) reported that 39 states were licensing home health care agencies. Many observers argue that the home care sector of the health care industry has the least external monitoring of health care providers and has serious quality-of-care problems (Spiegel, 1987; Leader, 1986). The U.S. Inspector General (1987) found that home health surveys were a low priority for state survey agencies; annual surveys were not being conducted, and some resurvey visits were backlogged by one to four years. Although HCFA requires that state agencies make routine home visits to a small number of clients, the U.S. Inspector General found that most states were not conducting the required home visits, and surveyors questioned the efficacy of such visits.

Recognizing problems with the quality of home health care and government regulation, in 1987, Congress passed the first major change in Medicare home health care certification requirements since the program was enacted. The Omnibus Budget Reconciliation Act of 1987 (P.L. 100-203) requires: 1) assurance of specific patient rights; 2) establish-ment of home health aide training requirements and competency evaluations; 3) unannounced surveys within 15 months of the previous survey; 4) eval-uations of individual clients; 5) stronger enforcement tools; and 6) the use of complaint hotlines and inves-tigations. Harrington, Grant, Ingman & Hobson (1991) examined quality-of-care problems in home health agencies in two states and found that when state agency surveyors identified problems with the quality of patient care, little regulatory action was taken against facilities. The many barriers to enfor-cement of regulations for home health care agencies limited state agency regulatory activities. Although the new 1987 OBRA legislation may encourage states to improve their regulatory activity, little change can be expected without a concentrated effort to improve state resources and commitment. Unless consumers increase their demand for improvements in the quality of home care and learn how to make complaints, and unless both consumers and public policy makers de-mand greater regulation, the current situation for the regulation of home care will probably continue.

Organizational Structure

The ownership structure of the home care industry is complex and changing. During the past 10 years, types of providers have changed dramatically from care delivered primarily by visiting nurses' associations to a complex network of proprietary chains and hospital-based organizations (Waldo, Levit & Lazenby, 1986; Estes & Swan, 1988). By 1984, 42 percent of the nation's hospitals offered home health agency services (Glen, 1985). The number of proprietary agencies increased fourfold between 1982 and 1985, to 32 percent of all agencies (Waldo et al., 1986). A primary difference across the different types of agencies is the source of payment for services. Sabatino (U.S. House of Representatives, 1986) described the influence of different payers on home care services, including: Medicare, Medicaid, Title XX (Social Service Block Grants), Older Americans Act, state and local funds, private insurance, out-of-pocket, and combinations of payers. Funding fragmentation occurs because each public program has different target populations, eligibility requirements, and separate administration (Ibid; U.S. Senate, 1988; Spiegel, 1987). Also, each public program has different methods of determining reimbursements and has adopted reimbursement guidelines and ceilings. Thus, there are wide variations in costs across payers and substantial numbers of reports of fraudulent activities related to payments of home care agencies (U.S. GAO, 1979; Spiegel, 1987; U.S. GAO, 1986a; CA Auditor General, 1987).

Home Care Staffing and Labor

Home care is an important and rapidly growing source of formal health care service for older adults. Staffing and labor issues are important to address because of their direct relationship to quality of care. The growth in demand for home care services, the shortages of nursing personnel, the low wages, and the growing use of high technology are putting ever-increasing strains on the personnel providing formal services in the home. Current staffing requirements for home health care agencies are based on state and federal laws. Beyond these requirements, agencies may elect to meet accreditation standards for staffing or may choose to have higher than the minimum state standards.

Two of the largest accrediting programs, the Joint Commission on Accreditation of Health Care Organizations (JCAHO) and the Community Health Accreditation Program (CHAP) of the National League for Nursing (NLN), require a minimal level of education for staff members. The NLN requires that the executive officer (administrator) be prepared at the master's level in the health field and have, at a minimum, two years of health administration experience. The NLN also examines the staffing patterns, practices, and policies for administrative operation (NLN 1987). The JCAHO requires that nurses be qualified by an approved post-secondary program or a baccalaureate or higher degree in nursing and be licensed to practice nursing in the state. Emphasis is on the nurses' competency to provide services appropriate to the clients' needs (JCAHO, 1988). The American Nurses Association (ANA) Standards of Home Health Nursing Practice (1986) identified two levels of practice within home care agencies: the generalist prepared at the baccalaureate level, and the specialist prepared at the graduate level. Further, the standards suggest that home health services should be planned, organized, and directed by a master's-prepared professional nurse with experience in community health and administration. Although the demand for baccalaureate- and master's-prepared nurses in home care appears to be growing, certain factors that mitigate against this change include the nursing shortage and the uneven geographic distribution of nursing education programs and of educated nurses (in particular, few with master's degrees in rural areas). The increasing demand for nurses with highly technical skills affects education requirements for nursing. Under the 1987 OBRA, changes were made in the Medicare personnel requirements for home care agencies. Most importantly, a new provision specifies that all home health care aides (HHA) must meet a minimum standard for training of 75 hours of a combination of classroom and supervised practical training (with a minimum of 16 hours of each), effective in January 1990 (U.S. Department of Health and Human Services (DHHS) 1989). In addition, each certified HHA must pass a competency evaluation. Although some states had established their own standards for home care aide training prior to this legislation (e.g., California, 120 hours), most had no requirements.

Registered Nursing Personnel. Almost all Medicare-certified home health care agencies provide skilled nursing care, thus requiring a registered nurse (RN). Home care agencies also may employ licensed practical nurses (LPNs), licensed vocational nurses (LVNs), and nurses aides. In 1984, 167,500 RNs and 23,800 LPNs/LVNs were employed in community and public health settings (U.S. Health Resources and Services Administration (HRSA), 1984). Only seven percent of all RNs were employed in public health settings (Clare, Spratley, Schwab & Iglehart, 1987). The National Institute on Aging (NIA) (1987) estimated that 338,000 RNs and 40,000 LVNs would be required for community health in the year 2000, more than twice the current numbers (HRSA, 1986). In 1985, the Ford Foundation estimated that there were approximately 350,000 homemaker/HHAs providing personal and housekeeping services to older persons. The projected need for these types of personnel is increasing rapidly (NIA, 1987). De la Cruz, Jacobs, and Wood (1986) surveyed 325 nurses in 237 home health agencies in Los Angeles to determine their educational level and needs. Two-thirds of the nurses had less than two years of experience in home care, and the majority had associate degrees or diplomas in nursing; only 42 percent had

public health nursing certificates. Because home care nursing requires considerable independent decisionmaking and activities, the need for additional education and training appears to be great. Also, de la Cruz et al. (1986) found that 24 percent of California home health administrators and supervisors had master's degrees. Hackbarth and Androwich (1989) estimate that more than one-third of RNs practicing in home care have only nursing diplomas or associate degrees and thus do not meet the ANA and other professional standards for practice. Geriatric nursing is a growing specialty area. The number of geriatric nurse practitioners (GNPs) has grown with the number of training programs. In 1980, 15 programs were reported nationally; in 1985, this number had increased to 35 programs (Mountain State Health Corporation, 1985).

Paraprofessionals. The variety of titles used to identify paraprofessionals that provide services in the home includes: homemaker, attendant, child care worker, day care worker, chore worker, personal care aide, community aide, in-home worker, and HHA (Spiegel, 1987). In a recent survey, Hodges (1989) found that there were 12 different titles commonly used in 50 states for paraprofessional employees; training requirements differed from 40 to 120 hours. Many paraprofessionals work in the home and are paid directly by the client or by public programs (e.g., state aging programs). Under Medicare, home health care agencies only may be reimbursed for services provided by HHAs that have received formal training. Medicare HHAs may provide personal care skills (bathing, eating), simple treatments, and planning and preparing meals, and may assist with self-administered medications; however, they are not paid for homemaking services alone (e.g., cooking, cleaning). Spiegel (1987) describes the HHA to be a middle-aged woman, experienced as an unpaid homemaker, able to read and write, and with a compatible personality. Other reports suggest that many HHAs are members of minority groups; some are immigrants who have problems with English (Service Employees International Union (S.E.I.U.) 1988). In 1985, typical home care workers made about $9,000 per year and received minimum wages, from $3.65-$4.75 per hour (Ford Foundation Letter, 1985; S.E.I.U., 1988). The low pay and frequent lack of health and retirement benefits contribute to high turnover rates and an unstable workforce. Ventura (1980), who studied 115 homemaker/HHAs employed at one agency, found negative attitudes toward older persons and a low level of knowledge about aging. Kaye (1985) found that most home health agency personnel reported that personal experience, job experience, and basic education were their primary sources of knowledge and were more important than specialized education.

The supervision of paraprofessionals or HHAs is critical to maintaining quality of care in home care agencies. Although most care is given in the home by aides, supervision is carried out primarily by RNs. Supervision requires time and is a logistical problem, because RNs generally do not visit the home as often as the HHAs. The U.S. Inspector General (1987) study of home health aide services for Medicare patients found that in 91 percent of cases examined, prescribed personal care service tasks were not documented as having been performed. The primary reason for lack of performance was considered to be the lack of orientation of aides by supervising nurses and the lack of ongoing onsite supervision by professionals.

The nationwide consensus of legislators, regulators, consumers, providers, and payers is that a critical need exists for improved preparation of paraprofessional caregivers. With the renewed federal requirements for home health aide training, numerous individuals have been developing training programs for HHAs (Alberts, 1989; Vahey, Eno, & Hill, 1989: Tuttle, 1989; Showers, 1989). Feldman (1989) reported on three Ford Foundation demonstration projects providing training and support, pay and benefits, status, opportunities for advancement, and guaranteed hours of work, all factors considered to be sources of dissatisfaction in the homemaker/HHA workforce that lead to high turnover rates among workers. Study findings suggest that training could mitigate feelings of loneliness and reduce turnover. In addition, training and support programs should pay special attention to the problems of new workers, minority workers, and linguistic minority groups, because these groups have the greatest risk for high turnover.

The Process and Outcomes of Care

The measurement of quality of health care is difficult in any setting and is particularly complex where care is delivered in the home. The American Bar Association (U.S. House of Representatives, 1986) described some of the problems in home health care: physical injury that may be intentional or accidental; workers' tardiness, or failure to show up or to spend the specified amount of time with the client; inadequate or improper performance of duties; attitudinal problems including insensitivity, disrespect, intimidation, and abusiveness; and theft or financial exploitation. Sabatino (U.S. House of Representatives, 1986) and others (U.S. Senate, 1988) have argued that the current home care industry lacks accountability to consumers for its services. Consumers of home health care are usually frail, often live alone, are vulnerable, are frequently too sick to advocate for themselves, and lack advocates. Critics argue that there is virtually no client input into the determination of what care is delivered or what constitutes quality. Further, if consumers wish to complain, they often do not know where or how to complain or are reluctant to do so.

The few descriptive studies of home care quality that have been conducted indicate that serious problems exist (Applebaum & Christianson, 1989; Grant & Harrington, 1989; Harrington & Grant, 1990; Harrington, 1988; Harrington et al., 1991; U.S. House of Representatives, 1986, 1987; U.S. Senate, 1986; U.S. Inspector General, 1987). These studies indicate a need for further research on home care quality to systematically document the process of care delivery as well as the outcomes of this care on clients. Reif (1989) points out that surprisingly few studies have obtained reports of home care process and outcomes directly from home care consumers. One published article that described the collection of data about home care quality from consumers (Mumma, 1987) focused exclusively on paraprofessionals. Reif (1989) aimed to determine those factors that consumers consider most important when they evaluate the quality of home care. This type of research is of critical importance.

Another special area of concern is the extent to which formal home care programs address the mental health needs of elderly clients. A 1983 survey of over 4000 home health agencies found that 71 percent did not provide mental health services even though many el-derly clients have behavioral, social, and mental dis-orders (U.S. Senate Select Committee on Aging, 1983). Harper (1989) conducted a small study of home health agencies and found that 50 to 70 percent of elderly clients receiving home care had some type of behavioral or mental disorder. It is not clear that home health agencies can provide appropriate services for clients with mental health problems. This area needs exploratory research as well as intervention studies.

Although few studies have defined and examined actual outcomes of home care, several studies on process and outcome measures are currently underway, funded by HCFA and the National Center for Health Services Research (NCHSR) (Schlinder & Berg, 1989). Other studies are looking beyond Medicare home health services at unlicensed home care agencies to examine the goals of home care from the perspective of the consumer, the provider, the payer/insurer, and the accreditor/regulator; and measure quality labor force issues, and access problems (Kane, Illston, Eustis, & Kane, 1991; Estes, Harrington & Benjamin, 1992).

Home Care Client Characteristics

The types of clients receiving home care appear to be changing as more clients are referred from hospitals to home care for post-acute services. Shaughnessy and Kramer (1990), in a study of home care client characteristics between 1982 and 1986 for both Medicare and non-Medicare patients, found evidence of in-creased preva-lence of medical and skilled nurs-ing problems (from 58 to 72 percent of Medi-care patients) and a substantially larger increase in the prevalence of functional care problems in pa-tients during this period. In ad-dition, the number of Medicare

pa-tients that were bedfast increased from 6 to 17 per-cent. Wood and Estes (1990), in a study of home and community-based agencies in 1986 and 1987, found that agencies reported an increase in the number of heavy-care clients following the adoption of Medicare prospective payment systems. These changes in types of clients have affected the types of services agencies provide and have resulted in a decreased ability to provide the services requested.

Courtesy, J.K. Magilvy and J.G. Congdon, University of Colorado Health Sciences Center, Denver, CO

One difficulty in research on home health care and other community-based services is the lack of careful classification of clients or case mix variables to delineate client characteristics. Many previous studies were not systematic in choosing or describing clients (Weissert, Wan, Livieratos & Katz, 1988). Without reliable and valid methods of classifying clients, it is difficult to make comparisons of quality, outcome measures, utilization of services, and costs of care. There have been several attempts to classify home health care clients (Hardy, 1984; Harris, SantoFerraro & Silva, 1985; Martin & Scheet, 1985). Several studies have examined the number, frequency, and time spent on different diagnoses (Sienkiewicz, 1984; Harris, Peters Smith & Yuan 1987; Churness, Kleffel, Jacobson & Onodera, 1986; Pasquale, 1987; Peters, 1988). Most of these studies are descriptive and did not involve quasi-experimental or experimental designs. Manton and Hausner (1987) developed a case-mix methodology for home care services using a multivariate group methodology that linked client records from the National Long-Term Care Survey with Medicare reimbursement records. They concluded that this strategy could be used to develop a highly predictable case-mix model. More recently, Saba and associates (1991) developed a home health classification system that uses five types of data: demographic; nursing diagnosis; discharge status goals; nursing interventions; and types of nursing actions. This system was developed using a sample of about 9,000 Medicare home health patients from a sample of 646 randomly stratified home health agencies.

Home Care Access

Despite the rapid growth in the number of home care agencies, there are indications that the supply of home care services is not keeping pace with demand (Waldo, Levit & Lazenby, 1986; Palmer, 1983). A GAO report (1987b) pointed out that the availability of home care services ranged only from marginal to adequate in different parts of the country. Access to care and continuity of care are influenced greatly by the supply and distribution of provider services. Access also is limited by current competitive and economic pressures that result in agencies being oriented to maximize profits or surpluses; this reduces the willingness of agencies to accept clients who are less able or unable to pay (Clarke & Estes, 1988; Bergthold, Estes, & Villanueva, 1990). According to a 1986-87 study of home care agencies (Goldberg and Estes, 1990), greater client demand and illness acuity are leading to increases in service refusals to vulnerable clients and the creation of agency waiting lists. Although a number of studies have examined utilization patterns of home health care services, particularly in relationship to case mix, few studies have examined barriers to utilization and access. Financial barriers to the use of services can be high where needed services are not paid for by Medicare or private insurance, and individuals and families must pay out of pocket; or, large copayments can represent barriers to needed services. In addition, family members and caregivers are reluctant to use available services. Research has pointed out the alarmingly low level of use of community services by families caring for elderly persons with multiple problems; however, the reasons are not clear.

Payment rates vary substantially across payers for similar home care services. For example, in a recent study of home care aide services in California, Medicare payment rates were $48 for a 2-hour visit to certified agencies; Medicaid paid $39 to certified agencies; and other public programs paid $4.25-$33.00 per hour to unlicensed agencies and $4.25 to individual providers (Harrington & Grant, 1990). Because Medicare and MediCal require more formal training of home care aides and registered nursing supervision, the costs of care and payment rates may be legitimately higher. Because unlicensed agencies and individual providers do not have these requirements, they may have lower costs and payment rates. The effects of different payment rates on quality and access to home care are unknown.

Home Care Efficacy

A number of studies have examined the efficacy of home care. Hedrick and Inui (1986) reviewed 12 studies on the effects of home care that had experimental or quasi-experimental designs and found diverse results. They concluded that, in general, home care had no effect on mortality, little effect on nursing home use, no effect on inpatient hospitalizations, no effect on hospital lengths of stay, and variable effects on functional status. Kane and Kane (1987) reviewed seven studies of the effects of home care (Hedrick & Inui, 1986; Mitchell, 1978; Weissert et al., 1980a, 1980b; Groth-Juncker, 1982; Zimmer et al, 1984, 1985; Hughes, Cordray, & Spiker, 1984). In a randomized control trial of a home care team that included a GNP, the patients had fewer hospital and nursing home admissions, shorter lengths of stay, fewer outpatient visits, and lower estimated total health care costs (Zimmer, Groth-Junckner & McCusker, 1984, 1985). The majority of studies reported that no significant differences were observed between experimental and control groups on the outcomes studied; however, four studies found positive attitudes in terms of satisfaction and perceived health in the experimental groups. Studies did not clearly define case-mix indicators or target groups, had mixed intervention strategies that could not be differentiated, had limited interventions in terms of the types or amounts of services provided, or had not clearly defined clinical outcome measures. The need for carefully developed multidimensional outcome measures for home health care should have a high priority.

Some studies of home care have focused on narrow questions about home care delivery, such as effects of training HHAs to assist with home dialysis. For example, Gibbins et al. (1982) examined intensive home nursing services for the seriously ill with matched hospital patients and found that patients cared for in the home had higher satisfaction; also, care was less expensive. Lind (1984) compared patients discharged from a visiting nurse association agency to those who receive monthly telephone reassurance from volunteers, and those who receive services by registered nurses. No significant differences were found in mortality, rehospitalization, or return to home care services.

Whether home care is an effective substitute for other types of health care such as hospital care, primary care, or rehabilitation also has been studied (Kane & Kane, 1987). These different conceptual models require research designs with different target and comparison groups. Few studies have examined the replacement of hospital care by home care for acute treatment (Gerson & Hughes, 1976; Gerson & Berry, 1976). Most studies of frail elderly suggest they would benefit from care at home as compared with those who do not receive such services. Kane and Kane (1987) reviewed a number of descriptive studies of home care (Brickner et al., 1976; Emling, 1976; Widmer, Brill, & Schlosser, 1978; Anderson, Patten, & Greenberg, 1980; Inui, Stevenson, Plorde & Murphy, 1980; Rosenfeld, 1980; Hayslip, Ritter, Oltman & McDonnell, 1980). Although descriptive studies are of interest, home care research must focus on more definitive studies.

Some studies have examined how to target home care programs to clients or possible criteria (U.S. GAO, 1982; Kaye, 1984; McAuley & Arling, 1984; Beland, 1985; Chappell, 1985). The

General Accounting Office (1979, 1986a) reported that some visits by Medicare certified agencies were inappropriate, unnecessary, or at too high a service level using Medicare guidelines for services. Kane and Kane (1987) concluded that most studies suggest home care is targeted to those with severe functional impairments, and many who should receive services do not receive them. Weissert et al. (1988) reviewed 27 studies and concluded that community care services can reduce nursing home use when services target patients that are likely to enter a nursing home.

Nursing Roles and Innovations

Nursing has had a major role in home care because the majority of home care services under Medicare require skilled nursing care. The use of GNPs and clinical nurse specialists in home care is relatively new (Zimmer et al., 1984, 1985). Numerous innovations in long-term care have been developed and tested over the past 20 years to address the shortcomings in the long-term-care delivery system, which is widely recognized as disorganized, fragmented, expensive, and overly institutional in character. These innovations were called the "long-term-care demonstration projects". Although these projects were not discipline-specific, many used nurses to provide organized long-term care for older persons as members of multidisciplinary teams or as case managers. Several excellent syntheses of the results of the long-term-care demonstrations exist in the literature (Kane & Kane, 1987; Kemper, Applebaum, & Harrigan, 1987; Weissert, Cready, & Pawelak, 1988). There is some variability as to which demonstrations are included in each review; however, each synthesis specifies selection criteria for the inclusion or exclusion of projects. As noted by Kane and Kane (1987), the demonstrations varied in scope, auspice, focus, and history. All provided some type of case management, and all offered expanded public benefits for long-term care. One of the more recent experiments, the Social/Health Maintenance Organization (S/HMO) is a prepaid system that extends the usual coverage of health maintenance organizations by adding long-term-care benefits. The S/HMO model, tested by four HCFA demonstrations starting in 1985, includes several unique organizational and financing features. First, a single organizational structure was established to provide a full range of acute- and chronic-care services to Medicare beneficiaries who enroll on a voluntary basis and pay a monthly premium for services. The expanded care benefits (e.g., prescription drugs and hearing aids) and services (e.g., custodial nursing home, home care, and homemaker services) are limited to $6,000-$12,000 per year. Second, the S/HMO model coordinates chronic-care services for those who are disabled by using nurses and social workers as case managers to assess benefit limitations. Third, the S/HMOs enrolled both well and functionally-impaired older persons with the goal of keeping individuals healthy and reducing or slowing the rate of impairment and disability. Finally, S/HMOs were unique in being at financial risk by using prepaid capitation through pooled funds from Medicare, Medicaid, and member premiums that were designed to encourage cost containment (Newcomer, Harrington, and Friedlob, 1990).

The Institute for Health and Aging at the University of California, Berkeley Planning Associates, and Duke University faculty are conducting a 4-year national evaluation of the demonstration projects. Although initial problems occurred with low enrollment and with higher than expected start-up costs, the S/HMOs have been successful in delivering a full range of acute- and chronic-care services within a fixed budget. They have provided case management for chronic-care services within a fixed benefit limitation for those who are most severely disabled. The long-term care demonstrations differed in goals and emphasis and the degree to which nurses were involved. The evaluation of each demonstration was conducted independently, so results are not easily comparable across studies (Newcomer, Harrington, and Friedlob, 1990). Despite these limitations, it is possible to make some general comments regarding the effects of the long-term care demonstrations. Taken collectively, the effects of the demonstrations on the outcome measures of interest were disappointing. For example, the effects on mortality, mental status, and quality of life were not clear, and results in terms of cost of other service use were not consistent

across studies (Kane & Kane, 1987). On the basis of his analyses, Weissert (1985) identified several reasons why results of evaluations of the long-term-care demonstrations were not more positive. These included: l) for most patients who use home and community care these services are adjunctive to existing care rather than a substitute for institutional care; 2) the small number of community care users are at risk for only a short stay in an institution; 3) community care has not been effective in avoiding or reducing short institutional stays; 4) few elderly are in the high risk category for institutionalization (making targeting difficult); 5) costs of screening are high; and 6) community care has a limited effect on health status.

Research Needs and Opportunities

Quality of home care is a concept that has not been well defined. Research on all aspects of home care and community-based services is needed, with a particular emphasis on nursing components of the services offered and their outcomes.

Organizational Structure

Most nursing research studies have focused on certified home health care agencies where professional nursing services are included. Issues of differences in quality of care outcomes for clients that receive services from unlicensed providers or services without professional care and supervision also are important. The circumstances under which professional nursing care is necessary should be evaluated. Little is known about unlicensed agencies in terms of actual care provided, the amount and types of services, the client characteristics (sociodemographic, functional, and medical status differences), costs and payments, or access to services. Available data on licensed and certified home care agencies also are limited and primarily descriptive in nature. Differences in the quality of care offered by unlicensed and licensed home care agencies is unknown. Although descriptive data suggest that the quality of care in unlicensed agencies is problematic, similar problems also have been reported with licensed home care agencies (Grant & Harrington, 1989; Harrington & Grant 1990). Research is needed to compare the quality of care offered by licensed agencies with that offered by unlicensed agencies and/or individual providers.

Staffing and Labor

Research on home health care has not shown a clear link between educational level, type of education, training, wages and benefits, and other working conditions with process or outcome measures of quality of care. Neither the minimal level of education and training necessary to perform different aspects of home care nor the relative importance of education and training versus related experience on the job have been examined. The best types of curriculum training programs for home health aides and homemakers should be determined. Many home health care organizations have economic incentives to limit training and encourage high turnover rates to keep wages and benefits low. Current cost pressures from labor and nursing shortages threaten policy changes in educational requirements without a basic knowledge of the consequences of such changes on quality. The relationships of salary and benefits, and turnover and retention to quality of care also are priorities for study. Increasing numbers of Medicare beneficiaries are receiving high-technology medical treatments in their homes (U.S. GAO, 1989). Although the U.S. General Accounting Office (U.S. GAO, 1989) recommends specific minimum training and experience for personnel who provide high-technology therapy, HCFA's standards for home health agencies do not address the qualifications of persons who provide high-technology treatments. Research could facilitate decisions about the minimum requirements needed to deliver high-technology care safely in the home.

LPNs and LVNs play important roles in home care programs and work under the supervision of a

physician or an RN. Little is known about the extent of services carried out by LPNs and LVNs. Research on the differences in services and working arrangements with RNs is needed. In addition, the impact of LPNs and LVNs on home care quality should be investigated. The effects of GNPs and geriatric nurse specialists on quality of home care have not been examined. Some argue against high levels of professional education for home care and minimal supervision by professionals for cost reasons, arguing that client needs can be met with paraprofessionals. Conversely, there is a strong argument for designing studies to determine the effects of GNPs and geriatric specialists on home care quality. Innovative models of home care delivery should be examined; for example, "teaching home care programs," based on the model of the teaching nursing home projects (Harrington 1991). Such demonstration projects could test the effects of specialty-trained nursing in combination with faculty from schools of nursing on the quality of home care. These models may have positive effects on the hiring and retention of nurses, on the shortage of personnel working in home care settings, and ultimately on quality of care and access to care.

The Process and Outcomes of Care

Process measures of home care quality have not been carefully defined or examined. However, the greatest gap in quality studies has been in the area of outcomes, which is now being examined by some researchers. The development of home care outcome measures is only in the beginning phase. Current outcome studies generally do not focus on outcomes that are specific to different types of nursing care, nor are they client-oriented. Substantial research efforts are needed to develop measures at the conceptual level, to design reliable and valid instruments, and to measure quality across different types of agencies with different types of clients.

Home Care Client Characteristics

Quality studies are complicated by a lack of careful research on client characteristics. Descriptive data on the problems of home care clients are needed, including not only physical care problems but also mental health problems. Appropriate targeting of clients to maximize client needs is underdeveloped and needs more research. Studies with carefully controlled groups that differentiate among groups of clients based upon their levels of need or case-mix characteristics are needed, especially among those with short-term, post-hospital care needs or long-term, chronic-care needs; among both younger, healthy individuals and older, frail individuals; and among those with and without cognitive impairment.

Studies of classification models for individuals living at home or in the community are needed, particularly tailored for older clients, and should include functional status as well as medical and nursing diagnoses as basic components of classification systems. Research in this area is beginning to emerge and is being encouraged by government demands for sophisticated methods of establishing reimbursement systems. Such classi-fication research must continue to develop more effective instruments and must be tested in experi-mental designs.

Home Care Access

Barriers to accessing appropriate care can have obvious negative effects on quality and client outcome measures and should be examined for such effects. More studies of the need for and utilization of services are required, along with studies on matching services to patient needs. Little is known about the differences in and the effects of market competition and regulatory environments on home care providers or about the effects of certificates of need on the development of home care services. Legislation to regulate all home care (except indi-vidual providers) could become a barrier for unlicensed agencies that are unable to meet minimum requirements, or it could serve as a basis for a more rational delivery system. Such regulation

could limit consumer choice, reduce competition, and give existing licensed agencies advantages over new and unlicensed agencies. If all public agencies (e.g., Title Twenty and Older American's Act programs) were required to use licensed home care agencies, the costs of home care would probably be increased substantially. However, if higher staffing and supervision standards were imposed and higher wages and benefits provided to home care personnel, perhaps higher quality of care would result. Trade-offs between cost and quality of different home care models need to be examined.

Home Care Efficacy

Studies of the efficacy of home care have relied on global outcome measures such as mortality and rehospitalization. These kinds of studies, for the most part, have not been able to demonstrate that home care provides improved outcomes. The lack of positive findings may be partly due to the lack of more intermediate outcomes or clinical outcomes. In addition, many of the studies examined complex interventions (e.g., the long-term-care demonstration projects), so that specific components or processes of care that are effective have not been isolated. It is likely that nursing care processes are critical factors that determine the quality of home care.

Further study is needed to determine how and when formal services are needed and under what circumstances such services have a measurable impact on clients, families, and caregivers. Clinical trials to test the effect of services delivered for selected problems, and trials where the amounts of services are varied to test appropriate levels of service are needed. Some have suggested that the intensity of home health care services may need to be increased to measure positive outcomes. Finally, the points in the care process where interventions are likely to make a greater difference on outcomes should be studied. Inception cohort studies that are prospective in nature would enable researchers to monitor the course of home care and to carefully examine the effects. The area of effectiveness of home care services needs extensive research with experimental studies. Issues of targeting, service packages, personnel, and cost should be examined in relationship to client outcomes.

Nursing Roles and Innovations

Many of the innovations in long-term care have focused on large system-wide outcome variables such as hospitalization, nursing home days, and quality of life and not on the process of the intervention. Specific effects of nursing specialists and the caregiving process in the home or long-term-care demonstrations should be examined systematically. Improved client outcome measures should be developed and tested in relation to specific types of interventions.

Recommendations

Based on the foregoing assessment of research needs and opportunities in "The Quality of Home Care," the Panel has made the following recommendations for research.

- Compare licensed agencies with unlicensed agencies and/or individual providers with respect to amounts and types of services provided, client characteristics, costs and payments, and access to services with a view toward providing policy direction for regulation of home care.
- Examine the relationship between structural factors, including staffing levels or ratios, education and training, salary and benefits, and turnover and retention on the nursing care process and on client/resident care outcomes.
- Develop and test valid, reliable client assessment tools and indicators of quality of care, particularly outcome measures, that can be used to measure quality across different types of agencies that serve different types of clients.

- Develop and test classification models for clients living at home and in the community, particularly tailored for older clients, that include functional status and medical and nursing diagnoses; such models will facilitate comparisons of quality, outcome measures, utilization of services, and costs of care among studies.
- Conduct studies to determine the effectiveness of home care services; issues of targeting, service packages, personnel, and cost should be examined in relationship to client outcomes.
- Develop and test effective nursing interventions and ways to establish standards for quality of care, based on systematic examination of the effectiveness of nursing specialists and the caregiving process in home care settings.

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