DOCUMENT RESUME

ED 233 263 CG 016 840

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TITLE	Evaluating Long Term Care Demonstration Projects: The Potential of the Institutional Cohort Design.
PUB DATE	22 Nov 82
NOTE	16p.; Paper presented at the Annual Scientific Meeting of the Gerontological Society (35th, Boston, MA, November 19-23, 1982).
PUB TYPE	Information Analyses (070) -- Guides - Non-Classroom Use (055) -- Speeches/Conference Papers (150)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Cohort Analysis; Evaluation Methods; *Program Effectiveness; *Quasiexperimental Design; *Research Design; Research Problems; Research Utilization; Residential Care; State of the Art Reviews
IDENTIFIERS	*Long Term Care

ABSTRACT

Perhaps no facet of long-term care (LTC) research has received as much attention as the evaluation of community-based LTC demonstrations. Recent thinking has called into question the validity and policy relevance of the findings of these studies, yet their efforts will continue to receive strong financial backing. The time has come for LTC analysts to rethink the place of evaluation research as a tool for LTC policy development and to strengthen the methods for such development. Following the introductory analyses of LTC evaluation research, this paper describes a quasi-experimental research design, cohort analysis, used to evaluate the Hospital Discharge Demonstration Project (HDDP) funded by the State of Illinois, which provided short term, in-home assistance to impaired persons, sixty and older, upon discharge from Chicago hospitals. The benefits of the quasi-experimental cohort analysis, when an experimental design cannot be used, are explored; specific topics discussed include sample comparability (in background and characteristics), sampling techniques, and the effects of political and organizational realities on the study design. A final section compares the benefits of traditional, comparative cost and effectiveness evaluations of community-based and institutional LTC and the quasi-experimental cohort analysis design. (MCF)

EVALUATING LONG TERM CARE DEMONSTRATION PROJECTS:
THE POTENTIAL OF THE INSTITUTIONAL COHORT DESIGN

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Paper presented at the 35th Annual Scientific Meeting of the Gerontological Society of America, Boston, November 22, 1982.

Perhaps no facet of long-term care (LTC) research has received as much attention for as extended a period of time and with as large an investment of funds as the evaluation of community-based LTC demonstrations. The first studies in this arena were conducted almost twenty years ago (1,2) and the volume of research activity since that time has grown at a steady pace with the support of federal funds authorized under several different pieces of legislation. (9,10)

A paradox becomes evident when the current status of research on this topic is assessed. On the one hand, recent thinking has called into question the validity and policy relevance of the findings generated by studies completed to date. (6,7,4,8,9) On the other hand, it appears likely that researchers will not only continue to conduct evaluations in this area, but that their efforts will continue to receive strong financial backing. A representative of the Office of the Assistant Secretary for Planning and Evaluation at the Department of Health and Human Services has estimated that twenty million federal dollars alone had been budgetted as of 1980 for LTC demonstrations covering each of the next two fiscal years (FY'83 and FY'84).

Clearly the time has come for LTC analysts to rethink the place of evaluation research as a tool for informing the development of LTC policy and to strengthen the methods available for doing so. It is toward these goals which the present paper is directed. Two specific questions will be discussed: First, what are the appropriate issues with which future evaluations of non-institutional LTC should be concerned?; and, second, can the methodological problems which have plaqued studies in the past be resolved sufficiently enough to render future research capable of generating valid findings to these questions?

The principal criticism which has been voiced concerning existing evaluations is that they have typically generated findings with limited utility for planners in LTC. The problem has been two pronged: not only have the overwhelming majority of studies focused on only one very narrow set of policy questions -- those related to the comparative cost and effectiveness of institutional and non-institutional care -- but analysts now agree that studies on this topic are of little practical value to policy makers. In the first place, many demonstrations have been designed to illustrate the capacity of community-based LTC to substitute for institutionalization, yet the clients actually served have been shown to be significantly less impaired than persons requiring institutional placement. Additionally, while some studies have shown non-institutional LTC to be a less costly alternative than institutionalization (others have not), it does not necessarily follow that savings would result from expanding their availability. Analysts warn that latent demand for such services among persons who would never use resources now devoted to institutionalization is high and that, consequently, cost-containment represents a weak justification for moving in the direction of greater emphasis on community-based LTC. (5,3,8) And, finally, Maddox and others have contended that there exist a host of factors which are likely to be more significant determinants of the distribution of public resources in LTC than the cost and effectiveness of alternative approaches to providing service. (7,6) These critics cite cultural preferences in support of family responsibility for elders, the need for freedom of choice, and recognition that non-institutional care shifts much of the burden of costs from the public to the private sector as three such influences.

It has been arguements such as these which have led Gurland, Bennett and Wilder to suggest a redirection of future LTC evaluation efforts. (6) In their article from the Journal of Social Issues, these authors contend that "the most challenging issue is not whether non-institutional alternatives are as effective as institutional care, but rather whether it is feasible, within the resources available, to provide everly client with a full range of options for care together with good advice as to what the various options can offer to client and family (in terms of services, quality of life and outcomes.)" (p. 67) In sum, although studies to date have not generated information of significant value for LTC policy-makers, there exist a wide range of issues which can be addressed through evaluative research and which are critical to the planning of effective LTC policy.

We now come to the second stage in our analysis. As you will recall, policy-relevance was not the sole ground on which critics have found fault with existing evaluations. Indeed, for each point raised contesting the utility of findings which have been presented, those who have reviewed the evaluation literature in this field could probably list at least one equally troublesome aspect with the methodologies which have been employed. Overall, these design centered criticisms fall into two categories: the non-experimental nature of the research methods employed and the weakness and non-standardization across studies of the measurement instruments used for data collection. As Dr. Caro has addressed the question of measurement, I will focus the remainder of my presentation on a discussion of design issues. Specifically, I would like to offer a description of the quasi-experimental design I employed in the evaluation of a LTC demonstration recently completed in Chicago -- one which I feel has the potential to provide valid findings to many of the research questions which should be the central concern of evaluators as the next phase of research in this arena unfolds.

The particular program to which I will be referring is the Hospital Discharge Demonstration Project, or HDDP. Funded by the State of Illinois, the HDDP provided short-term, in-home assistance to impaired persons sixty and older upon discharge from nine participating hospitals on Chicago's southeast side. The University of Chicago Hospital served as the lead facility through which the operational and research elements of the project were adminstered.

Given the benefits hypothesized to result from the services provided, ethical considerations prevented, as they have in most such studies, the implementation of an experimental research design with random assignment of applicants to treatment and control conditions. As you are no doubt aware, random assignment provides the researcher with the assurance that post-treatment differences between research groups are the result of services received by a project's clients and not of pre-existing differences between the groups on characteristics related to the outcome measures. When it is not possible to use an experimental approach, the researcher must select a quasi-experimental design which not only permits control for such pre-treatment differences but which also allows control for as many other factors as possible which might confound the researcher's ability to attribute outcomes to the treatment being studied.

The benefit of the particular quasi-experimental design selected for evaluation of the HDDP, cohort analysis, lies in its capacity to at least produce a control group which is highly equivalent to treatment recipients on critical control variables. As Cook and Campbell describe it in their book Quasi-Experimentation, a cohort design involves the comparison of groups of respondents who follow one another through a formal or informal institution in which a treatment innovation is introduced. (4) In this way, a cohort which enters the institution during the period in which the services are in place can be compared with another which preceded or followed it but for whom no such service was available. The value of the technique lies in the fact that it is often reasonable to assume that a particular cohort differs in only minor ways from its contiguous cohorts. The shorter the time span between the selected cohorts, the more reasonable this assumption becomes.

The cohorts studied in evaluation of the HDDP were patients who were admitted to the participating hospitals during the winter and spring months of 1980 and 1981. Outcomes on a sample of 190 HDDP clients referred for service between March and May of 1981 were compared with outcomes evidenced in the medical records of 105 patients who had been discharged between March and May of 1980, the winter before the Project's inception, from one of four randomly selected participating hospitals.

Data on the achieved comparability of the two study samples supports the recommendation that cohort analysis represents a quasi-experimental approach with significant potential to produce valid findings concerning the impacts of non-institutional alternatives in LTC. These data indicate that the two HDDP study groups were highly comparable on several important background characteristics. To begin with, the samples were not statistically distinguishable in racial or age composition although the control cohort did appear to have a significantly higher proportion of males. While the age distribution of the controls appeared skewed toward the younger categories, a T-test of the difference in mean age between groups indicated a lack of statistical significance.

The data also revealed no differences in the medical characteristics of the two groups. Not only did they tend to suffer a similar average number of chronic disabling medical conditions, they were also remarkably similar with respect to the nature of the illnesses for which they had been admitted. Almost twenty-five percent of patients in both groups were admitted for treatment of some form of cancer while an additional ten to fifteen percent were admitted for conditions involving the cardiovascular system. The two samples were also equivalent with respect to the frequency with which they suffered from medical conditions other than that for which they had been admitted.

The one characteristic on which a direct test of equivalence was not possible but would have added greatly to the strength of the analysis concerns the level of formal and informal supports available to the two groups. The inability to pursue an analysis of the comparability of the two groups on this variable stemmed from the fact that data for the controls was limited to the information which was contained in their medical record. Clearly, if the controls had been receiving some amount of assistance from formal or informal sources at levels equal to or greater than the quantity of service provided to treatment group members through the HDDP, the interpretation of the findings on the outcome measures would have been significantly confounded. However, the equivalence of the two groups on characteristics associated with the need for service for which data were available lends support to the assumption of cohort analysis that the two groups were probably similar with respect to this and other variables for which no information was obtainable.

At this point it is instructive to point out that the potential of cohort analysis to generate equivalent study samples is mediated, as it is in the case of any quasi-experimental situation, by external political and organizational realities and by the ingenuity of the researcher in taking advantage of whatever idiosyncratic features of the situation will help maximize the assurance of comparability. In the case of the HDDP, for example, external factors worked to the researcher's advantage in combatting the difficulty, just mentioned, of not being able to directly test equivalence on the level of alternative sources of assistance available to both groups. Specifically, there was strong reason to presume the absence of any formal community-based services of which members of the control cohort would have made use had they been available. First, intake into the state's Community Care Program was restricted at the time in which the control group was sampled. Furthermore, the level of free social services generally available to the relatively impoverished residents of the study area is recognized to be very low. Thus, faced with no access to the state's primary source of non-income tested community-based LTC, it was likely that members of the control cohort had no other formal sources of aid to which they might turn.

In addition, it was possible for the researcher to maximize the equivalence of the study groups by instituting a purposive sampling technique for selecting the medical records which would provide the control group data. Specifically, only patients who had been referred for discharge planning to the social service departments of the hospitals participating in the sampling process were included in the control condition. It was reasoned that elderly persons in need of discharge planning would not only be likely to require some post-discharge LTC assistance, but that they would also be likely to have few formal or informal sources of aid through which to meet these needs. Indeed, it was these two criteria which guided the referral of patients to the HDDP itself, and thus to the treatment group of the study.

The point being made here is that while cohort analysis has a <u>built-in</u> capacity for generating a control group with substantial similarity to a demonstration's client population, the researcher may be able to build on this base in such a way as to further strengthen the assurance of comparability.

It is, of course, true that the equivalence of treatment and control groups is only one criterion on which the validity of attributing outcomes to services provided under a quasi-experimental approach to evaluation is based. A different threat is represented by the fact that the study groups in a cohort design are sampled from two distinct periods in time and ~~they~~ may, as a result, have been differentially subjected to contextual influences related to the study's outcome variables, thereby confounding interpretation of the results. This difficulty is known as an history effect in the jargon of the field, and Cook and Campbell discuss several methodological ways around it in their book cited earlier. Whatismore, the researcher is often in a position to identify ahead of time the possibility of confounds from the historical context of a study and thus to determine the wisdom of applying cohort analysis under existing conditions.

And now we have come full circle. For, while a cohort approach to quasi-experimentation receives a positive rating on its methodological soundness, we must ask whether or not it is capable of providing data on policy questions of more interest to LTC analysts than those related to comparative cost and effectiveness of community-based and institutional LTC. Here the otherwise confident appraisal of the success of this design as applied in the context of the HDDP becomes slightly tarnished, in that the range of project outcomes which could be studied was limited. This situation resulted from a fact already cited, that data for the control cohort was restricted to that which was available in their medical records. Concern for patient confidentiality prevented release of the names of the individuals whose medical files were used for generating control data and consequently it was not possible to contact them for the purpose of expanding the outcomes studied.

The lesson to be drawn here is that the potential of cohort analysis to address policy-relevant questions depends on the capacity of the researcher to maximize the data available on the control sample. One way of achieving this end in future studies would be to select for the control condition, the cohort whose entrance into the institution from which the study will be conducted post-dates termination of the demonstration services. In this way, permission for participation in the study can be obtained directly from the patients themselves and the range of information collected on them greatly expanded. A similar end could be achieved in cases where there is no identified point of termination of the demonstration services by beginning the research early enough to employ as controls individuals who enter the study cite prior to the initiation of demonstration services. Barring either of these alternatives the researcher must be as compelling as possible in his or her request for access to the names and address of persons whose administrative records are chosen to represent the control condition.

The utility of cohort analysis in LTC evaluations receives further support when it is recognized that many non-instutitional LTC programs will be provided through hospitals -- the setting most amenable to application of the design. Stassen and Holohan's 1981 review of past demonstrations reveals that at least ten of fourteen small scale projects described were hospital based. This makes sense given the greater vulnerability of the recently discharged elderly patient and suggests that the hospital may be a setting frequently selected for studies conducted in years to come.

Finally, it must be noted that valid and policy relevant findings from individual demonstrations serve little purpose if the results can not be synthesized with those of other projects to provide a more in-depth and comprehensive understanding of the different outcomes associated with alternative approaches to providing community-based LTC. Thus, process evaluations clarifying the specific nature of alternative strategies for provision of non-institutional service are sorely needed as are the development of valid and reliable measurement instrumentss and their standardized application across studies. At the same time, such comparative analyses can not even be attempted until the findings generated through individual projects begin to approach an acceptable level of validity and utility. In this respect, more frequent application of cohort analysis, wherever possible, may prove to be a valuable first step.

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