Program Planning and Evaluation Practices of Local Health Department Nutritionists

JOYCE A. VERMEERSCH, DrPH, and EILEEN B. PECK, DrPH

THE GROWING DEMAND for health services and the increased competition for funds in all areas of the public sector have stimulated the need for more systematic planning and formal evaluation of health programs. Since the 1960s a number of articles have appeared in the literature to acquaint public health professionals with methods of planning and evaluation that are applicable to the services they provide. In addition, greater emphasis has been placed on planning and evaluation in professional training, and special workshops have been sponsored to continue the education of health professionals in the field.

Despite these efforts, there are indications that the actual practice of program planning and evaluation may be less than what is advocated in the literature. Waters (*1*) studied the activities of comprehensive health planning agencies and concluded that a significant disparity exists between the concept of planning and the extent to which it is done. Ellis (*2*) reached the same conclusion in an earlier review of problems encountered with program evaluation in a local health department. He maintained that filling the gap "will require as carefully designed an approach as does the initiation of any service program." Identification of factors that facilitate or impede program planning and evaluation in health agencies is an essential step in any attempt toward improvement.

We report a study undertaken to examine current program planning and evaluation practices of local health department nutritionists and to identify some factors associated with these practices. The findings have specific implications for nutritionists and provide a basis for recommendations to improve the planning and evaluation practices of other health program personnel.

Study Population

The study population consisted of all nutritionists who could be located in generalist positions in city or county health departments in the United States. The term "generalist" refers to the nutritionist who "assesses community nutrition needs, plans, directs, coordinates, and evaluates the nutrition component of health services" (*3*). These nutritionists have broad responsibilities in local health departments. Their services are not restricted to particular health problems, programs, or target groups. In theory, the general nutritionist who works for a city or county health department is charged with coordinating nutrition services for the community as a whole.

The rationale for selecting nutritionists as subjects for the study derives from the clear assignment of planning and evaluation in the definition of their role and from the diverse nature of their responsibilities. The latitude which general nutritionists have in chosing activities suggests that planning and evaluation would be crucial for decision making irrespective of specific role assignment.

Definition of Variables

Dependent variables in the study are the kinds of planning and evaluation nutritionists typically do for the services they provide and the elements of the planning and evaluation process they employ. These elements vary according to the nature and scope of a program. For purposes of this study, a system known as POME was used to define the basic elements of program planning and evaluation: identification of PROBLEMS, statement of OBJECTIVES, specification of METHODS, and EVALUATION of results. The POME process assumes that (*a*) problem identification is based on data that show an undesirable situation in a population, (*b*) objectives are stated as the intention to reduce or eliminate the identified problem, (*c*) methods are chosen after alternatives are considered, and (*d*) evaluation is at the outcome level—that is, evidence is sought that the program has been effective in meeting its objectives. This type of program planning and evaluation

☐ *Dr. Vermeersch is assistant professor, Department of Nutrition, University of California, Davis, Calif. 95616. Dr. Peck is assistant professor in residence, School of Public Health, University of California at Berkeley. Tearsheet requests to Dr. Vermeersch.*

differs from the more subjective process in which priorities are set according to an unmeasurable criterion of "felt need" and evaluation is done by counting program outputs such as the number of persons served.

Independent variables associated with program planning and evaluation practices are categorized as organizational and personal factors. These two categories are based on theories of role performance in organizations which propose that people's behavior is influenced by their expectations and by the expectations of those with whom they interact (*4*). Since planning and evaluation is an assigned role function of general nutritionists, it can be supposed that the nutritionist must see herself in the "role" of planner and evaluator and perceive that she has sufficient support from others in the organization to expect that her planning and evaluation function can be carried out.

Data to assess these variables were collected in two phases. Phase one was an exploratory survey among 24 general nutritionists in California to determine a means of measuring program planning and evaluation practices and to seek hypotheses about ways in which specific factors within the two broad categories of independent variables might influence them. Phase two consisted of testing the hypotheses on a larger sample of general nutritionists in other States.

Exploratory Survey

Methods and findings. The survey in California was conducted by interviews and a followup questionnaire. The interviews were tape-recorded and contained both structured and unstructured aspects. Planning and evaluation practices were discussed, and copies of written plans or evaluations, or both, prepared within the past year were requested from each nutritionist. Information on personal background and job responsibilities was also collected. Focused but unstructured conversation enabled each nutritionist to express opinions about her role, her style of role performance, management practices in the agency, and working relations with other health department personnel.

Analysis showed considerable variation in planning and evaluation practices, but a distinction could be made between nutritionists who had written plans or evaluations containing one or more of the POME elements and those who employ more informal and subjective methods.

Written plans were prepared by 13 of the 24 nutritionists; 3 of these, however, had administrative plans that were not directed at their own activities. Administrative plans propose a reorganization of nutrition services or the need for additional nutrition staff but they lack data-based problem statements and outcome-oriented objectives and evaluations. Plans containing POME elements were those prepared for major long-term services of the nutritionist and written as separate projects, as a comprehensive nutrition program, or as a nutrition component of a larger health department program. Such plans are typically directed at specific nutrition or health problems in a target population but vary in the extent to which they include the other elements of POME. Only two nutritionists had written plans containing all four POME elements.

The remaining 11 of the 24 nutritionists used informal planning and evaluation methods in which general goals, methods, and effects of services are considered but are not formally determined and are seldom written. This type of planning is usually done for unrelated activities in which the nutritionist has only a one-time or short-term involvement.

To identify factors associated with different degrees of program planning and evaluation, we compared the statements tape-recorded during the interviews of the nutritionists whose practices contained elements of the POME process and those whose practices did not. These comparisons led to the formulation of hypotheses about the association of specific organizational and personal factors. The followup questionnaire was used to refine the hypotheses in California before they were tested on a national sample.

Discussion of hypotheses. Although knowledge of program planning and evaluation methodology is a necessary prerequisite to program practice, the interview responses in California suggested that this is only one of many factors. Writing program plans and collecting data for evaluation requires diverting time from ongoing services and other activities. Based on the findings in the California survey, we hypothesized that certain organizational and personal factors increase the likelihood that nutritionists will divert time to program planning and evaluation. The organizational environment, the formal authority of the nutritionist, her professional training, and her personal need for achievement were believed to have a positive association with planning and evaluating by the POME process.

An organizational environment that supports program planning and evaluation can be measured by the management techniques employed throughout the agency and by the nutritionist's immediate super-

visor. Planning and evaluation is more likely to be done when the supervisor requires the nutritionist to submit a written report of her activities. Also, an annual statement of an agency's goals and programs can encourage staff to write program plans. Other planning-oriented techniques such as management by objectives and program budgeting can be additional incentives when they are used agencywide. Efforts to do formal program planning and evaluation are also fostered when management has offered information on how to do it at staff meetings or through inservice education. We therefore hypothesized that nutritionists are more likely to carry out program planning and evaluation when they work in agencies that use these techniques.

A person's formal authority in an organization is determined by control over decisions affecting policies, budget, and personnel. Nutritionists who contribute to agency-level planning, write their own budgets for nutrition services, and supervise others have more authority to act as "program managers" than nutritionists who have little or no control over anything but their own time. We postulated that nutritionists who possess formal authority feel more pressure for accountability and are therefore more likely to plan and evaluate their services.

Although lack of organizational support may impede planning and evaluation, some nutritionists may still plan and evaluate their services—depending on their personal backgrounds, traits, and interests. The role perception which develops during professional training can lead the nutritionist to expect that she is supposed to do program planning and evaluation whether or not the agency supports it. In addition, the nutritionist may have a strong personal need for achievement and derive satisfaction from the task-oriented planning process and the sense of accomplishment that evaluation can provide. Need for achievement is indicated by the nutritionist's desire to do things the "right" way, to set priorities according to their potential for success, and to have objective evidence that justifies use of time and satisfies the need to know that something has been accomplished.

In contrast to the factors believed to support program planning and evaluation, certain other organizational and personal factors appeared to impede its practice. Factors hypothesized to have a negative association with program planning and evaluation include ambiguity in role performance, a personal orientation to social service, a reactive style of role performance, and perceived conflict in the roles of planner and provider of services.

Ambiguity in role performance results when people are uncertain about the expectations others have concerning their behavior or they lack sufficient feedback to anticipate how a change in behavior would be received. The nutritionist who does not know the health department's priorities, has little or no direction from her supervisor, does not know how her performance is evaluated, and believes that the department's services are not well coordinated may be less inclined to risk changing the status quo by diverting time from current activities to planning and evaluation.

An orientation to social service is defined as personal job satisfaction derived primarily from working with and helping people. In contrast to the nutritionist with a strong need for achievement, the nutritionist oriented to social service believes that engaging in service itself is as gratifying as is evidence that the service has produced a measurable result. She also thinks that acceptance of her program by the people she serves is important, and she dislikes the statistical emphasis of planning and evaluation because this aspect of her program is difficult to quantify. Unless planning and evaluation is specifically required, she would be reluctant to do it when time spent in services offers greater personal reward.

Style of role performance is believed to be associated with planning and evaluation because it affects the way decisions about services are made. The nutritionist who has a reactive style provides services according to the requests she receives from others. This nutritionist believes that requests should never be denied because her role is to fill the needs of those who ask for help.

Because requests come from many sources, the nutritionist with a reactive style of role performance is engaged in a number of unrelated short-term activities. Plans for such activities were found least likely to contain elements of the POME process in California. This is understandable since, in most cases, it would take longer to write formal plans and do outcome evaluation than to perform the activity. Altering her style to one that is more compatible with program planning and evaluation risks personal role conflict for the nutritionist in that some requests might have to be denied. Planning activities in advance also adds a certain amount of rigidity to the program, which may interfere with opportunities to engage in new activities as they arise. Furthermore, if the nutritionist perceives that others in the department see her role primarily as servicing their requests, her own reactive style of role performance as

well as a personal orientation to social service not only support this impression but make it difficult to change.

The National Survey

Methods. The preceding hypotheses were tested by a survey of 190 nutritionists in 27 States. This sample included all nutritionists who could be located in generalist positions comparable to those studied in California. It excluded nutritionists in State health departments and those in local agencies who work in special health projects.

The data were collected by use of a mailed questionnaire. It contained items which assessed planning and evaluation practices, the organizational environment, and formal authority as well as general information on the nutritionists' educational degrees, sources of information on program planning and evaluation, and how well they thought these sources had prepared them to practice it in their present jobs. Perceived role conflict and ambiguity in role performance were assessed in a series of statements with which respondents were asked to agree or disagree. Orientations to achievement, social service, and style of role performance were ascertained by sets containing three statements each. For each set, respondents were instructed to rank the statements as most characteristic of themselves, least characteristic, or in between.

The statements in the questionnaire were those made by nutritionists during the California interviews. This format was chosen to minimize distortion of the opinions expressed by the California nutritionists and to interest nutritionists from the other States in responding to the questionnaire. Of the 190 questionnaires mailed, 160 or 84.2 percent were completed and returned.

The portion of the questionnaire concerning program planning and evaluation practices contained the question: "Have you prepared any written plans and/or evaluations for any of your activities over the past year?" Those answering affirmatively were directed to check items on two lists to describe the nature and elements of their planning and evaluation. One list contained the various kinds of plans discovered among nutritionists in California. The other list contained the four elements of POME along with additional planning and evaluation tools such as measures of program outputs, cost-benefit analysis, and program evaluation review technique (PERT).

Nutritionists who reported having no written plans or evaluations were assigned a program planning and evaluation (PP&E) score of zero. A PP&E score was computed for the others according to the number of items they had checked from the two lists. The POME elements and the plans found most likely to contain them in California were weighted so that nutritionists who checked these items received a higher total score. By this method, the maximum score that could be attained was 25 points.

Items that measured organizational and personal factors were scored by numerical values assigned to each response. Negative and positive answers to questions assessing the organizational environment and formal authority of the nutritionists were scored as 0 to 1. The scores for other variables increased in value according to the respondent's strength of agreement or ranking from least to most characteristic. Indexes for the organizational environment, ambiguity in role performance, formal authority of the nutritionist, personal need for achievement, orientation to social service, and conflict in the role of planner were devised by summing the scores from individual responses related to each construct.

Planning and evaluation practices. The percentage of the 160 respondents who checked each item descriptive of the nature and elements of their program planning and evaluation was as follows (percentages total more than 100 because respondents could check more than one item):

Type of plan and elements	*Percent of nutritionists*
Type	
Comprehensive for the nutrition program	21
Separate long-term projects	35
Nutrition component of a larger health program	21
Administrative	18
Separate short-term activities	53
Elements	
Data-based problem statement	50
Outcome objectives	28
Methods chosen from alternatives	39
Outcome evaluation	45
Measures of program outputs	45
PERT or similar technique	15
Cost-benefit analysis	9

Short-term activity plans were reported by the greatest percentage of respondents. Because types of plans and elements were assessed by two separate lists and more than one type of plan could be checked, it is not possible to identify which types were more likely to contain POME elements; however, only 25 or 15 percent of the 160 respondents said their plans and evaluations contained all 4 elements of POME.

Of the 160 respondents, 38 or 24 percent stated that they had not prepared written plans or evaluations during the past year. When the scoring pro-

cedure was applied to the responses of the remaining 122, the scores ranged from 3 to 23 points. The mean PP&E score for the entire sample was 8.4. Although the scoring method has some limitations, we can conclude that patterns of program planning and evaluation among nutritionists in other States do not differ significantly from those of nutritionists in California.

Analysis of associated factors. Scores on independent variables were compared with PP&E scores by standard methods (*5*) to compute correlation coefficients. Tests of statistical significance were applied to the association of each variable and each index. With an N of 160, $P = < .05$ when $r = \geq .16$; $P = < .01$ when $r = \geq .21$.

The correlations between organizational and personal factors and PP&E scores are shown in tables 1 and 2. Table 1 indicates that most of the respondents have had information on how to perform program planning and evaluation. As might be expected, nutritionists who believe that the information has well prepared them to practice planning and evaluation in their present jobs tend to have higher PP&E scores ($r = .33$). Those who received information from a greater number of sources also are more likely to feel well prepared ($r = .54$) and to carry out planning and evaluation ($r = .32$). The single source of information that has the most significant correla-

Table 1. Sources of information on program planning and evaluation (PP&E) reported by 160 nutritionists

Source of information	*Number of nutritionists* [1]	*Correlation with PP&E scores*
College	70	.16
Special workshops	101	.20
Health department staff meetings or inservice education	89	.32
Professional meetings	85	.06
Journals and books	101	.12
Other	21	.07
None	10	−.21

[1] Sum exceeds 160 because respondents could check more than 1 source of information.

Table 2. Correlations of organizational and personal factors with program planning and evaluation

Positive correlation hypothesized		*Negative correlation hypothesized*	
ORGANIZATIONAL FACTORS	*r*	*ORGANIZATIONAL FACTORS*	*r*
Organizational environment:		Ambiguity in role performance:	
Agency has annual plan	.29	Does not know agency priorities	−.19
Agency uses management by objectives	.29	Has no direction from supervisor	−.13
Agency uses program budgeting	.32	Does not know how performance is evaluated	−.19
Supervisor requires plans	.29	Perceives lack of coordination among services	−.18
Summative index	.43	Summative index	−.18
Formal authority of nutritionist:			
Contributes to agency planning	.48		
Writes budget for nutrition	.36		
Supervises others	.36		
Summative index	.54		
PERSONAL FACTORS	*r*	*PERSONAL FACTORS*	*r*
Professional training (educational degree):		Social service orientation:	
MPH (.39) [1]	−.05	Wants to help people	−.06
MS (−.12) [1]	.17	Likes working with people	−.16
BS only (−.22) [1]	−.16	Thinks service is more important than planning and evaluation	−.10
Need for achievement:		Thinks program acceptance is as important as measurable results	−.08
Wants to do things the "right" way	.22	Summative index	−.16
Chooses priorities by potential for success	.19	Reactive style of role performance (role is to answer requests)	−.23
Wants to justify use of time	.30	Conflict in role as planner:	
Needs sense of accomplishment	.26	Planning interferes with requests	−.27
Summative index	.32	Planning interferes with new activities	−.23
		Others do not view nutritionist in planning role	−.27
		Summative index	−.35

[1] Information on planning and evaluation in college.

tion with practices is staff meetings or inservice education sponsored by the health department ($r = .32$).

The type of educational degree held by the nutritionist may influence expectations about program planning and evaluation but it has little association with actual performance on the job. Table 2 shows that nutritionists who have an MPH degree are the only ones likely to have had information about planning and evaluation in college ($r = .39$), but there is no positive correlation between an MPH degree and PP&E scores. Nutritionists with an MS degree are most likely to have received information on PP&E at health department inservice sessions ($r = .16$). The positive correlation between an MS degree and PP&E scores is therefore more likely a consequence of where they work rather than a function of the degree itself.

The primary importance of the organization is shown in table 2. The indexes for formal authority of the nutritionist and the organizational environment produced the highest correlations with PP&E scores of all variables tested ($r = .54$ and $.43$ respectively). Ambiguity in role performance shows the predicted negative association with PP&E scores ($r = -.18$), but it has a more significant negative correlation with the organizational environment index ($r = -.50$). Inter-item correlations between the two indexes reveal an influence of management by objectives in clarifying health department priorities for the nutritionist ($r = -.34$). The nutritionist whose supervisor requires her to write plans or evaluations, or both, of her activities is less likely to agree that she does not know how her performance is evaluated ($r = -.50$) or that she has no direction from her supervisor ($r = -.42$).

All personal factors hypothesized to be associated with the practice of program planning and evaluation showed statistically significant correlations in the predicted directions, but the levels for a reactive style of role performance and the social service index do not account for much of the variation in PP&E scores. A reason for the relatively low correlations is that few of the nutritionists were inclined to rank the statements indicative of these traits as least characteristic of themselves. For example, only 39 of the 160 responded that a reactive style of role performance is least characteristic.

Comparisons between the responses of the nutritionists to statements about personal traits and their scores on the formal authority index are instructive. Table 3 shows that none of the nutritionists who have the maximum score on the formal authority index characterize themselves according to the reactive style. A far greater proportion who characterize themselves this way have little or no formal authority in the organization.

Table 3. Formal authority of the nutritionist and reactive style of role performance

Authority index score	Number of responses to reactive style		
	Most characteristic	In-between	Least characteristic
0	32	16	13
1	28	14	9
2	9	9	12
3	0	8	10

$X^2 = 19.7$; $P < .001$.

As shown in the following table, nutritionists with a reactive style of role performance are less likely to be oriented to achievement, more likely to be oriented to social service, and more likely to perceive conflict in the role of planner than nutritionists who possess formal authority.

Factor	Reactive style	Formal authority
Need for achievement	−.33	.36
Orientation to social service	.44	−.21
Conflict in planner role	.34	−.31

The preceding findings indicate that general nutritionists, as a group, tend to be oriented toward social service and to respond to requests; however, for some, these traits are mediated by the need for achievement or the formal authority of their positions, or both. In turn, the need for achievement and formal authority increases the likelihood that these nutritionists will practice program planning and evaluation. Whether nutritionists with a reactive style are less likely to acquire formal authority in their organizations or whether formal authority demands relinquishment of the reactive style are questions that could not be addressed in this research.

Conclusions

The findings of the California and national surveys of local health department nutritionists confirm the impressions of other investigators that program planning and evaluation suffers a disparity between concept and practice. Some nutritionists, however, are doing more program planning and evaluation than others. In seeking explanations for the differences, it can be concluded that people's inclinations to do program planning and evaluation vary according to

personal traits and interests but that the formal authority of their positions and the environment of the organization are the most significant influences on actual performance. Planning and evaluation is essentially a management function which many program personnel have not traditionally performed. If it is to become a realistic role expectation, public health professionals must possess at least some control over resources and events which affect the program and its outcome.

Futher incentives for program planning and evaluation can be provided by agency management practices which are planning oriented. The negative association between ambiguity in role performance and the extent to which these management practices are employed suggests that they can also improve interdepartmental communications and coordination when they are used agencywide.

The relative importance of health department inservice on planning and evaluation compared with other sources of information also suggests that the introduction of new procedures into professional practice is more effective when education and training take place within the work environment.

The study has some specific implications for general nutritionists as well as others whose activities are largely self-determined. A desire to help and work with people is undoubtedly a primary motivation for those entering the service professions. This desire may be an underlying factor in the reluctance of nutritionists to deny requests, yet the fragmented activities that result from this style of role performance conflict with the need to define the parameters of a program and measure its effects. It is our impression that nutritionists can balance the desire to be of service with a planned program based on identified needs, but that it may require some re-orientation of the generalist role. Further investigation is necessary to clarify the relationships between personal and organizational factors associated with various styles of role performance. Since program planning and evaluation is only a tool of program management and not an end in itself, the ultimate goal of this research should be to determine what influence these role styles have on the effectiveness of nutrition services.

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SYNOPSIS

VERMEERSCH, JOYCE A. (University of California, Davis), and PECK, EILEEN, B.: *Program planning and evaluation practices of local health department nutritionists. Public Health Reports, Vol. 92, September–October 1977, pp. 466–472.*

A study was conducted among local health department nutritionists to determine their current program planning and evaluation practices and to identify organizational and personal factors associated with different levels of performance. Data were collected by interviews with 24 nutritionists in California, followed by questionnaires mailed to 190 nutritionists in 27 other States. Response to the questionnaire was 84.2 percent.

Analysis indicated much diversity in the nature of planning and evaluation practices, but a distinction could be made between nutritionists who have formally written statements of problems, objectives, methods, and evaluations and those who have more subjective and informal practices.

The most significant factors associated with the difference are the formal authority of the nutritionists and the management techniques of the agencies in which they work. Nutritionists who supervise others, write their own budgets, and participate in agency-level decision making do more formal planning and evaluation for their programs than nutritionists who do not have these responsibilities. Nutritionists who do program planning and evaluation also tend to work in agencies which have instituted planning-oriented techniques such as management by objectives and program budgeting.

Personal traits of the nutritionists show statistically significant but less highly predictive associations. Nutritionists who have a personal need for achievement are more likely to practice program planning and evaluation than those who have a reactive style of role performance, an orientation to social service, and who perceive conflict between their roles as planners and providers of services. Intercorrelations between formal authority and these personal traits suggest a need for further research.