COMMUNITY NUTRITION EXPERIENCES IN DIETETIC INTERNSHIPS/ PREPROFESSIONAL PRACTICE PROGRAMS

By

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CHAPTER I

INTRODUCTION

Today's health care industry is prompting an evolutionary change in the dietetics profession, causing an increased need for registered dietitians to expand their roles and responsibilities to work in the community. Working outside of the hospital setting is a requisite for dietetic professionals and a critical step towards a successful future for practitioners. Educators are also encouraging change. The current dietetics curriculum has a new focus that provides students with skills and expertise to be successful in these new roles. Dietitians have a professional obligation to provide nutritional care to the community. Because of the downsizing of hospitals and expansion of managed care, dietitians must be prepared to work in the community.

The earliest definition of dietetics was presented in *Hooper and Arerly's Medical Dictionary* in 1847 defining dietetics as a branch of medicine (Beeuwkes et al., 1967). Florence Nightingale contributed her expertise to dietetics by recognizing the importance of food service in the hospital. During the First World War, 365 dietitians were hired by the American Red Cross to serve the country (Payne-Palacio and Canter, 1996). The increase of dietetic professionals led to the founding of the American Dietetic Association in 1917. Dietetic Internships became a major part of the dietetic training in 1927, and by World War II, approximately 2,000 dietitians served in the war which broadened the practice of

dietitians thereby publicly recognizing the profession (Payne-Palacio and Canter, 1996).

Since the late 19th Century, dietitians worked as consultants, or visiting dietitians, in hospitals, educated medical professionals and worked on special services (Lanz, 1983). By the 1960's, the demand for consultant dietitians expanded rapidly due to the requirement for dietetic services under Medicare and federal legislation (Lanz, 1983). Community dietetics expanded from these roles and has continued due to the increased need of quality home health care and an increase in the elderly population.

It is imperative for dietetic internship directors to provide experiences in the community rotation that are conducive to these expansive roles of the practicing dietitian. Community nutrition programs that have developed since the beginning of the profession include government agencies such as the Special Supplemental Food Program for Women, Infants, and Children (WIC), Indian health services, public health programs; school food and nutrition services such as Head Start and Team Nutrition; outpatient hospital clinics including rehabilitation centers, diabetes clinics, and wellness programs; consultant practice including home health care, long-term care, and weight loss programs; and finally business and communications including pharmaceutical sales, media relations, and food product development. Applying dietetics in these community settings will offer new paradigms for the dietetic profession.

Nature of the Problem

The first review of a community nutrition rotation was recorded in an annual report by the *Journal of the American Dietetic Association* published in 1953. The paper was part of a project with the Professional Education and Community Nutrition Sections of The ADA on "Exploring the Experience and/or Observation in the Area of Community Nutrition Offered Dietetic Interns"(Caso, 1953). Community nutrition programs were seen as vehicles to developing and expanding the roles of the dietitian. Dietetic professionals working in the community were ethically motivated, focusing on contributing nutrition expertise to society.

The community nutritionist participated in plans for civilian defense and served as a consultant to institutions and home care settings. They offered educational services, took part in home-care programs, and worked in community agencies such as Head Start. Dietetic internships offered community nutrition as a rotation and interns gained experience with state, county, and/or city departments of public health, community agencies, and consultant dietitians (Caso, 1953).

In 1969, community nutrition experiences for dietetic interns were studied by Cowell and Rhyne (1969) to understand health care services, health and welfare services available in the community, and understand the public health nutritionists' and consultants' role in community nutrition (Cowell and Rhyne,

1969). Since 1969, there have not been any in depth studies performed on the community rotation of the dietetic internships.

In 1989, Moore et al. (1989) found that an average of 19.6 weeks of the dietetic internship focused on clinical rotation, 16.4 weeks were allotted to food management, and only 4.5 weeks were spent on community rotation. Studies on internships in the past have consisted mainly of the clinical rotations because educators and professionals often stress the clinical area of dietetics the most. Comprehensive health care, however, involves community nutrition as well as clinical nutrition and management skills.

The current health field is in an era of change due to the health care reform (Parks, 1994). There are 5 major forces that have reshaped career opportunities in dietetics: downsizing in hospitals, mergers and coalitions, managed care and managed competition, formation of integrated networks, and changes in referral patterns. These changes have prompted an increased need for documentation of Medical Nutrition Therapy in inpatient services, a decrease in hospitalized patients, shorter lengths of stay, and most importantly, an increase in care outside the hospital (Parks, 1994).

The Public Health Nutrition Practice Group of the American Dietetic Association provides guidelines for community nutrition educators (Binghay et. al., 1995). According to this group, characteristics of community nutrition supervised experiences should include training for the intern's nutrition/dietetic education or experience; and the length may vary depending on the intern's

specific needs and strengths. The training hours should be determined jointly by the supervisor and intern (1995).

This study will provide valuable information for dietetic internship directors, dietetic interns, professors in dietetics, and dietitians in the field regarding the current breadth and depth of community dietetics in supervised practice programs. This information will enhance the curriculum of supervised practices of dietetic practitioners, undergraduate course work, graduate studies, and the planning of future dietetics curriculum.

Purpose and Objectives

The purpose of this study was to examine the breadth and depth of the community nutrition rotation in the internship programs across the United States. The author analyzed the areas that were included in the community rotation of the supervised practice programs (DI/AP4) and compared them to the future roles of dietetic professionals. One objective of this study was to determine if all the dietetic internship programs and preprofessional practice programs provided a variety of community nutrition experiences in the rotation by examining the breadth and depth of the community nutrition rotation. A second objective was to determine if all dietetic internships and preprofessional practice programs provided similar experiences for their community nutrition rotations. The third objective was to determine if the personal variables of the directors of supervised practice programs affected the curriculum of the community nutrition rotation.

Definitions

Dietetic Internship (DI)- *Accredited program by the Commission on Accreditation/Approval for Dietetics Education of The American Dietetic Association.

Preprofessional Practice Programs (AP4)- *Approved, expected to be accredited by the year 2004, and will be designated Dietetic Internship.

*Supervised practice program sponsored by a healthcare facility, college or university, federal or state agency, business or corporation.

*Provides a minimum of 900 hours of supervised practice experiences to meet the Performance Requirements for Entry-Level Dietitians and the Standards of Education.

*Follows completion of ADA-approved Didactic Program in Dietetics and a baccalaureate degree.

*May be full-time or part-time and completed within a two-year period.

*Enables graduates to establish eligibility to write the registration examination for dietitians and/or apply for Active membership in The American Dietetic Association (ADA, 1997).

Community Nutrition- The branch of nutrition that addresses the entire range of food and nutrition issues related to individuals, families, and special needs groups living in a defined geographical area. Community nutrition programs

include those programs that provide increased access to food resources, food and nutrition education and health-related care. (Binghay et. al., 1995)

Community Nutritionist- members of community and public health agencies who are responsible for nutrition services emphasizing community health, disease prevention, and address the needs of individuals in primary/ambulatory care. They establish links with other health care professionals involved in child care agencies, elderly services, educational institutions, and community-based research. They focus on promoting health and preventing disease in the community by using a population and systems focus and a client and personal health service approach (Binghay et. al., 1995).

Types of experience- Four action verbs, "observe only", "assist/participate", "perform/conduct", and "consult/supervise", were used to describe four levels of performance. The higher the level of performance assumes the ability to perform at the lower level (ADA, 1997). These four action verbs are referred to as depth in hypothesis one and two.

Hypothesis of Research

The following hypotheses will be examined:

Null Hypothesis One: There will be no significant association between demographic characteristics of respondents and breadth (function and program

variables) and depth (observe only, assist/participate, perform/conduct, consult/supervise in activities) of community nutrition experiences.

Null Hypothesis Two: There will be no significant association between type of supervised program (DI/AP4) and depth (observe only, assist/participate, perform/conduct, consult/supervise in activities, and not applicable to community nutrition rotation) of community nutrition programs/functions.

Null Hypothesis Three: There will be no significant association between type of program (DI, AP4) and personal and program variables.

Assumptions

1. The questionnaire will be answered honestly and based on the present situation rather than the ideal situation.
2. The respondents will be open and willing to share all of their program's unique experiences and information regarding community nutrition experiences.
3. All programs explore a variety of areas in the community rotation for their dietetic interns.

Limitations

1. The study is limited to Directors of Dietetic Internships and Preprofessional Practice programs as found in the Directory of Dietetics Programs, 1996-1997 by The American Dietetic Association (ADA, 1996).

2. The study only includes those programs listed in the Directory of Dietetics Programs, 1996-1997 by The American Dietetic Association. It does not include additional programs listed separately from the book.

CHAPTER II

REVEIW OF LITERATURE

Introduction

In 1969, the first study of the community nutrition rotation of the dietetic internship was completed. Cowell et al. (1969) found the experience provided interns with "on-the-spot" training of society's living habits. An objective of the community nutrition rotation was to develop an understanding of the public health service. How have community nutrition rotations changed since this last study? Much of the recent literature has demonstrated a need for dietitians' expertise in the community. The following review of literature will support the growing importance of the community nutrition rotation in the dietetic internship and AP4 programs. This chapter will provide an overview of the history of community dietetics, which began with consultant dietitians working in the community as community dietitians (Caso, 1953; Lanz, 1983; Montag, 1967).

The dietetic internship program was modeled after the first program in 1903 by New York City hospitals (Gilbride and Conklin, 1996). Internships were designed to train students through planned, supervised instruction in clinical dietetics, foodservice management, and community nutrition. Gilbride et al. (1996) found that dietetic internships were beneficial for the students, preceptors, organizations, and the future profession. Benefits for the hospital or

program site included fewer costs in recruitment and training by hiring graduates, improved quality of patient care, increased educational stimuli of staff, recognition of the hospital, student ideas, job satisfaction of staff and improvement of staff's teaching skills. Staff dietitians acted as teachers in addition to their usual duties while involved in dietetic programs.

Conklin et al. (1994) found that as training progressed, students were assigned professional duties to be performed independently, without supervision. This study also found that 20% of the students working independently were assigned to a foodservice management rotation, 58% were involved with inpatient clinical nutrition and 10% were assigned to outpatient clinical nutrition. The percentage differences point out to format differences of each rotation.

A study by Moore (1989) sought to determine the format of dietetic internships to gain an understanding of the learning experiences, formal classes, projects, work schedules, stipends and methods of evaluation in the programs. They found that of the three parts: clinical, food management, and community nutrition rotations, the times allotted to each rotation were significantly different. The average length of time for the clinical rotation was 19.6 weeks, the foodservice management rotation was 16.4 weeks, and the community nutrition rotation was 4.5 weeks. Furthermore, there was a decrease in time allotted for food management and community experiences in programs of 10 months or less. The study found, in descending order of importance, that the community nutrition rotation consisted of experiences in WIC, nursing homes, school

systems, Meals on Wheels, county extension, dialysis centers, industry, retail food stores and others (1989).

Brown and Fruin (1989) conducted a study to determine management tasks and management performance levels of community dietitians, the percent of time community dietitians at different management levels spent on management tasks and a definition of "community dietetics". A four part survey was conducted covering demographics, management activities, estimating percentages of time performing management tasks and open-ended questions to define community dietetics.

Fifty-one percent of the questionnaires were returned. The survey found that the majority of community dietitians held bachelor's degrees in dietetics and graduated from a dietetic internship. There were nine different definitions of community dietetics. Forty- three percent of the respondents defined community dietetics as "the spreading of nutrition information to the general population or specialized groups while taking into account needs and wants of individuals...dealing with normal nutrition, though some modified nutrition is also covered for specialized groups" (Brown and Fruin, p.375, 1989).

Community dietetics was defined by 24% of the respondents as "any form of dietetics practice outside a formal controlled setting", and 17% defined it as "the planning, supervising, implementing, and evaluating of nutrition programs in the public community or health and service organizations" (Brown and Fruin, p. 375, 1989). Finally, 7% defined community nutrition as any nutrition program funded by the state or federal government. The respondents also listed 20 job

categories within the community dietetic field. The major positions listed included child feeding programs, government health departments, sports and health centers, home health care and health maintenance organizations, and private practice and consulting. The authors concluded by stating that the variety of definitions and positions in community dietetics indicates the diversity of the community nutrition field (1989).

Consultant Dietitians

Caso (1953) was the first to define community nutritionists as consultants serving institutions, home care settings, and small hospitals without trained dietary personnel. Caso (1953) described an example of community rotation experiences, which were developed by two internship directors from Oklahoma City, OK. These experiences included working with a dietary consultant, the school lunch division, home visits; observation and participation with food service managers in child-care homes, small hospitals, elderly homes, and other institutions (Caso, 1953). A dietary consultant as defined by Montag (1967), advises and assists public and private establishments with food service management production and nutritional problems in group feeding. Consultants work in areas such as child care centers, hospitals, nursing homes, and schools. The consultant plans, organizes, and conducts in-service training and conferences; works with food service managers, food handlers and other workers; develops and evaluates educational material; evaluates food service

practices and recommends improvements; and works with architects and equipment personnel in layout and design of food service units. Montag stated that the consultant is to provide "advice, counsel, and service the supervisor"(Montag, p.139, 1967).

Briley et al. (1994) defined community nutritionists as professionals working with community health agency staff and community health programs responsible for nutrition services emphasizing community-wide health promotion, disease prevention, and the needs of individuals in primary and/or ambulatory care (Binghay et al., 1995). According to The Public Health Nutrition Practice Group of The American Dietetic Association (1995), community nutritionists provide services to child care centers, elderly, educational research and institutions.

Dalton et al. (1993) conducted a study to assess the level of job satisfaction of clinical, community, and long-term care dietitians working in New York City. The study compared the level of job satisfaction of registered dietitians with registration status, work status, and professional position. Using the Job Descriptive Index (JDI), job satisfaction was determined by examining six factors: work, pay, promotion, supervisors, coworkers, and the job in general. The study was then compared to a 1982 National Study on job satisfaction of dietitians and a South Carolina study on job satisfaction of dietitians.

Of the respondents in the study, 28.6% worked in hospitals (clinical), 35% worked in long-term care facilities, and 36.4% worked in community agencies. Community program participants represented in the study worked for WIC

centers, health maintenance organizations, ambulatory home health care, pediatric centers, and city or state agencies. The respondents were sorted into three main groups, managers (66% RDs), staff dietitians/nutritionists (47% RDs), and private practice/consultants (98% RDs). Sixty percent of the community nutritionists and 51.8% of the long-term practitioners were not registered dietitians. Fifty-eight point three percent of the respondents were registered dietitians (Dalton et. al., 1993).

The New York City study found that dietitians were less satisfied than those in the national and South Carolina study. The results found that consultants were more satisfied with work, pay, promotion and job than the managers. The study also found that dietitians were very dissatisfied with pay and promotion. Dietitians are the lowest paid among health professionals, however, Dalton et al. concluded that dietitians are satisfied with their jobs in general, but desire higher salaries and opportunities for advancement (1993). According to an ADA data base dietitians in management, community, private practice, and education have higher salaries than clinical dietitians and this may be due to a low level of advancement opportunities for clinical dietitians (Dalton et al., 1993).

The following role delineation study and practice audits have been presented to support the programs and functions listed in the survey used to conduct the research for this study. The American Dietetic Association developed a role delineation study of entry-level positions for registered dietitians and dietetic technicians. The study also examined practice patterns of beyond-

entry-level registered dietitians (Kane et al., 1990). The role delineation study's purpose was to determine what practitioners do in their work. Respondents answered three questions about each activity. Activities were divided into nine categories and evaluated based on involvement, policy setting and doing roles for entry-level dietetic technicians, entry-level registered dietitians, and beyond-entry-level registered dietitians. Seventy-seven and one half percent of entry-level registered dietitians responded, 78.7% of beyond-entry-level dietitians responded, and 68.5% of entry-level dietetic technicians were included in the study. The results of the work setting question found that all three groups mostly chose "inpatient care, acute-care facility". Most of the entry-level dietitians worked in settings that involved providing health care to clients. The beyond-entry-level dietitian selected areas of work in a range of settings including inpatient, acute-care, ambulatory/outpatient care, foodservice, faculty positions, and consultant work (Kane et al., 1990).

The beyond-entry-level RD had the most administrative responsibilities, had higher percentages of administrative titles and more responsibility for the "policy-setting" roles (Kane et al., 1990). The study also analyzed the entry-level dietetic technicians, entry-level registered dietitians, and beyond-entry-level registered dietitian's involvement in job activities. The four specific roles (advising, policy setting, supervising, and doing) indicate differences of involvement in different activities of the three groups. Providing nutrition care to individuals, had the highest average level of involvement for all three groups

(Kane et al., 1990). Conducting research had the lowest involvement of all three groups.

Thirty-three percent of the entry-level registered dietitians reported being involved in management of food and other material resources; whereas 42% of the entry-level dietetic technicians and 41% of beyond-entry-level dietitians reported being involved with these activities. Providing nutrition care to individuals had high averages for all three groups. The entry-level registered dietitians had the highest response of involvement for this category. Providing nutrition programs for population groups, involved entry-level registered dietitians and beyond-entry-level registered dietitians; the entry-level dietetic technicians had the lowest average for involvement in this category.

In managing financial resources, involvement levels were lowest in all three groups however, beyond-entry-level RD's had the highest value for involvement followed by entry-level registered dietitians. Marketing of services and products had low values in all activities for all three groups. The activity teaching dietitians and other professionals/students had three times the highest involvement level for entry-level registered dietitians and beyond-entry level dietitians than the entry-level dietetic technicians (Kane et al., 1990). In conducting research the values for all three groups were low. In managing human resources, the beyond-entry-level registered dietitian had the highest level of involvement indicating a greater administrative responsibility.

In managing facilities, the beyond-entry-level registered dietitians had the highest level of involvement of all three groups. The entry-level registered

dietitians had more than 70% involvement in 22 activities that came from providing nutrition care to individuals. The entry-level registered dietitians had higher averages in the "policy-setting" role than the entry-level dietetic technicians. The authors concluded that the entry-level registered dietitians were more likely to work in inpatient care, acute-care facilities, community/public health programs and ambulatory care. They were more involved in a wide variety of activities concentrating in nutrition care for individuals. The entry-level registered dietitians reported having more responsibility for policy setting than the entry-level dietetic technicians did, however, the beyond-entry-level registered dietitians had the highest level of responsibility in this setting (1990).

The 1995 Commission on Dietetic Registration (CDR) Dietetics Practice Audit was a continuation of the 1989 study. This study was designed to analyze the different levels of responsibility of dietitians in different areas of practice. The study was also used to determine the types of changes that would occur in practice within the following years. The study included a practitioner survey and an employer survey that was developed to determine future responsibilities of dietitians and dietetic technicians. In the practitioner survey, 3,139 employed dietitians and 604 employed dietetic technicians were studied. The employer survey had a 40% response rate for dietitians and a 43% response rate for dietetic technicians.

The practitioner survey found that the most common work setting was acute care, 44% for dietitians and 45% for dietetic technicians. Long term care, ambulatory/outpatient settings, and community/public health were other work

settings listed. The most common job function for both the dietitian and dietetic technician was clinical services (67% dietitians, 72% dietetic technicians), followed by nutrition information/communication (29% dietitians, 26% dietetic technicians), public health/community nutrition (25% dietitians, 13% dietetic technicians) wellness/disease prevention (22% dietitians, 8% dietetic technicians) and finally foodservices (20% dietitian, 8% dietetic technicians). The relationship between the job settings and functions were closely related. Ninety-one percent of the dietitians working in acute care settings had job functions in clinical services, foodservice (21%), wellness/disease (9%), or nutrition information (15%). Ninety-four percent of the dietitians working in community/public health listed public health as the job function, as well as providing nutrition information (34%), wellness/disease prevention (26%), clinical services (12%). Ninety-six percent of the respondents listed clinical services as one job function.

There were 22 areas of activity covering the responsibilities of the practitioners. The area with the highest involvement for both dietitians and dietetic technicians were nutrition screening and assessment, nutrition care, and nutrition care plans for individuals. The dietitians had more involvement in nutrition education for public groups, management of patient/client follow up, education and training of health professionals and students compared to dietetic technicians (Kane et al., 1996). The dietetic technicians were more involved in food production, distribution and service, menu planning for groups, and safety and sanitation.

Work setting and function correlated with the 22 involvement variables. Cluster analysis was used to determine the correlation between involvement variables and the dietitians and dietetic technicians. The community cluster, or fourth cluster, included four variables: nutrition education for public groups, managing patient/client follow up, nutrition program planning, and marketing (Kane et al., 1996). These variables were correlated more highly with each other than with the other variables.

The relationship between the involvement variables, setting, function, and years of experience indicated that dietitians in long-term care settings were more involved with clinical variables and the foodservice cluster. There were 11 respondents working as consultants who had high involvement in menu planning, but low values in the other variables in the foodservice cluster. They had low rates in all other clusters as well. The activity performed by the practitioners positively correlated with the number of years of experience.

Employers were given the same 22 sets of activities and were asked to state the current and future level of job expectation for the specified position. The findings indicated that employers anticipated more responsibilities for both the dietitian and the dietetic technician in the future, however, the changes would not be extreme. Additional job activities employers would like to see dietitians and dietetic technicians perform were conducting physical assessments, acquiring certification for cardiopulmonary resuscitation, conducting needs assessments for adaptive feeding equipment, and teaching worksite wellness and exercise education (Kane et. al., 1996).

The study also found that 68% of the dietitians and 80% of the dietetic technicians did not conduct home site visits. Home site visit activities performed by the practitioners were nutrition education/counseling, assessment of nutritional status, evaluation of food intake. The dietitian than the dietetic technician performed these responsibilities. The study indicated that involvement of activities related to the practitioners work setting and job function.

Gilmore et al. (1993) conducted a study with The Consultant Dietitians in Health Care Facilities (CD-HCF) dietetic practice group. The CD-HCF developed standards to monitor and evaluate the consultant dietitian. Twenty-seven suggested documentations based on quality assurance guideline criteria for CD-HCF were categorized into six standards of practice. Participants were to evaluate the standards and suggested documentation based on agreement in theory and frequency of completion. Eighty-eight percent of the respondents were self-employed dietitians, 37% were contract dietitians, and 11% were corporate dietitians. Respondents worked as consultants for an average of 10 years.

Results of the survey found that for Standard 1, "dietetics practitioner establishes performance criteria, compares actual performance with expected performance, documents results, and takes appropriate action", CD-HCF members were not currently completing self-assessments but agreed there was a need for them. For Standard 2, "dietetic practitioner develops, implements, and evaluates an individual plan based on consumer needs, current knowledge, and clinical experience", CD-HCF members agreed with and were documenting

this standard. Standard 3, dietetic practitioner collaborates with other professionals in "integrating, interpreting, and communicating nutrition care principles", CD-HCF members agreed with the theory and was frequently completing this standard. Standard 4, "dietetic practitioner engages in lifelong self development to improve knowledge and skills", CD-HCF agreed with writing specific plans for professional development with completion dates, however, completion rates were low. Standard 5, "dietetic practitioner generates, interprets, and uses research to enhance dietetics practice", CD-HCF members had high agreement rates in theory and frequency of completion. For standard 6, "dietetic practitioner identifies, monitors, analyzes, and justifies the use of resources", CD-HCF members disagreed with this theory and frequency of completion was the lowest of all standards. The authors concluded by stating that written documentation by consultant dietitians would verify performance and help practitioners evaluate their own knowledge and skills.

Balch (1996) performed a study to determine employer's present and future expectations of dietetic practitioners. Another objective of the study included delineation of emerging roles and skills of dietetics practitioners to be competitive in the health care industry. Methodology of the study included focus groups and personal interviews with employees and registered dietitians with decision-making and policy-making authority. Key trends were evaluated in health care and food and foodservice settings. The participants reiterated the need for nutrition programs and dietitians outside of the institutional setting. The author states "health care is growing in sub acute care, extended care, and

home care settings"(Balch, p.1302, 1996). Managed care organizations are placing registered dietitians as specialized clinical dietitians and assigning them to multiple facilities as consultants. According to Balch, the increase in elderly population will increase the demand for consultant dietitians in nursing homes. Dietitians will be working in conjunction with other health care team members due to the complexity of care for the nursing home patients. Practitioners in hospitals will perform fewer daily assessments and increase consulting with health care teams. The author states that "RDs need to become members of an interdisciplinary team of community health professionals"(Balch, 1996, p.1302). Balch states that cross training is important for RDs working in community settings. Community work may include broad-based interventions, media campaigns, training community health care workers, and collaboration with community organizations.

Dowling (1996) states that dietetics professionals can view their services as "value-added" services, a valuable service from the perspective of the customer and employer. Job opportunities for dietetics professionals will increase leadership roles, expand the profession, and will result in the movement of more dietitians into "leadership positions throughout the health care industry"(Dalton, p.1002, 1996).

School Food and Nutrition Programs

School food and nutrition services as well as nutrition education are programs often included in the community nutrition rotation of dietetic internships and AP4 Programs. Studies have found that nutrition plays a role in the student's cognitive performance and educational achievement. The Position of the American Dietetic Association, Society for Nutrition Education, and the American School Food Service Association on school-based nutrition programs and services states that comprehensive school-based nutrition programs and services includes nutrition education; a school environment supporting healthy eating habits and physical activity, parental and community involvement, screening, counseling, and referral for nutrition problems, as part of school health services (Olson, 1995). The author states that if schools cannot financially provide such services, they should arrange for a qualified nutrition professional in the community to provide these services. The position paper concludes by stating that "nutrition programs and services must help students develop the behavioral and decision-making skills needed for choosing a healthful diet"(Olson, p.369, 1995).

The American Dietetic Association's Position on child and adolescent food and nutrition programs states that these programs contribute to the improvement of children's nutritional status (McConnell and Shaw, 1996). Meals at school must include a variety of foods and provide choices, encourage consumption, increase participation, and provide nutrition information. Training is an important

part of child and adolescent nutrition programs. Professional technical assistance, application of new technologies, multilingual training sessions in nutrition, menu planning, food purchasing and preparation, sanitation, customer service, merchandising and nutrition education are essential to child nutrition programs. Nutrition education can be promoted and experienced not only in the classroom, but also in the cafeteria, and health and physical education classes. The authors state that registered dietitians are qualified to provide nutrition education, interpret nutrition information and misinformation for children and adolescents. Furthermore, nutrition experts should become involved with schools who are unable to provide effective nutrition education programs.

An objective of Healthy People 2000 includes providing health education for kindergarten through grades 12 (Thomas et al., 1994). Thomas et al. (1994) report that a survey of elementary school teachers indicated 71% of the teachers had never taken a course in nutrition, and 87% had never attended a nutrition workshop. Thomas et al. conducted a study to identify the main sources of nutrition information elementary school teachers used to prepare lessons. The study found that respondents used Dairy Council materials and health texts as main sources for nutrition information. The researchers stated that the findings "provide dietetics professionals with an opportunity to become more involved with curriculum planning and resource selection for nutrition and health education activities"(Thomas et al., p. 911, 1994). The researchers concluded that practitioners may provide in-service training to school district personnel,

review health education curriculums, and consult with teachers in the development of classroom lessons.

Another objective of the Healthy People 2000 is to provide school-based nutrition education to all states and school districts (Story et al., 1996). Story et al. (1996) state that the future of school lunch and nutrition depends on the tenacity and aggressiveness of dietitians to begin school-based nutrition education, for the classroom curriculum as well as the food service workers (Story et al., 1996).

Opportunities for nutrition programs in the school may decrease in the future because of the sales of competitive foods during school lunch. Competitive foods are foods that provide minimum nutritional value and contain less than 5% of the US RDA for eight specified nutrients per serving, as defined by the USDA (Caldwell and Pilant, 1991). The American Dietetic Association position on the availability of competitive foods identifies three major problems (Caldwell and Pilant, 1991):

1. Competitive foods divert income essential to the financial well-being of the school meal program.
2. Competitive foods encourage the consumption of incomplete meals.
3. The availability of competitive foods fosters the erroneous idea that school meals are only for needy children.

Nutrition quality is at risk because many students are demanding convenience foods, foods high in fat, salt, and sugar. Students are attracted to a la carte meals instead of the reimbursable meal program because students

receive the message from administration "that it is acceptable to compromise health for financial reasons" (Caldwell and Pilant, p.1124, 1991). The authors concluded by stating that nutrition policies are essential in developing effective child nutrition programs and strategies must be developed to meet nutrition needs of all students in the education system.

Borja et al. (1996) reported findings from studies by the USDA indicated school lunches exceeded the US Dietary Guidelines recommendations for fat and saturated fat. In 1995, the USDA provided lower-fat dessert recipes as well as other low-fat recipes for the National School Lunch Program to help foodservice directors comply with the US Dietary Guidelines for fat, energy requirements, and provide flavorful and popular dessert items on school lunch menus. The authors tested children's acceptability of low-fat dessert recipes and found that lower-fat recipes were well accepted by the children. Modifying fat and sodium in school lunch programs positively correlates with student participation (Borja et al., 1996).

McKenzie et al. (1996) conducted a study to determine changes in nutrient intakes, number of servings, and food groups that contributed to total fat intake in children who lowered their dietary fat intake. The study found that using interventions such as home-based parent-child autotutorial program learning and counseling sessions with registered dietitians lowered the children's dietary lipid intakes more than those in the control groups without reducing variety in their food group choices. More importantly, the children maintained average intakes of most nutrients in excess of two thirds of the RDA.

Child Day Care Programs

Nutrition programs are also essential in child day care programs. Briley et al. (1989) stated that children attending day care eat one or more meals at day care facilities. Because attaining healthy eating habits for growth and development is essential at this age, the American Dietetic Association's Position on nutrition standards in day care programs stated that "meals and snacks should be planned to conform to basic patterns in order to provide nutritious meals that meet the Recommended Dietary Allowance" (Briley et al., p.771, 1989). The Position also stated that a program of eight hours or longer should provide children with at least one-half to two-thirds of the daily nutrient requirements. Briley stated that menu planning guidelines and nutrition standards are needed to ensure children are receiving adequate meals and snacks for proper growth.

A study by Briley and Gray (1994) concluded that child day care staff members need training in meal planning, menu selection and development and monitoring of guidelines to ensure that preschool-age children consume two-thirds of their RDA at the child day care centers. The authors conducted the study to determine what foods are served at child day care facilities, specifically in the state of Texas. After summarizing data, on the average, the menus had acceptable scores for vegetables and meat but did not provide for fruits. The results of the study found that quantities of food served in the child day care centers, on the average, were lower than Child and Adult Care Food Program

(CACFP) of the US Department of Agriculture's minimum portion size requirements. The quantities of food served were not large enough for preschool children, aged 3 – 5.

The ADA's Position on nutrition standards in child care programs also stated that " all child care programs should achieve recommended standards for meeting children's nutrition education needs in a safe, sanitary, supportive environment that promotes healthy growth and development" (Briley and Gray, p.323, 1994). An average of 1.9 million children are enrolled in child care centers of family day care homes (FDCHs) that participate in the Child and Adult Care Food Program (CACFP) of the US Department of Agriculture. Briley et al. (1994) state that due to changes in the American lifestyle, opportunities for registered dietitians have increased because of the need to ensure that children in preschool years acquire healthful eating habits to last their lifetime. Furthermore, children need to be guaranteed nutritious foods for growth and development as well as habits that prevent disease and promote optimal health.

The USDA has specified minimum requirements for meal patterns and child care foodservices in child care facilities that participate in the Child and Adult Care Food Programs. The authors state that child care programs should obtain consultation and guidance from a registered dietitian on a regularly scheduled basis. Nutrition education and training is an important component of child care programs, as are nutritionally adequate meal plans and the practice of safety and sanitation in food preparation in foodservice. The authors concluded

by stating that nutrition and health professionals play a vital role in the development, assistance, and advocation of child care nutrition standards.

McNicol et al. (1991) state that child day care centers should educate children on positive food habits, ways to eat a variety of foods, and an understanding of the relationship between food and growth. Day care centers would benefit from dietitian's services who can present creative feeding ideas to the preschool, develop child care center guidelines, ethnic cuisine, and update centers with current feeding practices.

Community Programs

In the tribal community, tribal program cooks are food preparers and community educators (Pelican et al., 1995). The Indian Health Service Nutrition and Dietetics Training Program has conducted workshops with tribal program cooks in the United States because of the role tribal cooks play in community nutrition. Pelican (1995) stated that it is important for dietetic professionals to focus on nutrition education on tribal program cooks due to the impact they have on the health of the community in which they serve. The authors concluded that training cooks with creativity and positive reinforcement would positively affect the outcome of the training program.

Indian Health Service (IHS) has identified alcoholism as the most significant health problem of American Indians and Alaska Natives. Pelican (1994) cited the ADA's position for alcohol/substance abuse, which stated that planned nutrition intervention by a qualified nutrition professional is imperative for

treatment and recovery from chemical dependency. The authors also contend that there is a lack of awareness among alcohol/substance abuse program administrators and staff of the role nutrition plays in treatment and recovery. Dietitians are unaware of the programs and clients needing their services as well as their skills to work with alcohol/substance abuse programs and clients. The authors state that substance abuse programs would benefit from nutrition services including "after-care programs, school-based prevention, regional treatment centers, halfway houses, group homes, residential treatment centers for women and children, and drop-in centers" (Pelican et al., p.591, 1994). The authors conclude by stating that "opportunities and challenges are emerging for cooperative efforts between nutrition/dietetics and alcohol/substance abuse staff" (Pelican et. al., p.591, 1994).

A study by Wechsler et al.(1995) found a need for interventions to promote the substitution of low-fat milk for whole milk through nutrition education and social marketing campaigns. The authors found that there are implications for nutrition education in Latino communities. Studies have found whole milk to be the largest source of saturated fat in diets of Latinos. The findings of Wechsler's study indicated that whole milk is the consumer preference in an inner-city Latino community of New York City, NY, the community studied.

Sowinski et al. (1995) stated that nutrition education is a process capable of reducing risk factors, improving health and decreasing health care costs. Nutrition education can be promoted through physician services. Sowinski et al. (1995) surveyed physicians with private practices in an effort to identify value-

added services that would increase the physicians' intent to refer patients to an outpatient nutrition clinic. The study found that physicians would refer patients to outpatient nutrition clinics if patients received reimbursement from third-party payers, a free initial meeting with the patient, group cooking classes, payment using a sliding scale, follow-up reports sent to physician offices documenting improvements, and objective measurements attributed to dietary changes provided to the physician. The authors concluded by stating that documentation of positive changes resulting from dietary intervention is necessary for dietitians to receive referrals from physicians.

Splett et al. (1994) examined physicians' expectations for quality nutrition care delivered in prenatal care; service characteristics affecting nutrition referral decisions that are most important by physicians; determining the relationship between physician demographics and physician expectations of quality nutrition care services; and identifying nutrition care services physicians would most likely incorporate into their practice (Splett et al., 1994). The authors stated physicians should be considered customers by dietitians who are providing quality nutrition services to physicians. This study used The Quality Service Management (QSM) model to identify physicians' expectations of dietitian's expertise and quality in delivery of prenatal nutrition care. The study focused on nonmedical factors that prompt physicians' referrals for nutrition care in prenatal practice.

Nutrition problems most frequently reported were rapid/excessive weight gain, gestational diabetes; constipation or heartburn, pregnancy-induced

hypertension, anemia, prepregnancy under- or overweight, and hyperemesis (1994). The primary sources of nutrition information used by physicians were nurses/other staff (37%), discussions with physicians (32%), registered dietitians (12%), prenatal classes (8%), and WIC (3%). Physicians made two to three referrals to a registered dietitian in one month. Twelve percent did not make referrals to registered dietitians because they or their staff provided nutrition care, inadequate reimbursement, or nutrition care was not necessary.

Fifty-one percent of the dietitians receiving referrals were employed by hospitals, 33.6% worked in a group practice or clinic, 8.4% were employed by a physician medical practice, 3.4% were in private practice, and 1.7% were employed by a public health clinic. Respondents desired postpartum weight counseling, nutrition training for staff, and nutrition assessment and care planning for high-risk patients. The most important characteristics of dietitians reported by physicians were training and experience in prenatal nutrition, positive relationship with physician and staff, meets the needs of patients, and builds a rapport with all patients.

Forty-three percent and 56.6 % of the physicians were satisfied and very satisfied respectively, with the services provided by the registered dietitian they referred. A registered dietitian asked physicians an open-ended question on the definition of quality service. Of the 76 respondents, 19 stated they would like to "see results", 17 stated they would like "clear, concise nutrition plans" tailored to meet the needs of the patient. The authors concluded by stating that dietitians must be experts in prenatal nutrition care, assess pregnant women for nutritional

risk, and plan realistic nutrition care plans to meet the economic, social, and psychological needs of the patient. The dietitian must also communicate effectively with physicians and document outcomes.

Community dietitians may impact physician's opinions about nutrition education. Murphy (1990) found that physician's opinions about nutrition can be positively influenced from postgraduate nutrition education training and physicians may favor nutrition if education occurs before starting an office practice.

Food Assistance Programs are another part of community nutrition work. Home delivered meals are increasing in demand due to ethnic clients and therapeutically modified diets after hospital discharge (Kraak, 1995). Home delivered meal programs serve as a component of the community-based nutrition care plan for persons with HIV/AIDS. Registered dietitians can provide nutrition education and counseling to homebound persons with HIV/AIDS (Kraak, 1995). A need assessment is an important part in developing and providing quality meals to homebound HIV/AIDS patients. The authors concluded that "all meal delivery programs would benefit from nutrition needs assessment of homebound clients and is essential in program planning" (Kraak, 1995, p. 480). Nutrition counseling, development of nutrition education materials, nutrient needs assessments and program evaluations are some job responsibilities of the dietetic professional in community-based meal programs (Kraak, 1995).

Community dietitians have an opportunity to provide nutrition intervention in home health care services for HIV patients (Topping et al., 1995). The authors

of this study demonstrated the benefits of a community-based interagency approach to home health care services. HIV/AIDS Home Delivered Meals Programs was developed to provide food, medical nutrition therapy, and safety and sanitation training to preparers and deliverers of home-delivered meals, home health aids, allied health professional and dietitians. The study indicated that an HIV/Home-delivered meal program was effective in working with community agencies involved with HIV/AIDS patients in the community. The authors concluded that dietitians working with HIV/AIDS patients in community settings would benefit from an orientation and training experience to increase their confidence and comfort.

Kornblum (1994) found the US Bureau of Labor Statistics indicated that jobs for dietitians in home health care services will increase 91% by the year 2005. In comparison, jobs in hospitals, public and private, will increase by only 7%. Jobs in residential care will increase 129%. The author states that this statistical information can be used for dietetics educators in preparing students for placement in traditional and nontraditional industries. The demand for dietitians and nutritionists will therefore be in the home health care and residential care industries, however, Hahn (1996) states that dietitians must learn what home care employers need and how their skills can be marketed to those needs. The responsibilities for dietitians working in home care include nutrition screening, assessment, and counseling; nutrition care plans and monitoring of TPN. An important duty is developing and implementing an easy-to-use

screening tool for nurses and health care professionals for assessment of new cases.

Sousa (1994) found that many home health care agencies do not hire dietitians because of the lack of reimbursement from third party payers. The nurse performs these duties because of reimbursement statutes. Sousa also found that nurses are providing home health care nutrition services, including nutrition assessment and intervention. Dietitians employed by home care agencies are restricted to providing nutrition education for employees only. Foltz-Arensberg et al. (1996) found that skills rated the highest for dietitians in home care included patient education and counseling, caregiver education, documentation and history of dietary food intake. The authors stated that future needs of dietitians in home health care include monitoring of parenteral and enteral nutrition therapy and home visits. Dietitians, because of a lack of reimbursement, do not provide these services. Nurses or other health professionals in home health care usually provide such services. The authors state that because dietitians are new to this type of working environment it is imperative that they explore opportunities in home health care agencies. Foltz-Arensberg (1996) concluded by stating that dietitian's skills are expansive in community nutrition, clinical skills and nutrition support signifying the value of their services.

Dietitian's expertise in home parenteral and enteral nutrition support has led to home health care opportunities (Pantalos, 1993). "The home is emerging as a worksite for dietitians who monitor patients receiving nutrition support"

(Pantalos, p.146, 1993). Roles of the home nutrition support dietitian include information gathering, assessments, consultation with health care team, patient education and care planning. The dietitian may determine identification of potential for nutrition support as well. The ability to communicate effectively with patients, physicians and third party reimbursers will benefit the dietitian working in home health care. The author stated that these skills can be developed in community nutrition education courses thereby preparing dietitians for the increasing opportunities in nutrition support home care.

Davey-McCrae et al. (1994) stated in The American Dietetic Association's position on nutrition monitoring of the home parenteral and enteral patient that a "registered dietitian with expertise in nutrition support is qualified and trained to assess the nutritional status and monitor the nutrition regimen of these patients" (Davey-McCrae et al., p.664, 1994). Nutrition support is important in treating illnesses outside the home and an "ever-increasing demand for home medical nutrition therapy has developed"(Davey-McCrae et al., p.665, 1994). The position paper stated that a nutrition consultant can be a functional part of the health care team, design menus and meal plans, facilitate the transition from tube feedings to oral intake and ensure the reduction in costs of care. The authors also stated that home nutrition consultation may reduce health care costs in the future.

Nutrition services for children with special health needs is an area of opportunity for community dietitians (Kozlowski et al., 1995). Because of home health care, children with special needs are able to live at home with their

families. The position paper stated that by integrating nutrition services with other health, education, and social services, along with families, children with special health needs will receive better care. The authors stated that nutrition services need to be provided to day care facilities, preschools, Head Start programs, and public and private

Bryler et al. (1992) stated that "the transition to community programs has meant a shift of responsibility for nutrition and feeding from home and large facilities to schools, group homes, day care, work sites and family settings" (Bryler et al., p.613, 1992). The American Dietetic Association's Position for persons with developmental disabilities stated that these persons "should receive comprehensive nutrition services as part of all health care, vocational, and educational programs"(Bryler et al., p.613, 1992). Nutrition objectives included preventing growth retardation or further disability, improving health, decreasing hospital stays, decreasing medical costs, and empowering caregivers and patients. The authors concluded by stating that due to an increase in community living, nutrition objectives can be met using restaurants, clinics, recreation or education facilities at the workplace and in the community.

Training in nutrition needs for the aging would also benefit the community dietitian and aging population (Shoaf and Kotanchek, 1987). Because 21% of the US population will be over the age 65 by the year 2040, dietetic programs need to include geriatrics in the curriculum to improve student attitudes towards the aging community and prepare students for future roles in geriatrics (1987).

Based on the review of literature, community nutrition experiences have included experiences with consultant dietitians, school food and nutrition services, outpatient services and government funded programs, however little is known about the community nutrition rotation in supervised practice programs. Therefore, the purpose of this study was to examine the breadth, program and functions, and depth, type of experiences, between dietetic internship and preprofessional programs. A variety of programs were included in the self-administered survey. Chapter 3 describes the research process.

CHAPTER III

METHODOLOGY

The purpose of this study was to examine the breadth and depth of the community nutrition rotation of Dietetic Internships and Preprofessional Practice Programs. This chapter includes the research design; sample; data collection which has two parts, instrumentation and procedure; and data analysis used in the study.

Research Design

The research design for this research was the self-administered survey. A questionnaire was mailed to all DI and AP4 programs accredited or approved by the American Dietetic Association in the U.S. The dependent variables included the scores used to describe the type of experience of each community nutrition program included in the DI and AP4 programs. The independent variables included the program directors' personal variables and supervised program variables.

Sample

The study sample (n=249, DI=180, AP4=65) was drawn from the 1996-1997 Directory of Dietetics Programs by The American Dietetic Association (1996). The response rate was 57.8% (n= 144, DI= 110, AP4= 34). All directors

of either program listed in the book were selected to receive the research questionnaire by mail. Generalizations of results will be limited to Directors of Dietetic Internships and Preprofessional Practice Programs.

Data Collection

Instrumentation

The researcher and her advisor developed a research instrument based on the literature review and examination of community rotation experiences in DI/AP4 programs to examine the type of community experiences of dietetic interns and the depth of such experiences. The research instrument (Appendix B) consisted of two parts: general information and assessment of each community nutrition program experience. Part I of the survey identified general information about the participant and the dietetics programs. This part of the survey requested information on the demographics of the participant and general information on the program the participant directs. Part II consisted of 11 programs/functions (sections A-K) listed as possible community nutrition rotation experiences: School Food and Nutrition Services, Head Start, Day Care Programs, Indian Health Services, Government Inspection Agencies, Outpatient Specialty Clinics, Cooperative Extension, State Department of Public/County Health, Food Assistance Programs, Consultant Dietitians in Health Care Facilities, and Others. Listed under each Community Nutrition Program were

functions and programs associated with each community nutrition program. These programs are referred to as breadth in hypothesis one and two. The respondents were asked to describe each experience as "observe only", "assist/participate", "perform/conduct", "consult/supervise" in activities, and "not applicable to community rotation". These action verbs are referred to as depth in hypothesis one and two. The action verbs describe four levels of performance. As stated by the ADA Education Commission "the higher the level of performance assumes the ability to perform at the lower level" (ADA, 1997). The Accreditation/Approval Manual for Dietetics Education by the Commission on Accreditation/Approval for Dietetics Education of the American Dietetic Association was the source of the vocabulary used to describe the experiences (ADA, 1997). Respondents checked each column that appropriately described the type of experience they provided their interns in each community nutrition program. Each letter (O=observe only, A=Assist/participate, P=Perform/conduct, C=Consult/supervise, NA= Not applicable to community nutrition rotation) was placed in a separate column. Respondents were asked to check the appropriate column which best described the experience. If no response was documented on the questionnaire the researcher assumed the participant did not use the program or function as a community nutrition rotation experience.

Part III asked the participants to indicate the average number of days the typical intern spent in each community program. Each of the 11 community nutrition programs were listed. The last column required the participant to list the total number of days spent in each community nutrition program listed. The

instrument was reviewed for content validity, clarity, and format by graduate faculty from Oklahoma State University's Department of Nutritional Sciences and the Department of Statistics. Suggestions were incorporated into the final draft of the questionnaire.

Procedure

A cover letter (Appendix A) was developed to accompany the research instrument. The letter explained the research and provided instructions for completion of the questionnaire. The cover letter was printed on letterhead and printed at the Oklahoma State University Engineering Duplication Services. The questionnaires were printed on two colors, blue and green, for coding. The blue questionnaires were designated for Dietetic Internship Directors; green questionnaires were designated for Preprofessional Professional Program Directors. Envelopes were provided to facilitate the return of questionnaires from respondents. The 249 questionnaires were mailed on March 23, 1997. Participants were asked to return the surveys on or before April 14, 1997. Follow-up post cards were mailed on April 3, 1997 reminding respondents of the importance of their participation in the study (Appendix C). We offered our phone number if any assistance was needed.

Data Analysis

The returned questionnaires were transcribed and entered into PCFILE, a computer data analysis program. The author and statistician reviewed the entered data before analysis began. The statistical analysis system (SAS) was selected for data analysis (SAS, 1985). Standard statistical procedures used for data analysis included frequency tables, t-test and Chi-square test (Shavelson, 1996).

The t-test analysis was used to determine if there were associations between the type of programs (DI vs. AP4) and personal and program variables. The chi-square test analysis was used to determine if there were associations between the type of programs (DI vs. AP4) and breadth and depth of the internship program. Breadth is described as function and program variables. Depth is described as "observe only", "assist/participate", "perform/conduct", "consult/supervise" in activities, and "not applicable to community nutrition rotation".

CHAPTER IV

RESULTS AND DISCUSSION

The response rate to the survey was 57.8% (*n*=144, DI=110, AP4=34). The first section of the survey requested demographic information from the respondents. Almost all of the respondents were female (98.8%), half (50.7%) ranged in age from 41-50 years, while about a fourth were 51 – 60 years of age (23.2%). About two-thirds (57.3%) were internship directors from zero to five years, while about one-third (31.2%) were directors from six to 10 years (6.8± 5). The average number of years the respondents had been practicing as registered dietitians were between 16 - 20 years (19± 7). Thirty-five respondents had been practicing as registered dietitians between 21 - 25 years, 33 respondents at seven to 15 years, and 16 respondents at 26 - 30 years (Appendix D).

Two-thirds of the respondents completed a master's degree (n=106) while the remaining third held doctoral degrees (n=37). The major of the highest degree attained by most program directors was Food and nutrition (n=63), Other (n=23), Education (n=20), Public Health (n=11), Business (n=6), and Food Service Management (n=4, Appendix D).

Over 50% of the respondents checked the dietetic internship as their route to registration (n=77), one-third completed a graduate degree and six months training (n=34), 12 respondents completed a Coordinated Program or other

program, and 8 completed an AP4 program. Half of the internship programs were based at universities (n=72) while 48 were based at medical centers.

Under the Program Information section (Appendix B), respondents were asked to indicate the total number of hours allocated for each rotation. The average number of hours was converted into weeks for ease of comprehension. Ten weeks were allocated for Food Service/management, 14 weeks for Clinical Nutrition, and seven weeks for Community Nutrition rotation. Under the Summary of Community Experiences section of the survey (Appendix B), respondents indicated the average number of days the typical intern spent in each community program. Respondents indicated that the average number of days allocated to the community nutrition rotation was 40 days, rounding off the means under each category.

Over 90% of the supervised programs did not provide transportation to community sites (n=138). Ninety programs indicated the director contacted the facility for the community rotation, while in 37 programs the interns contacted the facilities. The title of the supervisor for the community rotation was a registered dietitian/director (n=33) or preceptor (n=18). Respondents were asked to indicate the title of the supervisor for the community nutrition rotation. Forty-five percent indicated it was either the director or a registered dietitian; 25% indicated it was the preceptor; and 11% indicated it was the clinical instructor or coordinator.

The researcher asked the respondents to indicate the Full Time Employee specifically for the community nutrition rotation. One third of the respondents

stated no FTE was assigned specifically for the rotation, indicating that the community rotation is part of the FTE of the program director. Almost 90% of the interns were not enrolled in a community nutrition course while in the dietetic internship (n=124). Thirty-four respondents stated that a community nutrition course was required prior to or during the internship (Appendix D).

Appendix E summarizes the answers to the forms of specialization or unique experiences respondents provided their community nutrition rotation. Some of the areas of specialization indicated were business and industry, consultants, communications (public speaking, TV), "area of interest", education, and home health care.

Breadth and Depth of Community Nutrition Rotation

School Food and Nutrition Services

Between 2 and 86 respondents indicated that their interns either observe, assist/participate, perform/conduct, or consult/ supervise in 10 activities listed under School Food and Nutrition Services as part of the Community Nutrition Rotation. At the "observe only" level, 41 directors have interns in purchasing, 35 in foodservice/production, and 30 in food safety/HACCP activities. At the "assist/participate" level, 45 directors have interns involved in menu planning, 37 participate in purchasing activities, and 32 in both recipe modifications and customer service and marketing (Figure 1).

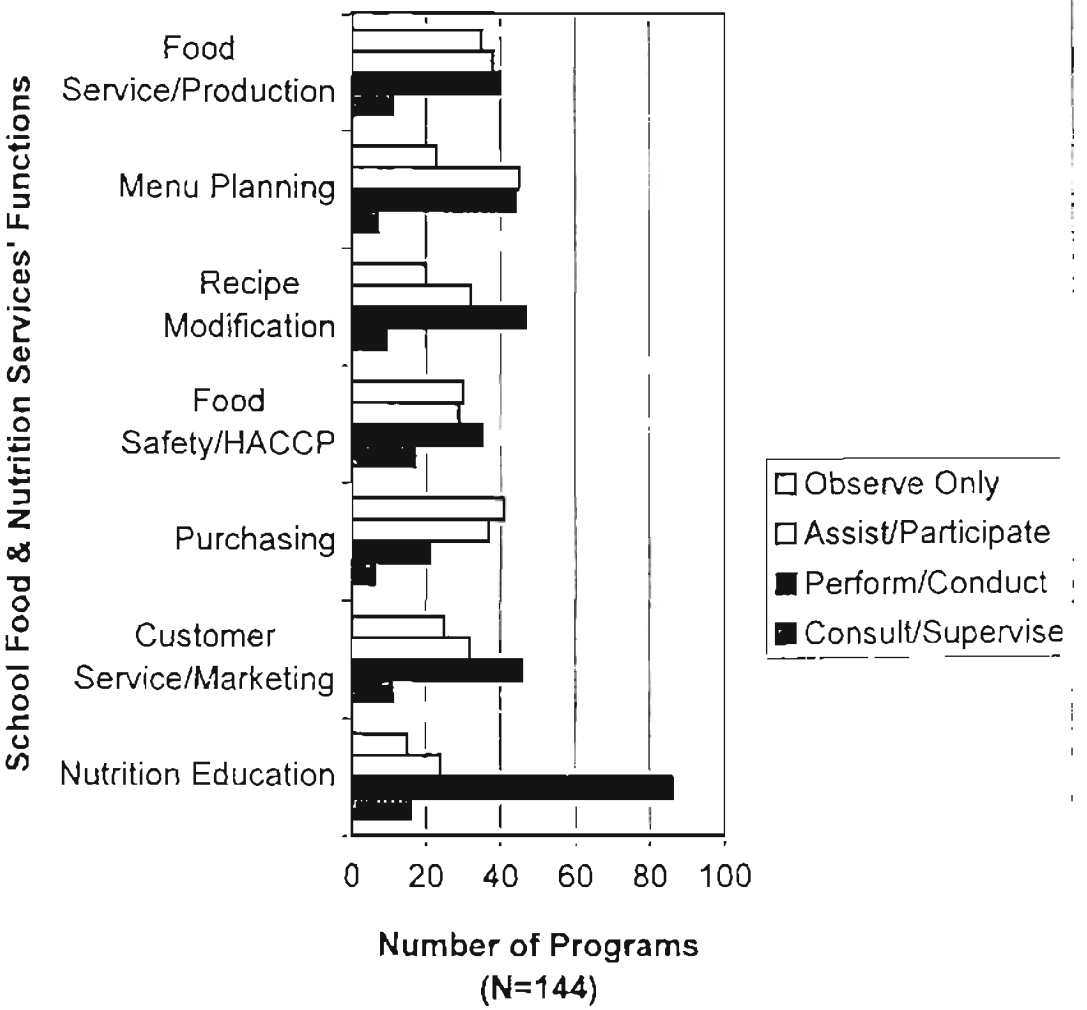

Figure 1. Community Nutrition Experiences in School Food and Nutrition Services.

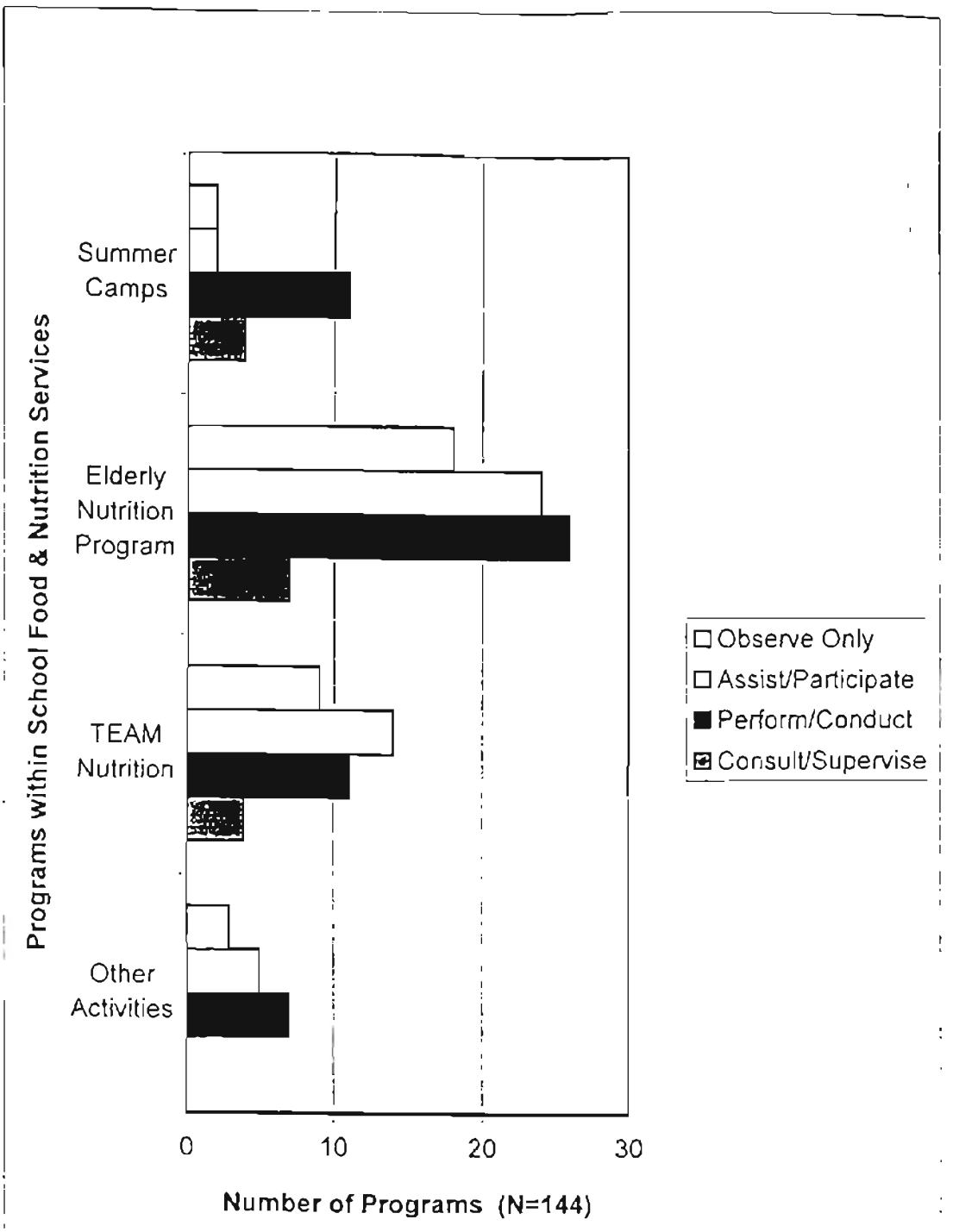

Figure 1 (cont). Community Nutrition Experiences in School Food and Nutrition Services

Eighty-six program directors indicated that their interns "perform/conduct" activities in nutrition education. In addition, interns "perform/conduct" recipe modifications in 47 programs, customer service in 46 programs, menu planning in 44 programs, food service/production in 40 programs, and food safety/HACCP in 35 programs. Interns "consult/supervise" food safety/HACCP activities in 17 programs and nutrition education in 16 programs. Ninety-nine program directors checked Summer Camps and 89 checked TEAM Nutrition as "not applicable to community nutrition rotation" (Appendix E).

The results indicate that interns are involved in all levels of experience in School Food and Nutrition functions and programs. The predominant functions interns "assist/participate" in activities include menu planning, food service/production, purchasing, recipe modification, customer service/marketing, and elderly nutrition programs.

At the "perform/conduct" level of experience, interns predominantly worked in nutrition education, recipe modification, customer service/marketing, menu planning, and food service/production. The function at this level was nutrition education, however TEAM Nutrition was not indicated as a major area for experience. Based on trends in the 1990's, however, it is anticipated that experience in TEAM Nutrition may increase in the future along with food safety.

The American Dietetic Association's Position on child and adolescent food and nutrition programs states that menu planning, food purchasing and preparation, sanitation, customer service, merchandising and nutrition education are essential to child nutrition programs (McConnell et al., 1996). Our findings

indicate that internship directors are aware of the American Dietetic Association's position and utilize their findings when planning appropriate activities for their intern's experiences. It also may indicate that interns are receiving adequate experiences in the school food and nutrition areas of practice. There is potential, however, for increasing nutrition education in the classroom, cafeteria, health and physical education classes.

One of the Healthy People 2000's objectives includes providing health education for grades K through 12 (Thomas et. al., 1994). This is a potential area of practice for dietetic interns to gain experience while working in School Food and Nutrition Services. Directors of internships must be aware of the need for such services in their communities and work with their education systems to incorporate such services into the school curriculum.

Head Start

At the "observe only" level, 26 programs have interns in food service/production activities and 24 programs checked other functions at this level. At the "assist/ participate" level 17 programs have their interns involved in nutrition education activities and 20 programs checked other functions at this level. Thirty-six programs have their interns "perform/ conduct" activities in nutrition education and 14 programs in food safety training. Twenty-four programs checked other functions at this level. Only in 3 programs did interns "consult/supervise" in nutrition education activities under Head Start, even fewer

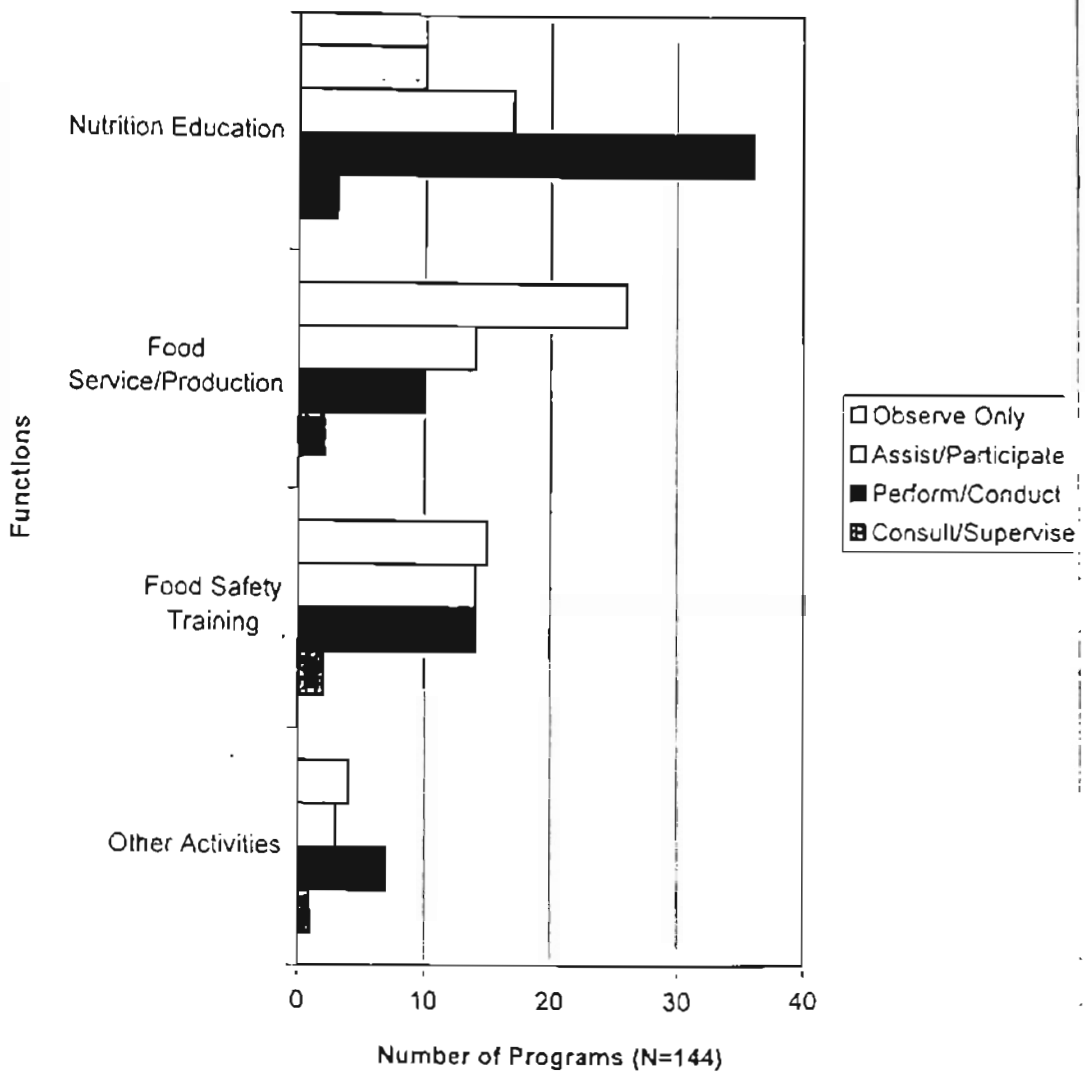

Figure 2. Community Nutrition Experiences in Head Start

programs "consult/supervise" in other functions. Seventy-six programs indicated that food safety training was "not applicable to community nutrition rotation" under Head Start (Figure 2, Appendix E).

Fewer supervised programs utilize Head Start as an agency for community nutrition rotations. Major functions interns participated in at the "perform/conduct" level included nutrition education programs, food service/production, and food safety training. Many programs (n=76) stated that food safety training was not applicable to the community nutrition rotation. Food production and food safety training is a potential area for Head Start programs to develop for dietetic experiences.

Day Care Programs

Of the four activities listed under Day Care Programs, only 21 directors checked "observe only" in adult day care, while 12 directors checked nutrition education in adult day care programs. Eighteen programs directors indicated that their interns "assist/ participate" in child day care activities, 16 programs "assist/ participate" in adult day care activities, and 14 programs use this level for nutrition education. At the "perform/ conduct" level, 34 programs have interns in child day care activities, 22 in adult day care, and 14 in nutrition education. Eight program directors indicated that their interns "consult/ supervise" in child day care activities and 6 programs in both adult day care and nutrition education (Figure 3).

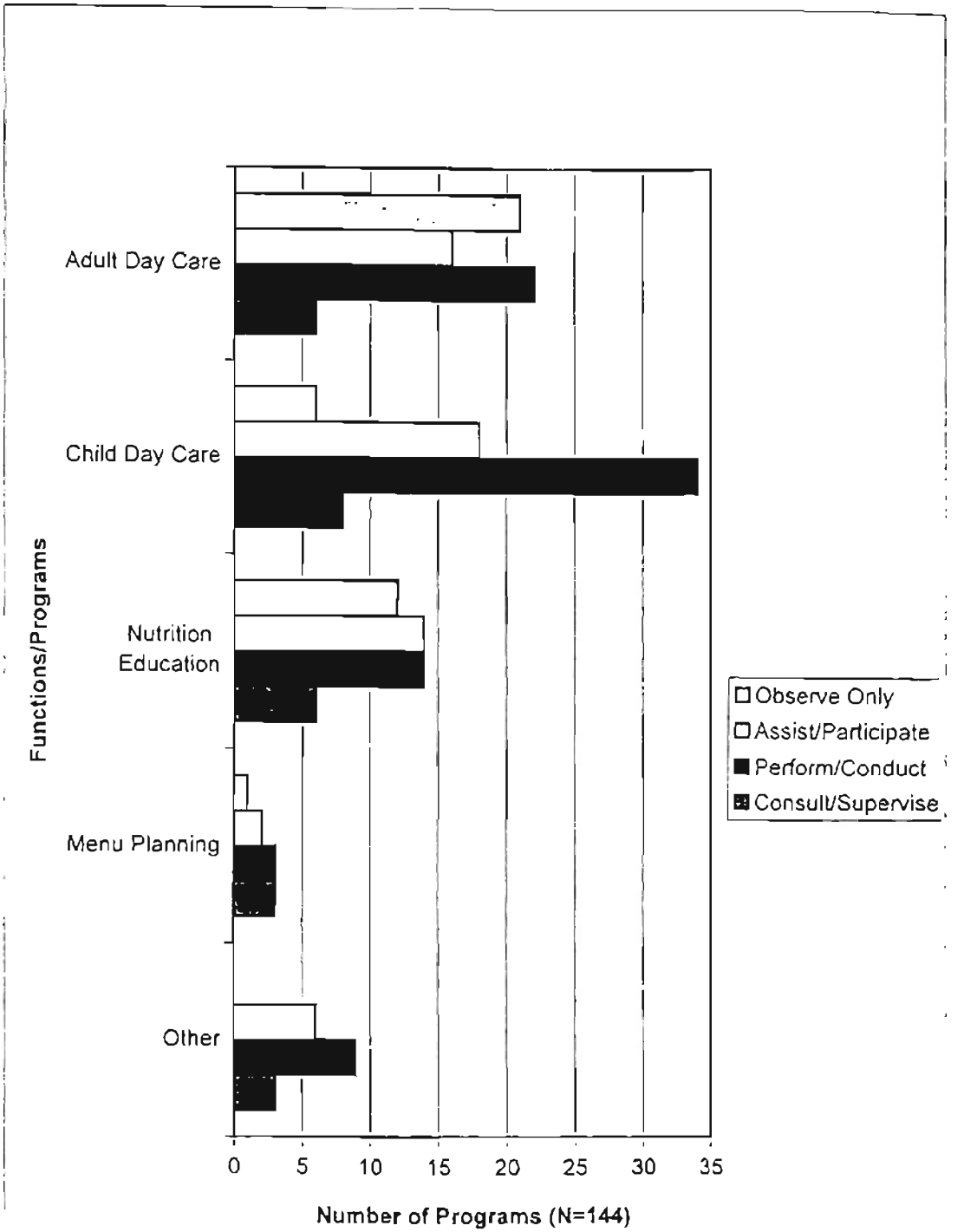

Figure 3. Community Nutrition Experiences in Day Care Programs

Less than 35 programs indicated that their interns "perform/conduct" in child day care programs, adult day care programs and nutrition education. Under Head Start, nutrition education was marked as a "perform/conduct" experience by 36 programs. Nutrition education listed under day care programs was evenly distributed among the experience descriptions: "observe only", "assist/participate", and "perform/conduct" (Appendix E).

One quarter of the DI/AP4 programs use day care programs as part of the community nutrition rotation. More programs utilize child day care for experience than adult day care, however, due to the changing demographics there will be more of a demand and need for dietitians in adult day care in the future. More potential exists in this setting for interns to participate in menu planning, food safety and nutrition education.

The American Dietetic Association's Position on nutrition standards in day care programs states that meals and snacks should be planned to meet the Recommended Dietary Allowance for children in this age group (Briley et. al., 1989). Our study, however, indicates that menu planning in day care programs is a function least experienced by dietetic interns. It is the responsibility of the director of internships and practicing dietitians to investigate this potential job opportunity and provide such experiences to future dietetic interns.

A study by McNicol et al. (1991) found that day care centers was an area for dietitians to educate children on positive food habits, ways to eat a variety of foods, and an understanding of the relationship between food and growth.

Potential services dietitians could provide to day care centers include food safety guidelines, ethnic cuisine, and updated feeding practices.

Indian Health Services

Twenty-four program directors indicated that their interns "observe only" in other activities under Indian Health Services, however no specifics were mentioned. Four program directors checked "observe only" for activities in nutrition education. At the "assist/ participate" level, 12 programs have interns in other activities and 9 programs have interns in nutrition education. At the "perform/ conduct" level, 19 programs have interns in other activities, 12 in nutrition education, and 4 in food service/ production. Interns "consult/ supervise" in nutrition education and also in Other activities in 3 programs (Figure 4). (Appendix E).

Very few programs used WIC in Indian Health Services perhaps because many programs do not have access to Indian Health WIC programs. This may be a reason for the low number of responses in this area. Ninety-nine programs mentioned WIC in Indian Health Services was "not applicable to community rotation" perhaps because WIC programs listed under state department of public health was used.

Perhaps nutrition is an underutilized health service in states where there are clinics within or outside the Indian reservations. Due to a changing population and a growing multicultural population, directors may need to expand

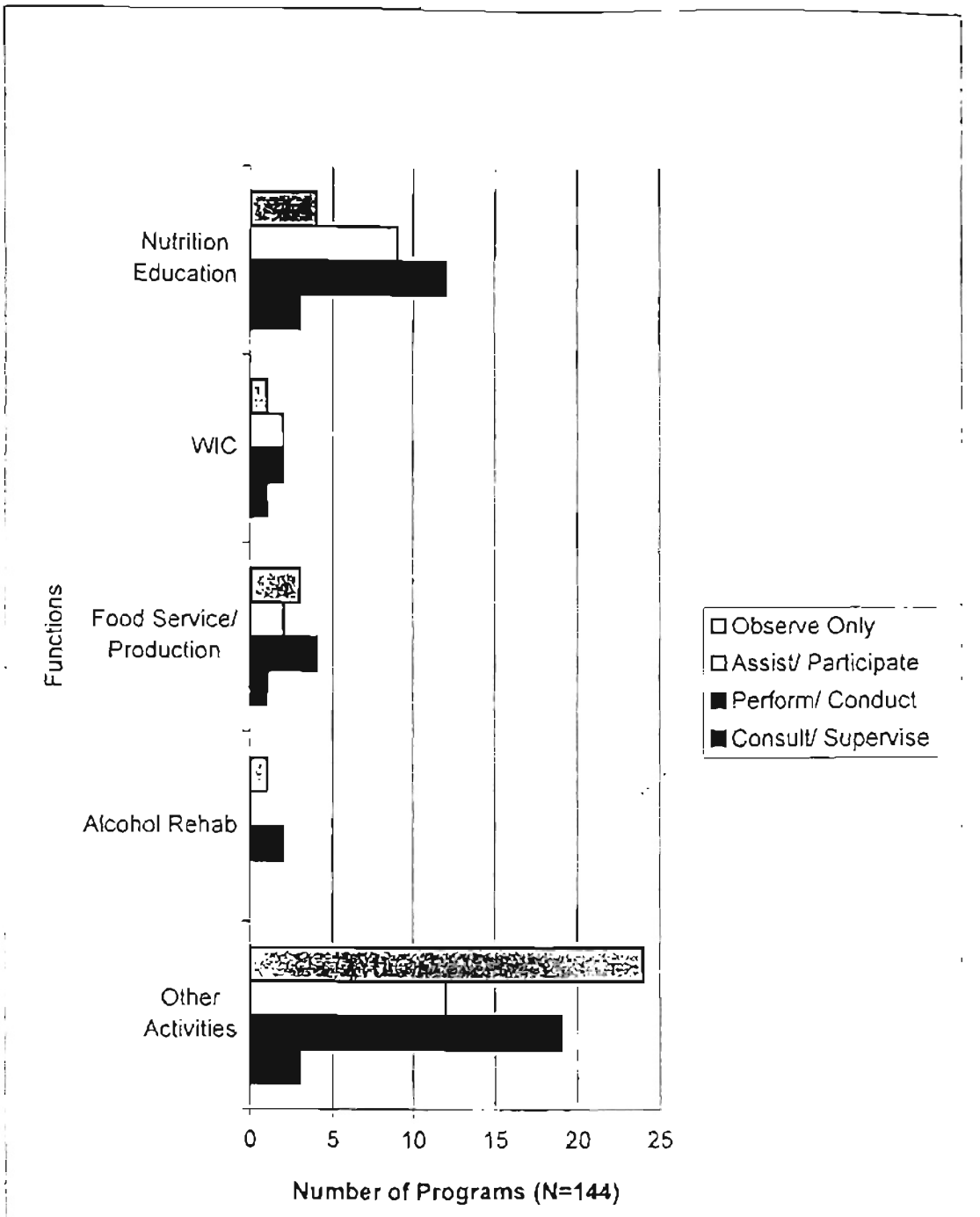

Figure 4. Community Nutrition Experiences in Indian Health Services

experiences in this area. Participation in WIC will be discussed in the State Department of Public/County Health and food assistance program sections.

Government Inspection Agencies

Interns in 92 programs "perform/conduct" some type of government inspection in other activities, which were not specified. Thirty-nine program directors indicated that their interns "participate/conduct" sanitation inspection with a sanitarian either in hospitals, health care facilities or restaurants (Figure 5, Appendix E).

Because the respondents did not specify details of "other activities" performed or conducted by interns, the researcher surmises that these may be in the use of heightened commodities or vouchers. This could also be experiences with veterinarian inspections of slaughter houses and/or wholesale/retail outlets where meats are produced or sold, as part of HACCP programs.

With heightened public interest in food safety and sanitation in all food service outlets and for all population groups, perhaps experience in government inspection agencies should be included in the community rotations for dietetic interns. How HACCP principles are employed in slaughter houses as compared with food production in a medical center could provide meaningful comparison for interns. Greater than 1/3 of the respondents checked "restaurant/ hospital/ sanitation inspection and long-term care facilities as "not applicable to community nutrition rotation". Again this may be due to a lack of employment in

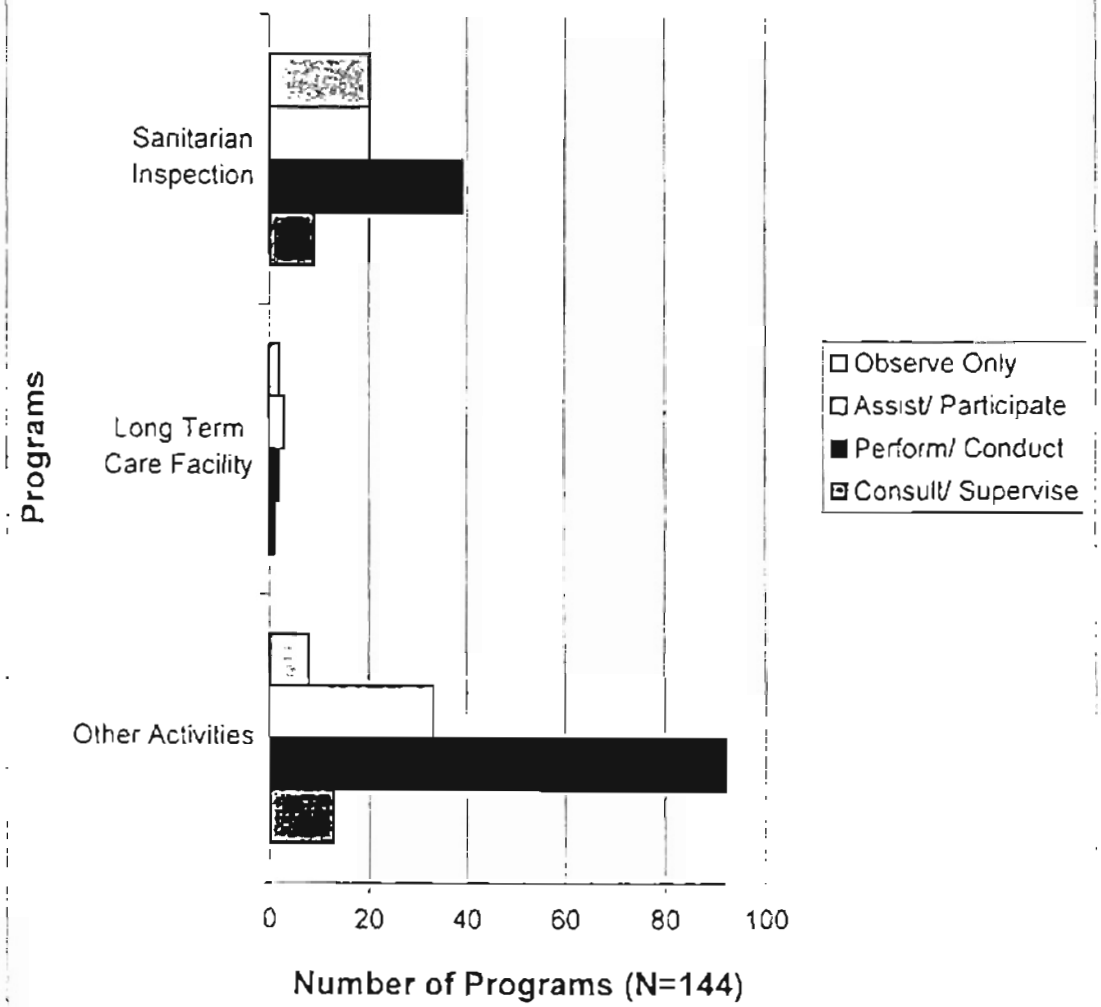

Figure 5. Community Nutrition Services in Government Inspection Agencies

these areas by dietitians, or noncompliance of sanitarians or other government inspections in the public, state, county, or city health services.

Outpatient Specialty Clinics

Our results indicated that directors use the outpatient setting during the community nutrition rotation. Most respondents indicated that their interns as either "observe only", "assist/participate", "perform/ conduct", and "consult/supervise" in activities listed under outpatient specialty clinics. Many of the respondents described the experiences in these programs or functions as a "perform/conduct" type of experience. Activities presumably include nutrition education and healthful eating in 13 clinics of the 20 specialty clinics listed.

Most directors indicated that their interns "assist/participate" in activities in Outpatient clinics. Figure 6 shows that thirty-eight programs had interns gain experience in hiv clinics, 33 programs in hypertension, 31 programs in hyperlipidemia, 30 programs in weight management/obesity programs, 29 programs in both bone and joint programs and cancer clinics, 28 programs in cholesterol education, 27 in drug dependency and allergy clinics, 23 in wellness, adult weight management/obesity programs and psychiatric facilities (Appendix E).

Eighty-five programs indicated that interns "perform/ conduct" activities in hyperlipidemia clinics. Figure 6 shows the "perform/ conduct" level is highest in bone and joint clinics, weight management/obesity programs, HIV clinics,

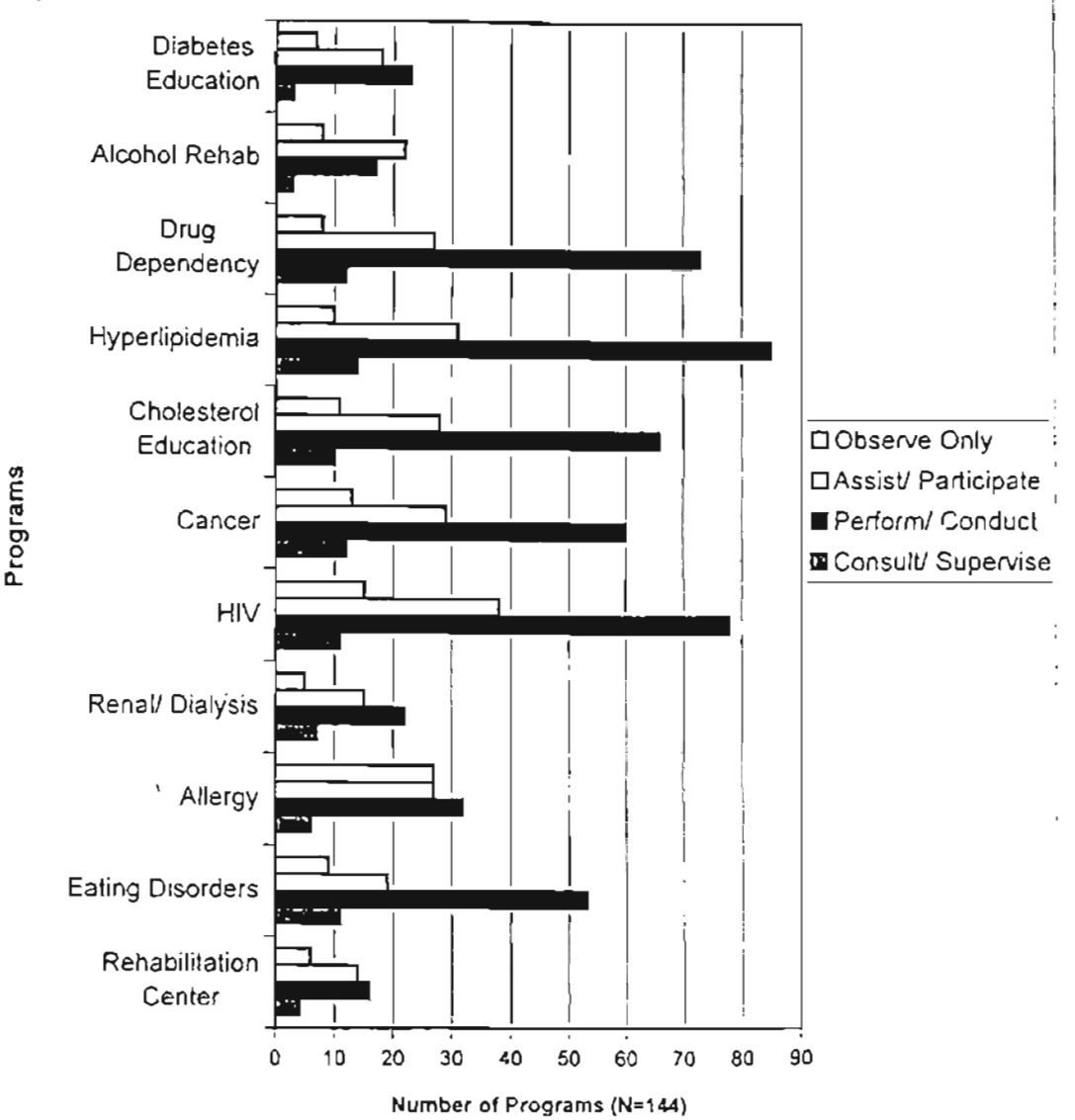

Figure 6. Community Nutrition Experiences in Outpatient Specialty Clinics

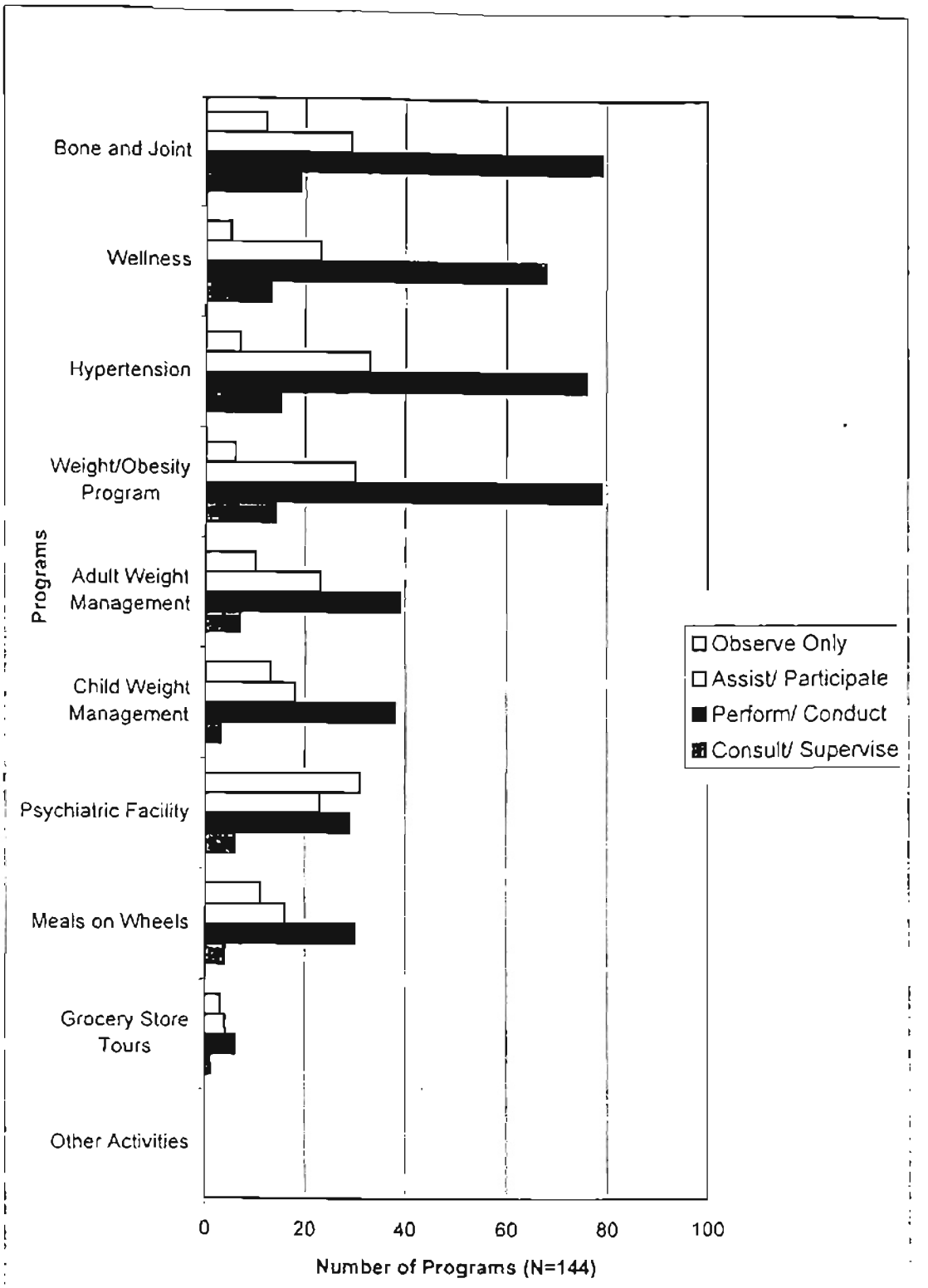

Figure 6 (cont.). Community Nutrition Experiences in Outpatient Specialty Clinics

hypertension programs, drug dependency clinics, wellness clinics, cholesterol education, cancer clinics, and eating disorder clinics. At the "consult/ supervise" level, most interns gain experience in bone and joint clinics, hypertension programs, hyperlipidemia clinics, weight management/obesity programs, and drug dependency clinics. Seventy-six programs indicated that rehabilitation centers, listed under outpatient specialty clinics, were "not applicable to community nutrition rotation". In addition, programs checked as "not applicable to community nutrition rotation" included renal dialysis, diabetes education, alcohol rehab, meals on wheels, children weight management/obesity programs, psychiatric facilities, and allergy clinics (Figure 6, Appendix E).

Renal Dialysis and Diabetes Education responses are low in these areas perhaps because experience is gained during the clinical rotation and thus not needed in the community nutrition rotation. The respondents did not specify where the outpatient clinics were located, i.e. in the hospital building, adjacent to the hospital, a separate entity, or in another town, therefore we are not certain if interns are in the hospital while working with these programs or in separate offices elsewhere.

Healthy People 2000 has 21 objectives related to nutrition that include reducing coronary heart disease death rates, cancer death rates, prevalence of overweight, and reducing health risks by targeting specific dietary changes (Lewis et al., 1994). Outpatient specialty clinics included preventive, rehabilitation, therapeutic, and maintenance programs. Contrary to the expectations of the researcher, interns are gaining community nutrition

experience in outpatient settings that may include nutrition education as a major function.

Cooperative Extension

Listed under Cooperative Extension were programs and functions (Appendix B). Twenty-five respondents indicated that their interns "observe only" in food and consumer/food stamps, and nutrition education planning. Twenty-three programs have interns "observe only" in Expanded Food and Nutrition Education Programs (EFNEP). At the "assist/ participate" level, directors have their interns in education material activities, EFNEP programs, food and consumer/food stamps, and nutrition education plan activities, and TEAM Nutrition activities. Interns "perform/ conduct" in activities in education material activities, food consumer/food stamps, and nutrition education planning, and EFNEP. Seven programs checked interns "consult/supervise" in EFNEP and 6 programs in education materials (Figure 7). Eighty-seven programs indicated that TEAM Nutrition was "not applicable to community nutrition rotation". Fifty-six programs also indicated education materials and EFNEP were "not applicable to community nutrition rotation" (Appendix E).

Contrary to expectations, TEAM Nutrition is not utilized at this time. This may be because this program is not implemented in all school districts, however, it may be used more in the future. As TEAM Nutrition is completely understood, there will be more interns participating in TEAM Nutrition. Many internship

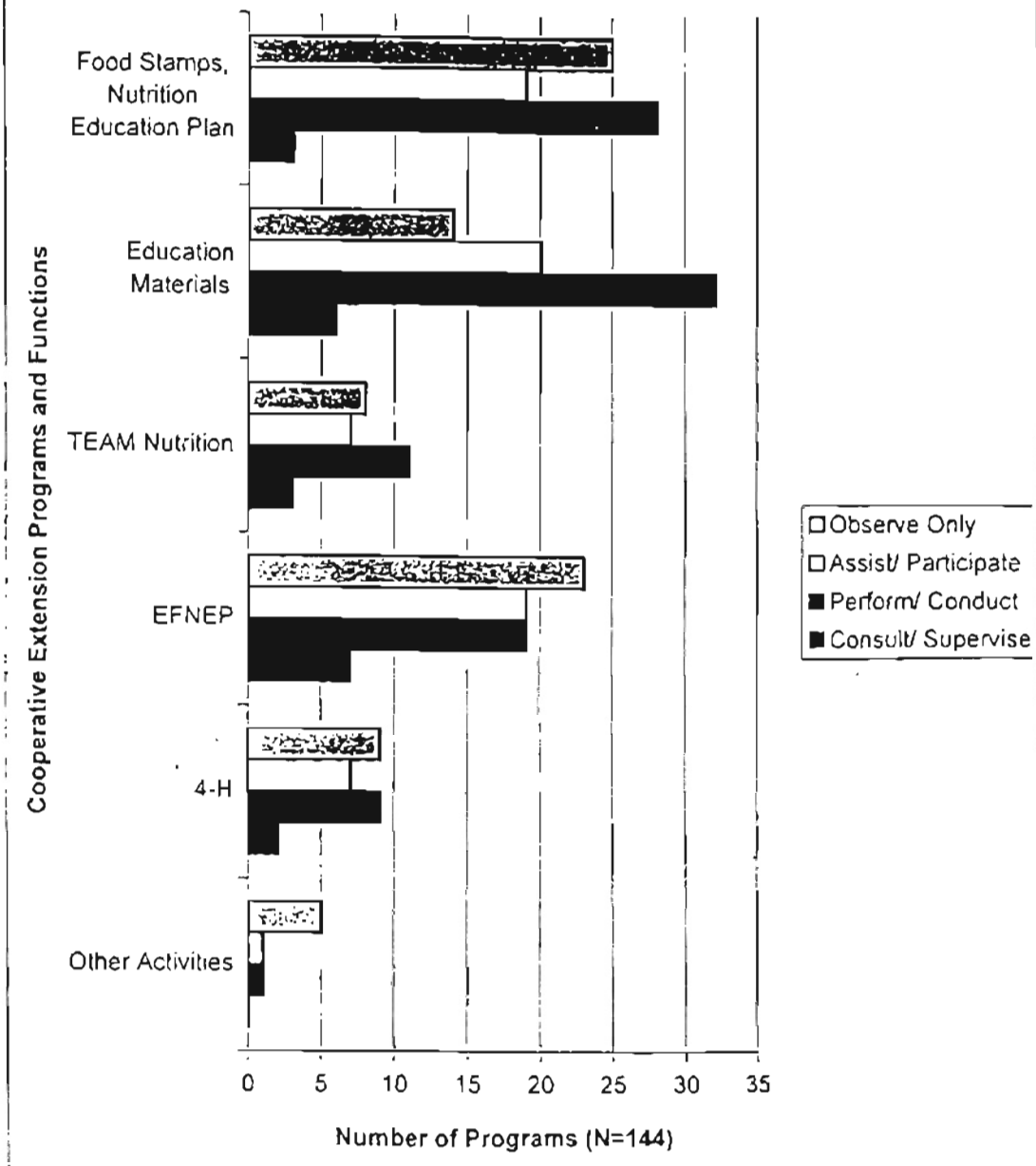

Figure 7. Community Nutrition Experiences in Cooperative Extension

programs are based at universities. If the program is in a Land Grant institution, there is easy access to Cooperative Extension programs and experiences. Most functions interns used at the "assist/participate" level included food and consumer/food stamps, and nutrition education planning, education materials, and EFNEP.

State Department of Public Health/County Public Health

At the "observe only" level, 22 programs have interns in WIC, 20 programs in developmental disability programs, and 15 programs in maternal, infant and child programs. Directors indicated that their interns "assist/participate" in WIC activities (n=47), maternal, infant and child programs (n=30), developmental disability programs (n=29), and chronic disease prevention (n=24). Ninety-seven programs "perform/conduct" activities in WIC programs, maternal, infant and child programs (n=74) and developmental disability programs (n=42). Interns "consult/supervise" in activities with WIC programs and maternal, infant and child programs. Eighty-four programs indicated that correctional facilities was "not applicable to community nutrition rotation" listed under State Department of Public/County Health. Forty-eight programs indicated that chronic disease prevention was "not applicable to community nutrition rotation" (Figure 8, Appendix E).

Most directors indicated that their interns "assist/participate" and "perform/conduct" in activities with WIC programs, maternal/infant/child health

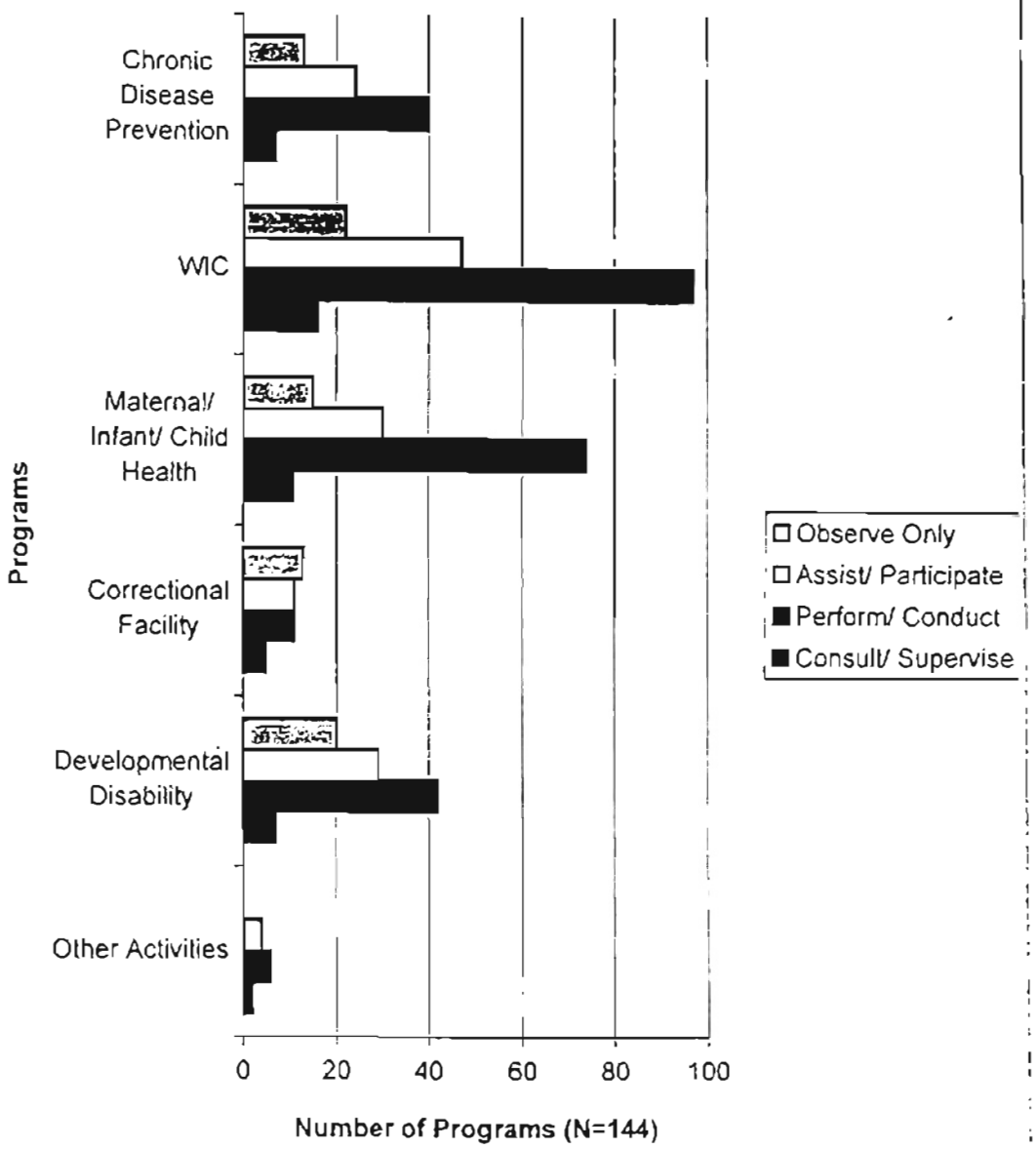

Figure 8. Community Nutrition Experiences in Department of State/ County Public Health

and developmental disability programs. Responses may be low in correctional facility programs due to accessability problems, safety issues for interns, or because they are considered not applicable to the community nutrition rotation.

Food Assistance Programs

Twenty- four program directors indicated that their interns "observe only" in senior nutrition program activities. Interns "observe only" in commodity distribution programs (n=19), food stamps and wic (n=18), and developmental disability programs (n=13). Most interns "assist/ participate" in activities with WIC programs (n=41), senior nutrition programs (n=26), developmental disability programs and commodity distribution programs (n=20). Eighty-two programs have interns "perform/ conduct" activities in WIC, 49 programs in senior nutrition programs, and 26 programs in developmental disability programs.

Most interns "consult/ supervise" in activities with WIC and senior nutrition programs. Programs checked as "not applicable to community nutrition rotation" included food stamps and commodity distribution programs (Figure 9, Appendix E).

Directors indicated that their interns "assist/participate" and "perform/conduct" in activities in WIC programs, senior nutrition programs, and developmental disability programs. More participation may be in these programs because of the opportunity for nutrition education and menu planning. The higher responses in these areas may be due to increased accessabiltiy to WIC

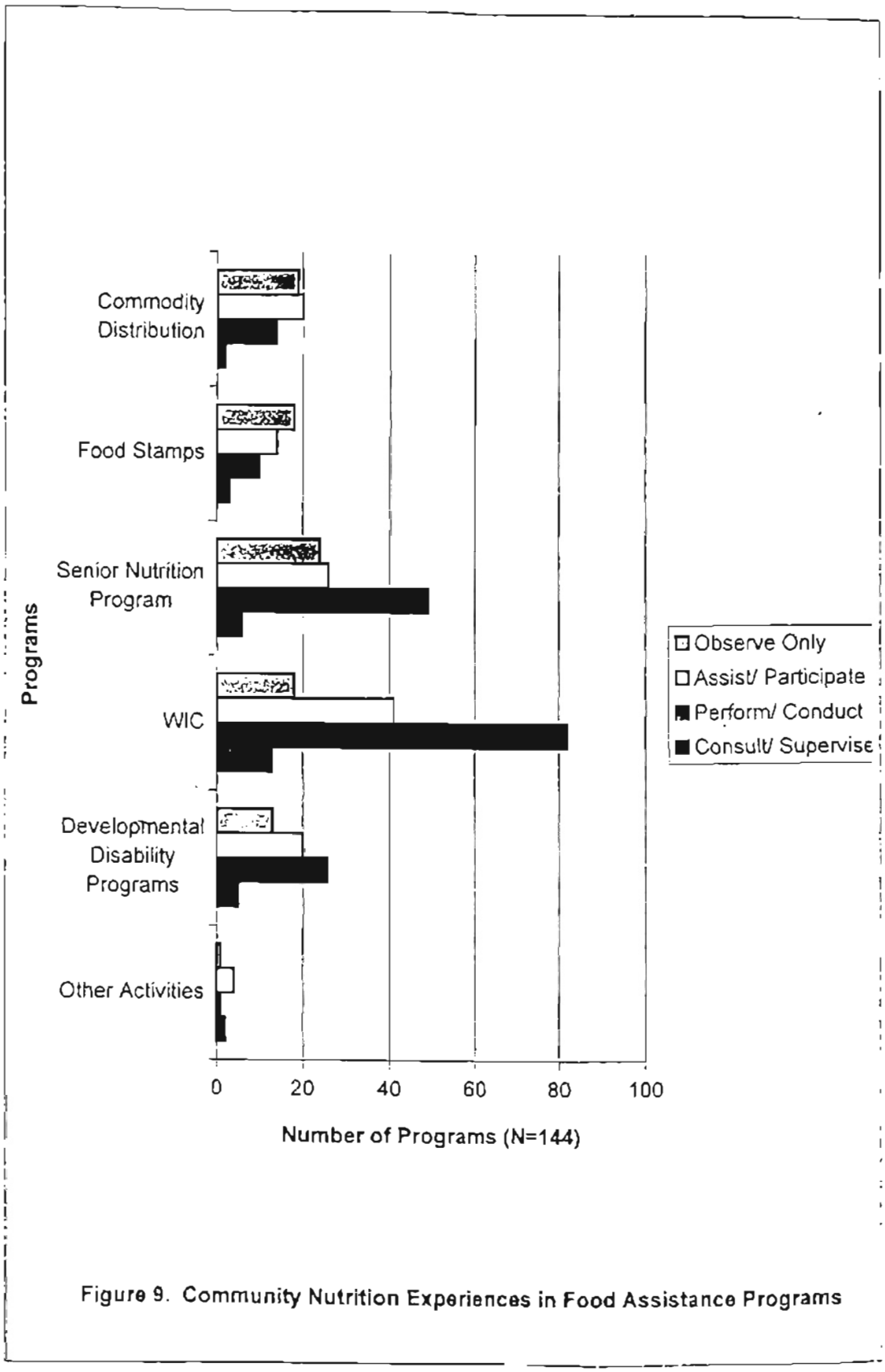

Figure 9. Community Nutrition Experiences in Food Assistance Programs

programs. The potential exists for interns to gain experience in nutrition education and food disbursement in these state/county agencies. Commodity distribution did not have a high response rate, perhaps it is part of school food and nutrition services or Head Start. There are currently grants for Food Stamps usage in EFNEP programs and it is anticipated that in the future interns may participate in these joint agency ventures.

Consultant Dietitians in Health Care Facilities

Thirty-three directors indicated that their interns "observe only" in nutrition entrepreneurs activities. Interns "observe only" in activities with dietitians in business and communications (n=23), consultants in sports/ cardiovascular/ corporate wellness (n=22), and consultants in health care facilities (n=20). Many directors checked "assist/participate" to describe their interns experience with consultants in health care facilities (n=35), consultants in sports/ cardiovascular/ corporate wellness (n=30), nutrition entrepreneurs (n=28), and dietitians in business and communications (n=14). Interns "perform/conduct" in activities with consultants in health care facilities (n=40), consultants in sports/ cardiovascular/corporate wellness(n=25), dietitians in business and communications (n=19), and nutrition entreprenuers (n=16). Five programs stated that their interns "consult/supervise" in activities with consultants in health care facilities, nutrition entrepreneurs, and consultants in sports/ cardiovascular/ corporate wellness. The following programs were checked by respondents as

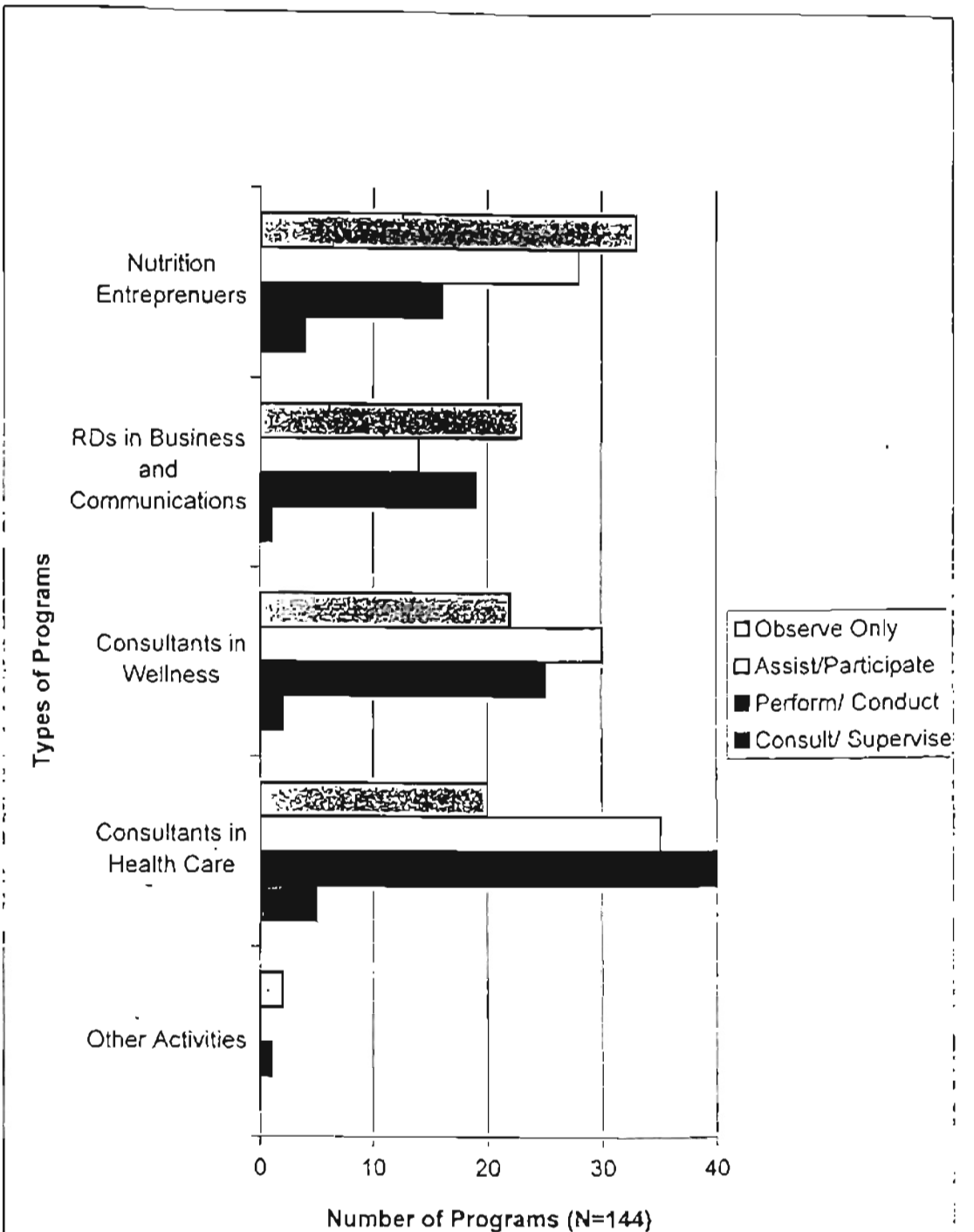

Figure 10. Community Nutrition Experiences with Consultant Dietitians

"not applicable to community nutrition rotation": dietitians in business and communications, consultants in sports/ cardiovascular/ corporate wellness, and nutrition entrepreneurs (Figure 10, Appendix E).

Forty-three to 56 directors indicated that some of these activities were not applicable to community nutrition rotation. Under consultants in health care, interns were involved in activities mostly under the "assist/participate" and "perform/conduct" levels. Half of the respondents consider consulting a separate entity from the community nutrition rotation. There are many programs in the community rotation that should be sought out or explored by program directors. Expanding the most is the consultant area of practice and is based mostly on networking. It is a very important practice area for the future dietitian.

The 1995 Commission on Dietetic Registration (CDR) Dietetics Practice Audit found that 94% of the dietitians working in community/public health listed public health as the job function as well as providing nutrition information, wellness/disease prevention, and clinical services. These findings correlate with the results of our study. This supports the need for dietetic interns to gain experience in these areas to compete in the future job market.

The study by Kane et al. (1996) also found that 68% of the registered dietitians did not conduct home site visits, however, this study found that interns "perform/conduct" in activities with home health agencies and with consultants in health care facilities. Unfortunately, our study did not indicate if traveling to different sites was a part of the intern's activities.

Balch (1996) also states the increased demand for consultant dietitians in nursing homes. Dietetic interns would benefit from experience with consultant dietitians and home health agencies in the community nutrition rotation. Balch takes the findings further by stating that future needs for community dietetics includes media campaigns, training of health care workers and collaboration with community organizations.

Other Programs used for Community Experiences

Most directors checked "observe only" to describe the type of experience in food companies/ industries, home health agencies, research centers, homeless shelters, soup kitchens, and restaurant and the culinary industry (Figure 11). Forty programs indicated interns "assist/participate" in activities in home health agencies, 21 programs checked research centers, and 18 programs checked either soup kitchens or food companies/ industries. Thirty-nine programs indicated interns "perform/conduct" in activities in home health agencies, 17 programs in research centers, and 16 programs in either soup kitchens or summer camps. Only 4 programs indicated their interns "consult/ supervise" in group home/half-way houses, assisted living: mental/ drug/ alcohol, soup kitchens, and research centers. commercial weight loss centers (Weight Watchers, Jenny Craig, Nutri-System), hotels and resorts and medical education consulting firms, special olympics, group home/half-way houses, and assisted

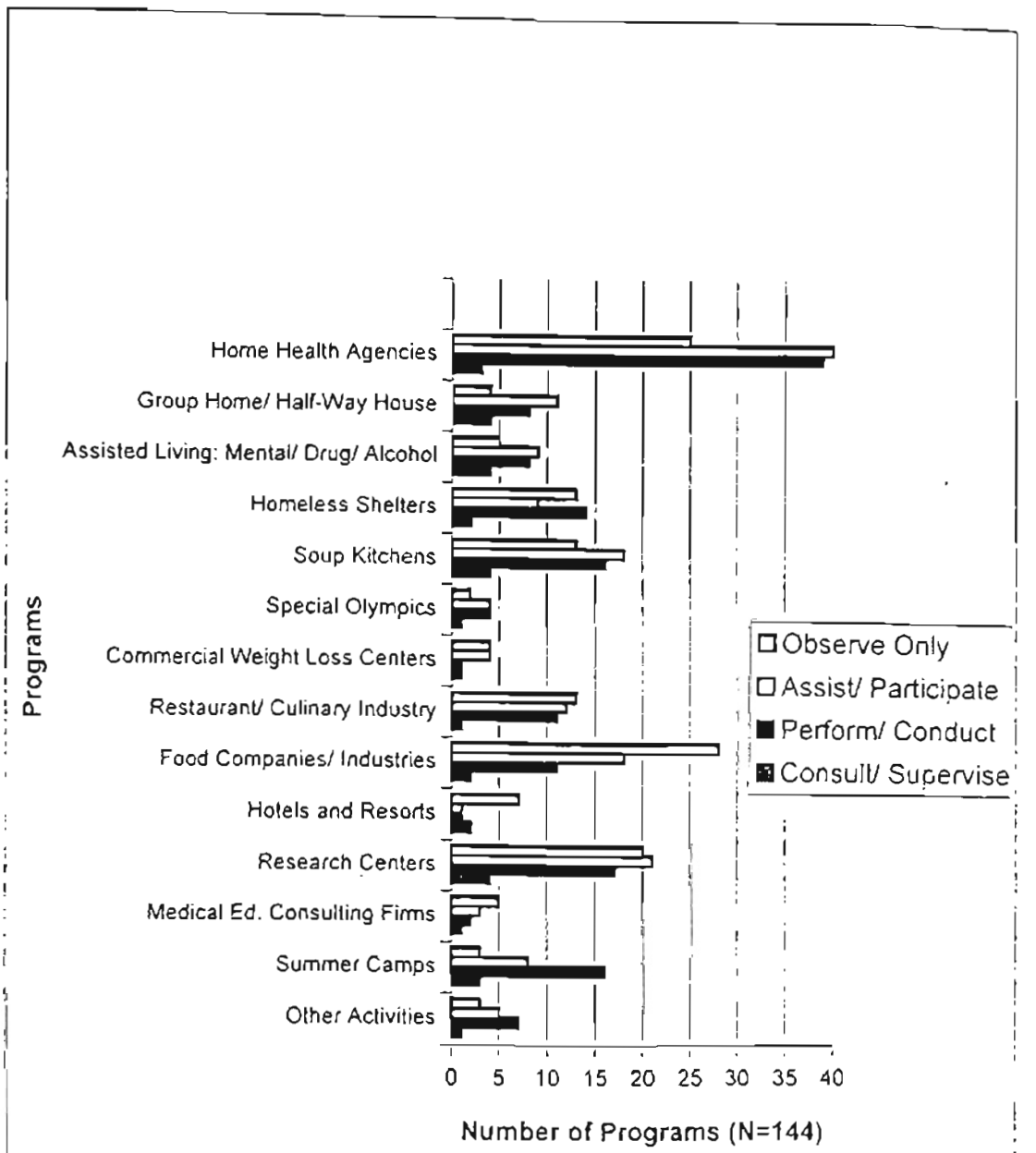

Figure 11. Community Nutrition Experiences in Other Programs

living: mental/drug/alcohol were checked as "not applicable to community nutrition rotation" (Figure 11, Appendix E).

Trends in Dietetics are moving toward culinary disciplines. The increase in health and nutrition information demanded by consumers supports the need and potential for dietitians to access this area of the profession. The demand from consumers for nutrition information, low fat cooking techniques, and herbal information is increasing. Recently an article appeared in Cooking Light magazine (Pagent, 1997) that described the trends of American cuisine being implemented at the Culinary Institute of America (CIA) in New York City. The cuisine at one of the four on campus restaurants, St. Andrews, is devoted entirely to "contemporary cuisine", an idea developed by hired registered dietitian Cathy Powers. The concept was formed to avoid labeling foods as "good" and "bad", instead "contemporary cuisine" describes foods as healthful. Students at CIA are taught by staffed registered dietitians about nutrition and minimizing use of fats, oils, and sodium in cooking in a production kitchen. This is a potential area of opportunity for dietetic interns to gain experience. It would be beneficial for dietetic interns to gain experience working with chefs before they entered the workforce. Food companies and industries are being used by directors to prepare interns for positions in this setting (Figure 11, Appendix E).

Another potential area for dietetic interns to gain experience is in summer camps. The researcher had experience working at Paul Newman's Hole in the Wall Gang Camp, a camp for children with terminal illnesses. In this setting registered dietitians and dietetic interns have the opportunity to plan menus,

educate staff on food safety and sanitation, promote the importance of nutrition, educate parents on ways to supplement and increase food intake of children. Children with terminal illnesses have decreased appetites, malabsorption problems, diarrhea/constipation and other difficulties that can affect adequate nutrient intake. Summer camps of any setting would benefit from the knowledge of registered dietitians and potential ideas from dietetic interns.

Figure 11 indicates the potential need for dietitians in home health agencies. Due to the increased change in demographics and constantly changing managed care, the demand and urgent need for dietitians in this area will increase (Kornblum, 1994). Directors must involve their interns in experiencing the unique side of dietetics or the future registered dietitians will not be prepared to work in this environment.

Brown and Fruin's (1989) study found that of the 20 job categories within the community dietetics field, the major positions included child feeding programs, government health departments, sports and health centers, home health care, health maintenance organizations, and private practice and consulting. These findings support the findings of this study, indicating that trends in community dietetics is in home health agencies, HMO's, wellness programs, child nutrition education programs, and government health departments.

The 1995 Commission on Dietetic Registration (CDR) Dietetics Practice Audit found that 94% of the dietitians working in community/public health listed public health as the job function as well as providing nutrition information,

wellness/disease prevention, and clinical services. These findings correlate with the results of our study. This supports the need for dietetic interns to gain experience in these areas to compete in the future job market.

The study by Kane et al. (1996) also found that 68% of the registered dietitians did not conduct home site visits, however, this study found that interns "perform/conduct" in activities with home health agencies and with consultants in health care facilities. Unfortunately, our study did not indicate if traveling to different sites was a part of the intern's activities.

The frequencies presented indicate that most programs do not use the "consult/supervise" level of experience in the community nutrition rotation. This may be due to the directors' perception that interns do not have enough experience to perform at this level. Most program directors indicated that interns "assist/participate" and "perform/conduct" in activities during the community nutrition rotation. Unexpectedly, most programs utilize Outpatient Specialty Clinics as a form of community experience. Home health agencies and TEAM Nutrition are fairly new programs. It is expected that their use in the community rotation will increase due to the changing demographics and the demand for registered dietitians in these settings.

Hypothesis One

There will be no significant association between demographic characteristics of respondents and breadth (function and program variables) and depth (observe only, assist/participate, perform/conduct, consult/supervise) of community nutrition experiences.

Years as Program Director

Programs listed under Cooperative Extension (Appendix B) include Food and Consumer, Food Stamps, and Nutrition Education Plan, Education Materials, TEAM Nutrition, EFNEP, 4-H, and other activities listed by the participant. Greater than half of the respondents working for less than 10 years or more than 11 years as director of either a DI or AP4 program were least likely to use EFNEP as an experience as a community nutrition rotation. Nearly one quarter of those working for less than ten years as director checked "observe only" and "perform/conduct" to describe this area of experience. Half of the respondents working for more than 11 years as director checked "observe only" and "assist/participate" ($p < 0.016$, Table 1).

Programs and functions listed under Food Assistance Programs (Appendix B) include Commodity Distribution, Food Stamps, Senior Nutrition Program, WIC, Developmental Disability Programs, and other activities. Most respondents working as director of a DI or AP4 program for less than 10 years checked

"assist/participate" and "perform/conduct" to describe the experience in Developmental Disability Programs. More than 50% of the respondents from this group and those working as director for more than 11 years were least likely to use this program as a community nutrition rotation ($p < 0.036$, Table1). (Appendix G).

The Others section of the survey (Appendix B) include any areas or programs not listed in the survey. The functions and programs listed under the others section include Home Health Agencies, Group Home/Half-way House, Assisted living: mental/drug/alcohol, Homeless shelters, Soup kitchens, Special Olympics, Commercial weight loss centers, Restaurant and culinary industry, Food companies/industries, Hotels and Resorts, Research centers, Medical Education Consulting Firms, Summer camps, and other activities.

Greater than 80% of the respondents working as director for less than 10 years and more than 11 years did not use Hotels and Resorts as a community nutrition rotation. Four respondents working as director for less than 10 years checked "observe only" and "conduct/supervise" to describe the experience in Hotels and Resorts. Seventeen percent of the respondents working as director for more than 11 years checked "observe only" ($p < 0.002$, Table 1). One fifth of the respondents working as director for less than 10 years checked "observe only" and "assist/participate" in activities to describe the experience in Research Centers. Fifty percent of the directors working for more than 11 years or less than 10 years did not use this as a community nutrition rotation. More than one third of the respondents working as director for more than 11 years checked the

H1 Tables

Table 1. Breadth and Depth compared to number of years as director of an internship program.

Breadth	Cooperative Extension	Food Assistance Programs	Other Activities	
	EFNEP	Developmental Disability Programs	Hotels and Resorts	Research Centers
x^2	12.24	10.285	12.422	10.079
DF	4	4	2	4
p=	0.016	0.036	0.002	0.039

Table 2a. Breadth and Depth compared to number of years as a Registered Dietitian.

Breadth	Outpatient Specialty Clinics			
	Cancer	Eating Disorders	Weight Management/Obesity Programs	Psychiatric Facility
x^2	9.17	11.88	10.57	14.32
DF	4	4	4	4
p=	0.057	0.018	0.032	0.006

"observe only" and "perform/conduct" level in this setting ($p < 0.039$, Table 1). (Appendix G). There were no differences in other programs or functions between directors working for less than 10 years and more than 11 years.

Years as Registered Dietitian

The functions and programs listed under outpatient specialty clinics include diabetes education, alcohol rehab, drug dependency, hyperlipidemia, cholesterol education, cancer, HIV, renal/dialysis, allergy, eating disorders, rehabilitation center, bone and joint, wellness, hypertension, weight management, adults, children, psychiatric facility, meals on wheels, grocery store tours, and other activities specified by the respondent. Significance was found when number of years as a Registered Dietitian was compared to depth of experience among cancer clinics, eating disorder programs, weight management/obesity programs and psychiatric facilities. Table 2a shows that most directors with less than 20 years registration had interns "perform/conduct" in activities in cancer clinics. Similarly, one third of the directors with 21 years of registration had interns "perform/conduct" in activities in cancer clinics, listed under outpatient specialty clinics ($p \leq 0.057$, Table 2a).

Table 2a illustrates that more than one third of the directors with less than 20 years registration described interns' experience in eating disorder programs as a "perform/conduct" type of experience. Where as less than one quarter of the directors with more than 21 years registration described interns experience

as "perform/conduct" in this program, listed under outpatient specialty clinics ($p \leq 0.018$, Table 2a).

Half of the respondents with less than 20 years registration described interns experience at the "perform/conduct" level in weight management, where as one third of the respondents in this age group did not respond to this function. More than one third of the respondents with more than 21 years registration described interns experience in weight management as "perform/conduct" in activities ($p \leq 0.032$, Table 2a).

More than half the respondents with $\leq$ 20 years registration did not use psychiatric facilities as a community nutrition rotation. Most respondents (35%) within this group checked "observe only" and "perform/conduct" to describe the experience. Of those respondents with $\geq$ 21 years registration, most checked "observe only" and "assist/participate" in activities in psychiatric facilities ($p \leq 0.006$, Table 2a). (Appendix G).

One quarter of the respondents with less than 20 years registration checked "observe only" and "perform/conduct" to describe the experience in EFNEP, listed under cooperative extension. More than one third of the respondents with more than 21 years registration checked "observe only" and "assist/participate" to describe the experience in EFNEP programs ($p < 0.003$, Table2b).

Functions and programs listed under state department of public/county public health included chronic disease prevention, WIC, maternal and infant/child health, correctional facility, developmental disability programs, and other activities listed by the respondents. Those respondents with less than 20 years

registration were more likely to check "perform/conduct" to describe the type of experience in maternal/infant/child health listed under the state department of public/county health. Those respondents with more than 21 years registration checked "perform/conduct" and "assist/participate" to describe the experience in maternal/infant/child health ($p < 0.027$, Table 2b).

More than half of the respondents with less than 20 years registration did not use developmental disability programs as a community nutrition rotation experience. More than one quarter of the respondents from this group however checked "perform/conduct" to describe the type of experience for this program. Most of the respondents with more than 21 years registration checked "observe only" and "perform/conduct" to describe the experience in developmental disability programs ($p < 0.012$, Table 2b).

More than one quarter of the respondents with less than 20 years registration and one third of the respondents with more than 21 years registration checked "perform/conduct" to describe the type of experience in senior nutrition programs, listed under food assistance programs. Half of the respondents with less than 20 years registration and one quarter of the respondents with more than 21 years registration did not use this program as a community nutrition rotation experience ($p < 0.006$, Table 2b). (Appendix G).

Functions and programs listed under consultant dietitians in health care facilities (Appendix B) include nutrition entrepreneurs, dietitians in business and communications, consultants in sports/ cardiovascular/ corporate wellness, consultants in health care facilities, and other activities specified by respondents.

Table 2b. Breadth and Depth compared to number of years as a Registered Dietitian.

Breadth	Cooperative Extension EFNEP	State/County Dept. Public Health Maternal/Infant/Child Health	 Dev.Disability Programs	Food Assistance Programs Senior Nutrition Programs
x^2	16.41	10.98	12.82	14.48
DF	4	4	4	4
p=	0.003	0.027	0.012	0.006

Table 2c. Breadth and Depth compared to number of years as a Registered Dietitian.

Breadth	Consultant RDs in Health Care Facilities Consultants in Sports/Cardiovascular/Corporate Wellness
x^2	18.25
DF	4
p=	0.001

More than one quarter of the respondents with less than 20 years registration checked "assist/participate" and "perform/conduct" to describe the experience of interns working with consultants in sports/cardiovascular/corporate wellness. One quarter of the respondents with more than 21 years registration checked "assist/participate" in activities for this program ($p < 0.001$, Table 2c). There were no differences in other programs or functions between directors with less than 20 years registration and more than 21 years of registration.

Age of Respondents

The functions listed under Head Start include nutrition education, food service/production, food safety training, and other activities specified by the respondent. Food service/production was not used by more than three quarters of the respondents less than 40 years of age and half of the respondents older than 41 years of age. Thirty two respondents older than 41 years of age marked "observe only" or "assist/participate" to describe the type of experience for the function food service/production ($p \leq 0.027$, Table 3a). Almost three-quarters of the respondents older than 41 years of age and those respondents less than 40 years of age did not use other activities listed under Head Start as a form of experience ($p \leq 0.014$, Table 3a).

The functions and programs listed under Indian Health Services in the survey included nutrition education, WIC, food service/production, alcohol rehab, and other activities specified by the respondents. Most respondents less than 40

years of age and all respondents older than 41 years of age did not use WIC, listed under Indian Health Services, as a community nutrition rotation experience ($p \leq 0.005$, Table 3a).

In Government Inspection Agencies, 90% of the respondents younger than 40 years of age did not use long-term care facility as a type of experience for a community nutrition rotation experience. Of the three that did respond, each respondent chose one of the following to describe the experience: "assist/participate", perform/conduct", and "consult/supervise". Greater than 98% of the respondents older than 41 years of age did not use long-term care facility as a type of experience for a community nutrition rotation experience. Two respondents checked "observe only" to describe the type of experience in this category ($p \leq 0.022$, Table 3a). (Appendix G).

Those respondents less than 40 years of age checked "perform/conduct" to describe the community nutrition rotation experience in HIV Programs, listed under outpatient specialty clinics, however, more respondents older than 41 years of age checked "perform/conduct" to describe the experience in this setting ($p \leq 0.030$, Table 3b).

Eating disorders was checked as a "perform/conduct" type of experience by half the respondents less than 40 years of age and more than one fourth of those older than 41 years of age ($p \leq 0.056$, Table 3b). Rehab centers was described as an "assist/participate" type of experience only by those respondents older than 41 years of age. Of the respondents less than 40 years of age, one quarter checked "perform/conduct" to describe the type of experience in Rehab

Table 3a. Breadth and Depth compared to age of respondents.

Breadth	Head Start		Indian Health Services	Government Inspection Agencies
	Food Service/Production	Other Activities	WIC	Long Term Care Facility
x^2	10.92	12.48	14.73	11.45
DF	4	4	4	4
p=	0.027	0.014	0.005	0.022

Table 3b. Breadth and Depth compared to age of respondents.

Breadth	Outpatient Specialty Clinics			Other Activities
	HIV	Eating Disorders	Rehab Center	Medical Education Consulting Firms
x^2	10.67	9.23	12.04	10.97
DF	4	4	4	4
p=	0.030	0.056	0.017	0.027

Centers. Twenty-two of the 31 respondents less than 40 years of age did not use this program. Of the 111 respondents older than 41 years of age, 90 did not use this section of the survey ($p \leq 0.017$, Table 3b). Ninety percent of the respondents less than 40 years of age and older than 41 years of age were least likely to use Medical Education Consulting Firms, listed under Others section, as a community nutrition experience ($p < 0.027$, Table 3b). (Appendix G). There were no differences in other programs or functions between respondents less than 40 years of age and older than 41 years of age.

Route to Registration

Table 5 illustrates respondents' route to registration (dietetic internship or others) compared to depth of each experience listed under the School Food and Nutrition Services section. Other routes to registration included AP4 program, CP program, graduate degree plus six months experience, and others not listed. Nineteen percent of the respondents who received registration via a dietetic internship did not use nutrition education as a community nutrition experience. Of the 62 DI graduates that use nutrition education as an experience, most respondents checked "perform/conduct" (n=41). Of the 50 "Others" graduate respondents, more than half checked "perform/conduct" (n=34) to describe the community nutrition rotation experience ($p < 0.027$, Table 4).

In Outpatient Specialty Clinics, greater than one half of those participants who received registration via a dietetic internship checked "perform/conduct" in

activities for Hypertension Programs compared to 21 respondents who received registration via other routes ($p < 0.023$, Table 4). More than half of the DI graduates and one third of the graduates from other programs checked "perform/conduct" in weight management/obesity program activities ($p<0.019$, Table 4). One third of the DI graduates and more than one half who received registration via other routes did not use weight management for adults as a community nutrition rotation experience. Most DI graduates and graduates from other programs checked "perform/conduct" in activities for this program experience ($p<0.033$, Table 4). There were no differences in other programs or functions between those respondents who received registration via a dietetic internship or other routes.

Program Base

Table 5a illustrates the significance of the program base (university or others) compared to depth of the community nutrition rotation experience. Half of the respondents' internship programs were based at a university, the other half were based at either medical centers, industry, or others not listed. More than one third of the respondents from universities and other areas did not use menu planning as a community nutrition experience. Most respondents based at universities that use menu planning as a community nutrition experience checked "assist/participate" (n=15) and "perform/conduct" (n=26) to describe the experience. Respondents with programs based at other areas described the

Table 4. Breadth and Depth compared with route to registration.

Breadth	School Food & Nutrition Services	Outpatient Specialty Clinics		
	Nutrition Education	Hypertension	Wt. Mgt./Obesity Programs	Wt. Mgt. for Adults
x^2	11.00	11.35	11.83	10.47
DF	4	4	4	4
p=	0.027	0.023	0.019	0.033

Table 5a. Breadth and Depth compared to program base.

Breadth	School Food & Nutrition Services		Outpatient Specialty Clinics	Cooperative Extension
	Menu Planning	Customer Service & Marketing	Allergy	EFNEP
x^2	14.19	11.61	25.21	9.51
DF	4	4	4	4
p=	0.007	0.020	0.000	0.050

menu planning experience with the terms "observe only" (n=15), "assist/participate" (n=18) and "perform/conduct" (n=11, $p \leq 0.007$, Table 5a).

Customer service and marketing, another function listed under the School Food and Nutrition services, was checked as an "assist/participate" and "perform/conduct" type of experience by the majority of the university-based respondents. Of the respondents based at other areas, most checked "observe only" and "perform/conduct" to describe the type of nutrition experience in customer service and marketing ($p \leq 0.020$, Table 5a). (Appendix G).

In Outpatient Specialty Clinics, almost half of those respondents whose internship program was based at a university checked "assist/participate" and "perform/conduct" to describe the type of experience in allergy clinics. More than one quarter of those based at other facilities checked "observe only" to describe the experience in this program ($p<0.000$, Table 5a).

In cooperative extension programs, half the internship programs based at universities and other facilities including industry, medical centers, and others did not use EFNEP as a community nutrition rotation. Less than one quarter based at universities checked "assist/participate" and "perform/conduct" to describe the experience for EFNEP. Nearly one third of the respondents based at other facilities checked "observe only" and "assist/participate" ($p< 0.050$, Table 5a). (Appendix G).

In state department of public/county health, 70% of the respondents based at a university and half of the respondents based at other facilities checked "perform/conduct" to describe the experience in WIC ($p< 0.055$, Table

5b). In the other programs section of the survey, more than 70% of the programs based at universities and more than 50% of the programs based at other areas did not use food companies/industries as a community nutrition rotation. One fifth of the respondents with programs based at universities checked "assist/participate" and "perform/conduct" to describe the experience. More than one third of the respondents with programs based at other sites checked "observe only" and "assist/participate" to describe the experience ($p < 0.042$, Table 5b). (Appendix G). There were no differences in other programs or functions between respondents with programs based at universities and other sites.

Type of Program

The functions listed under the school food and nutrition services included food service/production, menu planning, recipe modifications, food safety/ HACCP, purchasing, customer service and marketing, nutrition education, summer camps, elderly nutrition programs, TEAM Nutrition, and other activities listed by the respondent. Almost half of the dietetic internship respondents (n=49) did not use recipe modification as a community nutrition experience compared to one quarter of the AP4 respondents (n=8). Of the 61 dietetic internship respondents that use recipe modification as a community nutrition experience, most respondents checked "perform/conduct" (29%). Of the 26 AP4 respondents to use recipe modification as a community nutrition experience,

respondents checked "assist/participate" (29%) and "perform/conduct" (24%) to describe the experience ($p \leq 0.036$, Table 6).

Nutrition education was not used by over one quarter of the dietetic internship respondents compared to 9% of the AP4 program respondents. Forty percent of the DI respondents and 68% of the AP4 respondents use nutrition education in schools as a community nutrition experience at the "perform/conduct" level ($p < 0.030$, Table 6).

Most DI Directors and one quarter of the AP4 Directors checked "perform/conduct" to describe the type of experience in Cholesterol Education listed under Outpatient Specialty Clinics. One third of the DI participants and one half of the AP4 respondents did not use this program as a form of experience ($p<0.013$, Table 6).

Greater than one third of DI respondents and one quarter of AP4 respondents checked "perform/conduct" to describe the type of experience in cancer clinics. Almost half of the DI and AP4 respondents did not use this program as a community nutrition rotation ($p<0.043$, Table 6). Greater than half of DI respondents and one third of AP4 respondents checked "perform/conduct" to describe the type of experience in HIV clinics. Twenty-four percent checked the "assist/participate" and "consult/supervise" level compared to 35% of the AP4 respondents that checked the "observe only" and "assist/participate" level to describe the experience in this setting ($p<0.009$, Table 6). (Appendix E).

More than one third of DI respondents checked "perform/conduct" to describe the type of experience in eating disorder programs. Almost half of the

Table 5b. Breadth and Depth compared to program base.

Breadth	State/County Dept. Public Health WIC	Other Activities Food Companies/Industries
x^2	9.255	9.91
DF	4	4
p=	0.055	0.042

Table 6. Breadth and Depth compared to type of internship program.

Breadth	School Food & Nutrition Services		Outpatient Specialty Clinics			
	Recipe Modification	Nutrition Education	Cholesterol Education	Cancer	HIV	Eating Disorders
x^2	10.30	10.70	12.71	9.85	13.57	11.35
DF	4	4	4	4	4	4
p=	0.036	0.030	0.013	0.043	0.009	0.023

DI respondents and more than half of the AP4 respondents did not use this program as a community nutrition rotation service ($p < 0.023$, Table 6). There were no differences in other programs or functions between dietetic internship and preprofessional respondents.

Highest Degree Attained

More than 75% of the respondents with a Masters of Science degree and half of the Ph.D. respondents did not use rehabilitation centers as a type of experience for community nutrition rotation. However, 11 Masters of Science degree respondents checked "perform/conduct" and seven Ph.D. respondents checked "assist/participate" in activities for this program ($p<0.012$, Table 7). (Appendix G).

The functions and experiences listed under government inspection agencies included restaurant/hospital/sanitation inspection, long-term care facility, and other activities. In Table 7b restaurant/hospital/sanitation inspection programs was found to be significant when compared to highest degree attained. Almost half of the respondents with Masters of Science degrees and Ph.D. did not use restaurant/hospital/sanitation inspection programs as a community nutrition rotation experience. Those respondents with a Masters of Science degree had interns "observe only" (n=16) and "perform/conduct" (n=23) in activities in this setting. Respondents with Ph.D. had their interns

"assist/participate" (n=7) and "perform/conduct" (n=10) in activities in this setting ($p < 0.016$, Table 7).

In the Food Assistance Programs section of the survey, most respondents with a Masters of Science degree checked "perform/conduct" to describe the experience in Senior Nutrition Programs (n=29) compared to more than one third of those with a Ph.D. ($p < 0.010$, Table7). There were no differences in other programs or functions between respondents with a Master of Science degree and doctorate degree.

Major of Highest Degree Attained

A significant association was found by comparing the major of highest degree attained (food and nutrition or others) to depth of each experience listed under the school food and nutrition services section. Other majors of highest degree included on the survey were business, education, public health, food service management, and others not listed. Food service/production was checked as an "observe only" in activities by the majority of respondents with a food and nutrition degree (32%). Nineteen percent of the respondents in this category marked "perform/conduct" in activities. Most respondents in the others category described the experience in food service/production as "assist/participate" (25%) and "perform/conduct" (25%) ($p < 0.011$, Table 8).

Menu Planning, listed under school food and nutrition services, was also found to be significant for this group. Those respondents with a degree in Food

Table 7. Breadth and Depth compared to highest degree attained.

Breadth	Government Inspection Agencies Restaurant/Hospital/Sanitarian Inspection	Food Assistance Programs Senior Nutrition Program
x^2	12.13	13.21
DF	4	4
p=	0.016	0.010

Table 8. Breadth and Depth compared to major of highest degree attained.

Breadth	School Food & Nutrition		Outpatient Specialty Clinics		Consultant RDs in Health Care Facilities
	Food Service/Production	Menu Planning	Diabetes Education	Bone and Joint	Consultants in Wellness
x^2	13.13	9.30	9.57	9.16	10.84
DF	4	4	4	4	4
p=	0.011	0.054	0.048	0.057	0.028

and Nutrition had their interns "assist/participate" in activities in menu planning (24%). Most respondents with other degrees had their interns "assist/participate" (25%) and "perform/conduct" (34%) in activities in menu planning ($p \leq 0.054$, Table 8).

In Outpatient Specialty Clinics, more than half of the respondents with the highest degree in food and nutrition and those with other degrees did not use diabetes education as a community nutrition rotation experience. Less than one quarter of the respondents with food and nutrition as the highest degree and those with other degrees checked "perform/conduct" to describe the type of experience in diabetes education ($p \leq 0.048$, Table 8). One third of the respondents with a highest degree in food and nutrition and half of those with other degrees checked "perform/conduct" to describe the experience in bone and joint services ($p \leq 0.057$, Table 8).

Under consultant dietitians in health care facilities, more than half of the respondents with a major of highest degree in food and nutrition did not use consultants in sports, cardiovascular, and corporate wellness. Respondents to this section checked "observe only" and "perform/conduct" to describe the experience. Of the respondents with majors of highest degree in other areas, half did not use this section for community nutrition rotation, however more than one third checked "assist/participate" and "perform/conduct" to describe the experience in this setting ($p < 0.028$, Table 8). (Appendix G). There were no differences in other programs or functions between respondents with a major of highest degree in food and nutrition and other majors. Based on the results

presented, the author rejects the hypothesis because significance was found between demographics and breadth and depth.

Hypothesis Two

There will be no significant association between type of supervised program (DI/AP4) and depth (observe only, assist/participate, perform/conduct, consult/supervise, and not applicable to community nutrition rotation) of community nutrition programs/functions.

Under school food and nutrition services (Appendix B), more AP4 respondents (50%) checked purchasing as an "observation only" experience compared to DI program respondents (27%, $p \leq 0.019$, Table 9a).

Under outpatient specialty clinics, 6% of the DI and 26% of the AP4 respondents checked cancer clinics as an "Observe only" type of experience ($p \leq 0.045$, Table 9a). More than half of the DI and AP4 respondents did not use this program. Seven percent of the DI and 20% of the AP4 respondents checked HIV as an "observe only" type of experience ($p \leq 0.026$, Table 9a).

Under state/county department of public health, more than half of the DI and AP4 respondents were least likely to use WIC or maternal/infant/child health to describe an experience as "observe only" for a community nutrition rotation. More AP4 respondents (29%) than DI respondents (11%) checked "observe only" to describe the type of experience for WIC, ($p < 0.009$, Table 9a). Maternal/infant/child health was checked as "observe only" by more AP4 respondents (21%) than DI respondents (7%) ($p<0.026$, Table 9a). (Appendix H).

Under Other programs in the survey, more AP4 respondents (30%) than DI respondents (14%) checked "observe only" to describe the experience in home health care agencies in the community nutrition rotation ($p < 0.034$, Table 9b). Twelve percent of the AP4 respondents checked the "observe only" level to describe the experience in assisted living mental/drug/alcohol programs, compared to only 1% of the DI respondents to check this level ($p < 0.003$, Table 9b). Seventeen percent of the AP4 respondents checked the "observe only" level compared to only 6% of the DI respondents to check this level for homeless shelters and soup kitchens. Ninety percent of the DI and AP4 programs did not have interns "observe only" in activities with homeless shelters or soup kitchens ($p < 0.045$, Table 9b). (Appendix H).

In outpatient specialty clinics, more DI respondents than AP4 checked "assist/participate" in activities to describe the experience for Diabetes Education ($p \leq 0.054$, Table 10). More DI respondents (24%) checked "assist/participate" in activities for cholesterol education compared to AP4 respondents (6%, $p \leq 0.022$, Table 10). Eighteen percent of the DI respondents checked "assist/participate" to describe the experience in research centers compared to less than five percent of AP4 respondents ($p < 0.028$, Table 10). (Appendix H).

Half of the DI respondents and one-third of the AP4 respondents checked "perform/conduct" in activities to describe the experience for cholesterol education ($p \leq 0.028$, Table 11). Most DI directors (43%) checked eating disorder programs as a "perform/conduct" type of experience, compared to only 17% of the AP4 respondents ($p \leq 0.008$, Table11).

H2 Tables

Table 9a. Depth (observe only in activities) of community nutrition programs compared to DI and AP4 programs.

	School Food & Nutrition Services	Outpatient Specialty Clinics		State/County Dept. Public Health	
	Purchasing	Cancer	HIV	WIC	Maternal/Infant/Child Health
x^2	5.47	4.03	4.94	6.87	4.94
DF	1	1	1	1	1
p=	0.019	0.045	0.026	0.009	0.026

Table 9b. Depth (observe only in activities) of community nutrition programs compared to DI and AP4 programs.

	Other Activities			
	Home Health Agencies	Assisted Living: Mental/Drug/Alcohol	Homeless Shelters	Soup Kitchens
x^2	4.51	9.13	4.03	4.03
DF	1	1	1	1
p=	0.034	0.003	0.045	0.045

Thirty percent of the DI respondents and eleven percent of the AP4 respondents had their interns "perform/conduct" in activities in weight management/obesity programs for adults listed under outpatient specialty services ($p \leq 0.021$, Table11).

In the Other programs section of the survey, 30% of the DI respondents checked "perform/conduct" in activities to describe the experience in home health agencies compared to 10% of AP4 respondents ($p < 0.021$, Table 11). (Appendix H).

Table 12 illustrates the significant associations found when the term "not applicable to community nutrition rotation" was compared to DI and AP4 programs. Under school food and nutrition services, food service/production was checked as "not applicable to community nutrition rotation" by more dietetic internship respondents (29%) than AP4 respondents (10%) ($p < 0.038$, Table 12). Purchasing was checked as "not applicable to community nutrition rotation" by more dietetic internship respondents (36%) than AP4 respondents (13%) ($p < 0.020$). Fewer AP4 respondents (3%) than DI respondents (17%) checked "not applicable" under the function nutrition education ($p < 0.043$, Table 12).

In outpatient specialty clinics, eating disorder programs was checked as "not applicable to community nutrition rotation" by 24% of the DI respondents and 41% of the AP4 respondents ($p \leq 0.046$, Table12). (Appendix H). In the other program section of the survey, 40% of the DI respondents checked "not applicable to community nutrition rotation" for research centers compared to more than 50% of AP4 respondents ($p < 0.054$, Table12). (Appendix H).

Table 10. Depth (assist/participate in activities) of community nutrition programs compared to DI and AP4 programs.

	Outpatient Specialty Clinics		Other Activities
	Diabetes Education	Cholesterol Education	Research Centers
x^2	3.72	5.23	4.84
DF	1	1	1
p=	0.054	0.022	0.028

Table 11. Depth (perform/conduct in activities) of community nutrition programs compared to DI and AP4 programs.

	Outpatient Specialty Clinics			Other Activities
	Cholesterol Education	Eating Disorders	Weight Mgt./Obesity Programs	Home Health Agencies
x^2	4.84	7.02	5.29	5.29
DF	1	1	1	1
p=	0.028	0.008	0.021	0.021

Table 12. Depth (not applicable to community nutrition rotation) of community nutrition programs compared to DI and AP4 programs.

	School Food & Nutrition			Outpatient Specialty Clinics	Other Activities
	Food Service/Production	Purchasing	Nutrition Education	Eating Disorders	Research Centers
x^2	4.32	5.43	4.09	3.98	3.73
DF	1	1	1	1	1
p=	0.038	0.020	0.043	0.046	0.054

The researcher rejects hypothesis two based on the results presented because significant associations were found between the variables "observe only", "assist/participate", "perform/conduct", and "not applicable to community nutrition rotation". The researcher fails to reject hypothesis two based on the variable "consult/supervise" level because no significance was found.

Hypothesis Three

There will be no significant association between type of program (DI vs. AP4) and personal and program variables.

T-test was used to determine if there were associations between the type of programs (DI vs. AP4) and personal and program variables. Only one significant association was found. Dietetic Internship directors (n=107) have significantly ($p \leq 0.05$) more tenure on their jobs than AP4 directors (n=34). (Table 13). Based on the results presented in Table 13, the researcher rejects hypothesis 3 because a significant association was found between tenure and type of program. The researcher fails to reject hypothesis three for all other variables because no significant association was found between the personal and program variables and type of program.

Table 13: t-test determination for tenure of directors in two types of programs.

YEARS AS INTERNSHIP DIRECTOR					
	n	mean	std dev.	t value	p value
Dietetic Internship	107	7.35	5.33	2.133	0.036
Pre-approved Practice Program	34	5.29	4.76		

CHAPTER V

SUMMARY OF RESULTS

Almost all of the DI/AP4 directors who responded to the study were female (98.8%), ranging in age from 41-60 years (74%) and had been internship program directors for zero to five years (57.3%). Respondents had been practicing as registered dietitians for 16-25 years (N=71). Two-thirds of the respondents completed a master's degree (N=106) while the remaining third held doctoral degrees (N=37). Over 50% of the respondents had completed a dietetic internship as their route to registration. Half of the internship programs were based at universities (N=72) while 48 were based at medical centers.

The average number of weeks allocated for the community nutrition rotation, under Program Information in the survey (Appendix B) was seven weeks or 35 days. Another section of the survey requested the average number of days the typical intern spends in each community nutrition rotation program, as a summary of experiences. Respondents indicated that the average number of days allocated to the community nutrition rotation was 40 days, rounding off the means under each category. The most number of days were spent in school food and nutrition services (n=7), outpatient specialty clinics (n=10), and state department of public/county health, which was predominantly WIC (10 days, Table 14). The programs and functions listed under these sections included nutrition education, food service/production, day care services, education in

outpatient services, WIC and maternal/infant/child health programs, mostly at the "perform/conduct" in activities level of experience.

Table 14. Summary of Number of Days in each Community Nutrition Program

Community Nutrition Program	Average Number of Days
School Food and Nutrition Services	7
Head Start	2
Day Care Programs	1
Indian Health Services	1
Govt. Inspection Agencies	1
Outpatient Specialty Clinics	10
Cooperative Extension	2
State Dept. Of Public/County Health	10
Food Assistance Programs	3
Consultant Dietitians in Health Care Facilities	4
Others	3
Total Number of Days	40

Respondents indicated that 70% of the directors and 30% of the interns contact the facilities for the community rotation. Almost 90% of the interns were not enrolled in a community nutrition course during the dietetic internship programs (N=124).

In the school food and nutrition services, most interns "assist/participate" in activities ranging from menu planning, purchasing, recipe modification, customer service, marketing, and nutrition education. Responses in the Head Start section of the survey indicated that many interns "assist/participate" in activities and "perform/conduct" in nutrition education activities. Most interns gain experience at the "assist/participate" and "perform/conduct" level in child

and adult day care programs. The "observe only" level was highest in the adult day care programs (Appendix E).

Other programs listed under government inspection agencies, was indicated as a "perform/conduct" type of experience. Respondents did not specify what comprised other activities.

In outpatient specialty clinics, many directors described experiences at the "perform/conduct" level. Directors specified that interns "perform/conduct" in activities in drug dependency, hyperlipidemia, cholesterol education, cancer, HIV, eating disorder clinics, bone and joint, wellness programs, hypertension, weight management/obesity programs and child weight management/obesity programs. The "assist/participate" level of experience was highest in HIV, hyperlipidemia, hypertension, weight management/obesity programs, bone and joint, cholesterol education, cancer and drug dependency programs. The "observe only" level of experience was minimal in this section of the survey.

In cooperative extension community programs, directors indicated that most interns "perform/conduct" activities involving preparation of education materials, activities in food stamps/nutrition education planning and EFNEP programs. The "observe only" level of experience was higher in this section compared with others. Interns "observe only" in food stamps/nutrition education planning, EFNEP programs, education materials.

In the department of state/county public health, directors had their interns either "perform/conduct" or "assist/participate" in activities mostly in WIC

programs and maternal/infant/child health. The "observe only" level was highest, however, in WIC programs and developmental disability programs.

In food assistance programs, most directors had their interns "perform/conduct" activities in WIC and senior nutrition programs. At the "observe only" level, most interns work in senior nutrition programs, commodity distribution, WIC and food stamps. Interns gained experience at the "perform/conduct" level in programs with consultant RDs, specifically consultants in health care, wellness, and business and communications. Most interns "observe only" activities in the consultant section, specifically with nutrition entrepreneurs, RDs in business and communications, and consultants in wellness and health care. The "assist/participate" level of experience was checked in most of the programs listed in the consultant section of the survey.

In other programs for community nutrition rotation, the "assist/participate" and "perform/conduct" level of experience were highest in home health agencies, research centers, summer camps, and soup kitchens. At the "observe only" level, most interns gained experience with Home Health Agencies, Food Companies/Industries, and Research Centers.

The "consult/supervise" level of experience was minimal in all sections of the survey. This may be due to the directors' perception that interns are not ready to perform these functions at this level which require some experience beyond the entry-level position. In general, most interns either "assist/participate" or "perform/conduct" in activities in the community nutrition rotation.

Recommendations

Recommendations for the structure and format of the questionnaire include offering multiple choice type questions in place of open-ended ones, under General Information and to streamline the categories of community rotation activities. Perhaps the survey should concentrate on functions only or program types only. Based on the results of the study, for example, school food and nutrition services, head start, and day care programs could be one section due to their similarities. Providing an example of how to answer the questionnaire may enhance ease of completion, and perhaps increase the response rate.

This type of study must be conducted every five years to follow the trends and changes in the dietetic internship programs and roles of the registered dietitian in community settings. Another possibility is to study the Coordinated Programs and compare the results with this study.

Implications

Dietetics practice is moving from the critical care setting and into the home and community environment following the changing demographics and managed health care plans. Dietitians are also becoming more creative and specialized, meeting the demands of the health conscious public by working in unconventional settings such as business, industries, and communications, food companies, entrepreneurial positions, and home health care. Dietitians are

expanding their roles as nutrition educators and entrepreneur/risk takers by taking on these new positions. Directors of internship programs must take notice and make efforts to provide interns with experiences in these unique and uncharted settings based on trends, skills, and expertise which will be required of registered dietitians in the future.

The community rotation of the internship program allows interns the opportunity to explore these possibilities before entering the work force as an entry-level dietitian. To increase demand for registered dietitians in the marketplace, dietitians must market their knowledge in forms of prevention at all ages of life, risk reduction and long term health care. New opportunities exist for dietitians to reach a vast population via the Internet with the increase in computer technology. Dietitians must venture into unexplored areas of practice with interns as mentees.

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OSU

Department of Nutritional Sciences
425 Human Environmental Sciences
Stillwater, Oklahoma 74078-6141
405-744-5040, Fax 405-744-7113
Email nutrsci@okway.okstate.edu

March 25, 1997

Dear Dietetic Internship/AP4 Director:

Dietetic Internships provide the experiences in technical, human relations and conceptual skills necessary for entry level practice in the profession. Because of changes in the health care arena, registered dietitians may find themselves in practice settings other than critical care or food service administration. Job opportunities for entry level registered dietitians as well as for those seeking further challenges could very well be in expanded community settings; business industry, and communications and other unexplored areas. For this reason, we are conducting a survey to explore the breadth and depth of community experiences currently being provided to prepare dietetic interns/AP4 students to meet these challenges.

The information you share with us will be strictly confidential as we will be unable to determine the names of the respondents. Your thoughts and expertise are valuable to this study. It will take 15-20 minutes to answer the questionnaire. Please enclose the completed questionnaire in the envelope provided and mail on or before April 14, 1997. Envelopes have been addressed and stamped for your convenience.

Results of this survey will be shared with all Dietetic Internship/AP4 Directors via oral or poster presentation at the national meeting. An abstract will also be sent to the DEP Newsletter.

We thank you for your assistance and participation. If you have any questions please call us at 405-744-8294. You may also contact Gay Clarkson, OSU IRB Executive Secretary at 305 Whitehurst Hall, Stillwater, OK 74078 or (405) 744-5700.

Sincerely,

Heidi C. Kapteina

Heidi C. Kapteina
Master's Degree Candidate

Lea L. Ebro

Lea L. Ebro, PhD, RD/LD
Professor & DI Director

Bringing Dreams to Life

APPENDIX B

OKLAHOMA STATE UNIVERSITY
College of Human Environmental Sciences
Department of Nutritional Sciences

GENERAL INFORMATION:

Directions: Please provide the appropriate information using a check mark or answering the questions.

Director Information:

1. Gender: M____ F___

2. Age Range: ___under 30 ___51-60
___31-40 ___61 & older
___41-50

3. Number of years as Director of Internship/AP4:___
4. Number of years as Registered Dietitian:___
5. Highest Degree Attained: Major of highest degree:
____Master's ____Food and Nutrition ____Public Health
____Doctoral ____Business ____Food Service
____Education Management
____Other, Please Specify:_____

6. Route/Type of supervised experience the director completed:
____DI ____Graduate Degree + 6 months
____AP4 ____Other, Please Specify:
____CP _____

PROGRAM INFORMATION:

1. Please check where the program is based:
___University ____Industry ____Medical Center ____Other
If other please specify: _____

2. Average number of interns in last three years: _____
3. Please indicate total number of hours allocated for each rotation:
Food Service/Management ____
Clinical Nutrition ____
Community Nutrition ____

4. Does the internship offer any form of specialization or unique experience in community rotation? If so, please explain.

_____

5. Is transportation provided for interns traveling to the community sites?
Yes____ No____

6. Who contacts the facilities for community rotation?
Director____ Intern____
Both ___ Other, Please Specify:_____

7. If person(s) supervising interns for community rotation is not the director please indicate title and FTE of this individual(s):
_____.

8. Are dietetic interns concurrently enrolled in a community nutrition course while completing their internship rotations? Yes____ No____

9. Is the community nutrition course a requirement prior to or during the internship?
_____.

Please continue to the next page.

continue

AVAILABILITY OF COMMUNITY EXPERIENCES FOR DIETETIC INTERNS

Directions:

Which of the following facilities, agencies, business entities, or activities do you provide or make available in your ***community nutrition rotation*** *for your DI/AP-I? The following columns are described as observe only, assist/participate in activities, perform/conduct activities, consult/supervise activities, and not applicable to community nutrition rotation. Please check as appropriate in the columns provided.*

Community Nutrition Program	Describe Experiences as: O=Observe only A=Assist/Participate in activities P=Perform/Conduct activities C=Consult/Supervise activities NA=Not applicable to community rotation ✓ in appropriate columns				
A. SCHOOL FOOD AND NUTRITION SERVICES*	O	A	P	C	NA
Food Service/Production					
Menu Planning					
Recipe Modifications					
Food Safety/HACCP					
Purchasing					
Customer Service and Marketing					
Nutrition Education					
Summer Camps					
Elderly Nutrition Program (Satellite)					
TEAM Nutrition (A USDA funded community nutrition program)					
Other Activities, Please Specify:					

*We hope to develop suggested rotations in School Food and Nutrition Services and other Child Nutrition Program Services. If you currently have available materials that you can share in this area with us, please send in a separate mailing. Thank You.

continue

Community Nutrition Program	Describe Experiences as: O=Observe only A=Assist/Participate in activities P=Perform/Conduct activities C=Consult/Supervise activities NA=Not applicable to community rotation ✓ in appropriate columns				
B. HEAD START	O	A	P	C	NA
Nutrition Education					
Food Service/Production					
Food Safety Training					
Other Activities, Please Specify:					
C. DAY CARE PROGRAMS					
Adult Day Care					
Child Day Care					
Nutrition Education					
Menu Planning					
Other Activities, Please Specify:					
D. INDIAN HEALTH SERVICES					
Nutrition Education					
WIC					
Food Service/Production					
Alcohol Rehab					
Other Activities, Please Specify:					
E. GOVERNMENT INSPECTION AGENCIES					
Restaurant/Hospital/Sanitarian Inspection					
Long-term Care Facility					
Other Activities, Please Specify:					

continue

Community Nutrition Program	Describe Experiences as: O=Observe only A=Assist/Participate in activities P=Perform/Conduct activities C=Consult/Supervise activities NA=Not applicable to community rotation ✓ in appropriate columns				
F. OUTPATIENT SPECIALTY CLINICS	O	A	P	C	NA
Diabetes Education					
Alcohol Rehab					
Drug Dependency					
Hyperlipidemia					
Cholesterol Education					
Cancer					
HIV					
Renal/Dialysis					
Allergy					
Eating Disorders					
Rehabilitation Center					
Bone and Joint					
Wellness					
Hypertension					
Weight Management/Obesity Program					
Adults					
Children					
Psychiatric Facility					
Meals on Wheels					
Grocery Store Tours					
Other Activities, Please Specify:					

continue

Community Nutrition Program	Describe Experiences as: O=Observe only A=Assist/Participate in activities P=Perform/Conduct activities C=Consult/Supervise activities NA=Not applicable to community rotation ✓ in appropriate columns				
G. COOPERATIVE EXTENSION	O	A	P	C	NA
Food and Consumer, Food Stamps, Nutrition Education Plan					
Education Materials					
TEAM Nutrition (A USDA funded community nutrition program)					
EFNEP					
4-H					
Other Activities, Please Specify:					
H. STATE DEPT. OF PUBLIC HEALTH/COUNTY PUBLIC HEALTH					
Chronic Disease Prevention					
WIC					
Maternal and Infant/Child Health					
Correctional Facility					
Developmental Disability Programs					
Other Activities, Please Specify:					
I. FOOD ASSISTANCE PROGRAMS					
Commodity Distribution					
Food Stamps					
Senior Nutrition Program					
WIC					
Developmental Disability Programs					
Other Activities, Please Specify:					

continue

Community Nutrition Program	Describe Experiences as: O=Observe only A=Assist/Participate in activities P=Perform/Conduct activities C=Consult/Supervise activities NA=Not applicable to community rotation ✓ in appropriate columns				
J. CONSULTANT DIETITIANS IN HEALTH CARE FACILITIES	O	A	P	C	NA
Nutrition Entrepreneurs					
Dietitians in Business and Communications					
Consultants in Sports/Cardiovascular/ Corporate Wellness					
Consultants in Health Care Facilities					
Other Activities, Please Specify:					
K. OTHERS					
Home Health Agencies					
Group Home/Half-way House					
Assisted Living: Mental/Drug/Alcohol					
Homeless Shelters					
Soup Kitchens					
Special Olympics					
Commercial Weight Loss Centers (Weight Watchers, Jenny Craig, Nutra-System)					
Restaurant and Culinary Industry (Chefs)					
Food Companies/Industries					
Hotels and Resorts					
Research Centers					
Medical Education Consulting Firms					
Summer Camps					
Other Activities, Please Specify:					

continue

SUMMARY OF COMMUNITY EXPERIENCES

In the following column, please indicate the average number of days the average intern spends in each community program.

Community Nutrition Program	List total days
A. SCHOOL FOOD AND NUTRITION SERVICES	
B. HEAD START	
C. DAY CARE PROGRAMS	
D. INDIAN HEALTH SERVICES	
E. GOVERNMENT INSPECTION AGENCIES	
F. OUTPATIENT SPECIALTY CLINICS	
G. COOPERATIVE EXTENSION	
H. STATE DEPT. OF PUBLIC HEALTH/COUNTY PUBLIC HEALTH	
I. FOOD ASSISTANCE PROGRAMS	
J. CONSULTANT DIETITIANS IN HEALTH CARE FACILITIES	
K. OTHERS	
L. TOTAL	

Oklahoma State University would like to thank you for your assistance and cooperation.

APPENDIX C

We would appreciate your response to the
Community Nutrition Rotation Questionnaire of the
DI/AP4 Programs
please take a few minutes to complete the questionnaire.
Your response is important to this study. If you have already returned the completed questionnaire, thank you for your cooperation. If you need another questionnaire, please call us at:

Oklahoma State University (405) 744-8294

Thank you for your participation.

Heidi C Kapteina
MS Degree Candidate

Lea L Eoro
Professor & DI Director

APPENDIX D

Frequencies of Characteristics of Respondents:

Gender	Frequency	Percent
Female	137	95.2
Male	6	4.2

Frequency Missing = 1

Age	Frequency	Percent
Under 30 Years	2	1.4
31 - 40 Years	29	20.4
41 - 50 Years	72	50.7
51 - 60 Years	33	23.2
61 & Older	6	4.2

Frequency Missing = 2

Years Internship Director	Frequency	Percent
Zero - Five Years	68	57.3
Six To Ten Years	44	31.2
Eleven To Fifteen Years	18	12.7
Sixteen To Twenty Years	9	6.3
Twenty-two Years/ Twenty-eight Years	2	1.4

Frequency Missing = 3

Years As Registered Dietitian	Frequency	Percent
Two To Five Years	5	3.8
Seven To Fifteen Years	33	25.4
Sixteen To Twenty Years	36	27.5
Twenty-one To Twenty-five Years	35	54.3
Twenty-six To Thirty Years	16	12.3
Thirty-two To Forty Years	6	4.7

Frequency Missing = 13

Highest Degree Attained	Frequency	Percent
Masters Of Science	106	74.1
Doctoral	37	25.9

Frequency Missing = 1

Major	Frequency	Percent
Food And Nutrition	63	49.6
Public Health	11	8.7
Business	6	4.7
Food Service Management	4	3.1
Education	20	15.7
Other	23	18.1

Frequency Missing = 17

Route To Registration	Frequency	Percent
Dietetic Internship	77	53.8
Preapproved Professional Program/Ap4	8	5.6
CP	12	8.4
Graduate Degree And 6 Months Training	34	23.8
Other	12	8.4

Frequency Missing = 1

Program Base	Frequency	Percent
University	72	50.3
Industry	1	0.7
Medical Center	48	33.6
Other	22	15.4

Frequency Missing = 1

Number Of Hours For Each Rotation	Frequency	Average Hours	Average Weeks
Food Service/Management	64-3960	402	10
Clinical Nutrition	64-3960	554	14
Community Nutrition	32-960	278	7

Provides Transportation	Frequency	Percent
Yes	5	3.5
No	138	96.5

Frequency Missing = 1

Who Contacts Facility	Frequency	Percent
Director	90	62.9
Both (Director And Intern)	4	2.8
Intern	37	25.9
Other	12	8.4

Frequency Missing = 1

Title Of Supervisor	Frequency	Percent
Registered Dietitian/ Director	33	45.8
Preceptor	18	25.0
Clinical Instructor/ Coordinator	11	15.3
Assistant Director	1	1.4
Professor/ Faculty	3	4.2
Assistant Professor	1	1.4
Manager Of Education	3	4.2

Frequency Missing = 72

FTE of Supervisor	Frequency	Percent
0 %	47	66.2
.10	1	1.4
.25	2	2.8
.50	5	7.0
.60	1	1.4
1.00	11	15.5
1.30	1	1.4
1.50	2	2.8
2.00	1	1.4

Frequency Missing = 73

Enrolled In Community Nutrition Course While In Internship	Frequency	Percent
Yes	18	12.7
No	124	87.3

Frequency Missing = 2

Nutrition Course Requirement Prior To Or During Internship	Frequency	Percent
Yes (Prior)	34	100

Frequency Missing = 110

APPENDIX E

Specializations or unique experiences in the community nutrition rotation as listed by respondents:

Food Industry- 3 programs

Private Sector/Business/Industry/Consultants- 18 programs

Health Dept./State Agency- 17 programs

Sensory Evaluation Research- 2 programs

Supermarkets- 1 program

Obesity Management- 3 programs

Diabetes- 4 programs

Renal – 4 programs

Pediatric/Adolescent- 6 programs

Environmental Health- 2 programs

Communications-Filming/TV/Public Speaking- 6 programs

Worksite Wellness- 8 programs

Prenatal center- 2 programs

Chef Training/Culinary- 3 programs

Homeless./Church/Meals on Wheels- 8 programs

Area of Interest- 21 programs

WIC- 12 programs

Home Health Care- 14 programs

Education, Extension- 25 programs

Camp Cancer- 1 program

Camp Diabetes- 2 programs

Prevention- 3 programs

Eating Disorder Center- 1 program

Military- 1 program

Mental/Psychiatric Facility/Disabilities- 4 programs

Outpatient Clinic- 11 programs

Grants/Writing, survey, project – 1 program

Day care or child development center- 2 programs

APPENDIX F

Frequencies of Depth in Each Community Nutrition Program

A. School Food and Nutrition Services

Food Service/Production	Frequency	Percent
Observe Only	35	27.3
Assist/ Participate In Activities	38	29.7
Perform/Conduct Activities	40	31.3
Consult/Supervise Activities	11	8.6
Not Applicable To Community Rotation	31	24.2

Frequency Missing = 16

Menu Planning	Frequency	Percent
Observe Only	23	17.8
Assist/ Participate In Activities	45	34.9
Perform/Conduct Activities	44	34.1
Consult/Supervise Activities	7	5.4
Not Applicable To Community Rotation	33	25.6

Frequency Missing = 15

Recipe Modification	Frequency	Percent
Observe Only	20	16
Assist/ Participate In Activities	32	25.6
Perform/Conduct Activities	47	37.6
Consult/Supervise Activities	9	7.2
Not Applicable To Community Rotation	38	30.4

Frequency Missing = 19

A. School Food and Nutrition Services

Food Safety / HACCP	Frequency	Percent
Observe Only	30	24.4
Assist/ Participate In Activities	29	23.6
Perform/Conduct Activities	35	28.5
Consult/Supervise Activities	17	13.8
Not Applicable To Community Rotation	36	29.3

Frequency Missing = 21

Purchasing	Frequency	Percent
Observe Only	41	32.5
Assist/ Participate In Activities	37	29.4
Perform/Conduct Activities	21	16.7
Consult/Supervise Activities	6	4.8
Not Applicable To Community Rotation	38	30.4

Frequency Missing = 18

Customer Service And Marketing	Frequency	Percent
Observe Only	25	20.3
Assist/ Participate In Activities	32	26.0
Perform/Conduct Activities	46	37.4
Consult/Supervise Activities	11	8.9
Not Applicable To Community Rotation	32	26.0

Frequency Missing = 21

Nutrition Education	Frequency	Percent
Observe Only	15	11.5
Assist/ Participate In Activities	24	18.5
Perform/Conduct Activities	86	66.2
Consult/Supervise Activities	16	12.3
Not Applicable To Community Rotation	18	13.8

Frequency Missing = 14

A. School Food and Nutrition Services

Summer Camps	Frequency	Percent
Observe Only	2	1.7
Assist/ Participate In Activities	2	1.7
Perform/Conduct Activities	11	9.6
Consult/Supervise Activities	4	3.5
Not Applicable To Community Rotation	99	86.1

Frequency Missing = 29

Elderly Nutrition Program (Satellite)	Frequency	Percent
Observe Only	18	14.8
Assist/ Participate In Activities	24	19.7
Perform/Conduct Activities	26	21.3
Consult/Supervise Activities	7	5.7
Not Applicable To Community Rotation	62	50.8

Frequency Missing = 22

Team Nutrition	Frequency	Percent
Observe Only	9	7.6
Assist/ Participate In Activities	14	11.9
Perform/Conduct Activities	11	9.3
Consult/Supervise Activities	4	3.4
Not Applicable To Community Rotation	89	75.4

Frequency Missing = 26

Other Activities	Frequency	Percent
Observe Only	3	6.0
Assist/ Participate In Activities	5	10.0
Perform/Conduct Activities	7	14.0
Consult/Supervise Activities	0	00.0
Not Applicable To Community Rotation	26	52.0

Frequency Missing = 94

B. Head Start

Nutrition Education	Frequency	Percent
Observe Only	10	6.9
Assist/ Participate In Activities	17	11.8
Perform/Conduct Activities	36	25.0
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	66	45.8

Food Service / Production	Frequency	Percent
Observe Only	26	18.1
Assist/ Participate In Activities	14	9.7
Perform/Conduct Activities	10	6.9
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	70	48.6

Food Safety Training	Frequency	Percent
Observe Only	15	10.4
Assist/ Participate In Activities	14	9.7
Perform/Conduct Activities	14	9.7
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	76	52.8

Other Activities	Frequency	Percent
Observe Only	4	2.8
Assist/ Participate In Activities	3	2.1
Perform/Conduct Activities	7	4.9
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	66	45.8

C. Day Care Programs

Adult Day Care	Frequency	Percent
Observe Only	21	14.6
Assist/ Participate In Activities	16	11.1
Perform/Conduct Activities	22	15.3
Consult/Supervise Activities	6	4.2
Not Applicable To Community Rotation	64	44.4

Child Day Care	Frequency	Percent
Observe Only	6	4.2
Assist/ Participate In Activities	18	12.5
Perform/Conduct Activities	34	23.6
Consult/Supervise Activities	8	5.6
Not Applicable To Community Rotation	58	40.3

Nutrition Education	Frequency	Percent
Observe Only	12	8.3
Assist/ Participate In Activities	14	9.7
Perform/Conduct Activities	14	9.7
Consult/Supervise Activities	6	4.2
Not Applicable To Community Rotation	73	50.7

Menu Planning	Frequency	Percent
Observe Only	1	0.7
Assist/ Participate In Activities	2	1.4
Perform/Conduct Activities	3	2.1
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	61	42.7

D. Day Care Programs

Other	Frequency	Percent
Observe Only	0	0.0
Assist/ Participate In Activities	6	4.2
Perform/Conduct Activities	9	6.2
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	97	67.4

E. Indian Health Services

Nutrition Education	Frequency	Percent
Observe Only	4	2.8
Assist/ Participate In Activities	9	6.2
Perform/Conduct Activities	12	8.3
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	91	63.2

WIC	Frequency	Percent
Observe Only	1	0.7
Assist/ Participate In Activities	2	1.4
Perform/Conduct Activities	2	1.4
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	99	68.7

Food Service/Production	Frequency	Percent
Observe Only	3	2.1
Assist/ Participate In Activities	2	1.4
Perform/Conduct Activities	4	2.8
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	96	66.7

D. Indian Health Services

Alcohol Rehab	Frequency	Percent
Observe Only	1	0.7
Assist/ Participate In Activities	0	0.0
Perform/Conduct Activities	2	1.4
Consult/Supervise Activities	0	0.0
Not Applicable To Community Rotation	74	51.4

Other	Frequency	Percent
Observe Only	24	16.7
Assist/ Participate In Activities	12	8.3
Perform/Conduct Activities	19	13.2
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	69	47.9

E. Government Inspection Agencies

Restaurant/Hospital/ Sanitation Inspection	Frequency	Percent
Observe Only	20	13.9
Assist/ Participate In Activities	20	13.9
Perform/Conduct Activities	39	27.1
Consult/Supervise Activities	9	6.2
Not Applicable To Community Rotation	49	34.0

Long Term Care Facility	Frequency	Percent
Observe Only	2	1.4
Assist/ Participate In Activities	3	2.1
Perform/Conduct Activities	2	1.4
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	51	35.7

F. Government Inspection Agencies

Other	Frequency	Percent
Observe Only	8	5.6
Assist/ Participate In Activities	33	22.9
Perform/Conduct Activities	92	63.9
Consult/Supervise Activities	13	9.0
Not Applicable To Community Rotation	7	4.9

G. Outpatient Specialty Clinics

Diabetes Education	Frequency	Percent
Observe Only	7	4.9
Assist/ Participate In Activities	18	12.5
Perform/Conduct Activities	23	16.0
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	70	48.6

Alcohol Rehab	Frequency	Percent
Observe Only	8	5.6
Assist/ Participate In Activities	22	15.3
Perform/Conduct Activities	17	11.8
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	69	47.9

Drug Dependency	Frequency	Percent
Observe Only	8	5.6
Assist/ Participate In Activities	27	18.8
Perform/Conduct Activities	73	50.7
Consult/Supervise Activities	12	8.3
Not Applicable To Community Rotation	17	11.8

F. Outpatient Specialty Clinics

Hyperlipidemia	Frequency	Percent
Observe Only	10	6.9
Assist/ Participate In Activities	31	21.5
Perform/Conduct Activities	85	59.0
Consult/Supervise Activities	14	9.7
Not Applicable To Community Rotation	12	8.3

Cholesterol Education	Frequency	Percent
Observe Only	11	7.6
Assist/ Participate In Activities	28	19.4
Perform/Conduct Activities	66	45.8
Consult/Supervise Activities	10	6.9
Not Applicable To Community Rotation	26	18.1

Cancer	Frequency	Percent
Observe Only	13	9%
Assist/ Participate In Activities	29	20.1
Perform/Conduct Activities	60	41.7
Consult/Supervise Activities	12	8.3
Not Applicable To Community Rotation	30	20.8

HIV	Frequency	Percent
Observe Only	15	10.4%
Assist/ Participate In Activities	38	26.4
Perform/Conduct Activities	78	54.2
Consult/Supervise Activities	11	7.6
Not Applicable To Community Rotation	14	9.7

G. Outpatient Specialty Clinics

Renal/Dialysis	Frequency	Percent
Observe Only	5	3.5
Assist/ Participate In Activities	15	10.4
Perform/Conduct Activities	22	15.3
Consult/Supervise Activities	7	4.9
Not Applicable To Community Rotation	72	50.3

Allergy	Frequency	Percent
Observe Only	27	18.8
Assist/ Participate In Activities	27	18.8
Perform/Conduct Activities	32	22.2
Consult/Supervise Activities	6	4.2
Not Applicable To Community Rotation	47	32.6

Eating Disorders	Frequency	Percent
Observe Only	9	6.2
Assist/ Participate In Activities	19	13.2
Perform/Conduct Activities	53	36.8
Consult/Supervise Activities	11	7.6
Not Applicable To Community Rotation	40	27.8

Rehabilitation Center	Frequency	Percent
Observe Only	6	4.2
Assist/ Participate In Activities	14	9.7
Perform/Conduct Activities	16	11.1
Consult/Supervise Activities	4	2.8
Not Applicable To Community Rotation	76	52.8

F. Outpatient Specialty Clinics

Bone And Joint	Frequency	Percent
Observe Only	12	8.3
Assist/ Participate In Activities	29	20.1
Perform/Conduct Activities	79	54.9
Consult/Supervise Activities	19	13.2
Not Applicable To Community Rotation	21	14.6

Wellness	Frequency	Percent
Observe Only	5	3.5
Assist/ Participate In Activities	23	16.0
Perform/Conduct Activities	68	47.2
Consult/Supervise Activities	13	9.0
Not Applicable To Community Rotation	26	18.1

Hypertension	Frequency	Percent
Observe Only	7	4.9
Assist/ Participate In Activities	33	22.9
Perform/Conduct Activities	76	52.8
Consult/Supervise Activities	15	10.4
Not Applicable To Community Rotation	18	12.5

Weight Management/ Obesity Program	Frequency	Percent
Observe Only	6	4.2
Assist/ Participate In Activities	30	20.8%
Perform/Conduct Activities	79	54.9
Consult/Supervise Activities	14	9.7
Not Applicable To Community Rotation	15	10.4

F. Outpatient Specialty Clinics

Adults	Frequency	Percent
Observe Only	10	6.9
Assist/ Participate In Activities	23	16.0
Perform/Conduct Activities	39	27.1
Consult/Supervise Activities	7	4.9
Not Applicable To Community Rotation	39	27.1

Children	Frequency	Percent
Observe Only	13	9.0
Assist/ Participate In Activities	18	12.5
Perform/Conduct Activities	38	26.4
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	52	36.1

Psychiatric Facility	Frequency	Percent
Observe Only	31	21.5
Assist/ Participate In Activities	23	16.0
Perform/Conduct Activities	29	20.1
Consult/Supervise Activities	6	4.2
Not Applicable To Community Rotation	48	33.3

Meals On Wheels	Frequency	Percent
Observe Only	11	7.6
Assist/ Participate In Activities	16	11.1
Perform/Conduct Activities	30	20.8
Consult/Supervise Activities	4	2.8
Not Applicable To Community Rotation	57	39.6

F. Outpatient Specialty Clinics

Grocery Store Tours	Frequency	Percent
Observe Only	3	2.1
Assist/ Participate In Activities	4	2.8
Perform/Conduct Activities	6	4.2
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	26	18.1

Other	Frequency	Percent
Observe Only	0	0
Assist/ Participate In Activities	0	0
Perform/Conduct Activities	0	0
Consult/Supervise Activities	0	0
Not Applicable To Community Rotation	0	0

G. Cooperative Extension

Food And Consumer, Food Stamps, Nutrition Education Plan	Frequency	Percent
Observe Only	25	17.4
Assist/ Participate In Activities	19	13.2
Perform/Conduct Activities	28	19.4
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	50	34.7

Education Materials	Frequency	Percent
Observe Only	14	9.7
Assist/ Participate In Activities	20	13.9
Perform/Conduct Activities	32	22.2
Consult/Supervise Activities	6	4.2
Not Applicable To Community Rotation	56	38.9

G. Cooperative Extension

Team Nutrition	Frequency	Percent
Observe Only	8	5.6
Assist/ Participate In Activities	7	4.9
Perform/Conduct Activities	11	7.6
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	87	60.4

EFNEP	Frequency	Percent
Observe Only	23	16.0
Assist/ Participate In Activities	19	13.2
Perform/Conduct Activities	19	13.2
Consult/Supervise Activities	7	4.9
Not Applicable To Community Rotation	56	38.9

4-H	Frequency	Percent
Observe Only	9	6.2
Assist/ Participate In Activities	7	4.9
Perform/Conduct Activities	9	6.2
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	81	56.2

Other	Frequency	Percent
Observe Only	5	3.5
Assist/ Participate In Activities	1	0.7
Perform/Conduct Activities	1	0.7
Consult/Supervise Activities	0	0.0
Not Applicable To Community Rotation	38	26.4

H. State Department Of Public Health/County Public Health

Chronic Disease Prevention	Frequency	Percent
Observe Only	13	9.0
Assist/ Participate In Activities	24	16.7
Perform/Conduct Activities	40	27.8
Consult/Supervise Activities	7	4.9
Not Applicable To Community Rotation	48	33.3

WIC	Frequency	Percent
Observe Only	22	15.3
Assist/ Participate In Activities	47	32.6
Perform/Conduct Activities	97	67.4
Consult/Supervise Activities	16	11.1
Not Applicable To Community Rotation	8	5.6

Maternal And Infant/Child Health	Frequency	Percent
Observe Only	15	10.4
Assist/ Participate In Activities	30	20.8
Perform/Conduct Activities	74	51.4
Consult/Supervise Activities	11	7.6
Not Applicable To Community Rotation	24	16.8

Correctional Facility	Frequency	Percent
Observe Only	13	9.0
Assist/ Participate In Activities	11	7.6
Perform/Conduct Activities	11	7.6
Consult/Supervise Activities	5	3.5
Not Applicable To Community Rotation	84	58.3

H. State Department of Public Health/ County Health

Developmental Disability	Frequency	Percent
Observe Only	20	13.9
Assist/ Participate In Activities	29	20.1
Perform/Conduct Activities	42	29.2
Consult/Supervise Activities	7	4.9
Not Applicable To Community Rotation	45	31.5

Other	Frequency	Percent
Observe Only	0	0.0
Assist/ Participate In Activities	4	2.8
Perform/Conduct Activities	6	4.2
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	32	22.2

I. Food Assistance Programs

Commodity Distribution	Frequency	Percent
Observe Only	19	13.2
Assist/ Participate In Activities	20	13.9
Perform/Conduct Activities	14	9.7
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	68	47.2

Food Stamps	Frequency	Percent
Observe Only	18	12.5
Assist/ Participate In Activities	14	9.7
Perform/Conduct Activities	10	6.9
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	72	50.0

I. Food Assistance Programs

Senior Nutrition Program	Frequency	Percent
Observe Only	24	16.7
Assist/ Participate In Activities	26	18.1
Perform/Conduct Activities	49	34.0
Consult/Supervise Activities	6	4.2
Not Applicable To Community Rotation	38	26.4

WIC	Frequency	Percent
Observe Only	18	12.5
Assist/ Participate In Activities	41	28.5%
Perform/Conduct Activities	82	56.9
Consult/Supervise Activities	13	9.0
Not Applicable To Community Rotation	21	14.6

Developmental Disability Programs	Frequency	Percent
Observe Only	13	9.0
Assist/ Participate In Activities	20	13.9
Perform/Conduct Activities	26	18.1
Consult/Supervise Activities	5	3.5
Not Applicable To Community Rotation	62	43.1

Other	Frequency	Percent
Observe Only	1	0.7
Assist/ Participate In Activities	4	2.8
Perform/Conduct Activities	1	0.7
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	28	19.4

J. Consultant Dietitians in Health Care Facilities

Nutrition Entrepreneurs	Frequency	Percent
Observe Only	33	22.9
Assist/ Participate In Activities	28	19.4
Perform/Conduct Activities	16	11.1
Consult/Supervise Activities	4	2.8
Not Applicable To Community Rotation	43	29.9

Dietitians In Business And Communications	Frequency	Percent
Observe Only	23	16.0
Assist/ Participate In Activities	14	9.7
Perform/Conduct Activities	19	13.2
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	56	38.9

Consultants In Sports/Cardiovascular/ Corporate Wellness	Frequency	Percent
Observe Only	22	15.4
Assist/ Participate In Activities	30	20.8
Perform/Conduct Activities	25	17.4
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	49	34.0

Consultants In Health Care Facilities	Frequency	Percent
Observe Only	20	13.9
Assist/ Participate In Activities	35	24.3
Perform/Conduct Activities	40	27.8
Consult/Supervise Activities	5	3.5
Not Applicable To Community Rotation	29	20.3

J. Consultants in Health Care Facilities

Other	Frequency	Percent
Observe Only	2	1.4
Assist/ Participate In Activities	0	0.0
Perform/Conduct Activities	1	0.7
Consult/Supervise Activities	0	0.0
Not Applicable To Community Rotation	29	20.3

K. Others

Home Health Agencies	Frequency	Percent
Observe Only	25	17.4
Assist/ Participate In Activities	40	27.8
Perform/Conduct Activities	39	27.1
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	34	23.8

Group Home/Half-Way House	Frequency	Percent
Observe Only	4	2.8
Assist/ Participate In Activities	11	7.6
Perform/Conduct Activities	8	5.6
Consult/Supervise Activities	4	2.8
Not Applicable To Community Rotation	88	61.1

Assisted Living: Mental/ Drug/ Alcohol	Frequency	Percent
Observe Only	5	3.5
Assist/ Participate In Activities	9	6.2
Perform/Conduct Activities	8	5.6
Consult/Supervise Activities	4	2.8
Not Applicable To Community Rotation	88	61.1

K. Others

Homeless Shelters	Frequency	Percent
Observe Only	13	9.0
Assist/ Participate In Activities	9	6.2
Perform/Conduct Activities	14	9.7
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	80	55.6

Soup Kitchens	Frequency	Percent
Observe Only	13	9.0
Assist/ Participate In Activities	18	12.5
Perform/Conduct Activities	16	11.1
Consult/Supervise Activities	4	2.8
Not Applicable To Community Rotation	67	46.5

Special Olympics	Frequency	Percent
Observe Only	2	1.4
Assist/ Participate In Activities	4	2.8
Perform/Conduct Activities	4	2.8
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	94	65.7

Commercial Weight Loss Centers	Frequency	Percent
Observe Only	4	2.8
Assist/ Participate In Activities	4	2.8
Perform/Conduct Activities	1	0.7
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	95	66.0

K. Others

Restaurant And Culinary Industry	Frequency	Percent
Observe Only	13	9.0
Assist/ Participate In Activities	12	8.3
Perform/Conduct Activities	11	7.6
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	69	47.9

Food Companies/ Industries	Frequency	Percent
Observe Only	28	19.4
Assist/ Participate In Activities	18	12.5
Perform/Conduct Activities	11	7.6
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	56	39.4

Hotels And Resorts	Frequency	Percent
Observe Only	7	4.9
Assist/ Participate In Activities	1	0.7
Perform/Conduct Activities	1	0.7
Consult/Supervise Activities	2	1.4
Not Applicable To Community Rotation	95	66.4

Research Centers	Frequency	Percent
Observe Only	20	13.9
Assist/ Participate In Activities	21	14.6
Perform/Conduct Activities	17	11.8
Consult/Supervise Activities	4	2.8
Not Applicable To Community Rotation	64	44.4

K. Others

Medical Education Consulting Firms	Frequency	Percent
Observe Only	5	3.5
Assist/ Participate In Activities	3	2.1
Perform/Conduct Activities	2	1.4
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	95	66.0

Summer Camps	Frequency	Percent
Observe Only	3	2.1
Assist/ Participate In Activities	8	5.6
Perform/Conduct Activities	16	11.1
Consult/Supervise Activities	3	2.1
Not Applicable To Community Rotation	86	59.7

Other	Frequency	Percent
Observe Only	3	2.1
Assist/ Participate In Activities	5	3.5
Perform/Conduct Activities	7	4.9
Consult/Supervise Activities	1	0.7
Not Applicable To Community Rotation	26	18.1

APPENDIX G

1. Number of years as director of dietetic internship/ap4 program compared to depth (observe only, assist/participate, perform/consult, and conduct/supervise)

G. Cooperative Extension

EFNEP	≤10 Years As Director Of DI/AP4 Program		≥11 Years As Director Of DI/AP4 Program		P Value
	N	%	N	%	
No response	74	64.35	13	44.83	0.016
Observe Only	12	10.43	8	27.59	
Assist/ Participate	9	7.83	6	20.59	
Perform/Conduct	13	11.30	2	6.90	
Consult/ Supervise	7	6.09	0	0.00	

I. Food Assistance Programs

Develop-Mental Disability Programs	≤10 Years As Director Of DI/AP4 Program		≥11 Years As Director Of DI/AP4 Program		P Value
	N	%	N	%	
No Response	77	66.96	17	58.62	0.036
Observe Only	4	3.48	5	17.24	
Assist/ Participate	12	10.43	1	3.45	
Perform/Conduct	17	14.78	6	20.69	
Consult/ Supervise	5	4.35	0	0.00	

Warning: 50% Of The Cells Have Expected Counts Less Than 5. Chi-square May Not Be A Valid Test.

K. Others

Research Centers	≤ 10 Years As Director Of DI/AP4 Program		≥ 11 Years As Director Of DI/AP4 Program		P Value
	N	%	N	%	
No Response	82	71.30	14	48.28	0.039
Observe Only	11	9.57	5	17.24	
Assist/ Participate	12	10.43	2	6.90	
Perform/Conduct	8	6.96	6	20.69	
Consult/ Supervise	2	1.74	2	6.90	

Warning: 50% Of The Cells Have Expected Counts Less Than 5. Chi-square May Not Be A Valid Test.

2. Number of years as a registered dietitian compared to depth (observe only, assist/participate, perform/consult, and conduct/supervise)

F. Outpatient Specialty Clinics

Cancer	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	38	43.68	19	33.33	0.057
Observe Only	1	1.15	6	10.53	
Assist/ Participate	11	12.64	6	10.53	
Perform/Conduct	32	36.78	19	33.33	
Consult/ Supervise	5	5.75	7	12.28	

F. Outpatient Specialty Clinics

Eating Disorders	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	43	49.43	29	50.88	0.018
Observe Only	0	0.00	6	10.53	
Assist/ Participate	5	5.75	4	7.02	
Perform/Conduct	33	37.93	13	22.81	
Consult/ Supervise	6	6.90	5	8.77	

F. Outpatient Specialty Clinics

Weight Management/ Obesity Program	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	31	35.63	12	21.05	0.032
Observe Only	0	0.00	2	3.51	
Assist/ Participate	8	9.20	9	15.79	
Perform/Conduct	43	49.43	25	43.86	
Consult/ Supervise	5	5.75	9	15.79	

F. Outpatient Specialty Clinics

Psychiatric Facility	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	49	56.32	25	43.86	0.006
Observe Only	12	13.79	12	21.05	
Assist/ Participate	4	4.60	12	21.05	
Perform/Conduct	19	21.84	5	8.77	
Consult/ Supervise	3	3.45	3	5.26	

G. Cooperative Extension

EFNEP	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	58	66.67	29	50.88	0.003
Observe Only	9	10.34	11	19.30	
Assist/ Participate	3	3.45	12	21.05	
Perform/Conduct	12	13.79	3	5.26	
Consult/ Supervise	5	5.75	2	3.51	

H. State Dept. Of Public Health/ County Health

Maternal/ Infant/ Child Health	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	26	29.89	18	31.58	0.027
Observe Only	5	5.75	2	3.51	
Assist/ Participate	7	8.05	10	17.54	
Perform/Conduct	46	52.87	19	33.33	
Consult/ Supervise	3	3.45	8	14.04	

H. State Dept. Of Public Health/ County Health

Developmental Disability Programs	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	47	54.02	25	43.86	0.012
Observe Only	4	4.60	9	15.79	
Assist/ Participate	11	12.64	6	10.53	
Perform/ Conduct	24	27.59	11	19.30	
Consult/ Supervise	1	1.15	6	10.53	

I. Food Assistance Programs

Senior Nutrition Program	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	44	50.57	14	24.56	0.006
Observe Only	6	6.90	13	22.81	
Assist/ Participate	10	11.49	7	12.28	
Perform/ Conduct	25	28.74	19	33.33	
Consult/ Supervise	2	2.30	4	7.02	

J. Consultant RDs in Health Care Facilities

Consultants In Sports/ Cardio-Vascular/ Corporate Wellness	≤ 20 Years As Registered Dietitian		≥ 21 Years As Registered Dietitian		P Value
	N	%	N	%	
No Response	56	64.37	25	43.86	0.001
Observe Only	2	2.30	11	19.30	
Assist/ Participate	11	12.64	14	24.56	
Perform/ Consult	17	19.54	6	10.53	
Consult/ Supervise	1	1.15	1	1.75	

3. Age Of Respondents Compared to Depth

B. Head Start

Food Service/ Production	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	24	77.42	71	63.96	0.027
Observe Only	3	9.68	21	18.92	
Assist/ Participate	1	3.32	11	9.91	
Perform/Conduct	1	3.32	8	7.21	
Consult/ Supervise	2	6.45	0	0.00	

Other Activities	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	27	87.10	104	93.69	0.014
Observe Only	2	6.45	1	0.90	
Assist/ Participate	1	3.23	0	0.00	
Perform/Conduct	0	0.00	6	5.41	
Consult/ Supervise	1	3.23	0	0.00	

Warning: 50% of the cells have expected counts less than 5. chi-square may not b a valid test.

D. Indian Health Services

WIC	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	27	87.10	111	100.00	0.005
Observe Only	1	3.23	0	0.00	
Assist/ Participate	1	3.23	0	0.00	
Perform/Conduct	1	3.23	0	0.00	
Consult/ Supervise	1	3.23	0	0.00	

Warning: 50% of the cells have expected counts less than 5. Chi-square may not be a valid test.

E. Government Inspection Agencies

Long Term Care Facility	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	28	90.32	109	98.20	0.022
Observe Only	0	0.00	2	1.80	
Assist/ Participate	1	3.23	0	0.00	
Perform/Conduct	1	3.23	0	0.00	
Consult/ Supervise	1	3.23	0	0.00	

Warning: 50% of the cells have expected counts less than 5. Chi-square may not be a valid test.

F. Outpatient Specialty Clinics

HIV	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	2	6.45	29	26.13	0.030
Observe Only	1	3.23	8	7.21	
Assist/ Participate	3	9.68	18	16.22	
Perform/Conduct	23	74.19	47	42.34	
Consult/ Supervise	2	6.45	9	8.11	

F. Outpatient Specialty Clinics

Eating Disorders	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	13	41.94	57	51.34	0.056
Observe Only	0	0.00	6	5.41	
Assist/ Participate	0	0.00	9	8.11	
Perform/Conduct	16	51.61	30	27.03	
Consult/ Supervise	2	6.45	9	8.11	

Rehab Center	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	22	70.97	90	81.08	0.017
Observe Only	0	0.00	2	1.80	
Assist/ Participate	0	0.00	10	9.01	
Perform/Conduct	7	22.58	7	6.31	
Consult/ Supervise	2	6.45	2	1.80	

Warning: 50% of the cells have expected counts less than 5. Chi-square may not be a valid test.

K. Others

Medical Education Consulting Firms	≤ 40 Years Old		≥ 41 Years Old		P Value
	N	%	N	%	
No Response	27	87.10	107	96.40	0.027
Observe Only	1	3.23	4	3.60	
Assist/ Participate	1	3.23	0	0.00	
Perform/Conduct	1	3.23	0	0.00	
Consult/ Supervise	1	3.23	0	0.00	

Warning: 50% of the cells have expected counts less than 5. Chi-square may not be a valid test.

4. Depth of community nutrition experience compared to type of program

A. School Food And Nutrition Services

Recipe Modification	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	49	44.55	8	23.53	0.036
Observe Only	11	10.00	6	17.65	
Assist/ Participate	12	10.91	10	29.41	
Perform/Conduct	32	29.09	8	23.53	
Consult/ Supervise	6	5.45	2	5.88	

Nutrition Education	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	29	26.36	3	8.82	0.030
Observe Only	9	8.18	1	2.94	
Assist/ Participate	6	5.45	5	14.71	
Perform/Conduct	52	47.27	23	67.65	
Consult/ Supervise	14	12.73	2	5.88	

F. Outpatient Specialty Clinics

Cholesterol Education	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	37	33.64	18	52.94	0.013
Observe Only	2	1.82	4	11.76	
Assist/ Participate	13	11.82	2	5.88	
Perform/Conduct	49	44.55	9	26.47	
Consult/ Supervise	9	8.18	1	2.94	

F. Outpatient Specialty Clinics

Cancer	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	44	40.00	13	38.24	0.043
Observe Only	3	2.73	4	11.76	
Assist/ Participate	10	9.09	7	20.59	
Perform/Conduct	42	38.18	9	26.47	
Consult/ Supervise	11	10.00	1	2.94	

HIV	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	24	21.82	8	23.53	0.009
Observe Only	3	2.73	6	17.65	
Assist/ Participate	15	13.64	6	17.65	
Perform/Conduct	57	51.82	14	41.18	
Consult/ Supervise	11	10.00	0	0.00	

Eating Disorders	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	49	44.55	23	67.65	0.023
Observe Only	5	4.55	1	2.94	
Assist/ Participate	5	4.55	4	11.76	
Perform/Conduct	40	36.36	6	17.65	
Consult/ Supervise	11	10.00	0	0.00	

K. Other Activities

Home Health Agencies	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	40	36.36	16	47.06	0.021
Observe Only	10	9.09	9	26.47	
Assist/ Participate	25	22.73	5	14.71	
Perform/Conduct	32	29.09	4	11.76	
Consult/ Supervise	3	2.73	0	0.00	

Warning: 50% of the cells have expected counts less than 5. Chi-square may not be a valid test.

5. Depth of community nutrition experience compared to respondent's route to registration.

A. School Food And Nutrition Services

Nutrition Education	Dietetic Internship		Others		P Value
	N	%	N	%	
No Response	15	19.48	16	24.24	0.027
Observe Only	10	12.99	0	0.00	
Assist/ Participate	5	6.49	6	9.09	
Perform/Conduct	41	53.25	34	51.52	
Consult/ Supervise	6	7.79	10	15.15	

F. Outpatient Specialty Clinics

Hypertension	Dietetic Internship		Others		P Value
	N	%	N	%	
No Response	17	22.08	27	40.91	0.023
Observe Only	2	2.60	0	0.00	
Assist/ Participate	8	10.39	10	15.15	
Perform/Conduct	43	55.84	21	31.82	
Consult/ Supervise	7	9.09	8	12.12	

Weight Management For Adults	Dietetic Internship		Others		P Value
	N	%	N	%	
No Response	35	45.45	46	69.70	0.033
Observe Only	6	7.79	1	1.52	
Assist/ Participate	8	10.39	6	9.09	
Perform/Conduct	4	5.19	3	4.55	
Consult/ Supervise	4	2.80	3	2.10	

Weight Management/ Obesity Programs	Dietetic Internship		Others		P Value
	N	%	N	%	
No Response	15	19.48	27	40.91	0.019
Observe Only	2	2.60	0	0.00	
Assist/ Participate	8	10.39	9	13.64	
Perform/Conduct	45	58.44	23	34.85	
Consult/ Supervise	7	9.09	7	10.61	

6. Depth of community nutrition experience compared to type of program base.

A. School Food and Nutrition

Menu Planning	University		Others		P Value
	N	%	N	%	
No Response	22	30.56	25	35.21	0.007
Observe Only	4	5.56	15	21.13	
Assist/ Participate	15	20.83	18	25.35	
Perform/Conduct	26	36.11	11	15.49	
Consult/ Supervise	5	6.94	2	2.82	

Customer Service And Marketing	University		Others		P Value
	N	%	N	%	
No Response	26	36.11	26	36.62	0.020
Observe Only	4	5.56	17	23.94	
Assist/ Participate	14	19.44	7	9.86	
Perform/Conduct	21	29.17	17	23.94	
Consult/ Supervise	7	9.72	4	5.63	

F. Outpatient Specialty Clinics

Allergy	University		Others		P Value
	N	%	N	%	
No Response	31	43.06	40	56.34	0.000
Observe Only	3	4.17	18	25.35	
Assist/ Participate	14	19.44	3	4.23	
Perform/Conduct	19	26.39	9	12.68	
Consult/ Supervise	5	6.94	1	1.41	

G. Cooperative Extension

EFNEP	University		Others		P Value
	N	%	N	%	
No Response	42	58.33	44	61.97	0.050
Observe Only	7	9.72	13	18.31	
Assist/ Participate	7	9.72	8	11.27	
Perform/Conduct	9	12.50	6	8.45	
Consult/ Supervise	7	9.72	0	0.00	

H. State Department Of Public Health/ County Public Health

WIC	University		Others		P Value
	N	%	N	%	
No Response	5	6.94	4	5.63	0.055
Observe Only	3	4.17	8	11.27	
Assist/ Participate	7	9.72	17	23.94	
Perform/Conduct	49	68.06	34	47.89	
Consult/ Supervise	8	11.11	8	11.27	

K. Others

Food Companies/ Industries	Dietetic Internship		Ap4 Program		P Value
	N	%	N	%	
No Response	51	70.83	41	57.75	0.042
Observe Only	6	8.33	20	28.17	
Assist/ Participate	8	11.11	6	8.45	
Perform/Conduct	6	8.33	3	4.23	
Consult/ Supervise	1	1.39	1	1.41	

7. Depth of community nutrition rotation experience compared to highest degree attained.

E. Outpatient Specialty Clinics

Rehabilitation Center	Masters Of Science		Ph.D.		P Value
	N	%	N	%	
No Response	87	82.08	26	70.27	0.012
Observe Only	1	0.94	1	2.70	
Assist/ Participate	3	2.83	7	18.92	
Perform/Conduct	11	10.38	3	8.11	
Consult/ Supervise	4	3.77	0	0.00	

E. Government Inspection Agencies

Restaurant/ Hospital/ Sanitarian Inspection	Masters Of Science		PHD		P Value
	N	%	N	%	
No Response	53	50.00	18	48.65	0.016
Observe Only	16	15.09	2	5.41	
Assist/ Participate	5	4.72	7	18.92	
Perform/Conduct	23	21.70	10	27.03	
Consult/ Supervise	9	8.49	0	0.00	

I. Food Assistance Programs

Senior Nutrition Program	Masters Of Science		Ph.D.		P Value
	N	%	N	%	
No Response	47	44.34	10	27.03	0.010
Observe Only	16	15.09	3	8.11	
Assist/ Participate	8	7.55	9	24.32	
Perform/Conduct	29	27.36	15	40.54	
Consult/ Supervise	6	5.66	0	0.00	

8. Depth of community nutrition rotation experience compared to major of highest degree attained.

A. School Food and Nutrition

Food Service/ Production	Food And Nutrition		Others		P Value
	N	%	N	%	
No Response	22	34.92	19	29.69	0.011
Observe Only	20	31.75	8	12.50	
Assist/ Participate	4	6.35	16	25.00	
Perform/Conduct	12	19.05	16	25.00	
Consult/ Supervise	5	7.94	5	7.81	

Menu Planning	Food And Nutrition		Others		P Value
	N	%	N	%	
No Response	27	42.02	15	23.44	0.054
Observe Only	9	14.29	7	10.94	
Assist/ Participate	15	23.81	16	25.00	
Perform/Conduct	9	14.29	22	34.38	
Consult/ Supervise	3	4.76	4	6.25	

F. Outpatient Specialty Clinics

Diabetes Education	Food And Nutrition		Others		P Value
	N	%	N	%	
No Response	46	73.02	41	64.06	0.048
Observe Only	0	0.00	6	9.38	
Assist/ Participate	5	7.94	6	9.38	
Perform/Conduct	9	14.29	11	17.19	
Consult/ Supervise	3	4.76	0	0.00	

F. Outpatient Specialty Clinics

Bone And Joint	Food And Nutrition		Others		P Value
	N	%	N	%	
No Response	27	42.86	12	18.75	0.057
Observe Only	2	3.17	4	6.25	
Assist/ Participate	4	6.35	7	10.94	
Perform/Conduct	22	34.92	32	50.00	
Consult/ Supervise	8	12.70	9	14.06	

J. Consultant Dietitians In Health Care Facilities

Consultant In Sports/ Cardio-Vascular/ Corporate Wellness	Food And Nutrition		Others		P Value
	N	%	N	%	
No Response	42	66.67	32	50.00	0.028
Observe Only	7	11.11	6	9.38	
Assist/ Participate	4	6.35	16	25.00	
Perform/Conduct	8	12.70	10	15.63	
Consult/ Supervise	2	3.17	0	0.00	

APPENDIX H

OBSERVE ONLY:

A. School Food And Nutrition Services

Purchasing	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	26	27.08	15	50.00	0.019
Did not respond	70	72.92	15	50.00	

F. Outpatient Specialty Clinics

Cancer	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	7	6.36	6	17.65	0.045
Did not respond	103	93.64	28	82.35	

HIV	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	8	7.27	7	20.59	0.026
Did not respond	102	92.73	27	79.41	

H. State Dept. Of Public Health/ County Public Health

WIC	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	12	10.91	10	29.41	0.009
Did not respond	98	89.09	24	70.59	

H. State Dept. of Public/County Health

Maternal And Infant Child Health	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	8	7.27	7	20.59	0.026
Did not respond	102	92.73	27	79.41	

K. Others

Home Health Agencies	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	15	13.64	10	29.41	0.034
Did not respond	95	86.36	24	70.59	

K. Others

Assisted Living: Mental/Drug/Alcohol	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	1	0.91	4	11.76	0.003
Did not respond	109	99.09	30	88.24	

Warning: 50% Of The Cells Have Expected Counts Less Than 5. Chi-Square May Not Be A Valid Test.

K. Others

Homeless Shelters	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	7	6.36	6	17.65	0.045
Did not respond	103	93.64	28	82.35	

K. Others

Soup Kitchens	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	7	6.36	6	17.65	0.045
Did not respond	103	93.64	28	82.35	

ASSIST/PARTICIPATE IN ACTIVITIES

F. Outpatient Specialty Clinics

Diabetes Education	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	17	15.45	1	2.94	0.054
Did not respond	93	84.55	33	97.06	

F. Outpatient Specialty Clinics

Cholesterol Education	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	26	23.64	2	5.88	0.022
Did not respond	84	76.36	32	94.12	

K. Other

Research Centers	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	20	18.18	1	2.94	0.028
Did not respond	90	81.82	33	97.06	

PERFORM/ CONDUCT IN ACTIVITIES

F. Outpatient Specialty Clinics

Cholesterol Education	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	56	50.91	10	29.41	0.028
Did not respond	54	49.09	24	70.59	

Eating Disorders	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	47	42.73	6	17.65	0.008
Did not respond	63	43.75	28	19.44	

F. Outpatient Specialty Clinics

Weight Management/ Obesity Programs For Adults	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	35	31.82	4	11.76	0.021
Did not respond	75	68.18	30	88.24	

K. Others

Home Health Agencies	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	35	31.82	4	11.76	0.021
Did not respond	75	68.18	30	88.24	

NOT APPLICABLE TO COMMUNITY NUTRITION ROTATION

A. School Food and Nutrition Services

Food Service/ Production	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	28	28.57	3	10.00	0.038
Did not respond	70	71.43	27	90.00	

A. School Food and Nutrition Services

Purchasing	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked (Yes)	34	35.790	4	13.33	0.020
Blank (No)	61	64.21	26	86.67	

A. School Food and Nutrition Services

Nutrition Education	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	17	17.35	1	3.12	0.043
Did not respond	81	82.65	31	96.87	

F. Outpatient Specialty Clinics

Eating Disorders	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	26	23.64	14	41.18	0.046
Did not respond	84	76.36	20	58.82	

K. Others

Research Centers	Dietetic Internship		Preapproved Practice Program		P Value
	N	%	N	%	
Checked	44	40.00	20	58.82	0.054
Did not respond	66	60.00	14	41.18	

VITA

Heidi Kapteina

Candidate for the Degree of

Master of Science

Thesis: COMMUNITY NUTRITION EXPERIENCES IN DIETETIC INTERNSHIPS/PREPROFESSIONAL PRACTICE PROGRAMS

Major Field: Nutritional Sciences

Biographical:

Personal Data: Born in Danbury, Connecticut on December 24, 1973, the daughter of Henry C. and Elsie A. Kapteina.

Education: Graduated from Bethel High School, Bethel, Connecticut in June 1991; received a Bachelor of Science degree in General Dietetics from the University of New Haven, West Haven, Connecticut in May 1996. Completed the requirements for the Master of Science degree with a major in Nutritional Sciences at Oklahoma State University in December 1997.

Experience: Employed by Oklahoma State University, Department of Nutritional Sciences as a graduate research assistant 1996 to 1997.

Professional Memberships: American Dietetic Association, Connecticut Dietetic Association and Oklahoma Dietetic Association.

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 03-02-97 **IRB#:** HE-97-045

Proposal Title: EXAMINING THE DEPTH AND SCOPE OF COMMUNITY ROTATION OF DIETETIC INTERNSHIPS

Principal Investigator(s): Lea L. Ebro, Heidi Kapteina

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING, AS WELL AS ARE SUBJECT TO MONITORING AT ANY TIME DURING THE APPROVAL PERIOD.
APPROVAL STATUS PERIOD VALID FOR DATA COLLECTION FOR A ONE CALENDAR YEAR PERIOD AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Disapproval are as follows:

Signature: _____ Date: March 19, 1997

Chair of Institutional Review Board

cc: Heidi Kapteina