The Past, Present, and Future Direction of Navy Dietetics

Kimberly A. Zuzelski

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Signature

Advisor: Hollie Pavlica, DrPH, MSW

Signature

Second Reader: Sue Hite, MS RD
Commander, Medical Service Corps
United States Navy

Date
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ABSTRACT
The Navy’s Surgeon General, Vice Admiral Robinson, declared in his Change of Office remarks that Navy Medicine needs to perfect wellness programs to prevent illnesses rather than waiting to treat them. He further stated that one of his goals for Navy Medicine was to put health care providers out of business (2007), indicating that population health and prevention strategies would be a priority. VADM Robinson also identified readiness, via alignment and agility, as a priority. Navy Medicine’s leadership embraced this focus by developing a strategic goal for agile forces aiming to ensure the right capabilities to deliver consistent, appropriate, and timely health care services across the entire range of joint military operations. Specific objectives in meeting this goal include alignment of future afloat and ashore health service capabilities to warfighter requirements, and billet structure with all platform requirements (NMO, 2008).

Current staffing models designed to align billet structure with platform requirements are outdated and do not account for the current and future roles of Navy Dietitians (RDs) in meeting warfighter requirements. Health service capabilities are adversely affected by the present billet structure. RDs, once heavily involved in fleet support through nutrition classes and health promotion; have curtailed these activities in order to accommodate the requisite workload in the hospitals and clinics and meet business plan productivity goals.

Opportunities exist in Navy Medicine to redefine the roles of the Navy RD in order to enhance the health of the active duty population by meeting the warfighters’ nutritional and educational needs. This can be done first by assessing current billet structure for accessibility of nutritional services from military and civilian assets. While civilian RDs can be used inside the continental United States (U.S.) and at ashore commands outside the continental U.S., military RDs are best utilized in the fleet, in remote locations, and in theater for operational support and
accessibility. The organizational design of nutrition related functions in Military treatment facilities (MTF) needs to be more flexible for optimal productivity and readiness, and productivity measures need to be redefined to reflect operational impact rather than MTF clinical workload.
History of Navy Dietetics

The Navy’s dietetic community has roots in the Hospital Corps, Nurse Corps, and Supply Corps. The Hospital Corps was established in 1898 and had professional responsibility for Naval hospital food service (Gray, 1997). The Navy trained nurses in ancillary fields including dietetics at George Washington University, and utilized them as dietitians until 1952 when the Secretary of Defense directed that nurses serving in various ancillary roles return exclusively to nursing duties due to the nursing shortage across the armed services. During World War II, manpower shortages prompted the acceptance of women for U.S. Navy reserve duty in non-combat roles; among these were approximately 60 dietitians recruited into the Supply Corps as Women Accepted for Volunteer Emergency Services (WAVES). Their roles primarily involved managing dining facilities, training cooks and bakers, and subsistence development in laboratories. Others with training in dietetics served at Naval hospitals. Once the Armed Forces Women’s Integration Act of 1948 passed, Lieutenant Commander Lucille Clark was the first dietitian appointed to the Medical Service Corps in 1949 (Gray, 1997). Unlike the WAVES, the primary duties of the dietitians on active duty were clinical. Healthcare administrators managed food services at Naval hospitals until the late 1960s. At the request of the Surgeon General in 1957, the Secretary of the Navy established the Women’s Specialist Section of the Medical Service Corps intended to retain critically needed dietitians as well as physical and occupational therapists. The name was later changed to the Medical Specialist Section to allow the appointment of male professionals. In 1954, there were only five dietitians in the Navy but this grew to 23 by 1960 (Gray, 1997, p.143).

During the 1980s, dietitians supplanted healthcare administrators as food service officers and took the lead in health promotion and wellness initiatives. By the 1990s, the Navy boasted
over 50 dietitians who filled clinical and administrative roles. Clinical skills required and demonstrated by dietitians included: assessment of laboratory values for nutritional needs, advising physicians on medical nutrition therapy, quality care monitoring, life-style counseling, medical staff education, and training. Administratively, dietitians managed food service operations, food preparation and procurement, distribution, budgeting, personnel management, and menu development (Gray, 1997, p. 145).

Current Roles and Staffing Decisions

Today, there are 66 RDs working for the U.S. Navy, 33 of whom are active duty military. Operationally, the primary mission of Navy RDs is to administer medical food service programs and clinical nutrition services. The typical career path increases in scope of responsibility with regard to human resources, contract management, and/or budget as warranted by merit and experience. The first tour of an active duty Navy RD is usually at a large MTF with appropriate oversight and mentorship from senior dietitians with regard to clinical skills, food service management, leadership, and growth as a Naval Officer. The second tour may be at another large MTF where there are 10-12 other RDs, or a remote location where there is only one position that performs both clinical nutrition services and food service administration. Cross-training and exposure to both clinical and medical food service environments is prudent to ensure high quality programs administered by competent RDs.

When Vice Admiral Robinson assumed the office of Navy Surgeon General, he stated in his Change of Office remarks that Navy Medicine needs to perfect wellness programs to prevent illnesses rather than waiting to treat them. He further stated that one of his goals for Navy Medicine was to put health care providers out of business (2007), indicating his support of population health initiatives. Similar to the evolution of public health in America, the focus of
dietitians in the Navy is shifting from tertiary care to primary prevention. This includes research on how military dining facilities, limited by appropriated funds, can exceed minimum nutritional standards to be performance nutrition centers or “training tables” to proactively meet the needs of the warfighter and optimize human performance. Since all active duty personnel are considered world-wide deployable, the term “warfighter” encompasses a wide spectrum, from the 17 year old recruit at boot camp, the Sailor deployed in support of Operation Iraqi/Enduring Freedom, and the senior health care executive who oversees the care received by the others.

Total Healthcare Support Resource Requirements (THCSRR) was a plan approved in 1995 by the Secretary of Defense for Health Affairs that identified the total number of fully trained medical personnel needed on active duty. The number included requirements for day-to-day operational support of the Navy and Marine Corps mission, the wartime mission and for sustainment. THCSRR was adopted by the Military Health Services System as the model to be used in determining military medical manpower requirements. In 2004, a Medical Service Corps Community Review was conducted on the Dietitian subspecialty and briefed to the Chief of Naval Operations. Core competencies, career development, community requirements, and comparisons to dietitians in the civilian sector were discussed. Of the 42 active duty RD billets, none of which had sea duty requirements, there were 33 billets inside and 9 billets outside of the continental United States. The description medical facility food service officer duties listed in the Navy Officer Manpower & Personnel Classification manual (2008) states the following: “Plans menus and special diets for hospital patients and supervises the preparation and service of meals. Formulates therapeutic diets as prescribed by medical officers. Instructs patients in correct food and dietary habits. Assists in supervision of administrative aspects of food service activities”.

The description by the Bureau of Labor Statistics for civilian RDs reads similarly.
Considering the similarity of duties between military and civilian RDs, it is reasonable to conduct a cost benefit analysis. The Office of the Secretary of Defense reimbursement is above program costs, but the Navy loses money in execution due to the number of senior RDs who earn more than those new to the community. Although the Defense Health Program funds Navy RDs above the Department of Defense (DoD) composite rate by nearly $2M, the military paygrade structure negates the savings (Officer Community Review, 2004). Uniformed dietitians are more expensive than their civilian counterparts; however, this does not take into consideration the additional hours that military personnel spend in the workplace performing collateral duties that contribute to mission accomplishment. Civilian personnel generally work a 40 hour work week only within the scope of their position description, whereas a 50-hour work week is the norm for the military RD in addition to duty requirements. Utilizing the THCSRR model, the Navy only needs 23 active duty dietitians: 12 for wartime deployments, 10 for day-to-day operational mission requirements that can only be met by an active duty dietitian, and 1 for a remote location that historically has proven hard to fill with a civilian equivalent. The remaining 19 billets slated for conversion to civilian positions between fiscal years 2007 and 2013 were halted when the National Defense Authorization Act was signed by Congress in December 2007. This provided an opportunity to reassess the Navy’s dietetic human capital.

Organizational Structure

Prior to January 2005, the organizational design of each MTF was locally determined by the governing board at each command. Although there were similarities between the hierarchical structures, the numbers and nomenclature of directorates, departments, and divisions varied greatly and frequently changed with the rotation of active duty leadership. In most MTFs, however, RDs were aligned in the same department regardless of whether they were primarily
involved in clinical or medical food service administration. Larger MTFs had a Nutrition Management Department that contained Food Service and Clinical Nutrition Divisions with at least two RDs in each. This allowed for cross-skills training between clinical and medical food service staff, and coverage for staff during deployments, gapped billets (vacancies that occur between the time that one RD transfers and the replacement arrives), and extended periods of leave. Smaller MTFs would have one RD to oversee staff in both clinical nutrition and food services.

In 2005, the Bureau of Medicine and Surgery (BUMED) directed standard organization of MTFs based on size, scope, and function. As mentioned by Baker, et al. (2006), “changes in leadership, goals, and strategies, and pure accident are all reasons why a change in design may not occur on a perfectly rational basis” (p.316). The new structure forced smaller MTFs to utilize the sole RD in clinical nutrition with minimal staffing and budgets, which left medical food service to be managed by non-clinical or civilian personnel. Although the reorganization enabled RDs to become more specialized in clinical nutrition or food service administration, resource sharing and cross-skills training for junior RDs decreased. At one facility, the RD was responsible for over 40 military and civilian personnel, $50K in contracts, and a $230K annual budget. After the directed reorganization, the same RD was only responsible for one other dietitian and a $4K annual budget with no contracts. This realignment limited professional growth and training in food service administration, management, and budget.

“The availability of individuals with appropriate knowledge and skills to carry out the mission of the organization is critical. It may not be possible, under some circumstances, for an organization to obtain highly specialized expertise when it needs it” (Baker, et al., 2006, p. 325). The effects of this decision are surfacing. One of the small MTFs moved the sole RD to the
Directorate of Clinical Support Services as directed by policy, and designated a senior enlisted cook as the department head for food services. As staff turnover occurred due to military rotations, an increase in patient feeding errors occurred. Further analysis by the RD determined that new personnel did not receive appropriate training on therapeutic diet orders, which not only required the RD to have more oversight of inpatient feeding processes, but caused a patient safety concern.

Reorganization has not only affected business practice; the lack of cross-skills training for Navy RDs has adversely impacted the detailing process (assigning RDs to various locations) and has potential to compromise the quality of services provided in operational or overseas assignments. A typical second tour for a Navy RD is an overseas location such as Guam, Cuba, or Italy. A new dietitian limited to clinical functions only for the entire first tour is ill-prepared to manage medical food services or contracts, especially as a sole RD in a remote location without local resources for guidance. Likewise, an RD who has worked solely in medical food service may not have the level of clinical competence desired to deploy on a humanitarian mission to a third world country where clinical nutrition assessment and medical nutrition therapy skills are critical.

While one would hope that resource sharing and cross training would occur between departments and directorates, the current separation of functions provides little benefit with regard to mission accomplishment and professional growth as a dietitian and Naval Officer. At a facility in the Southeast United States, the department head of medical food services was out of town when the likelihood of a hurricane was announced. The other military dietitian worked for a different director solely in a clinical role, and was told she would not be needed if lock down conditions occurred. The Director of Clinical Support Services was only considering her clinical
roles rather than evaluating the situation from a more global perspective to ensure that inpatient feeding had oversight. The separation of clinical and food service functions decreased the collaboration needed to optimize patient care. Additionally, it was a missed opportunity for emergency management training and leadership experience.

As is the case with all Naval Officers, selection to the next higher rank is very competitive for RDs; those who demonstrate exceptional leadership skills and varied accomplishments of increasing scope and responsibility as their careers progress are most likely to be advanced. Allowing RDs to oversee both medical food service and clinical programs not only streamlines functions and utilization of staff, including administrative support staff, but also provides the RD a competitive position for promotion. If there is more than one RD in the department, the more junior RD is afforded opportunities to be mentored, and also to serve as an acting department head in the absence of the incumbent.

Each command has unique populations, cultures, and environmental idiosyncrasies regardless of the echelon level of care provided. Commands should be encouraged to complete a thorough assessment of their organization’s clinical nutrition and medical food service administration alignment that considers the overall mission of the command and dietetic specialty, environment, organization, culture, and availability of human resources. Some standardization of nomenclature and alignment decreases confusion when transferring from one MTF to another, and streamlines functional capabilities. Clinical nutrition is often seen as an ancillary service due to the broad scope of services rendered from inpatient screening and assessment to outpatient medical nutrition therapy and health promotion. Although food service is an administrative function with a significant budget and number of personnel, the services for inpatient menu development and feeding provide a functional link between clinical nutrition and
medical food service administration. In this regard, it is prudent to allow both to be divisions under one department in an ancillary or clinical support service directorate, depending on the individual MTF. “Although many organizations do not formally monitor or assess the effects of design on organizational performance, evaluations of design changes should be evaluated for their effects on the patients, staff, and other relevant stakeholders (Baker, et al., 2006). MTFs should have an evaluation plan developed to guide future decisions pertaining to organization design that optimize the utilization of resources while maximizing production and customer satisfaction. Local commands should have the autonomy and flexibility to determine the organizational design that best meets its mission through a systematic assessment, while fostering the professional growth and development of the Navy RD. Specific alternatives recommended are to: (1) encourage a systematic assessment at the command level that considers factors such as the command’s mission, environment, organization, culture, and human resources to determine alignment of clinical nutrition and medical food service administration; (2) allow clinical nutrition and medical food services to be divisions of a Nutrition Management Department under the same director; (3) align both functions under the same directorate to facilitate resource sharing capabilities if clinical nutrition and medical food service functions remain separate departments; (4) and assess effectiveness of the decision made.

Two of Navy Medicine’s strategic goals are to achieve alignment of future afloat and ashore health services capabilities and warfighter requirements, and matching billet structure with platform requirements (NMO, 2008). The current billet structure for Navy RDs is not aligned with warfighter requirements when current and future roles, location of billets, and accessibility are considered. Once the decision to convert the majority of military positions to civilian was made, the Dietetic Community experienced significant attrition that left vacant and
unfunded positions. MTFs that once supported the fleet and warfighters through nutrition classes on weight and cholesterol management, sports nutrition, and supplement use withdrew that support in order to adequately staff the inpatient wards and outpatient nutrition clinics.

Compounding this issue is the push for clinical productivity through relative value units (RVUs) that are not generated in most of the settings mentioned above. As a result, MTFs have to decline requests for preventive weight management or nutrition education for large groups of military personnel. Clinicians are expected to produce a minimum of RVUs determined by prior history and current business planning; however, the productivity goals do not account for travel time or classes provided to large groups of military personnel. This type of work does not meet the required criteria for clinical workload. Instead of teaching 200 Marines how to read food labels, evaluate supplements for safety, and select healthy choices for optimal human performance, many RDs are in an outpatient clinic with five to seven appointments a day depending on the nature of the visit. This is not the best use of limited resources from a population health perspective. Some argue that the Navy Health Promotion staff can provide these services; however, the majority of MTFs with health promotion departments do not have RDs on staff.

**Future Opportunities for Navy RDs**

*Opportunities in Weight Management*

The rise in the incidence of weight issues in the U.S. has been well published with approximately 66% of adults over the age of twenty and 17% of adolescents between the ages of 12 and 19 being overweight or obese (CDC, 2008). Although active duty personnel in general tend to be younger and more physically fit than the average civilian adult, a retrospective study estimated the costs attributed to excess weight at $19.26 million, with an additional $3.5 million attributable to lost productivity and 28,351 lost work days (IOM, 2003). The DoD 2005 Survey
of Health Related Behaviors Among Active Duty Military Personnel found that 45% of those under the age of 20 were overweight, and although the 12.4% rate of obesity in the DoD is lower than that in the U.S. population, it fails to meet Healthy People 2010’s goal of 10% (p.55). In addition to the numerous medical and social costs of America’s overweight and obesity issue, military recruitment and retention are adversely affected. A significant proportion of the eligible recruiting pool does not meet the required weight or body composition standards for accession into the military. Additionally, nearly 80% of recruits who exceed weight for height standards are separated prior to completing their first term of enlistment (IOM, 2005, p.17). The financial ramifications of this are indeed significant at a cost up to $14,000 for each of the 40,000 Navy and 31,000 Marine Corps enlisted recruits in 2004 (GAO, 2005).

Studies on military recruits found that males tend to lose weight during basic training and keep the weight off afterwards, whereas female recruits tend to gain weight. The Marine Corps Recruit District (MCRD) in Parris Island, SC has taken a novel approach to address overweight issues through modifications in the foods offered to female recruits. Males and females eat at different dining facilities with different cycle menus. The menu for the female mess hall is lower in overall calories and total fat as it utilizes more turkey and chicken recipes than beef or other meats. Females who are over body composition standards have a restricted menu utilizing pre-portioned and packaged frozen meals. Although caloric intake has not been measured, three meals total approximately 1,200 kilocalories (kcals). The origin of this meal planning is unknown at this time; however, the last time a dietitian was known to work directly with the Marine Corps Headquarters for menu planning purposes was in 2001. Due to the rigorous training schedule at recruit training, there is no educational component to assist service members in food selections to continue weight loss or to maintain it once the desired weight is achieved.
Since 2001, research focusing on optimizing human performance through nutrition has increased. Having a dietitian to translate the research into practice through proactive menu planning and education at such an important juncture in one’s military career would be prudent.

The restrictive nature of the pre-packaged meals not only limits caloric intake, but is most likely deficient in nutrients such as iron, calcium, vitamin D, fiber, and others. McClung, et al.(2007) reported that enlisted female Soldiers in the Army experienced suboptimal iron status during a nine week basic combat training course, and concluded that strategies for maintaining acceptable iron status should be considered when preparing women for military service. This may be of added concern for female recruits on the weight program at MCRD, Parris Island since the menu is so much lower in foods with higher iron content and/or energy in general. The Military Recommended Dietary Allowances, AR 40-25, recommends that restricted rations contain 1100-1500 kcals, 50-70 grams (g) of protein, and a minimum of 100 g carbohydrate on a daily basis; however, this calorie level is not recommended for periods greater than 10 consecutive days. The capacity for aerobic power is adversely affected by underfeeding, and studies have shown that “dietary carbohydrate intakes of approximately 300-400 g will more closely match the quantity of carbohydrate oxidized to meet daily energy requirements during field operations” (Montain and Young, 2002, p. 265). A dietitian to oversee menu development and educate the drill instructors and recruits who exceed body composition standards would minimize decrements in performance, provide the tools needed to pursue continued weight loss efforts, and ensure adequate consumption of required nutrients.

In 2003, The Institute of Medicine of the National Academies (IOM) published a report focusing on weight management in the military. The Committee on Military Nutrition Research reviewed the scientific evidence for environmental and biological factors that influence body
weight, and optimal components of weight loss and maintenance programs for the military setting. They also addressed questions about whether weight management programs should be standardized across the services or tailored to each individual service, if pharmacologic treatment should be considered for military use, and the approach for dealing with individuals at increased risk for weight gain. Finally, they evaluated the knowledge gaps in weight management programs for the military and made several recommendations. Those most relevant to Navy dietetics are listed below:

1. *Each service should provide training on diet and health at initial entry, including fundamentals of energy balance, caloric content of common foods, appropriate portion sizes, and the importance of daily activity.* This is not part of the curriculum at Navy or Marine Corps Recruit Training Commands (RTC) due to the rigorous training schedules. Sailors and Marines may receive some of this information if they are hospitalized while at Recruit Training. This is a missed opportunity for the Navy and Marine Corps. In a corporation where physical readiness and fitness are integral to mission accomplishment, leaders need to place the same priority on health promotion and education as they do weapon familiarization and military history.

2. *Education programs on maintaining healthy weight should also be directed toward military spouses and families.* Although the Navy does provide education whenever possible through various clinics at the military treatment facilities, there are several remote branch clinics that have a visiting or consulting dietitian rather than a full-time equivalent and subsequently limit access to active duty members only. With the exception of patients with diabetes and renal disease, medical nutrition therapy (MNT) is
not a covered benefit for most insurance companies. The fee for service system may be a significant deterrent in seeking care for a population that is accustomed to free care.

3. Services should make the incorporation of “heart healthy” menus as standard fare in base dining facilities a priority. Defining a menu that is heart healthy is a challenge when a term that once was defined primarily by the percentage of a meal’s total calories coming from fat now encompasses a spectrum of dietary recommendations. The American Heart Association’s (AHA) 2006 Diet and Lifestyle Recommendations not only address the percentage of total fat in the diet, but considers the type of fat consumed, and the benefits of a diet high in fruits and vegetables, fiber, fish, and limited in saturated and trans fats (AHA, 2006). Fortunately, the menu planning guidelines for military dining facilities incorporate many of these recommendations. For example, at least one of the main entrees has less than 15 grams of fat per serving, at least one of the starches and one of the vegetables has to be prepared with no added fat, and only one percent or skim milk is served (NAVSUP P-5010, 2007). It is the RD’s responsibility to ensure that the menus offered meet the established criteria; however, the guidelines do not restrict facilities from offering foods high in fat or fried foods in addition to the healthy offerings. The onus to make the right choice is still on the individual, which may be a challenge without the training provided in the first recommendation. The other option is to ensure that military dining facilities only offer heart healthy items on the menu.

4. Assessments for weight-for-height (BMI) and percent body fat should be conducted quarterly rather than annually or semi-annually.

5. Incidence of disordered eating behaviors needs to be documented and addressed across all branches of the military. McNulty (1997) conducted studies on Navy personnel
revealing the prevalence of bulimia nervosa in the Navy nurses studied as six times that reported in the civilian literature. The typical ratio of females to males with anorexia nervosa and bulimia is 10:1; however, Peterson, et al. (1995) noted that in a military population on a weight management program, 65% of those diagnosed with disordered eating behaviors were male. The top reasons provided for engaging in purging behaviors are: competition for advancement, concern about weight, being forced into a weight control program, being harassed by supervisors for weight, and lack of availability of low fat meals for Marine Corps women (McNulty, 2001).

6. **An effective weight management program must include a reduced calorie diet, an exercise program that combine aerobic and strength training, counseling on behavior modification, and a structured follow up program that includes regular contact with weight management counselors.** While resources are available to address this recommendation for those in port or at shore commands, they are primarily in a clinic setting and extremely limited for the fleet Sailors underway. Medical personnel on board the ships and submarines have very limited training in nutrition to meet the needs of those trying to lose weight or maintain a weight loss. Since the food service officers in the fleet are Supply Officers with administrative backgrounds, guidance for menu selections and calorie restriction is limited to the nutrition information labels on the serving line.

7. **A military operational specialty should be established to train personnel responsible for implementation of weight management programs.** Currently, the Navy has Command Fitness Leaders (CFL) who complete a five-day course that includes a nutrition component in the curriculum. CFLs are responsible for conducting the height, weight,
and body composition measurements for the semi-annual physical fitness assessments, and for tracking compliance of members on the Fitness Enhancement Program. Most military treatment facilities have a weight management program called ShipShape to educate members on nutrition, and address physical and psychological barriers to successful weight loss and maintenance. ShipShape is usually conducted by health promotion personnel who may or may not have any formal training on weight management program implementation or counseling. Program effectiveness varies greatly between sites due to poor data quality, variance in implementation strategies, and lack of ability to follow up when members deploy or transfer.

8. The military should explore the use of internet-based programs for maintaining contact with personnel regardless of their duty stations. There is certainly room to explore this technology, considering the volume of Navy and Marine Corps personnel who are underway at sea, deployed, or assigned to remote locations without the social support provided through individual and/or group sessions.

Opportunities in Human Performance Nutrition

Military personnel tend to be a very healthy population due to age and physical fitness standards required. As such, the tendency to pursue an additional edge to increase strength or muscle mass is noteworthy. Supplement sales in the U.S. have increased from $8.8 billion in 1994 to nearly $16 billion in 2000 (Bovill, 2003). Many Sailors and Marines are not aware of the resource they have in an RD, since Navy RDs primarily work in the MTFs and clinic setting. The primary sources of nutrition information are magazines/books and friends/teammates (Bovill, 2003), making them vulnerable to fad diets, and misinformation that are ineffective and possibly harmful. Physical presence of an RD in the gym encourages open dialogue in an informal setting.
and increases visibility, while saving travel time spent going to a clinic for a medical appointment. Developing partnerships with Marine Corps Community Services and Morale, Welfare, and Recreation can increase availability of credible nutrition information in an informal and non-clinical setting.

An IOM report was published in June 2008 contained recommendations on how the DoD can better assess and evaluate supplements for safety and efficacy with regard to specific military populations. Dietary supplements have increased in popularity among civilian and military personnel, raising questions about their use. Because dietary supplements are legally considered foods used to enhance health, the requirements for premarket safety and risk-benefit assessments used for drugs do not apply (IOM, 2008) The Dietary Supplement Health and Education Act of 1994 designated the Food and Drug Association (FDA) as the agency responsible for identifying unsafe supplements. The FDA uses a postmarket surveillance system to collect data on reported adverse effects and take action against any dietary supplements it determines to be unsafe. Challenges exist since adverse events may be underreported, and supporting data quality is often poor. The FDA can only take regulatory action such as banning a product, alerting the public, etc. when it has enough evidence that a product has violated a provision of the Federal Food, Drug, and Cosmetic Act. Therefore, market justice prevails and consumer awareness and education is imperative. In response to a 2002 request to provide an evaluation process for the safety of dietary supplement ingredients, the IOM published the 2005 report *Dietary Supplements: A Framework for Evaluating Safety*. The report recognized that the guidelines may not be applicable under specific circumstances or populations, and the committee specifically concluded that the framework described in the report should not be used for military personnel due to the fact that the benefits and risks of some supplements may differ with the environment
and situation under which they were used. Ultimately, another committee reviewed the 2005 IOM report for applicability to the military population and expanded the framework to provide guidance on assessing efficacy as well as safety when making policy decisions on supplement use.

The 2008 IOM report *Use of Dietary Supplements by Military Personnel* was published in June 2008 and contains adaptations of the 2005 report specific to the military. For instance, given the limited resources to conduct safety reviews, the FDA uses reported adverse events a trigger to investigate a product. The recommended adaptation for the military is to develop a more active monitoring system that also considers supplements most commonly sold on base, and those used by military personnel who would be most susceptible to adverse effects due to the nature of their work, i.e. aviators. Supplements can also be reviewed where the benefit for the same population outweighs the risk. For instance, although caffeine may have side effects with blood pressure or increased heart rate, the increased cognitive function during times of combat may outweigh the risk for some personnel (IOM, 2008). Ultimately, the 2008 report provides specific matrices to guide risk assessments and subsequent decisions. Actions taken based on the results of the evaluations may be education of military personnel, monitoring usage, or regulating policy. Regardless of the action, RDs can and should play an integral role in the evaluation and possible actions taken to address dietary supplements used by the military.

*Future Opportunities for Operational Support*

Navy RDs have supported operational efforts in various settings around the globe, including those on hospital ships, deployments to the Middle East, feeding the troops and detainees in Guantanamo Bay, Cuba; providing support to Special Operations Forces; and accompanying teams on humanitarian and civic missions. Cultural competence is key to success
on these missions, and Navy RDs are accustomed to modifying menus for the population served with regard to cultural and religious preferences. When staffing and time permit, they serve as “riders” along with ships underway to provide MNT, nutrition education and health promotion, menu reviews and training for the Culinary Specialists (Navy cooks).

In light of the Navy’s issue with weight management and the length of time that Sailors and Marines spend underway or in the field, opportunities exist to increase the presence of Navy RDs in the fleet, with the Marine Expeditionary Forces in theater, and on every humanitarian mission, where the most impact on prevention and intervention can occur. Assigning an active duty RD to each if the 11 carrier strike groups places the resources where the need is- at the deck plate. During port calls, the RD could provide pier-side counseling and/or collaborate with the shore facilities to provide on station consultation. Navy RDs have training in food service management, clinical nutrition, and health promotion. Additionally, those who have served at larger MTFs have experience with large budgets and numbers of personnel. It is prudent to consider the interoperability, depth, and scope of services available to the fleet if the Navy utilized an RD for these functions.

Convincing the line commanders of the military RDs utility and cost benefit is essential considering the logistics involved with increasing the number of dietitian billets. A pilot test with a military RD assigned to a carrier, carrier strike group (CSG), or both for 12 months with measured outcomes is recommended. Clinical metrics such as body mass index, weight, cholesterol and triglycerides, glucose control, and nutritional knowledge of the crew could be measured to assess effectiveness of program efforts. This time period could also assist with determining staffing needs, and whether one RD could adequately support an entire CSG or if more would be required to adequately meet the fleet’s needs.
Conclusion and Recommendations

Navy dietetics has a short, but colorful history in terms of staffing and various roles in which RDs have served. The roles of Navy RDs in Navy Medicine to better address the nutritional and educational needs of the warfighter need to be redefined, particularly in areas of weight management and human performance nutrition. Only then can we meet Navy Medicine’s goals to align our health service capabilities and billet structure with warfighter and platform requirements. Recommendations for the U.S. Navy Dietetic community are:

- Assess current billet structure for accessibility of nutritional services from military and civilian assets. While civilian RDs can be used inside the continental U.S. and at ashore commands outside the continental U.S., military RDs are best utilized in the fleet, in remote locations, and in theater for operational support and accessibility.
- Assign a military RD to a carrier and/or CSG for a period of 12 months with outcome measures to assess clinical and administrative effectiveness and cost benefit. Reassess billet structure and staffing levels based on outcomes.
- Identify workgroups to address the IOM (2003 and 2008) recommendations for military weight management and supplement reviews outlined above; assign an RD (either military or civilian) to oversee Navy and Marine Corps recruit nutrition education, and feeding, collaborate with the military gyms to increase visibility and education, etc.
- Increase the MTF’s autonomy in determining the best alignment of clinical nutrition and food service functions within the organization.
- Redefine productivity measures and benchmarks for Navy RDs that reflect operational impact rather than MTF clinical workload.
As the Navy shapes tomorrow’s force, it must reorganize staffing within the organization. Navy RDs cannot be categorically skilled providers who solely provide institutional services, but need to perform clinical, administrative, and health promotion functions while working in cross-disciplinary teams. By actively assessing the warfighters’ nutritional needs and aligning resources accordingly, the Navy can ensure optimal human performance and readiness.
REFERENCES


https://blackboard.unc.edu/webapps/portal/frameset.jsp?tab=courses&url=/bin/common/course.pl?course_id=_278374_1


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observations on recruiting and retention issues within the U.S. Armed Forces.

Washington, DC
Appendix A

Organizational Alignment of Clinical Nutrition and Medical Food Service Administration

Diagram:

- Commanding Officer
  - Executive Officer
    - Director, Clinical Support Services
    - Director for Administration
      - Clinical Nutrition
      - Combined Food Operations (Medical Food Svc)