



An Integrated staffing methodology for food and nutrition services in hospitals

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Introduction

Healthcare leaders are held accountable for “managing operations effectively.” This means managing the use of all resources (people, equipment, raw materials, etc.) through respective processes in order to yield the desired outcomes with minimal waste of resources. Waste as defined by Lean Manufacturing includes over production, inventory (i.e. too much inventory), waiting (i.e. idle times), unnecessary transport, unnecessary processing (i.e. over processing), unnecessary human motions, and defects. The eighth waste of unused creativity was later added. ¹ This is further complicated in multi-services departments, where there are various services produced simultaneously. Establishing core staffing levels with evidence-based benchmarks is fundamental in driving an effective (and efficient) operations.

Food and Nutrition Services (FNS) within hospitals is a multi-service operation, including clinical nutrition, patient meal, and café dining services, among others. The purpose of this paper is to share an evidence-based integrated staffing methodology that mitigates traditional gaps in staffing within FNS, namely in being able to use appropriate labor hours consistent with the volume of work in real-time.

Current Staffing in Food and Nutrition Services

Staffing guidelines for FNS are broken up by the respective services. Clinical Nutrition Services, includes nutrition assessments, nutrition counseling/education, and enteral and parenteral nutrition recommendations. ² The recommended staffing benchmark for clinical nutrition services is based on patient ratios. A staffing ratio of one Registered Dietitian Nutritionist (RDN) for every 65 to 75 patients (average census) for a medical/surgical acute care floor and a ratio of 1:30 to 1:60 for an intensive care unit was suggested. ³

Meal/Dining services include patient meals, café dining, revenue generating meal programs such as meals on wheels, catering, physician dining, among others. Staffing and productivity for meal services are based on meals produced. Benchmark productivity is used to estimate staffing needs, deriving productive hours. Productivity is defined as the relationship between the total amount of goods or services being produced (outputs) and the organizational resources needed to produce them (inputs).⁴

For meal/dining services, meals are frequently used as an output measurement. ⁴ Historically, there are inconsistencies in methods to calculate meal count, often referred to as Meal Equivalents (ME). Productive hours, are used to measure the resources needed to produce the output. They refer to the labor hours needed to produce the output (i.e. ME). It excludes non-productive time such as education or training, orientation and time off.

The following is recommended for patient meal productivity:

- determining MEs for patient meal services by multiplying adjusted patient days by meals per patient days, using a factor of 2.5 to 2.7 patient meals. ⁴ This can be referenced as a “meal factor”
- using 0.22 productive hours/meal as a target ⁴; this equates to about 4.5 meals per productive labor hour

Non-patient meals are more difficult to measure accurately. There are a number of methods used by health care foodservice operations, but there is no consistent opinion on how to determine these measures. ⁴ There is, however, much affinity between non-patient meals and commercial foodservice operations such as quick service restaurants.

The Association of Nutrition & Foodservice Professionals (ANFD) suggests non-patient MEs can be determined taking Meal Sales dividing them by Market Basket Price (an average price for a typical cafeteria meal). ⁵

Similar to patient meals, productivity is determined as Productive Hours / MEs or, MEs / Productive Hours. ANFD uses the following productivity references:

- 9.5 MEs per Productive Hours for quick-service restaurant
- 3.5 MEs per Productive Hours for acute care Facility (hospital)

An Evidence-Based Integrated Staffing Methodology

Using the current staffing benchmarks, an evidence-based integrated staffing method was tested within CommonSpirit Health to establish standardized staffing guidelines and practice across FNS. The purpose of the staffing method is to provide evidence-based staffing guides.

The methodology is composed of staffing guides for patient clinical and non-clinical services, café dining and other sources of real revenue, clinical revenue, and other meals (i.e. free meals).

Patient Services

The staffing guide to determine the appropriate number of dietitians needed to provide clinical patient services is calculated for intensive care units (ICU) and non-ICU units using their respective benchmark staffing ratios. One dietitian to 25 patients is used as the benchmark for ICU patients, and one to dietitian to 60 patients is used for non-ICU patients. This is calculated as Dietitian Recommended Productive Staff = (ICU Daily Census ÷ 25) + (non-ICU Daily Census ÷ 60). Additional clinical labor (i.e. outpatient) is estimated based on number of patient that need to be seen, and the dietitian benchmark productivity. Using a productivity benchmark of twelve patients seen per day, Additional Clinical Productive Hours = No. of Patients ÷ 12. Use the number of patients seen per annum for annual staffing guide.

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Staffing for non-clinical patient services includes all patient meal services and nourishments (i.e. regular meal service, nourishments, floor stock, late trays, etc.). Recommended staffing levels are calculated using the productivity formula and benchmark productivity for Acute Care Facility (hospital). This is calculated as Productive Hours = Estimated MEs ÷ Benchmark Productivity for Acute Care Facility (hospital). Where, estimated MEs = Daily Census x a meal factor of 2.8. Benchmark Productivity for Acute Care Facility (hospital) is assumed at 3.5 per ANFD references. Alternatively, MEs can be estimated as meals per adjusted patient day = adjusted patient days x meals per patient days. (3) The “meals per patient days” is the meal factor. MEs estimated using daily census or adjusted patient days need to be annualized for annual staffing guide.

Other Meals

Similar to staffing for non-clinical patient services, recommended staffing levels for other meals are calculated using the productivity formula and benchmark productivity. The quick service restaurant benchmark productivity of 9.5 referenced by ANFD is used as the productivity target. This is calculated as Productive Hours = Estimated MEs ÷ Benchmark Productivity for quick service restaurants. MEs for real revenue meal services (i.e. cafe dining, Meals on Wheels programs) are determined as real revenue ÷ average regional retail price of a meal (entree, side and a drink). MEs for other meals that do not generate real revenue meal services (i.e. internal catering, physician lounge, etc.) are determined as total meal cost ÷ average regional retail price of a meal (entree, side and a drink). The total meal cost includes the cost of food, labor, disposables, and any other cost associated with producing the meals. Caution is recommended in including non essential MEs, as they may unnecessarily increase labor hours. Essential MEs include those that generate revenue or provide meals for patients.

The ICU Dietitian and Other Inpatient Dietitian recommended productive staff presumes number of staff or Full Time Equivalents (FTEs). The other staffing guides yield productive labor hours. Productive labor hours for each area need to be converted to FTEs using the organization’s standard conversion practice. Once all areas are in FTE form, they can be added together to estimate the total department FTEs. It is valuable to have the FTEs by area to effectively allocate FTEs. Figure 1 visually illustrates how the receptive FTE types can be aggregated to determine the total FTEs for the department. lists the formulas to calculate the productive staff for each area.

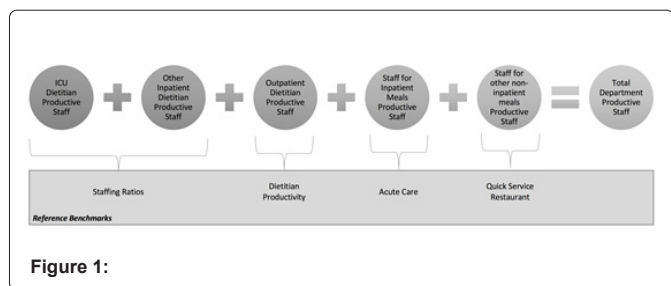


Figure 1:

patient Dietitian Productive Staff Clinical Productive Hours = No. of

Patients ÷ Dietitian Benchmark Productivity

*No. of Patient Days needs to match the time period for which the staffing guidance needs to be calculated.

The “Clinical Nutrition Staffing Benchmarks for Acute Care Hospitals” provides reference Dietitian Benchmark Productivity (2) Clinical Productive Hours Convert to FTEs; use the organization’s standard conversion practice

Staff for Inpatient Meals Productive Staff Productive Hours = Estimated MEs ÷ Benchmark Productivity for Acute Care Facility (hospital)

MEs = Daily Census x Meal Factor |

MEs = Adjusted Patient Days x Meal Factor

*Adjusted Patient Days needs to match the time period for which the staffing guidance needs to be calculated. Productive Hours to FTEs; use the organization’s standard conversion practice

Staff for other non-inpatient meals Productive Staff

Productive Hours = Estimated MEs ÷ Benchmark Productivity for Quick Service Restaurants

MEs for real revenue meal services (i.e. cafe dining, Meals on Wheels programs) = real revenue ÷ average regional retail price of a meal (entree, side and a drink).

MEs for other meals that do not generate real revenue meal services (i.e. internal catering, physician lounge, etc.) = total meal cost ÷ average regional retail price of a meal (entree, side and a drink).

* Total meal cost includes the cost of food, labor, disposables, and any other cost associated with producing the meals. Productive Hours Convert to FTEs; use the organization’s standard conversion practice

Summary

There are valuable staffing and productivity references available to guide evidence based staffing in FNS, but there is no cohesive approach providing staffing guidance. The Evidence-Based Integrated Staffing Methodology is an attempt to address this gap. There is still more work needed in this field, specifically in standardizing MEs for each service, and expanding time studies on both clinical and non-clinical productivity benchmarks.

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Other

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