

Competence Area 2: Foodservice

Measuring Meal Production & Calculating Meal Equivalents

Updated: January 2019

Overview: Labor costs in the foodservice department will use most of the Certified Dietary Manager, Certified Food Protection Professional's (CDM®, CFPP®) budget. The CDM, CFPP should calculate productivity and prove efficiency in the department to administration.

Supplemental Material: Access the [Gap Analysis Tool](#) to supplement your practices.

Standard 1

The Certified Dietary Manager, Certified Food Protection Professional (CDM, CFPP) assures that productivity for patient/client services is measured and compared to a standard productivity equivalent.

CRITERIA	IMPLEMENT & EVALUATE
1.1 CDM, CFPP will work with administration or the finance department to measure meal production.	CDM, CFPP measures meal production to assist in calculating FTE (full-time equivalent) needs.
1.2 CDM, CFPP will work with administration or the finance department to determine which staff will be included in total hours for selected productivity standard.	Consider: Which labor hours will be used in the calculation of meal productivity: <ul style="list-style-type: none">✓ all staff involved in producing meals?✓ management staff?✓ clinical dietetics staff?✓ support staff?✓ manager?✓ consultant dietitian? CDM, CFPP follows up on decreases in productivity by checking variances in the patient/client meals, non-patient/client meals, meal equivalents.

1.3 CDM, CFPP will work with administration or the finance department to determine what will be used to calculate meal equivalents.

Determining Actual Meals Served:

Consider: What food cost data will be used to determine actual patient/client meals served (meal equivalents)?

- ✓ Patient/client trays
- ✓ Meals on Wheels
- ✓ Other

Consider: What food cost data will be used to determine a meal equivalent for non-patient/client meals?

- ✓ Cafeteria
- ✓ Floor stock
- ✓ Catering from outside groups
- ✓ Staff meals
- ✓ Supplements
- ✓ Tube feedings
- ✓ Guest trays

Options:

✓ Use an average price for a typical cafeteria meal (market basket) for café/catering/guest meals/staff meals. Market basket example: 4 oz. protein, 1 vegetable, 1 grain, 1 beverage = \$3.20

✓ Cost out floor stock, tube feedings, catering, and cafeteria costs and divide by the market basket price to determine meal equivalents.

✓ Use a standard for nourishments/supplements and/or tube feedings, such as three nourishments/supplements are equivalent to one meal

✓ Meal Equivalents (ME) can vary greatly, as it depends on what each CDM, CFPP counts as a meal. The key is to develop a system that you use consistently and not to compare your department to other facilities, rather use your monthly meal equivalents to track changes and trends throughout the months.

Example: LTC Facility - January

Resident Meals	6,500
Catered Meals	\$1,200.00
Nourishments*	600
Market Basket Price	\$3.20

<p>1.3 CDM, CFPP will work with administration or the finance department to determine what will be used to calculate meal equivalents.</p>	<p>*Three (3) nourishments = 1 meal equivalent</p> <p>Step 1: Convert Catered Meals to ME Catered Meals Sales DIVIDED by Market Basket Price</p> $\$1,200 \div \3.20 <p>=375 Meal Equivalents for catered meals</p> <p>Step 2: Convert Nourishments to ME # of nourishments DIVIDED by ME # for nourishments*</p> $600 \div 3$ <p>= 200 Meal Equivalents for nourishments</p> <p>Step 3: Add All ME together ADD: Resident meals + catered + nourishments = Meal Equivalents for January</p> $6,500 + 375 + 200$ <p>= 7,075 Meal Equivalents served in January</p>
<p>1.4 Actual meals are counted using a standardized method and recorded on a weekly productivity form by category.</p>	<p>Considerations:</p> <ul style="list-style-type: none"> ✓ Count every tray delivered for patients/clients. ✓ Count every meal delivered for Meals on Wheels. ✓ Count every meal delivered for staff or doctors.
<p>1.5 Total meal equivalents are recorded on a weekly productivity form.</p>	
<p>1.6 Labor hours are tracked for foodservice personnel and recorded on the productivity form.</p>	

1.7 Minutes Per Meal, Labor Hours Per Meal, Labor Costs per FTE, Labor Costs Per Meal Served or Meals Per Labor Hour are determined for patient/client and nonpatient/client services.

Minutes Per Meal Served

Total Labor Hours MULTIPLIED by 60
DIVIDED by Total Meals Served

Example

Total Labor Hours	8 hours	
MULTIPLIED	x 60 minutes	
		480 minutes
DIVIDED by Total Meals Served (164)	 480 ÷ 164	
		2.93 Minutes per Meal

Labor Hours Per Meal Served

Total Labor Hours DIVIDED by Total Meals Served

Example

Total Labor Hours	8 hours	
DIVIDED by Total Meals Served	÷ 164 Meals	
		.05 Labor Hours Per Meal

The 2016 ANFP Skilled Nursing Facility Benchmarking Program showed .19-.39 average labor hours per meal

Labor Costs* per FTE

Monthly Labor Costs DIVIDED by Total FTEs

Example

Labor Costs	\$18,666	
DIVIDED by FTEs	÷ 9	
		\$2,074 per FTE

Labor Costs* per Meal Served

Labor Costs DIVIDED by Total Meals Served

Example

1 Year: Labor Costs	\$632,987.67	
Meals Served	÷ 195,234	
		\$3.24

*labor costs include wages + benefits.

<p>1.7 Minutes Per Meal, Labor Hours Per Meal, Labor Costs per FTE, Labor Costs Per Meal Served or Meals Per Labor Hour are determined for patient/client and nonpatient/client services.</p>	<p>Meals Per Labor Hour Total Meals Served DIVIDED by Total # of Labor Hours</p> <p>Example</p> <table style="margin-left: 40px;"> <tr> <td>Total Meals Served</td> <td style="text-align: right;">160 meals</td> </tr> <tr> <td>DIVIDED by Labor Hours</td> <td style="text-align: right;">÷ 32 hours</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">5.0</td> </tr> </table> <p>Estimating Staffing Needs Using an Industry Productivity Level</p> <p>This reference has determined the meals per labor hour for the following foodservice operations:</p> <ul style="list-style-type: none"> Quick-service restaurant 9.5 Fine dining restaurant 1.4 Family restaurant 4.8 Cafeteria 5.5 Acute Care Facility (hospital) 3.5 Extended Care Facility 5.0 School Foodservice 13-15.0 <p>Check your calculations for determining your department's labor hours and meals per labor hour against this industry standard. If there is a significant difference, it is the responsibility of the CDM, CFPP to evaluate this difference and justify the current staffing level or make necessary adjustments.</p> <p><i>Gregoire, M. Foodservice Organizations, A Managerial and Systems Approach. Seventh Edition. Prentice Hall, 2010. pp. 450-451.</i></p>	Total Meals Served	160 meals	DIVIDED by Labor Hours	÷ 32 hours		5.0
Total Meals Served	160 meals						
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	5.0						
<p>1.8 The CDM, CFPP in Healthcare calculates Labor Hours Daily per Patient/Resident</p>	<p>Labor Hours Total for Day DIVIDED by # of residents.</p> <p>Example</p> <table style="margin-left: 40px;"> <tr> <td>Labor Hours</td> <td style="text-align: right;">54 hours</td> </tr> <tr> <td>DIVIDED by # of residents</td> <td style="text-align: right;">÷ 100</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">.54 Hours</td> </tr> </table>	Labor Hours	54 hours	DIVIDED by # of residents	÷ 100		.54 Hours
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DIVIDED by # of residents	÷ 100						
	.54 Hours						

References

Legvold, Dee, and Salisbury, Kristi. *Foodservice Management by Design*. Association of Nutrition & Foodservice Professionals, 2nd Edition, 2018.

Kristin Klinefelter, MS, RDN, LD has been in the dietetics field for 20 years, working in a variety of consulting and education capacities. She has been working with the University of North Dakota's Nutrition and Foodservice Training Program for ten years and served on the Certifying Board for Dietary Managers (CBDM) for six years.