

MEALS PER LABOR HOUR (MPLH)

DESCRIPTION: The number of meal equivalents (MEQs) served per labor hour represents the primary measure of productivity and production efficiency for school nutrition (SN) programs.

WHY CALCULATE: Evaluating productivity is vital to the financial success of the SN program. Many SN professionals use the productivity index of MPLH to monitor the efficiency of their operation, and to determine appropriate staffing. It is essential in formulating labor budgets and determining efficient use of resources.

HOW OFTEN TO CALCULATE: Weekly, monthly, and annually.

HOW TO CALCULATE: MPLH index is calculated on the actual productive, paid labor hours assigned to a site-level SN program.

The MPLH can be determined for a school site by dividing the total meal equivalents for a given time period by the total number of productive paid labor hours (see below) for the same time period.

Planned Productive Labor Hours (PPLH) include the amount of labor planned by an SN program, for managers, kitchen staff, and cashiers. Paid hours for substitutes are included, but not paid hours for sick, personal, or holiday leave.

$$\text{MPLH} = \frac{\text{Number of Meals or Meal Equivalents}}{\text{Number of Planned Productive Labor Hours}}$$

SAMPLE CALCULATIONS:

Step 1: Calculate total MEQ for the period (calculated previously in the MEQ key performance indicator [KPI] = 41,524).

Step 2: Calculate total hours of labor paid monthly, including all SN employees and managers/supervisors.

NUMBER OF STAFF MEMBERS THAT WORK THE SAME NUMBER OF HOURS DAILY	X	HOURS WORKED DAILY	X	DAYS IN THE PERIOD	=	TOTAL STAFF HOURS PLANNED FOR THE PERIOD
2	x	7	x	21	=	294
7	x	6	x	21	=	882
7	x	5	x	21	=	735
6	x	3	x	21	=	378
22		21		21		2,289



Step 3:

$$\text{MPLH} = \frac{\text{Number of Meals or MEQs}}{\text{Number of Paid Productive Labor Hours}} = \frac{41,524}{2,289} = 18.14 \text{ MPLH}$$

After MPLH is calculated, the SN director can make a decision regarding staffing. If the evaluation indicates an excess of labor hours and increasing participation is not an alternative, adjustments in labor hours may be necessary.

The following method can be used to determine the number of labor hours needed for the desired productivity level:

1. Decide the desired number of MPLH for the district for a month. (Assume 17 MPLH is based on the type of meal service offered for the sample calculation).
2. Divide the total MEQ by the desired number of MPLH to determine the total labor hours needed per month. Divide that number by the number of serving days in a month to determine the number of labor hours needed per day.

Example: $\frac{41,524 \text{ (Total MEQs)}}{17 \text{ (Desired MPLH)}} = 2,443 \text{ (Total labor hours needed per month)} \div 21 = 116 \text{ hours per day.}$

WHERE TO CAPTURE DATA: Meal count data is usually captured electronically or manually at the point-of-sale system utilized by SN programs, and can be found in reports such as day end sales reports, edit check worksheets, and/or deposit reports. Labor hours are captured in the school district time keeping system (time card data, timesheet logs, etc.) or payroll records that can usually be found at the school business office or the district Human Resources office.

HOW TO USE: This measure can help in determining how many employees or how many scheduled hours per employee are needed in a single production unit or throughout the district. The MPLH index most effectively compares labor utilization within a system, because labor is dependent on the type of production systems (i.e., conventional, cook chill, and assembly serve) and distribution/service systems (satellite, on-site, and combination) used in an SN program. The MPLH can be used to compare productivity between different school sites.

Explaining the importance of MPLH, how it is calculated, the variables that affect it, and how additional hours can be earned, is very motivating for managers. It allows them to better manage their own operations, and gives them a level of control and understanding they might not otherwise have. Effective managers are able to explain staffing to their employees in clear and understandable terms, and can encourage the entire team to work towards a common goal of ensuring adequate meal participation to support adequate labor hours.

INDUSTRY STANDARDS: An on-site production system can produce between 14 to 18 MPLH, while a central kitchen can produce between 50 to 75 MPLH (Pannell-Martin and Boettger, 2014).

“Staffing Guidelines for On-Site Production” is reprinted with permission, and may be found in the following resource: Pannell-Martin, D. & Boettger, J. (2014). School food & nutrition service management for the 21st century (6th ed.). Aiken, South Carolina: Author.

Staffing Guidelines for On-Site Production

NUMBER OF MEAL EQUIVALENTS	MEALS PER LABOR HOUR FOR LOW AND HIGH PRODUCTIVITY			
	CONVENTIONAL SYSTEM ¹		CONVENIENCE SYSTEM ²	
	MPLH		MPLH	
	LOW	HIGH	LOW	HIGH
UP TO 100	8	10	10	12
101-150	9	11	11	13
151-200	10-11	12	12	14
201-250	12	14	14	15
251-300	13	15	15	16
301-400	14	16	16	18
401-500	14	17	18	19
501-600	15	17	18	19
601-700	16	18	19	20
701-800	17	19	20	22
801 AND UP	18	20	21	23

¹A conventional system is the preparation of some foods from raw ingredients on premises (e.g., using some baked goods, prepared pizza, and washing the dishes).

²A convenience system is using maximum amount of processed foods (e.g., using all baked goods, precooked chicken, ready-to-serve raw fruits and vegetables, portion-pack condiments, and washing only trays and using disposable dinnerware).

FACTORS THAT INFLUENCE:

- Size of operation
- Availability and type of facilities and equipment
- Number of serving lines
- Organization of the food production area (workflow)
- Type of service provided
- Scheduling of lunch periods
- Disposable vs. reusable trays
- Skill level of employees
- Complexity of the menu
- Conventional versus convenience production
- Number of meal choices



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