

Are you over staffed
or
under staffed?



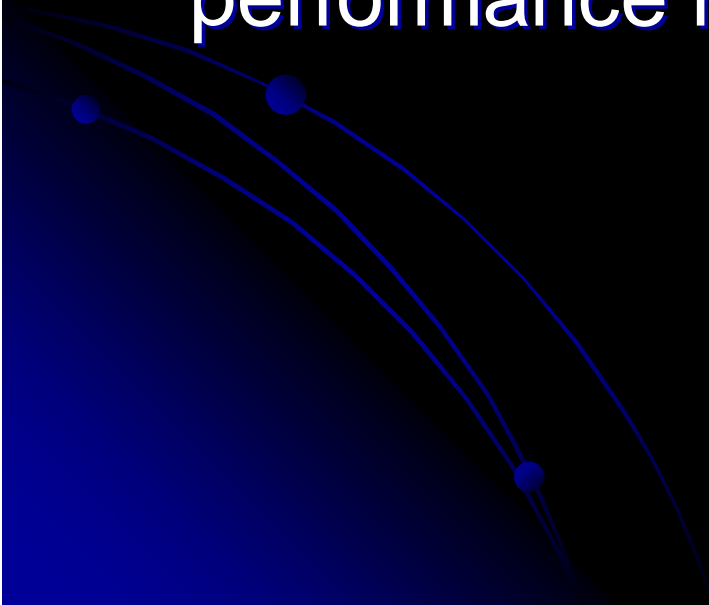
Elizabeth Hanna, PhD, RD, SNS

How do you determine how much staff is need in kitchens?

- Same number as last year
- Kitchen manager determines hours needed
- Use Meals-Per-Labor-Hour (MPLH) formula
- Evaluate labor cost, assign hours based on cost
- Other

Purpose of Research

- Investigate management and financial attributes perceived by directors that impact performance measures
- Investigate whether widely used performance measures were relevant

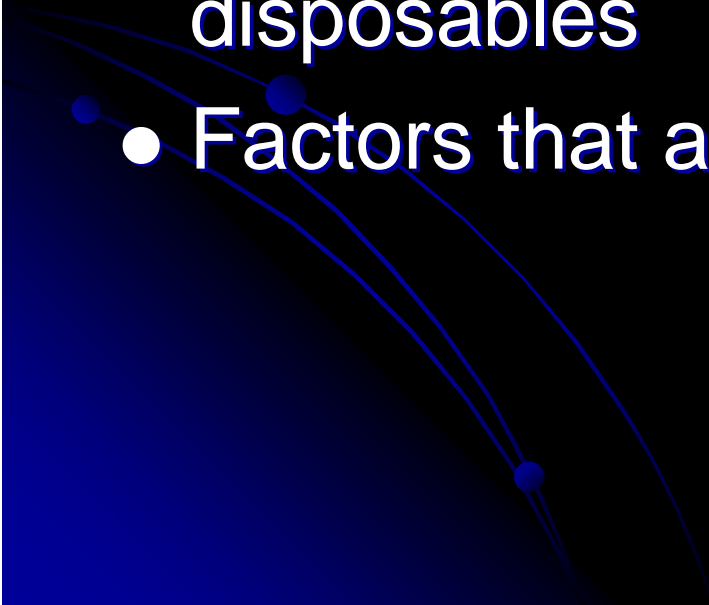


Surveyed Public School Districts

- Student enrollments: 2,500 - 10,000
(*N=2,534*)
 - Based on NCES, 2005
 - With email address
- Respondents
 - 740

Two Surveys

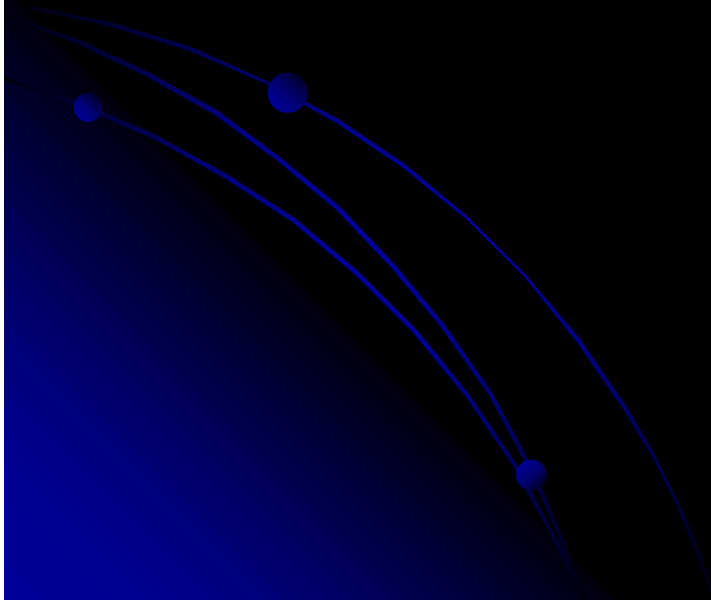
Survey 1: Opinion Survey

- Attitude about and use of performance measures
 - Use of convenience foods and disposables
 - Factors that affect MPLH
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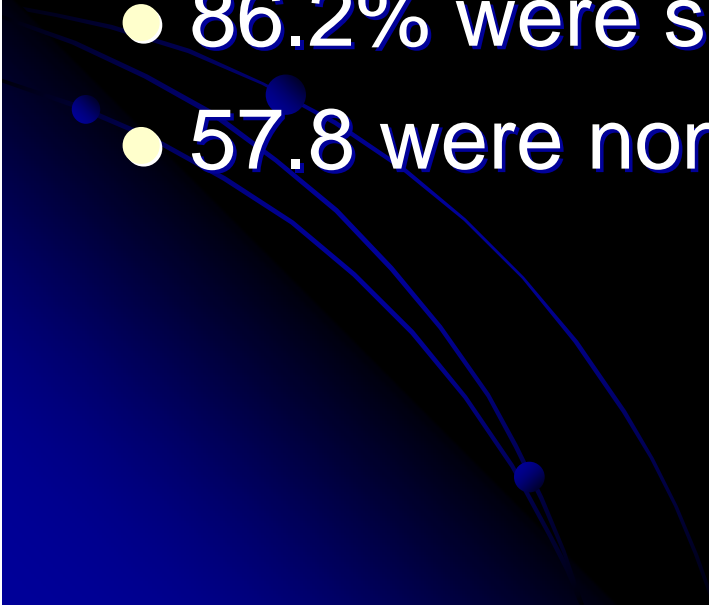
Two Surveys, conti

Survey 2: Convenience Sample ($N=32$)

Calculated MPLH and Revenue-Per-Dollar
Expense (RPDE)

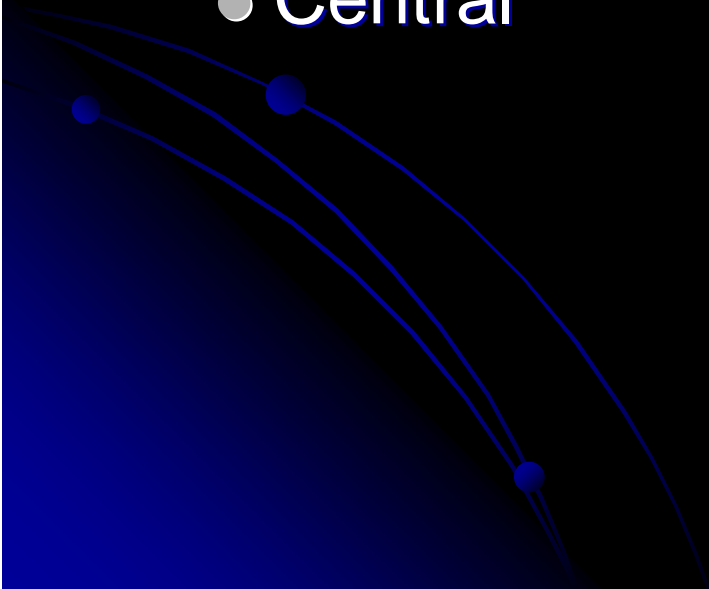


Demographics of Respondents

- 80% has student enrollments between 3,000 and 9,999
 - 82.5% offered 2, 3, or 4 federal child nutrition programs
 - 86.2% were self-operated
 - 57.8 were non-unionized
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Demographics, conti

- Type of kitchens, many districts have more than one type of kitchen
 - Onsite 93.3%
 - Base 49.3%
 - Central 9.0%

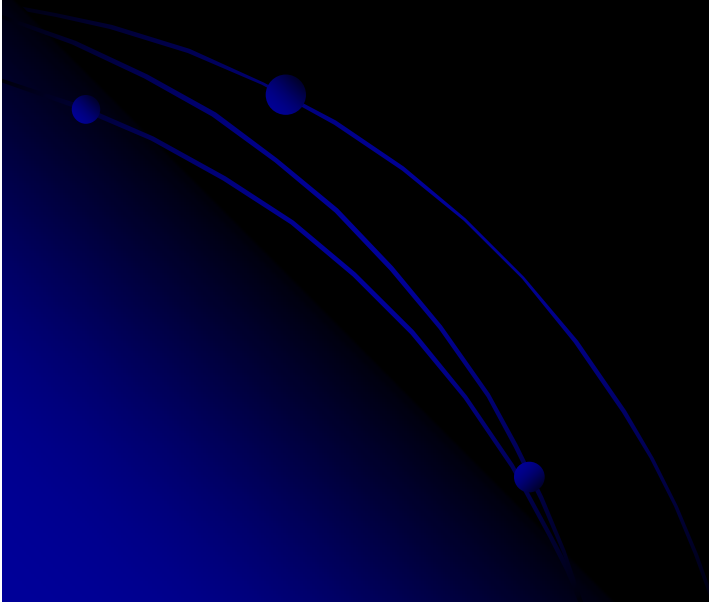


Factors That Affect Labor Hours

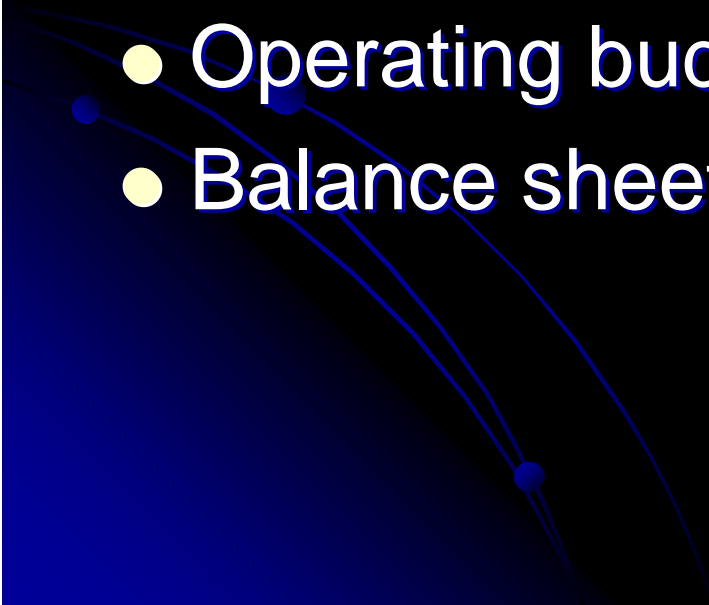
- Workplace environment
- Service & preparation characteristics
- Serving methods
- Human resources characteristics
- Staff characteristics
- Miscellaneous department characteristics
- Availability of a la carte items
- Amount of convenience food used

Most Frequently Used Performance Measures

- Financial
- Accounting
- Participation
- MPLH

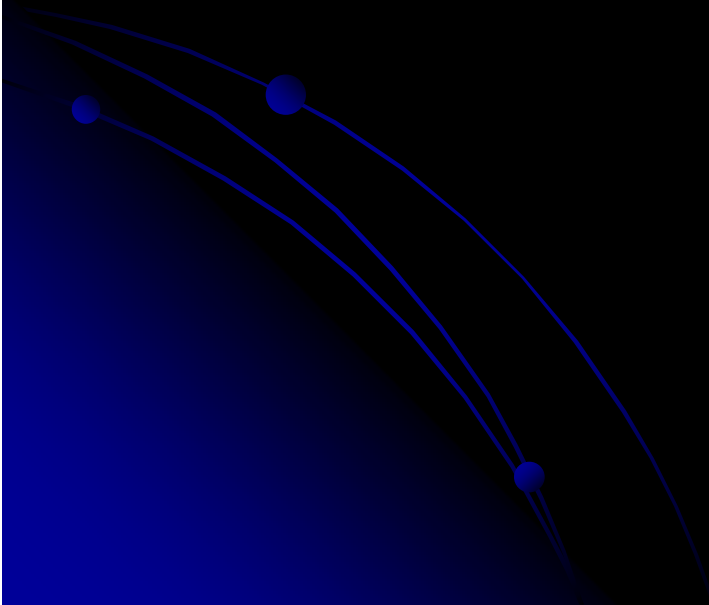


Financial

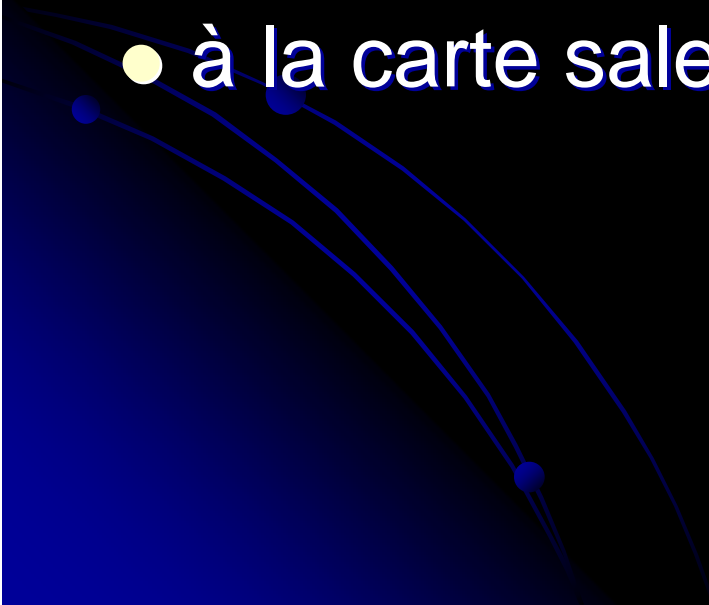
- All sales
 - Reimbursement
 - Expenses
 - Profit/loss statements
 - Operating budget
 - Balance sheet
- 

Accounting

- Income statements
- Cash in bank



Participation

- By building
 - By categories, i.e., free, reduced, paid
 - By program, i.e., breakfast, lunch, snack
 - Average Daily Participation
 - à la carte sales
- 

Meals Per Labor Hour Formula

Number of meals or meal equivalents
Number of paid productive labor hours

Meal Equivalent (ME)

- 1 Lunch = 1 ME
- Breakfast X .66 = 1 ME
- 3 Snacks = 1 ME
- à la carte or other revenue divided by free lunch reimbursement and commodity value per meal = 1 ME

Meals Per Labor Hour (MPLH) by Type of Kitchen and Enrollment
for School District Foodservice Operations Providing Detailed Financial Information ($N = 34$)

	# of districts	# of kitchens	Range of MPLH		Mean MPLH	<i>SD</i>
			Low	High		
Onsite production and service site by districts' student enrollment						
2,500 – 2,999	1	5	8.8	17.8	14.1	3.4
3,000 – 3,999	5	31	4.8	20.1	12.3	4.1
4,000 – 5,999	5	52	4.0	47.7	20.7	10.3
6,000 – 10,000	6	64	1.6	28.3	16.7	4.8
Total	17	152	1.6	47.7	17.1	7.7
Production site serving more than 1 school by districts' student enrollment						
3,000 – 3,999	3	5	7.4	24.1	14.3	7.2
4,000 – 5,999	7	9	8.0	20.7	15.3	3.8
6,000 – 10,000	7	15	12.1	36.1	19.7	6.0
Total	17	29	7.4	36.1	17.4	5.9

Meals Per Labor Hour (MPLH), *Conti.*

	# of districts	# of kitchens	Range of MPLH		Mean MPLH	<i>SD</i>
			Low	High		
Satellite or finishing site by districts' student enrollment						
3,000 – 3,999	3	9	7.1	45.1	25.1	10.4
4,000 – 5,999	7	39	10.1	47.2	29.0	10.3
6,000 – 10,000	8	52	7.1	72.4	31.3	13.4
Total	18	100	29.9	72.4	27.1	12.1
Central kitchen by districts' student enrollment						
4,000 – 5,999	1	1	27.7	27.7	27.7	—
6,000 – 10,000	1	2	19.4	24.0	21.7	3.2
Total	2	3	23.7	24.0	27.7	4.2
Grand total	34^a	284	1.6	72.4	21.7	11.1

^aDistricts had more than one type of kitchen or site, thus sum of totals exceeds the number of districts. For example, one district had one onsite kitchen, one production kitchen, and nine satellite sites.

Comparison of Findings to Established Standards

- Established standards are from *School Foodservice Management for the 21st Century* (5th ed.), by D. Pannell-Martin, 1999, pp. 155-156, Alexandria, VA: inTEAM Associates.
- Special thanks to Dorothy Pannell-Martin for her permission

Onsite Production Site by Meal Equivalents

Meal equivalents	# of kitchens	Range of MPLH		Mean MPLH	Pannell-Martin's recommendations	
		Low	High		Low	High
Up to 100	4	1.6	37.4	14.5	8	12
101 – 150	6	5.7	26.2	12.6	9	13
151 – 200	3	10.1	13.4	11.8	10	14
201 – 250	5	10.7	17.8	14.4	12	15
251 – 300	6	9.4	19.0	14.8	13	16
301 – 400	22	6.2	47.7	15.9	14	18
401 – 500	28	10.0	41.4	19.4	14	19
501 – 600	21	8.9	33.1	18.1	15	19
601 – 700	15	10.0	29.6	17.1	16	20
701 – 800	14	4.8	23.1	16.9	17	22
801 – 900	8	8.6	22.2	15.7	18	23
901 up	20	5.4	42.7	18.6	19	23
Mean for all sites		1.6	47.7	17.1		

Food Production for More than One School

Meal equivalents	# of kitchens	Range of MPLH		Mean MPLH	Pannell-Martin's recommendations Bulk, hot ^b or cold ^c	
		Low	High		Low	High
200 – 500	1	8.3	8.3	8.3	25	32
501 – 1,000	6	7.9	36.1	19.8	30	35
1,000 – 2,000	14	12.1	27.7	18.6	45	55
2,001 – 3,000	4	12.8	21.2	16.7	65	75
3,001 – 5,000	3	13.8	22.8	19.1	75	85
5,001 – 9,999	2	19.4	24.0	21.7	110	130
Mean for all sites		7.9	36.1	18.5		

^bBulk cold: food cooked, then chilled or frozen (e.g. cook-chill system) and transported for finishing off in the satellite school, thus requires heating at site before serving.

^cBulk hot: food cooked and maintained hot through transporting and serving at satellite school.

Satellite or finishing kitchens

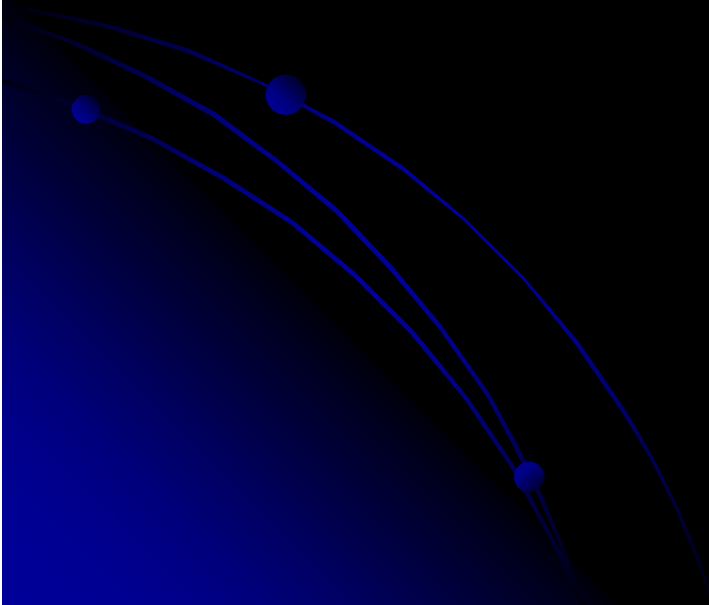
Meal equivalents	# of kitchens	Range of MPLH		Mean MPLH	Pannell-Martin's recommendations Bulk, hot ^b or cold ^c	
		Low	High		Low	High
76 – 100	3	9.3	26.5	16.6	18	23
101 – 200	11	7.1	31.8	19.7	20	26
201 – 300	16	17.0	41.0	24.6	22	29
301 – 400	26	10.1	72.4	35.5	26	31
401 – 500	21	18.4	53.9	35.9	26	33
501 – 700	7	17.9	66.7	42.0	26	33
700 up	13	12.9	36.6	21.8	30	37
Mean for all sites		7.1	72.4	29.9		

^bBulk cold: food cooked, then chilled or frozen (e.g. cook-chill system) and transported for finishing off in the satellite school, thus requires heating at site before serving.

^cBulk hot: food cooked and maintained hot through transporting and serving at satellite school.

Revenue Per Dollar Expense

$$\frac{\text{Revenue}}{\text{Productive Labor Costs} + \text{Cost of Goods Sold}}$$



Revenue Per Dollar Expense

Enrollment	# of districts	Mean # of production & service sites per district	Mean meal equivalents per site	Range of RPDE		Mean RPDE
				Low	High	
2,500 – 2,999	1	5.0	320			1.04
3,000 – 3,999	8	5.6	489	0.39	1.59	1.00
4,000 – 5,999	12	8.5	502	0.54	2.06	1.21
6,000 – 10,000	13 ^a	11.6	622	0.88	1.50	1.10
Total	34	8.9	557	0.39	2.06	1.11

^aTwo districts did not report number of sites.