



Exploring Standard Child Nutrition
Key Performance Indicators

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Exploring Standard Child Nutrition Key Performance Indicators

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Institute of Child Nutrition

The University of Mississippi

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MISSION

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VISION

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EXPLORING STANDARD CHILD NUTRITION KEY PERFORMANCE INDICATORS

EXECUTIVE SUMMARY

Successful school nutrition (SN) directors must be able to decide where to focus their time and resources. Data driven decision making, utilizing key performance indicators (KPIs), is an effective approach. Data driven decision making is the process of using operational data commonly collected by SN programs to make informed decisions about planning and implementing change (Boettger, 2009). The KPIs are metrics that allow SN professionals to utilize a rigorous numbers oriented approach to target specific areas of emphasis, and gauge results in an objective and measurable way (Buzalaka, 2010).

Several KPIs that are useful for decision making in SN programs have been identified in literature. That list includes: costs per revenue (e.g., food, labor, supply, equipment, other, and total), fund balance as a percent of revenue, breakfast and lunch participation rates (by grade and school), meals per labor hour, costs per meal (food, labor, supply, equipment, other, and total), inventory on hand, and revenue per student. (Boettger, 2009; Council for Great City Schools [CGCS], 2012; and Cater, Conklin, and Cross 2005).

Currently, there is a lack of research concerning SN professionals' usage or perceptions of KPIs as tools to support SN program management. Therefore, the purpose of this study was to explore SN directors' usage and perceptions of KPIs. The specific objectives were to determine the following: school nutrition directors' access to data for calculating KPIs; school nutrition directors' perceptions of KPIs; school nutrition directors' usage of KPIs, the relationship between SN directors' personal characteristics and usage/perceptions of KPIs; and the relationship between SN program characteristics and usage/perceptions of KPIs.

This project, which received approval from the Institutional Review Board at The University of Southern Mississippi prior to implementation, was conducted in four phases. In Phase I, the primary investigator visited an SN program where the director had demonstrated success in utilizing KPIs for operational decision making. In Phase II, an expert panel of SN professionals experienced in applying KPIs was convened to discuss issues associated with utilizing KPIs in SN programs. The intent of Phase I and II of the study was to gather information to support the development of a national survey to meet the objectives of the study. In Phase III, a national survey was developed and validated with the assistance of a review panel of SN professionals. The survey was then mailed to a random sample of 700 SN directors representing the seven United States Department of Agriculture regions. Survey data were analyzed using the statistical package SPSS Version 21.0 for Windows. In Phase IV, a “think tank” consisting of eight SN professionals experienced in applying KPIs met to identify the best format of training resources to support school nutrition professionals’ effective utilization of KPIs for operational decision making and program evaluation.

The response rate for the survey was 29.3% (N=205). Most respondents were from districts with student enrollments between 2,000 and 29,000 (65.0%). More than one-third of respondents indicated that they had worked in SN programs for greater than 20 years (37.6%); however, the largest percentage of respondents indicated they had only been in their current position for 1 to 5 years (34.0%).

When respondents were asked to rate the level of understanding of SN KPIs on a three point scale (3=adequate, 2=partial, and 1=no understanding), the KPIs that received the highest mean ratings were “average daily participation” (2.95 ± 0.27), “meals per labor hour” (2.87 ± 0.38) and “cost per meal” (2.84 ± 0.41). The KPIs that received the lowest mean ratings

regarding level of understanding by respondents were “percent over production” (2.25 ± 0.76), “inventory turnover rate” (2.54 ± 0.63), and “days of inventory on-hand” (2.58 ± 0.62).

When respondents were asked to rate their level of agreement with the statement “School nutrition professionals receive adequate training on KPIs,” 81.6% disagreed or strongly disagreed. Additionally, the majority of respondents reported that cooks, school level managers, and district level supervisors, either do not receive training on KPIs, or they did not know if individuals in these positions receive KPI training (91.0%, 60.0%, and 53.0%, respectively).

The most common frequency reported for calculating average daily participation, meals per labor hour, cost as a percent of revenue, and revenue per meal was “monthly” (53.0%, 35.6%, 34.5%, and 30.7%, respectively). The most common frequency reported for calculating cost per meal was “annually” (33.5%). The majority of respondents reported they never calculate percent over production, staff turnover rate, and inventory turnover rate (58.6%, 53.4%, and 50.2%, respectively).

When respondents were asked to indicate what level of SN professionals other than themselves in their school district use SN KPIs, the majority said district level supervisors (57.2%). The largest percentage of respondents reported that cooks and school level managers do not use SN KPIs (78.9% and 47.3%, respectively).

One-way ANOVA and Tukey’s post hoc comparisons demonstrated a significant relationship between district enrollment and respondents’ perceived understanding of four KPIs. As school district enrollment size increased from $\leq 1,999$ to 2,000-29,999, respondents’ perceived level of understanding of meals per labor hour and breakeven point significantly increased ($p < 0.05$ and $p < 0.05$, respectively); however, no significant differences were observed for the same KPIs between districts with enrollment of $\leq 1,999$ and districts with enrollment

of $\geq 30,000$ or between districts with enrollments of 2,000-29,999 and $\geq 30,000$. Additionally, it was observed that respondents' perceived level of understanding of cost as a percentage of revenue and revenue per meal significantly increased as school district size increased from $\leq 1,999$ to 2,000-29,999 ($p < 0.05$ and $p < 0.05$; respectively) and from $\leq 1,999$ to $\geq 30,999$ ($p < 0.05$ and $p < 0.05$; respectively).

Think Tank Results

Think tank participants recommended that the target audience for the resource should be unit and district level SN managerial staff at all school districts regardless of district size. Three primary uses of the resource were identified: an operational guide, a communication tool, and a staff development instrument. It was recommended that the resource contain the following nine sections: Table of Contents, Introduction, Key Terms, Key Performance Indicators, Systems for Collecting and Organizing KPI Data, Continuous Improvement Model for Using KPIs, Case studies using KPIs, Appendices, and Index.

Based on the findings of this study, additional research is needed to develop a resource that supports SN directors, managers, and supervisors regardless of district size in effectively utilizing KPIs. This resource should be based on the information captured in Phase IV of this study.