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Assessing Point-of-Service Systems in School Nutrition Programs
In the United States

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Applied Research Division
The University of Southern Mississippi
1-800-321-3054

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WRITTEN AND DEVELOPED BY

Junehee Kwon, PhD, RD
Associate Professor
Department of Hospitality Management
Kansas State University

Yee Ming Lee, PhD, RD, CHE
Assistant Professor
Department of Nutrition, Dietetics, and Hospitality Management
Auburn University

Eunhye Park, MS
Graduate Research Assistant
Department of Hospitality Management
Kansas State University

Keith Rushing, PhD, RD
Institute of Child Nutrition
Applied Research Division
The University of Southern Mississippi

ACTING EXECUTIVE DIRECTOR
Dr. Aleshia Hall-Campbell, PhD, MPH

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**ASSESSING POINT-OF-SERVICE SYSTEMS IN SCHOOL NUTRITION PROGRAMS
IN THE UNITED STATES**

EXECUTIVE SUMMARY

The National School Lunch Program (NSLP) and the School Breakfast Program (SBP) provide nutritious and safe meals to children in the United States (U.S.) (U.S. Department of Agriculture [USDA], 2013a). Every day, more than 30 million students eat at least one meal in a school cafeteria, and the majority of NSLP (72.1%) and SBP (85.1%) participants are eligible to receive free or reduced-price (F-RP) meals (USDA, 2016a). The number of F-RP meal recipients appears to be continually increasing (USDA, 2016a), and the most recent data show a daily rate of 30.5 million meals for the NSLP and 14.1 million meals for the SBP (USDA, 2016a, 2016b). As the number of participants and the percentages of F-RP meals continue to increase, government spending has reached billions of dollars to reimburse school nutrition programs (SNPs) for F-RP and full-price meals. In 2015, the total federal reimbursement expenditure was $11.7 billion for the NSLP and $3.9 billion for the SBP (USDA, 2016c).

Along with the increased expenditures, there have been challenges maintaining program integrity (USDA Food and Nutrition Service [FNS], 2016). The large number of payment errors has raised concerns for many years (Improper Payments Information Act, 2002; USDA, 2015a). The second Access, Participation, Eligibility, and Certification Study (USDA, 2015a) revealed that there were numerous payment errors due to certification errors, meal-claiming errors, and aggregate errors. The total cost of erroneous payments was estimated to be 10% of the total reimbursement for the NSLP and the SBP (USDA, 2015a).

Among these errors, certification errors, which result in excessive unverified benefit pay outs, appeared to be the most significant (80%). Further, two-thirds of the certification errors in 2012-2013 were due to household reporting errors (USDA, 2015a). To prevent improper payment errors and to improve the accuracy of the certification process, the Healthy, Hunger-Free Kids Act of 2010 included additional provisions, such as increasing direct certification using Supplemental Nutrition Assistance Program data, improving parents' response rates for verification requests, and applying the Community Eligibility Provision for low-income communities (USDA, 2015a; USDA FNS, 2016). Fines and professional standards for school nutrition (SN) personnel have also been established or implemented to address these challenges (USDA, 2015a).

Point-of-service (POS) systems may play an important role in reducing these errors. Many POS systems that are commonly used in SNPs include functions to help SNPs track and aggregate the number of meals served for reporting purposes; verify student identity and whether a student receives full-price, reduced-price, or free meals; complete sales transactions and update student accounts; and generate reports for reimbursement claims. Although it is conceivable that POS systems may help SNP staff improve efficiency and reduce common errors (i.e., certification, meal-claiming, and aggregate errors) in SNPs, there has been no nationwide investigation of POS system use in the U.S. Therefore, this project was conducted to assess the current practices and challenges related to POS systems and certification practices for F-RP meals.

The specific research objectives were the following:

- to describe the sequential flow of information, activities, and personnel with POS systems and F-RP meal applications in SNPs in the U.S.;

- to identify the key personnel involved in paper and electronic POS systems;

- to explore the training provided to key personnel involved in POS systems in SNPs;

- to identify operational challenges related to POS systems and F-RP meal application procedures, and

- to evaluate the impact of school district size and demographic characteristics on different aspects of POS systems in SNPs.

To accomplish the study objectives, mixed-model methodology was developed that included qualitative interviews and a quantitative survey. Individual interviews were conducted with state child nutrition (CN) program directors ($n = 14$) and district-level SNP directors ($n = 25$) in 14 states (two states in each of the seven USDA food-distribution regions), followed by a national survey of district SNP directors. The individual interviews with state directors and district-level SNP directors explored a range of activities related to POS systems and certification practices in school districts. A comprehensive data collection instrument was developed, reviewed by a panel of experts, and pilot tested. It was then sent out to a stratified random sample of 1,500 district SNP directors (Dillman, Smyth, & Christian, 2014). The sample was stratified based on the number of NSLP participants in each of the 14 states. The target was to obtain 300 surveys (20% response rate) with data usable for analyses. To increase the participation of small districts where online survey access may not be available or convenient, 500 paper-based questionnaires were sent to the smallest districts in the sample. Descriptive

statistics, cross-tabulation with chi-square analyses, independent sample t-tests, and analysis of variance (ANOVA) were calculated using SPSS. The statistical significance was set at $p < 0.05$.

A total of 319 SNP directors (21.3%) across all 14 states provided usable data. The distribution of the participants across the 14 states studied was very close to the NSLP participation profiles except for the Southeastern region, which was overrepresented (15.3% in the sample, 9.7% in the population), and the Southwest region, which was underrepresented (25.0% in the sample, 29.1% in the population).

Point-of-Service Systems in School Nutrition Programs: Types, Challenges, and Training

The majority of the participants ($n = 293$, 91.9%) used electronic POS systems. Some challenges the participants encountered included difficulty customizing reports ($n = 29$, 9.9%) and difficulty obtaining technical support when problems arose with software ($n = 15$, 5.1%). The availability of technical support ($n = 221$, 75.4%), ease of identifying students ($n = 209$, 71.3%), and ease of training ($n = 208$, 71.0%) affected CN professionals' selection of an electronic POS system. Of the CN professionals who used paper-based POS systems ($n = 43$, 13.5%), the majority reported that their school district was too small to invest in an electronic POS system ($n = 29$) or that they lacked funding for electronic POS systems ($n = 22$). The main challenges faced by users of paper-based POS systems were reporting accurate numbers of reimbursable meals ($n = 28$), time lag in data processing ($n = 27$), and handling of confidential information ($n = 20$). The CN professionals perceived that the individuals who operate electronic POS systems should have good customer service skills ($n = 187$, 58.6%) and computer literacy ($n = 164$, 51.4%). The district directors ($n = 158$, 49.5%) or the POS system providers ($n = 123$, 38.6%) provided POS training when staff were newly assigned as cashiers ($n = 225$, 70.5%) or at

the beginning of each academic year ($n = 166$, 52.0%). On-the-job training was widely used but usually lasted less than two hours per session.

Free and Reduced-Price Meal Application and Income Verification Practices in

School Nutrition Programs in the United States

The majority of the districts ($n = 175$, 54.9%) accepted only paper-based F-RP meal applications; 106 (33.2%) accepted both paper-based and online applications, and 13 (4.1%) accepted online applications only. A variety of staff processed the applications, but district directors (63.6%), directors' assistants (44.2%), or bookkeepers (41.4%) processed the majority of applications. Some SNPs hired temporary employees ($n = 23$, 7.2%) or had cafeteria managers within the school ($n = 65$, 20.4%) process applications. To verify household income, directors selected 3% of applicants using electronic POS systems (71.5%) or Error Prone software (7.2%). The majority (89.1%) of the participants accepted pay stubs as acceptable documentation for income verification, and 83.1% accepted two or more forms of documentation for income verification. Although the majority (65.9%) of participants reported the current verification process was adequate when determining eligibility, 31 (9.7%) participants indicated the verification process was inadequate because parents might omit some of the income documentation ($n = 22$), the parents' response rate was low ($n = 6$), the verification process was too cumbersome ($n = 5$), or the 3% random checking was insufficient ($n = 5$).

This research identified a variety of aspects of POS system use and F-RP meal application and verification processes in the U.S. The sequence of the information flow and the challenges that CN professionals experienced with POS systems and F-RP meal application processes were identified. To overcome challenges, POS system providers may need to offer routine training and technical support to CN professionals. In addition, to improve the accuracy

of data reporting for paper-based POS systems, CN professionals in small districts may need to understand the workflow and identify ways to streamline the reporting processes. Results also revealed that the application and verification processes take significant time, number of personnel, and effort. Using more stringent application processes or alternate sources such as SNAP award letters may reduce CN professionals' resource needs. In addition, CN professionals may need to consider accepting documents on which it is hard to omit a source of income when applying for F-RP meals.