

Operating School Meal Programs in Rural Districts: Challenges and Solutions

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ABSTRACT

Purpose/Objectives

The goal of this study was to explore unique issues that rural school nutrition professionals face in operating successful school meal programs, and their strategies for overcoming those barriers.

Methods

This study was conducted through 10 key informant interviews and three focus groups with rural school nutrition practitioners, researchers, and other stakeholders. Interview and focus group participants were asked about challenges, existing effective practices, and future needs for rural school meal programs. The interview and focus group data were analyzed by thematic coding.

Results

Perceived key challenges specific to rural schools were limited administrative capacity, hiring and retaining qualified staff, physical infrastructure limitations, accommodating students with long travel times to school, and limited food supply purchasing options. Perceived existing practices considered effective included purchasing cooperatives, peer support, community collaboration, inventive serving strategies, and training and technical assistance.

Applications to Child Nutrition Professionals

Our research identified consensus on effective practices that can address challenges to operating successful meal programs in rural school districts. Practices that could be adapted by other rural school meal programs include joining purchasing cooperatives, accessing peer network support, increased staff training and technical assistance, inventive food delivery strategies, obtaining additional funds for equipment through catering and other means, and flexible meal schedules.

Keywords: rural child health, rural school health, nutrition requirements

INTRODUCTION

Over half of public school districts in the United States are in rural areas, educating nearly 20 percent of students (Johnson, Mitchel, & Rotherham, 2014). Such districts face unique constraints in operating school meal programs, but there is a lack of research on operational challenges. There are distinctive differences between rural school districts and their urban and suburban counterparts in terms of their larger size (based on land area), reduced racial diversity, and lower socioeconomic status (Johnson et al., 2014).

Administrative capacity is limited in rural districts, with the superintendent often being the only administrator and performing a variety of essential duties (Copeland, 2013). Rural districts at all levels of operations experience a chronic need for more highly qualified staff, better training, and

improved compensation (Lamkin, 2006). Additionally, rural districts are more likely to experience infrastructure challenges affecting school meal operations including high transportation costs, poor internet connections, limited technology training, and additional equipment requirements (Cornish, Askelson, & Golembiewski, 2015; Johnson et al., 2014).

Rural districts often face resource constraints and restrictions for use of funds (Yettik, Baker, Wickersham, & Hupfeld, 2014), while per student meal costs tend to be higher as economies of scale are more difficult to achieve. The federal Title I formula, weighted based on the number of students and state spending levels, can result in less funding for rural districts (Johnson et al., 2014). It is plausible to imagine that the lack of administrative capacity is an obstacle to applying for additional funding (e.g., competitive grants).

This study looks at challenges and practical solutions unique to operating school meal programs in rural districts.

METHODS

Instruments

This study collected data from key informant interviews and focus groups using semi-structured instruments developed by the researchers (available upon request). Questions were developed from a literature review and focused on the current status of school meal programs, challenges faced by rural school districts, solutions adopted, and future needs. The interview and focus group guides included open-ended questions and probes to capture additional detail. The data collection processes were iterative, in that interview and focus group probes were revised as new findings emerged.

Sample

Definitions. The authors used the National Center for Education Statistics' (NCES) definition of "rural" for this study (ED/IES/NCES 2015). The NCES assigns each district to one of four categories. The NCES rural category includes three subcategories: fringe, distant, and remote.

Interviews. The interview recruitment process was iterative with two groups of participants for recruitment, an initial and a backup group. Individuals in these groups comprised academics (including a doctoral graduate) selected for research expertise in the field, and identified via the literature review, and rural school nutrition directors, recruited from professional networks and participation in state School Nutrition Associations (SNA). Email invitations sent to five school nutrition directors and five academics in the initial group resulted in four directors and three academics participating. Email invitations sent to the backup group secured participation from a director, academic, and doctoral graduate. The final interview sample included four academics and the doctoral graduate from four different institutions, and five rural school nutrition directors from a variety of ten states.

Focus Groups. The focus groups included rural school food service practitioners, and were conducted in three states: one in the Midwest (East North Central) region, and two in the South (West South Central) regions. In two states, the locations were chosen to coincide with SNA meetings. In one state, we identified 20 districts planning to attend the meeting, and individuals from three agreed to participate after receiving an email invitation. In the other state, we lacked information on the districts participating in the meeting, but emailed invitations to 47 districts considered rural and in proximity to the meeting. Of these, individuals from five districts participated. In the third state, the state agency assisted with recruitment. Participants represented

13 School Food Authorities (SFA), which are the local administrative units that operate NSLP and/or SBP for one or more school districts; see Table 1. The largest district had 5,714 students, and 9 of 13 districts had fewer than 2,500 students.

This diversity in the backgrounds and locations of interview and focus group participants allowed for multi-dimensional perspectives. All participants received a verbal description of the study and instructions, and their consent was sought and obtained prior to participating.

Table 1. Characteristics of Focus Group Participants (N = 15)

SFA Characteristics	Number of SFAs
Size of school district	
Fewer than 2,500 students	9
At least 2,500 students but fewer than 5,800 students	4
NCES Locale^a	
Rural^b	
Fringe	1
Distant	2
Remote	1
Town^c	
Fringe	1
Distant	5
Remote	3
Students eligible for free/reduced-price meals	
Less than 50%	4
50% or higher	9
Management Type	
Food Service Management Company	1
Self-operated	12
Participant's Position	
Nutrition Service Director	11
Cafeteria Manager	3
Assistant Manager	1

There were 15 participants in total representing 13 school districts. There were two representatives who participated for two of the school districts.

^aSource: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Common Core of Data (CCD) Public School District Data for the 2015-2016, 2016-2017 school years. Accessed at: <https://nces.ed.gov/ccd/districtsearch/index.asp>.

^bRural definitions: Fringe: up to five miles from an urbanized area and up to 2.5 miles from an urban cluster; distant: over five miles but up to 25 miles from an urbanized area, and over 2.5 miles but up to 10 miles from an urban cluster; remote: over 25 miles from an urbanized area and over 10 miles from an urban cluster. (ED/IES/NCES 2015).

^cIn 7 of these districts, at least one school was located in a rural locale. Additionally, the majority of these districts technically meet the USDA rural designation.

Data Collection

The researchers conducted one-hour telephone interviews and on average one-and-a-half hour focus groups. Teams of two conducted each interview and focus group. One research team

member took extensive notes and recorded the session. The interviews and focus groups were conducted from May 2016 – July 2016.

Data Analysis

After completing the 10 interviews and three focus groups, the team reviewed all notes. As necessary, notes taken by the interviewer/facilitator and the note-taker were cross-checked to ensure accuracy and completeness. If any deviations or areas of uncertainty emerged, the team referenced the audio recordings. Interview and focus group data were analyzed using Microsoft Excel (2013) and NVivo (2014) software, respectively. Standard comparative analysis methods were used to draw out common themes and identify differences and areas of divergence (Gibbs, 2007; Miles, Huberman, & Saldana, 2014). After coding the notes into broad themes, staff members reviewed the notes within those themes and identified additional themes for sub-coding (Krueger & Casey, 2015; Gibbs, 2007; Miles et al., 2014, Bazeley & Jackson, 2013).

RESULTS AND DISCUSSION

A consensus about perceived challenges unique to rural school districts emerged from the discussions. Further, focus group participants and interviewed individuals, especially researchers who had engaged in school nutrition interventions, reported that rural school districts were already implementing a variety of practical solutions to overcome challenges.

Challenges and Practical Solutions

Administrative capacity constraints. A common challenge identified in rural school districts was the limited number of staff to handle purchasing, invoicing, creating menus, and accounting. In many cases, one staff member managed all of these administrative and food preparation tasks. Other related challenges included the limited ability to train staff and lack of funds for temporary personnel to allow staff to attend conferences. In some cases, school nutrition managers directed programs across multiple rural school districts, while other districts did not have a dedicated food service director. This challenge of administrative capacity constraints was mentioned more frequently by smaller school districts with less than 2,500 students, than by their larger counterparts.

Suggested practical solutions included peer support, external assistance, and technology. Peer networks provide an important source of guidance for rural school nutrition directors and managers. A few examples were listservs, one-on-one calls, and email lists to communicate with peers. Key benefits of a peer network included knowledge exchange (e.g., sharing recipes, strategies to increase student participation, advice implementing salad bars), reduced sense of professional isolation, and strategy development for working with administrators and non-school nutrition staff.

Reported external assistance included resources and technical assistance from state agencies. Rural school nutrition managers also reported collaborating with external paid or volunteer consultants such as registered dietitians, dietetic interns and chefs, to improve menu quality and staff training. Some districts obtained assistance through local universities, partnerships with restaurants, and customer support from food service management companies.

Technology can help alleviate administrative burden for rural school nutrition directors. One state agency provides free nutrition analysis software for all school districts which facilitates creating and changing menus. One rural school district used electronic monitoring software

connected to the freezers and refrigerators to alert staff if the temperatures change, allowing for greater efficiency with a small staff.

Hiring and retaining qualified staff. Budget constraints and limited labor pool options impeded hiring nutrition managers and staff in rural school districts. Most school food service positions are low-paying, part-time positions often without benefits. School nutrition directors reported facing competition to retain current employees when a large employer moves into the community and offers more hours and benefits. Public transportation options are typically limited in rural areas deterring potential employees who do not have reliable, personal transportation.

Practical solutions included raising awareness of school nutrition programs, and increasing staff training opportunities. One reported strategy to help with recruiting qualified staff was to promote rural school nutrition careers and change the way community members see school nutrition programs and professionals. In one rural school district, dietetic students from a state university interned in the district to receive hands-on training. In another, students in the high school home economics class created sample menus, conducted nutrition analyses and had their meals served in the cafeteria. School nutrition directors shared that increasing salaries and providing health insurance benefits helped attract qualified candidates. They also emphasized the job appeal of a predictable schedule and time off for weekends, holidays, and during the summer. Providing training opportunities for staff in rural school districts was another way to promote staff retention and improve program quality.

Accommodating dispersed student populations. Participants reported that long bus rides of up to two hours each way limited the school day and the time available for students to eat school meals and snacks, creating challenges to rural student participation, especially for school breakfasts. Bus schedules impacted flexibility for lunch since rural students often needed to get on the bus immediately after school and participated in extracurricular activities during the lunch period.

Practical solutions included flexible schedules and inventive food delivery strategies. For example, one rural school nutrition director implemented an open breakfast policy allowing students to eat at any school in the district, meaning that older students could eat with a mentee at an elementary school and younger students could eat with an older sibling at the high school. Another school district implemented a “power hour” for all high school students to eat lunch while participating in academic enrichment activities. School nutrition managers described strategies to increase breakfast participation for rural students with long bus rides such as “breakfast after the bell”, serving breakfast in the classroom, and distributing “grab-and-go” breakfast meals.

Food and supply purchasing options. Rural school districts are typically more remote and have lower enrollments. Respondents reported experiencing difficulty identifying food vendors to provide desirable delivery schedules, competitive prices, and high-quality food. These school districts typically had limited storage capacity and needed smaller quantities of perishable items than larger, urban school districts.

Suggested practical solutions for rural school districts with limited access to high-quality and competitively priced fresh foods included the following: purchasing cooperatives and collaboration. School nutrition programs were frequently able to obtain better prices, service, and delivery through a purchasing cooperative. Cooperative purchasing groups could include neighboring school districts, or be regional or statewide. In some cases, the purchasing

cooperatives were started by the individuals in the interviews and focus groups. In other cases, the purchasing cooperatives were started by SNA chapters and states. One rural food service manager partnered with a nearby nursing home to reduce food and supplies expenses.

Physical infrastructure limitations. Additional demand for scratch cooking to meet nutrition standards and serve appealing food to students caused rural school nutrition managers to struggle to adequately equip modern food service kitchens. Possible practical solutions included financial support and community collaboration. USDA equipment assistance grants helped schools update kitchen equipment. Local community nutrition and health resources, and local school wellness committees helped rural districts forge connections with community organizations. Several districts reported working successfully with local hospitals and other large food service establishments for infrastructure support. One in particular provided catering services and used the revenue to fund kitchen equipment upgrades.

Table 2. *Quotes Received from Interview and Focus Group Participants about Challenges*

Challenge	Quote	Respondent Region^a	Source
Capacity constraints	It's one-stop shopping, everything is done out of my office. All the accounting, payroll, menus, everything ... There's no one else in the corporation [school district] that handles anything for the cafeteria.	Midwest (East North Central)	Focus group
Hiring and retaining qualified staff	In small towns the labor pool is not very great. There aren't a lot of people who are interested in working in school lunch programs. It is hard and demanding work, and it rarely comes with [health insurance and other] benefits.	Midwest (West North Central)	Key informant interview
Physical location limitations related to infrastructure, vendors, and dispersed student populations	The majority of our food is being trucked in to us. In a rural setting it's very hard to get those semis to come in more than once a week ... Some schools only get a delivery once a month ... That is my biggest challenge, holding that product and keeping it fresh for seven days.	West (Mountain)	Key informant interview

^aCensus Regions and Divisions of the United States. U.S. Census Bureau, U.S. Department of Commerce. Accessed at: https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

Table 3. *Quotes Received from Interview and Focus Group Participants about Existing Effective Practices*

Existing Effective Practice	Quote	Respondent Region^a	Source
Purchasing cooperatives	I just joined a coop and it's been a great thing. The vendor before we went to the coop was very uncooperative in meeting our specifications. They'd send us what they'd want, if they decided to send it. ... Next year with the meal price, it is just amazing – my milk [price] is going down 8 cents per carton.	South (West South Central)	Focus group
Peer support and community collaboration	Before you make a big decision, say, you want to do breakfast in the classroom, you can send out an email and ask people how they implemented breakfast in the classroom ... so you can get feedback before doing it blindly.	South (West South Central)	Focus group
Inventive serving strategies and structural changes	They think it's better because they can do it themselves at the salad bar with the little shakers... The elementary kids were hollering for more seasoning. They loved it as much as the big kids.	South (West South Central)	Focus group
	The breakfast after the bell program is a very successful program. We feed almost 100% of our elementary and intermediate students breakfast every day... Once we implemented that program... the nurses said that they hardly had anyone come in the morning and when they do they truly aren't feeling well.	West (Mountain)	Key informant interview
Participation in federal, state, and regional training and technical assistance.	I took my staff to the conference... It's good to see them test the foods, different products, and get training because they're the ones who get to see what the kids are eating, what they're not, what they like.	South (West South Central)	Focus group

^aCensus Regions and Divisions of the United States. U.S. Census Bureau, U.S. Department of Commerce. Accessed at: https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

Discussion

Identified rural school challenges including limited administrative capacity, difficulty hiring and retaining qualified staff, physical infrastructure limitations, accommodating students with long travel times to school, and limited food supply purchasing options are consistent with other similar studies. Our findings on practical solutions such as joining purchasing cooperatives, accessing peer network support, increased staff training and technical assistance, inventive food delivery strategies, obtaining additional funds for equipment through catering and other means, and using flexible meal schedules are also comparable to related literature. For example, Cornish et al. (2015) also identified challenges with adequate staffing, skills, equipment, vendors, networking opportunities, and funding. A study involving focus groups with rural superintendents in New York, Pennsylvania, and Tennessee identified staffing and capacity constraint barriers in rural schools where staff handled multiple facets of programs (Lamkin, 2006).

Previous studies found peer support to be important for successful school meal programs (Cornish et al., 2015). While there is limited literature on cooperative purchasing for school nutrition programs for rural districts, the Institute of Child Nutrition released a resource manual in 2015 on the same (ICN, 2015). This study adds to the literature by identifying the importance of training and technical assistance, and additional resources and policies to sustain successful school meal operations.

Some challenges and practical solutions that emerged from this study overlap with urban districts' experiences identified in the literature. Overlapping challenges include: managing food costs and revenue (Asada, Ziemann, & Chriqui, 2015; Cohen, Gorski, Hoffman, Rosenfeld, Chaffee, et al., 2016), staff training and acceptance of revised meal standards, and initial student resistance and food waste but increased acceptance over time (Johnston, O'Malley, Terry-McElrath, Colabianchi, 2015; Asada et al., 2015; Turner & Chaloupka, 2014). Practical solutions also identified in urban districts include using the Department of Defense Fresh Fruit and Vegetable Program to offset costs for fruit and vegetables (USGAO 2015). Other solutions were using taste testing (Bellows, Conlon, Cunningham-Sabo, & Johnson, 2015), salad bars (Slusser, Cumberland, Browdy, Lange, & Newmann, 2007; Harris, et al., 2012), and improved cafeteria and dining areas (Asada et al., 2015) to gain student acceptance and increase participation in meal programs.

The generalizability of findings is the main limitation of this study. While participants were selected to be as representative as possible in terms of geographic diversity, the generalizability of the study findings to other areas and/or a larger population is limited. But this is a constraint with all qualitative research. Additionally, some of the focus group participants were also participating in SNA meetings, which could have been a source of bias if these participants were more engaged professionally.

Self-reported data from interviews and focus groups can contain potential sources of bias, for example, from recall error and social desirability. The researchers adopted several strategies to mitigate these biases including providing the discussion topics ahead of time so that participants could reflect on their possible answers and review any needed information, asking open-ended questions that avoided signaling desired responses, and allowing enough time in data collection so that participants would not feel rushed or pressured.

CONCLUSIONS AND APPLICATION

The findings from this study suggest that while many rural school districts face challenges operating successful school meal programs, many have already developed effective practices which can be replicated more broadly, with additional state and federal support. Further research can help fill knowledge gaps, track changes, and continue to analyze rural versus urban differences. For example, additional research could explore the key drivers of public perceptions to increase support for rural school nutrition programs, and raise the profile of rural school nutrition programs with school and district leaders.

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BIOGRAPHY

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