



EVALUATION OF COVID-19 SCHOOL MEALS RESPONSE: SPRING 2020

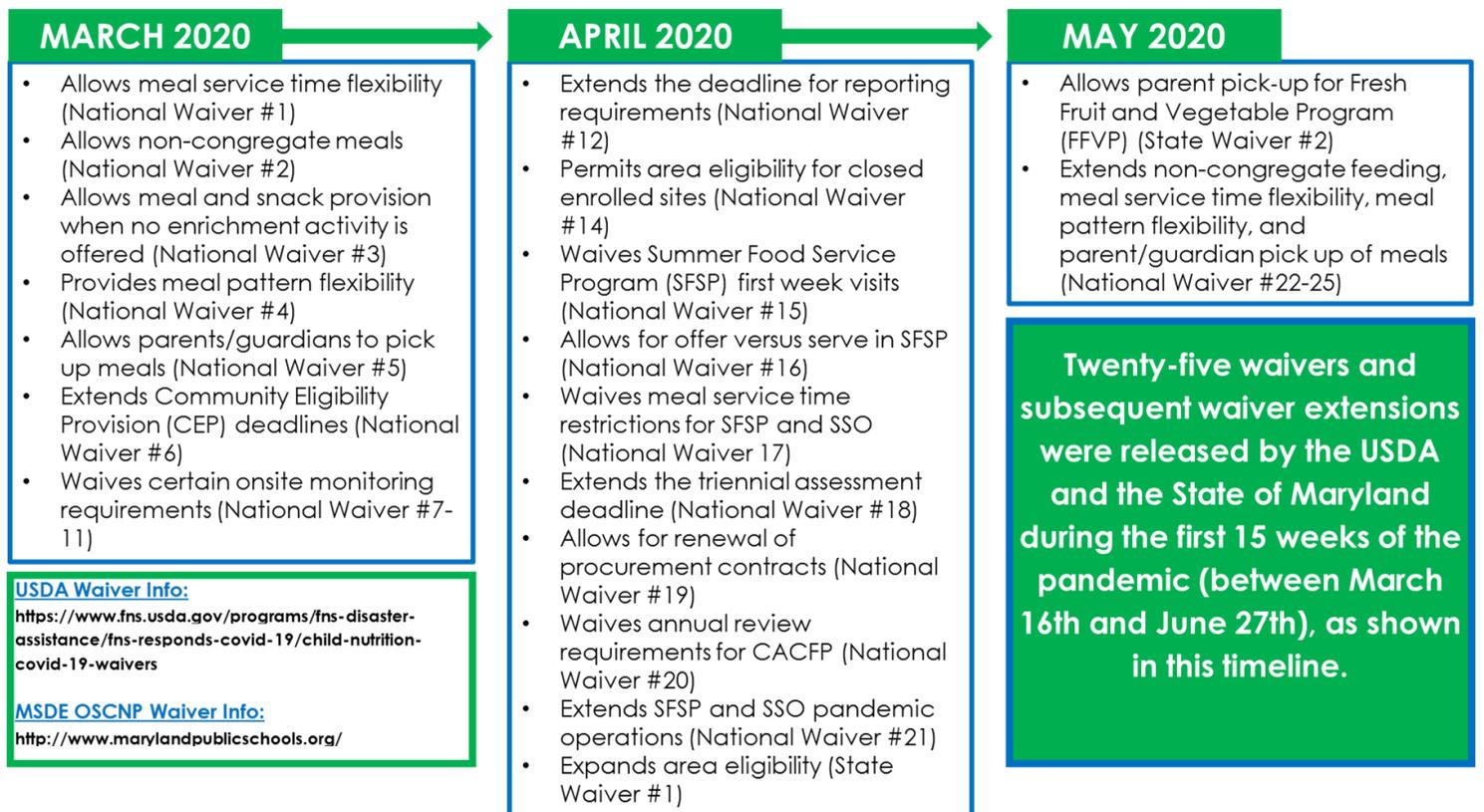
School closures during COVID-19 have increased the risk for food insecurity among children across the United States, including in Maryland. To support access to meals for children during school closures, the emergency Summer Food Service Program (SFSP) was initiated in lieu of traditional school meals programs, the National School Lunch Program (NSLP) and School Breakfast Program (SBP). Federal and State governments also issued several temporary waivers (described in the figure below) to enable flexibilities to existing policies to support the provision of these emergency meals.

The University of Maryland School of Medicine (UMSOM) worked with the Maryland State Department of Education (MSDE), Maryland School Systems (Local Education Agencies or LEAs), and Food Service leadership at three levels (State, LEA, and meal site) to evaluate meal provision during COVID-19-related school closures, in the Spring of 2020 (March 16th –June 27th). This evaluation uses the RE-AIM framework¹ (Reach, Effectiveness, Adoption, Implementation, and Maintenance) to investigate the following:

1. Examine the **reach** (number of free or reduced priced breakfast and lunch meals served before versus after spring 2020 COVID-19-related school closures) and **effectiveness** (number of total breakfast and lunch meals served before versus after school closures), and the role of federal waiver utilization and communication/meal distribution strategies associated with reach and effectiveness;
2. Describe **adoption** (via communication with families) and **implementation costs** of school meal service;
3. Understand public LEA and distribution site-level **implementation** processes for meal provision, including supportive factors and barriers; and,
4. Understand strategies for **maintenance** of meal service (following Spring 2020 school closures).

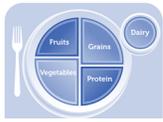
Throughout the report, we describe evaluation results and key NEXT STEPS for research, policy, and implementation.

FEDERAL & MARYLAND STATE COVID-19 RELIEF NUTRITION WAIVERS ISSUED BY MONTH



SECTION 1: DATA USED TO INFORM THIS REPORT

Throughout this report, the following icons will be used to identify the methods described below.



Number of Meals Served & Reimbursements

MSDE provided data reported by program operators on the number of meals served per site (total and free or reduced priced) by month from January 2019-June 2020, and financial reimbursements.



Maps

ArcGIS (spatial software) was used to map addresses for all sites that provided meals during COVID-19-related school closures (Spring 2020). We overlaid this with other maps on the population of school-aged children, area poverty, and school address (coupled with the number of children who previously received free or reduced price meals in each school).



Survey: Food Service Directors/Supervisors and Distribution Site Staff

An online survey was administered during the summer of 2020 to food service directors/supervisors and staff, with 102 individuals responding (22 Public LEAs + Non-Profit Private Agencies represented; 42 distribution site staff and 60 LEA-level directors or supervisors). The survey asked about the perceived impact of the USDA waivers, perceived revenue shortfall, pandemic-related feeding concerns, and difficulties serving meals during the pandemic.

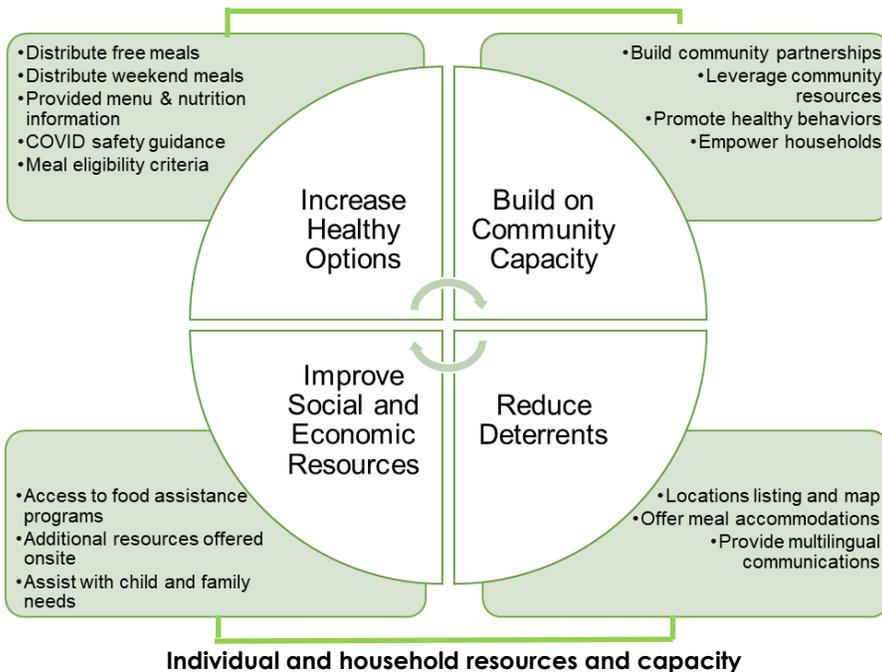


Key Informant Interviews

We interviewed a total of 19 food service directors/supervisors and state leaders at two time points to capture implementation processes, including supportive factors for and barriers to pandemic school meal implementation.

Getting to Equity Framework

Emergency school meals provision during COVID-19

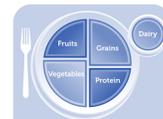


Coding Communication

Information from LEA websites and Facebook pages were documented at multiple time points in the Spring of 2020 to understand what information was shared with the community. The wording of the communications was evaluated using a rubric based on the Getting to Equity Framework (shown on the left), which describes core strategies to serve meals equitably, such that all children have access to school meals, particularly those at greatest risk for hunger or food insecurity.² This framework was adapted from the Getting to Equity framework for increasing equity impact in obesity prevention.³

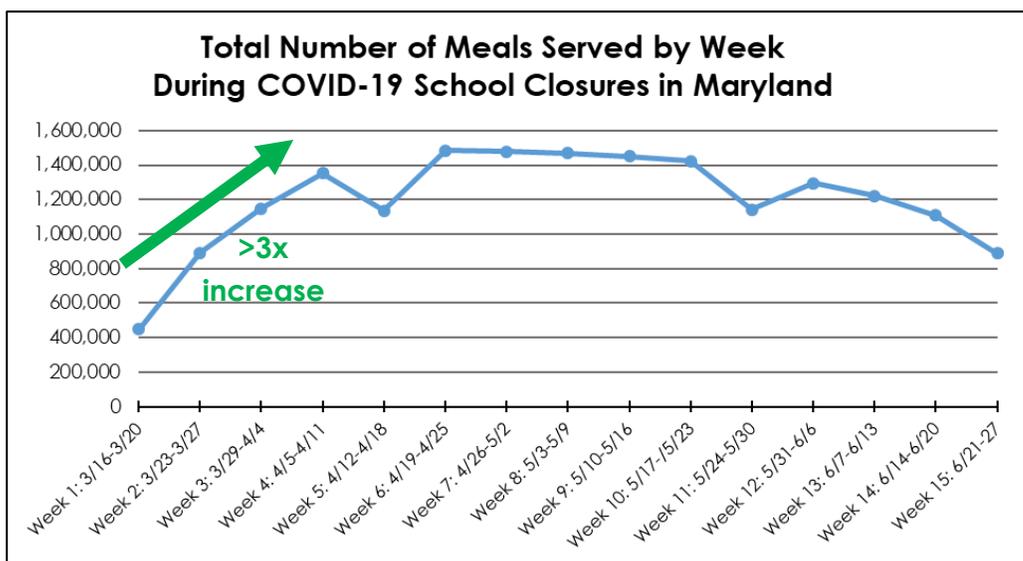
SECTION 2: REACH AND EFFECTIVENESS

TOTAL MEALS SERVED DURING COVID-19-RELATED SCHOOL CLOSURES



In Maryland, state-wide school closures were announced on Thursday, March 12th, with meal distribution to begin on Monday, March 16th. This left only one business day to prepare. MSDE worked together with the 24 public LEAs, non-profit private schools, and other traditional summer meal sites (churches, community organizations, summer camps, etc.) to develop plans that met COVID-19 social distancing guidelines, while also reaching children in greatest need of meals. The waivers described on page 1 allowed for many innovations in meal service, including:⁴

1. Where meals were offered: sites were chosen locally and could be modified or expanded to meet the needs of the community. Parents could pick up meals for their children and children did not need to eat the food on the premises.
2. How meals were offered: meals were distributed curbside; sites were allowed to provide breakfast, lunch, supper, and/or snacks at once, and many sites offered more than one day's worth of meals at one time.
3. To whom meals were offered: meal access was expanded beyond school-aged children to any child ages 0-18 years.



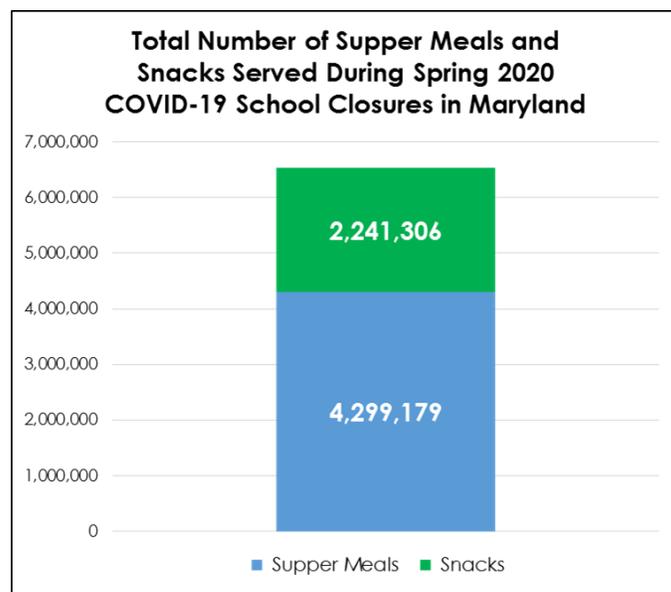
The graph to the left shows a dramatic increase in the number of meals served within the first 4 weeks of COVID-19-related school closures. This includes breakfast, lunch, supper, and snacks. The dip in week 5 was due to limited service in some LEAs during spring break. **By Week 4, Maryland served over 3 times the number of meals served in Week 1.** This number was maintained from Week 6 through 10, with a slight decline at the end of the school year.

During the first 15 weeks of school closures (March 16th-June 27th), 17,933,659 meals were served to youth in Maryland.

SUPPER AND SNACKS SERVED DURING COVID-19-RELATED SCHOOL CLOSURES

In addition to breakfast and lunch, many sites also served Supper and Snacks during the Spring 2020 COVID-19 school closures. **In total, over 6.5 million suppers and snacks were served** during this period. Prior to the school closures, few Maryland public LEAs participated in the Supper or Snack programs.

NEXT STEPS: Examine if Supper and Snack program participation is sustained post COVID-19.



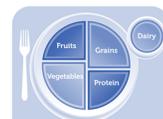
SECTION 2: REACH AND EFFECTIVENESS (CONTINUED)

LUNCH AND BREAKFAST MEALS: BEFORE VERSUS DURING COVID-19-RELATED SCHOOL CLOSURES

To understand the reach and effectiveness of school meal programs during Spring 2020 COVID-19-related school closures, we used the following definitions to conduct the analysis:

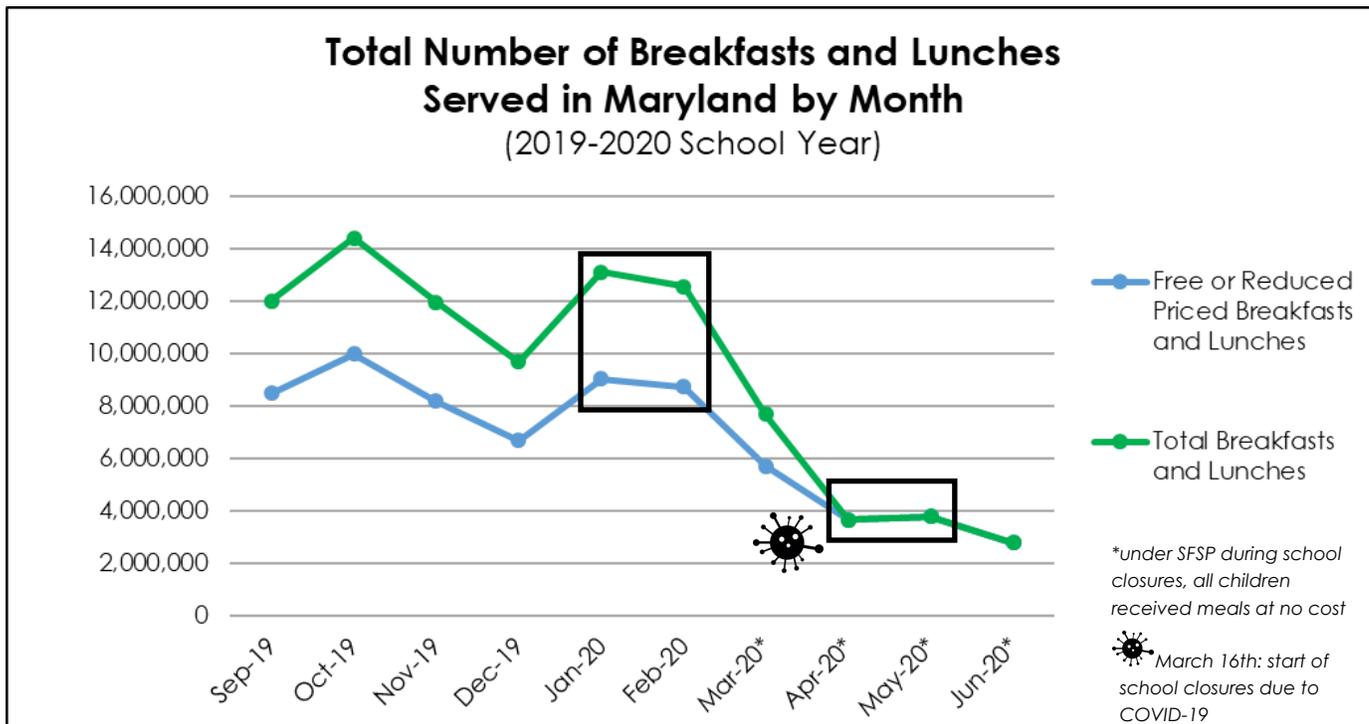
- **Meals** = We included breakfast and lunch meals only because nearly all sites served breakfast and lunch both during the school year and during school closures, yet supper and snack participation varied by LEA and /or site.
- **Comparison Timeframe** = We compared meals served in April and May to meals served in January and February for school year 2020. These were chosen since they were full month periods, in close proximity. We conducted the same analysis using April and May of the prior school year (2019) with nearly identical results.
- **Reach** = We defined percent reach as the number of meals served during school closures (April and May) divided by the number of free or reduced priced meals served in January and February, when schools were open.
- **Effectiveness** = We defined percent effectiveness as the number of meals served during school closures (April and May) over the total number of meals served in January and February, when schools were open.

The graph below shows a decline both in overall meals and in free or reduced priced meals served in April and May 2020, compared to January and February 2020. There was a **71% decrease in the total number of breakfast and lunch meals served and a 58% decrease in the number of free or reduced priced breakfast and lunch meals served in Maryland.** While it is important to



note that some children also received suppers and snacks during this time; however, these data demonstrate that, despite heroic efforts of food service staff and leadership, barriers existed to reaching children, including those who previously relied on free or reduced price meals. Barriers at the level of food service are explored in this report. Our calculations may be an underestimate, given that, during closures, meals were also available to non-school-aged groups, including very young children and young adults with disabilities; however, these data are not available.

NEXT STEP: To gain a more complete understanding of declines in meals service, additional information on student- and family-level barriers to meal access should be investigated.



SECTION 2: REACH AND EFFECTIVENESS (CONTINUED)

IMPACT OF USDA AND STATE WAIVERS

Perceived Impact

Food Service directors and supervisors perceived that the following waivers had a “significant positive impact” on meal service (ranked as top 3 waivers to have a significant positive impact):



1. Allow Non-congregate Feeding (and waiver extension; National Waivers #2 & 22): **92% endorsed**
2. Expand Area Eligibility (State Waiver): **86% endorsed**
3. Allow meal service time flexibility (National Waiver #1): **85% endorsed**

“What impact did the USDA and State waivers have on your programs during COVID-19?”

“The area eligibility was the huge one... The area eligibility really helped us, in that we could serve anywhere in the county, and be reimbursed for those meals... The working families needed help... Those people come through and they would just thank our staff left and right. The area **eligibility waiver probably had the biggest impact on us being able to reach more people.**” ~Supervisor, Public LEA

“One week later, we added nine additional schools because of the area eligibility.” ~Supervisor, Public LEA

“From the non-congregate meals to the not checking of meal status, serving multiple meals at the same time, the meal time flexibilities... **really made our program a lot easier to manage.**” ~Director, Public LEA

Feedback on the waiver implementation process:

To implement these waivers, flexibility was key. Food service directors and staff expressed needing to adapt quickly as waivers were constantly released and implemented. In the future, a more “blanket approach” to approve all waivers simultaneously and for everyone is recommended.

“With the waivers changing, you had to be super flexible..” ~Supervisor, Public LEA

“...the way to make it better for us, if this happens again, is for MSDE, and USDA to meet immediately. Figure out what waivers they want to change and communicate that immediately, and not make the counties go back and request a waiver. Just say, “You know what? **We’re going to blanket the state.**” ~Supervisor, Public LEA



USDA waivers were issued and implemented quickly as the pandemic began. Those working directly with meal programs perceived that these waivers were essential to successfully feeding children during the pandemic.



NEXT STEP: A broader examination of which waivers were key to increasing reach, as waivers are continued or discontinued nationally, will be essential to understanding approaches to effectively feed children during school closures (anticipated or unanticipated).

SECTION 2: REACH AND EFFECTIVENESS (CONTINUED)

Which meal site locations served the most children during COVID-19 school closures?

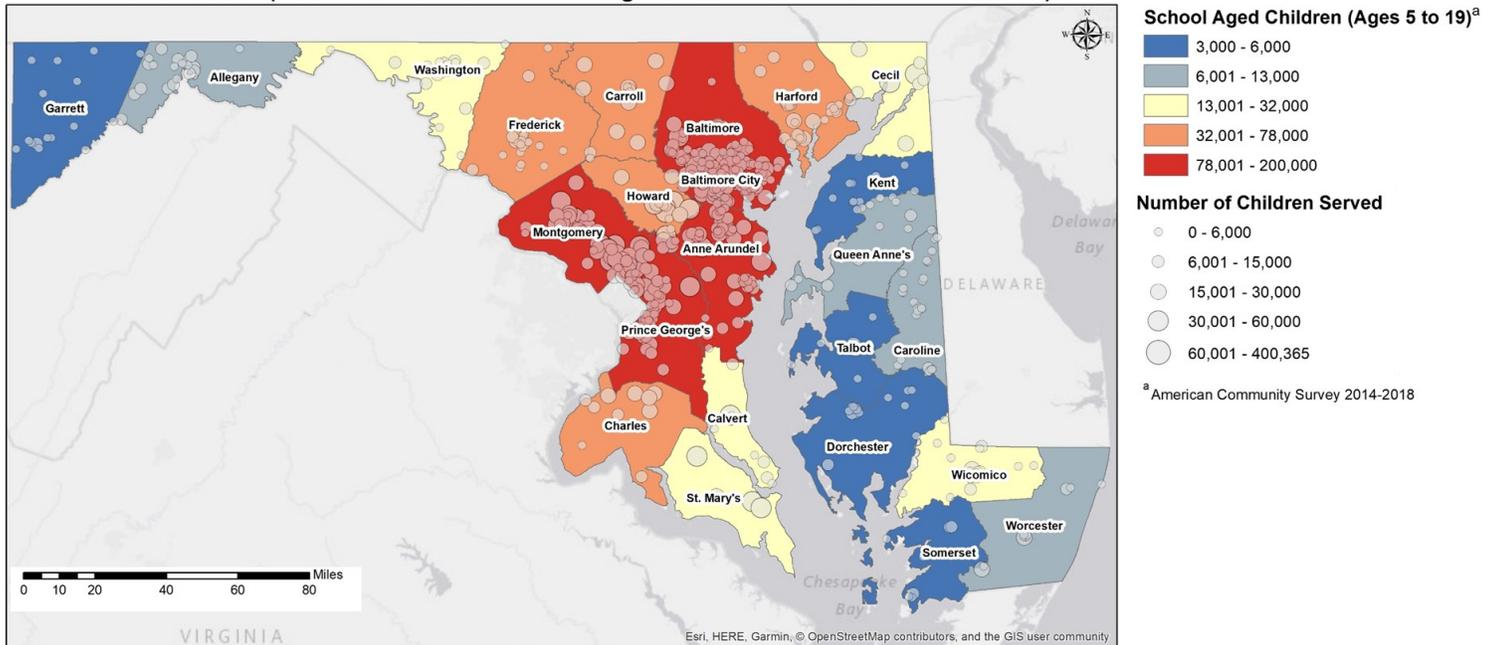


Different sized bubbles for each meal site (n=656) show the total number of LUNCHES served from March 16th-June 30th, an indicator of the number of children served. The maps below show the bubbles by population of school-aged children within each public LEA or census tract.⁵

In Maryland, every county is a public Local Education Agency (LEA). The map below shows the borders for the 24 Maryland counties/public LEAs overlaid with the population of children ages 5-18 based on census data.⁵ Some public LEAs are densely populated whereas some are sparsely populated with school-aged children.

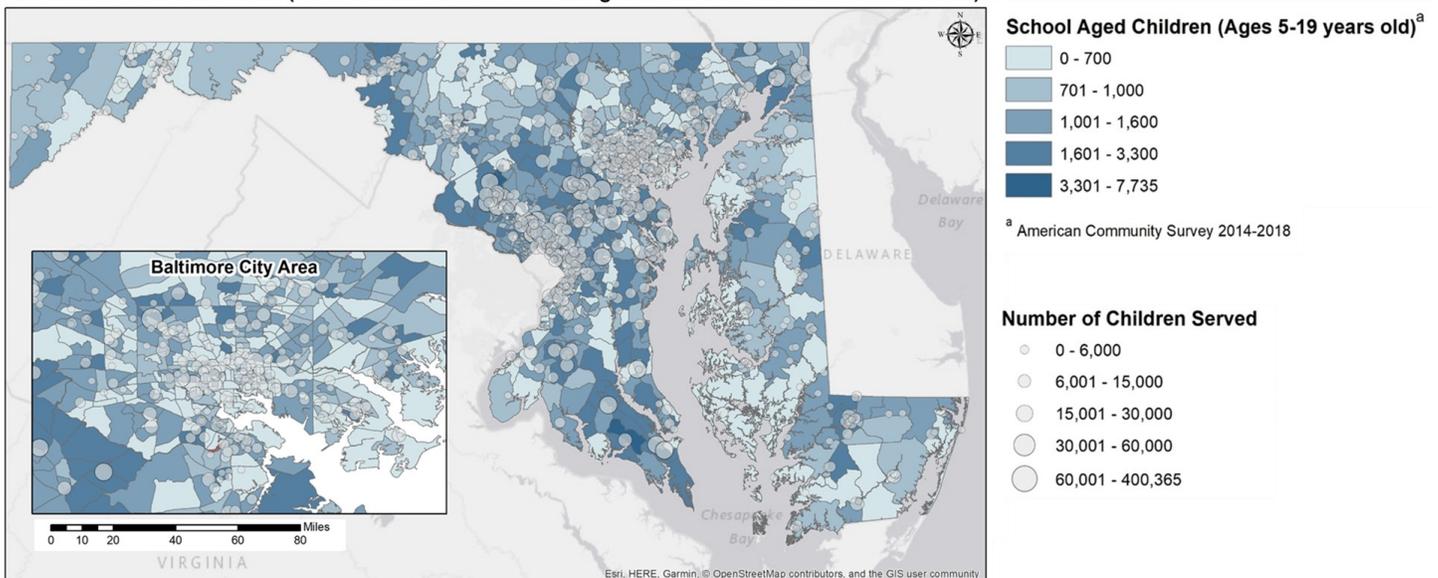
This map also shows variability in the number of children served lunches, by site, throughout the state from March 16-June 30th. Some sites also provided breakfast, snack, and/or supper.

Maryland Public Local Education Agency (LEA) boundaries with number of children served (based on lunches served during school closures March 16-June 30th)



The map below demonstrates the number of children served at each meal site by the population of school aged children at the census tract-level. Through a spatial analysis, **higher population density was associated with greater number of meals served.**

Number of Children Served (based on lunches served during school closures March 16-June 30th)



SECTION 2: REACH AND EFFECTIVENESS (CONTINUED)

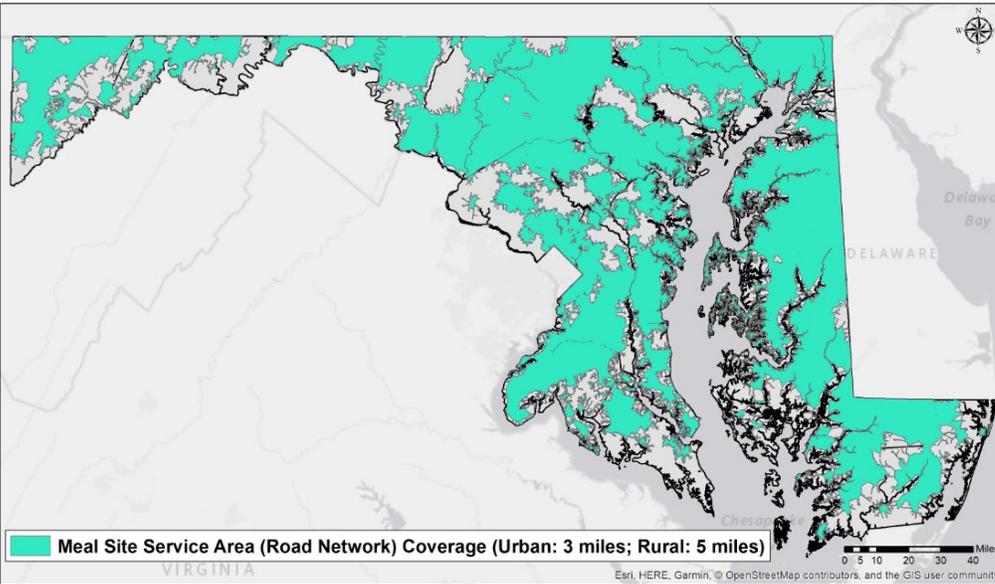


Were the meal sites located in areas of greatest need?

We mapped the point location (address) of all sites that provided meals during school closures (n=656). Then, using data from the 2018-2019 school year, we mapped the point location of each school (n=1420) along with the number of students eligible for free or reduced priced meals within each school. Finally, we added area locale (Urban or Rural⁶).

By merging all of these data spatially, we were able to examine:

1. The % of Maryland public schools located in the catchment area of the pandemic meal sites (1 or 3 miles for urban sites and 5 or 10 miles for rural sites).
2. The % of students eligible for free or reduced price meals who attend school in the catchment area of the pandemic meal sites (1 or 3 miles for urban sites and 5 or 10 miles for rural sites).



The map to the left indicates the meal service catchment areas for 3 miles (urban) and 5 miles (rural).

	% of Maryland Public Schools in Meal Site Catchment Area				% Students Eligible for Free or Reduced Priced Meals who Attend School in the Meal Site Catchment Area			
	1 mile	3 miles	5 miles	10 miles	1 mile	3 miles	5 miles	10 miles
Urban	53%	86%	—	—	66%	94%	—	—
Rural	—	—	68%	89%	—	—	70%	92%

As shown in the table above, over half of Maryland schools (53% and 68%) were located within the more proximal urban or rural catchment area of 1 or 5 miles, respectively, with nearly all schools included in the extended urban or rural catchment area of 3 and 10 miles, respectively (86% and 89%). Similarly, over half of students who were eligible for free or reduced priced meals attended a school located within more proximal catchment areas in both urban and rural communities (66% and 70%), with nearly all children who received free or reduced price meals attending a school located within 3 or 10 miles in urban and rural communities, respectively (94% and 92%).

The maps demonstrate that Maryland food service leadership and collaborating community meal site directors chose meal site locations in areas of highest need, based on population and free or reduced price meal participation.

NEXT STEP: Examine the impact of efforts to feed children in more sparsely populated areas, including pandemic-EBT and other community efforts.

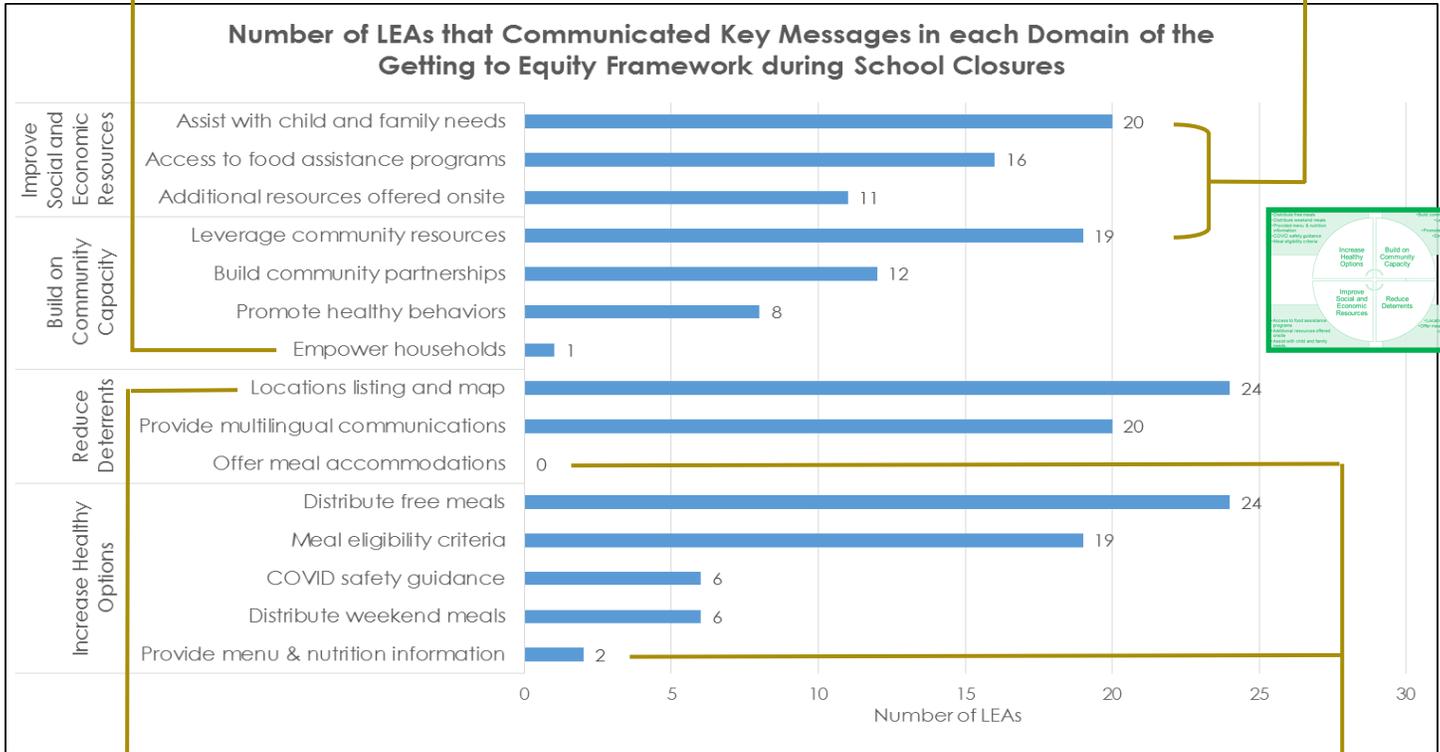
SECTION 3: ADOPTION

COMMUNICATING MEAL SITE INFORMATION TO FAMILIES EQUITABLY

Information was collected from LEA websites and Facebook pages and documented over time to understand communication with the community in the Spring of 2020.

One LEA empowered households by asking for feedback and suggestions and asking the community to spread the word.

A majority of LEAs provided additional assistance to families in need (20/24), with 11/24 offering resources onsite.

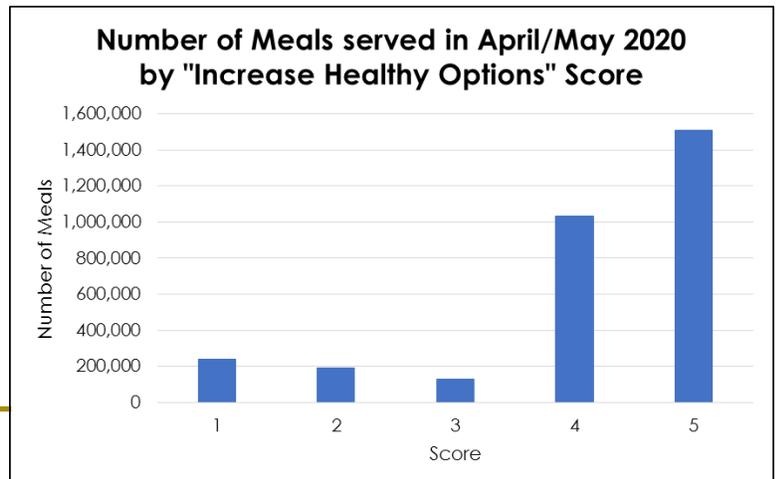


LEAs provided updated grab and go site location information, with some (6/24) LEAs providing food distribution maps.

Meal accommodation information was not provided by any LEA, while only 2 LEAs provided meal menu and meal nutrition information. The absence of this information could have deterred people with restricted diets from participating.

Relationship between Communication Strategies (“Adoption”) and Meal Service Reach: For the four Getting to Equity categories (Increase Healthy Options, Reduce Deterrents, Build on Community Capacity, and Improve Social and Economic Resources), we calculated a sum score for each public LEA, composed of the items shown in the figure above. We examined whether scores in each category were associated with Reach (defined on page 4). We found that, **each additional item related to “Increasing Healthy Options” (score range: 1-5) adopted by the LEA through communication strategies was associated with an increase of 174,568 meals served during the Spring 2020 school closures (in April/May)**, controlling for the number of free or reduced priced meals served in January/February 2020 before the pandemic. The number of meals served in April/May 2020 was not related to the three other communication strategies.

NEXT STEPS: The Getting to Equity Framework for school meal communication is a tool that food service leadership and staff could use to ensure that communication language and content is delivered equitably.



SECTION 4: IMPLEMENTATION

SITE-LEVEL IMPLEMENTATION PROCESSES, SUPPORTIVE FACTORS, AND BARRIERS

We examined survey results separately for food service directors/supervisors and site staff. Directors/supervisors expressed operational challenges and concerns, including financial concerns, concerns about fewer meals served (which would decrease revenue), and challenges storing food. Interviews provided context for these survey findings. Site staff indicated concerns about students and fellow staff members, including student hunger, feeding those in greatest need, and lost income. Both groups indicated concern regarding staff safety.

“What are you most concerned about for your program?”



Top Concerns:

For food service directors/supervisors, the top concern was:

- **Financial losses for the school meal program** (“serious concern”=88%).
- *Significantly more directors/supervisors reported this concern versus distribution site staff (41%, p=0.001).*

For distribution site staff, the top concern was:

- **Potential that students will go hungry during school closures** (“serious concern”=74%).
- *Significantly more distribution site staff reported this concern versus directors/supervisors (48%, p=0.040)*

Both sets of respondents reported **safety of staff** as a serious concern.

Directors/supervisors also endorsed **dramatic decrease in meals served** as a serious concern, while distribution site staff were concerned about **loss of income for staff**.

School meals account still paid full salaries during a time of no revenue.

“Our staff continues to be paid... all of a sudden, your labor costs, which is normally 30% of \$2 million, ...is only \$500,000. You're running at a deficit at that point, and there's not much we could do about it.”

~Supervisor, Public LEA

Operators were concerned for the safety and well-being of their staff and students.

“...the thing that kept me up at night is my employees” ~Director, Public LEA

“...right now your number one priority is your safety, your staff safety, and [to] feed these children.” ~Director, Public LEA



Implementation Challenges

Food service directors reported that **food storage** issues made food service difficult during the pandemic (51% reported difficult/very difficult).

For distribution site staff, the biggest implementation challenge was **how to best target the students most in need** (35% reported difficult/very difficult).

The biggest implementation challenges in switching to curbside/mobile meals were supply and staffing.

“...so many different moving parts and so many things that we had to order... not having the equipment that we needed... coolers, the shelving, the packaging.” ~Supervisor, Public LEA

Sites had to figure out how to make use of initial food supply.

“...we had all this food initially that we didn't want to go to waste... so there was kind of the logistical work of... trying to move food around.”

~Supervisor, Public LEA

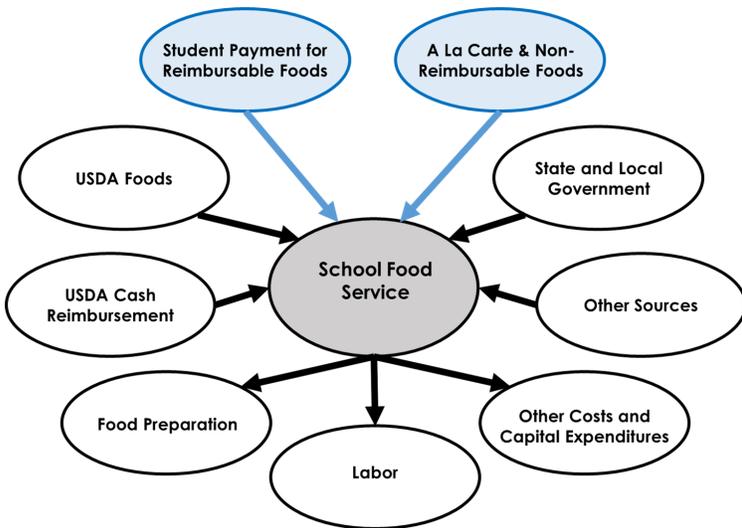
NEXT STEPS: The understanding generated about implementation from the perspective of those working on the ground provides critical context for describing challenges and successes with meal service and meal service innovation during COVID-19. Additionally, these data can inform future federal, state, and local-level implementation support needs, particularly during future school closures. Continued monitoring of program implementation is needed to assess whether concerns and challenges persist beyond the pandemic.

SECTION 5: COSTS

COVID-19 school closures impacted the financial health of school meal programs.

Two of the primary inputs of revenue for school meal programs (shown in the figure below) include (1) meals paid for by students (outside of free or reduced priced meal programs) and (2) a la carte and non-reimbursable foods (both highlighted in blue). Sales of a la carte items typically account for 30% of the total revenue of meal programs.⁷ Meal programs did not have a mechanism for collecting these revenue streams during COVID-19 school closures, yet the outputs remained along with added costs of personal protective equipment, unique meal delivery supplies, and, in some cases, hazard pay.

Will you have a revenue shortfall?
100% Yes
(Food Service Directors/Supervisors)



Comparison of federal and state school meal reimbursement in Fiscal Years (FYs) 18/19 and 19/20: In FY 18/19 (July 2018 to June 2019), the total revenues for Maryland's public LEAs from USDA and state meal reimbursements were ~\$273 million; out of which \$74.6 million was for SBP, \$182.6 million was for NSLP, \$6.6 million was for SFSP and \$9.0 million was for CACFP. In comparison, **in FY 19/20, the total revenues from federal and state reimbursements was \$241.7 million (a drop of 11% or \$31.1 million from FY 18/19);** out of which \$55.6 million was for SBP, \$130.9 million for NSLP, \$37.2 million for SFSP, and \$18.0 million for CACFP. The figure to the right compares the monthly federal/state reimbursement for school meals in Maryland between FYs 18/19 and 19/20.

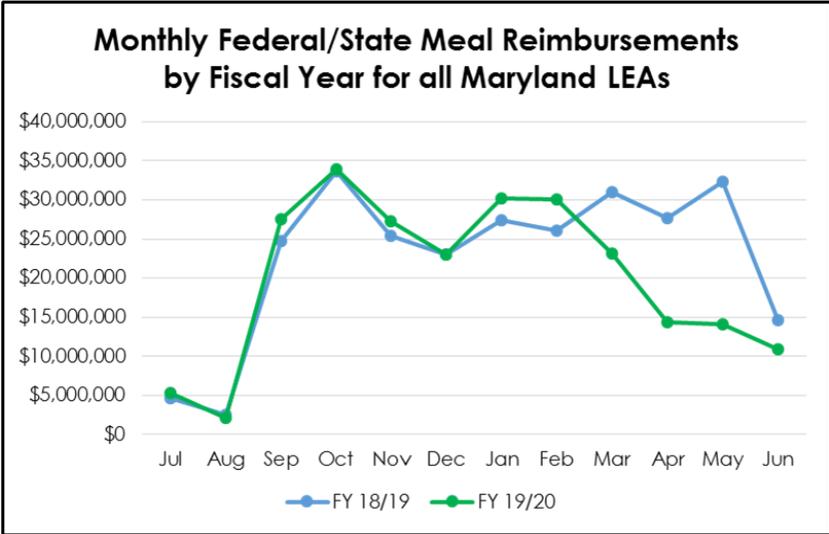
Additional Expenses and Supplemental Funds

Operating curbside/mobile routes requires additional supplies, such as coolers, bags, and rain gear. In addition, State leaders discussed unanticipated storage fees for food surpluses:

*"Schools that use the State contract at warehouses are charged a storage fee for the USDA foods. That **went up because obviously they weren't using as much product, so they had to store more.**" ~ State-Level*

Many programs reported financial assistance from their local community that helped close funding gaps. People and companies made monetary donations or donated their time and services.

"[XX] Foundation had a donor who donated a significant amount of money...Private donations...You know, some of our civic organizations have donated like \$1,000, \$2,000" ~Supervisor, Public LEA



This section describes concerns regarding the financial health of school meal programs, due to both a lack of typical revenue streams and an 11% reduction in federal and state reimbursements.

NEXT STEPS: The long-term impact of continued school closures on the financial health of meal programs needs to be explored. Additionally, more information is needed about costs associated with pandemic meal provision, including personal protective equipment, unique meal delivery supplies, and, in some cases, hazard pay. The protective role of federal funding, including the CARES act, should also be examined.

SECTION 6: MAINTENANCE

To capture the changing landscape of meal delivery during the pandemic and the transition to summer meals and the Fall 2020 school year, we conducted interviews across multiple time points. We describe key takeaways and future program needs from the perspective of LEA and State leadership.



Key Takeaways

Simplify the waiver process. At all levels, Maryland meal service stakeholders were frustrated by last minute waiver changes and associated procedural challenges.

*“What they went through that first week of school with the waiver switch, **that was inexcusable by USDA.**” ~State-Level*

*“Why should 50 states have to do waivers for the same thing when USDA can just say, ‘Hey. We’re going to waive everything’? And they do that after everybody’s applied. Have the USDA look at their long-term contracting and things of that nature, **they have to be adjusted sometimes.**”*

~State-Level

Communication and existing partnerships were key to success. Partners assisted with program operation and got the word out to the community about meals.

*“Make sure that you have **open communications with different community organizations**, the health department, local food pantries...have those relationships established so that when you are in need, you can call on them.”*

~Director, Public LEA

*“The most important thing going into what we experienced, it would probably be relationships...from MSDE to school principals...the fact that when you have **strong relationships** with your staff and the school staff and your customers and your vendors, it made life a lot easier to make that transition.”*

~ Supervisor, Public LEA

Future Program Needs and Improvements

MSDE guidance was helpful, but limited by constant changes at the federal level. MSDE's frequent communication and weekly calls with LEAs was beneficial, although the usefulness was limited by constant federal changes.

“They were very helpful, but they didn’t have all the information. We had a lot of questions that they could not answer. They were very helpful, and they came back and answered our questions later on.” ~ Supervisor, Public LEA

Universal free meals are on the mind of stakeholders as they consider the logistical challenges of current requirements and the need to reach more students.

*“We’re spending a lot of money to make sure that all these meal eligibilities are correct. **We’ve gotten so far away from what we’re really supposed to be doing here**, feeding children, making sure that the meal is a great meal, it’s a healthy meal...let’s feed everybody and not worry about who needs it and who doesn’t because they all really do need it in the end.” ~ State-Level*

*“If you and I go to a business meeting at a restaurant and we have lunch, the IRS says, as long as we conduct business after the lunch too, we can deduct that as a business expense. Well, **a child’s job and their business is to learn... So why don’t we just stop the silliness?** Students’ business is learning.” ~ Supervisor, Public LEA*



NEXT STEPS: Continued examination of maintenance is essential to understand how we can translate the lessons learned during the pandemic to future meal programs during anticipated (summer, planned holiday or seasonal breaks) and unanticipated (weather or other emergencies) school closures. Comprehensive evaluation approaches, like the one employed here, should be conducted nationally.

Summary, Recommendations, and Next Steps

Summary: In this evaluation of emergency school meal implementation in Maryland during Spring 2020 school closures due to the COVID-19 pandemic, there were 5 primary findings:

1. Meal sites were located in areas with the greatest need, such that over 65% of children eligible for free or reduced priced meals attended a school within close proximity of a meal distribution site.
2. Despite a dramatic increase in meals served in the first few weeks of school closures and temporary waivers to support meal distribution, the statewide average of breakfasts and lunches distributed was 58% lower than the number of breakfasts and lunches served earlier in the school year.
3. Pandemic-related school closures resulted in significant negative impacts on the financial health of school nutrition programs (at the LEA and school/site-levels).
4. Assistance (guidance and operational support) from a variety of partners was a common theme among interviews with food service staff; partnerships contributed to the success of meal programs.
5. The biggest implementation challenges and concerns were related to finding the best ways to reach hungry children and maintaining financial solvency.

Recommendations:

1. Stakeholders at the national, State, and local level should ensure that school nutrition programs can focus on the logistics of feeding children as opposed to the financial health of meal programs.
2. The expertise of food service directors and staff, who strategically located emergency meal sites in areas of greatest need and quickly adapted to pandemic feeding, should be included in future decision-making regarding meal waivers and implementation during school closures. These individuals possess a wealth of valuable knowledge.
3. As the COVID-19 pandemic continues, school nutrition professionals should continue to evaluate the implementation of waivers and lessons learned regarding meal provision to inform practices during future anticipated or unanticipated school closures.

Next Steps:

1. This evaluation only considered implementation from the site, LEA, and State-level. Additional information on student- and family-level implementation experience is needed.
2. Additional information on 2020 summer meal implementation and meal implementation during the 2020-2021 school year will provide a better understanding of best practices and lessons learned that can contribute to post-pandemic analysis and the long-term impact on the financial health of the school meals program. This includes future operation of the supper and snack programs.
3. The impact of other efforts to feed children, including pandemic-EBT, should be examined.

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