

Food access narratives as told by consumers and retailers engaging in a COVID-19-stricken urban food system: A brief report

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Emma C Lewis , Penny Pei  and Joel Gittelsohn

Abstract

Small food retail (“corner”) stores in many underserved urban settings face challenges to stocking healthy, affordable foods. The food supply chain is considered one of the most important sectors of the economy and has suffered recent negative impacts due to the Coronavirus disease 2019 (COVID-19) pandemic, from farm to consumer. As part of the larger Baltimore Urban food Distribution (BUD) Study, we examine corner store owner and consumer perceptions of the impact of COVID-19 on navigating an urban food environment using a brief, reflective, semi-structured oral interview framed as “storytelling.” Open-ended responses are documented, transcribed, and analyzed for key themes. Presently, we discuss initial key findings in hopes of helping to ensure sufficient value added for corner store owners and consumers who will interact with the BUD mobile application as part of a full-scale trial being implemented in Baltimore, Maryland.

Keywords

Corner store, COVID-19, food system, urban, storytelling, mHealth

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Introduction

Many historically disadvantaged and marginalized urban communities lack access to supermarkets or other affordable sources of healthy foods. Residents often depend on small independently owned food stores (i.e., “corner stores”) for much of their food needs. Corner stores in these settings typically stock calorie-dense, high sugar, high sodium items that can result in consumer diets which increase the risk for obesity and chronic disease^{1–4} and lack healthy affordable items (fruits, vegetables) which are protective for chronic disease.^{5–7} The food supply chain is considered one of the most important sectors of the economy and has suffered recent negative impacts due to the Coronavirus disease 2019 (COVID-19) pandemic, from farm to consumer.⁸ Now more than ever, it is crucial to consider multilevel food systems intervention strategies, policies, and programs that emphasize reach, sustainability, and community engagement. Digital strategies offer a particularly promising solution to food system challenges in a widely accessible and cost-effective manner.⁹

Storytelling is a powerful public health tool that can provide a means to delve into deeper discussion regarding community members’ lived experiences and interactions within the COVID-19-stricken food system to inform the design and development of user-friendly and culturally-appropriate digital interventions.¹⁰

Gaps in the literature

Although storytelling has been identified as a valuable tool for supporting public health research, it should play a more significant role in tackling public health issues.¹¹ To date, storytelling has yet to be conducted as part of a larger food systems intervention. Due to the severity of the impact of

Human Nutrition, Department of International Health, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD, USA

Corresponding author:

Emma C Lewis, Johns Hopkins University Bloomberg School of Public Health, 615 N. Wolfe St, W2041, Baltimore, MD 21205, USA.
Email: elewis40@jhu.edu



COVID-19 on the food system, we feel it is important to inform our community-based intervention with stories told by those most directly impacted. This study enhances the literature surrounding storytelling as a qualitative research method in the context of public health as it pertains to COVID-19 impacts on the food-related behaviors of various actors within an urban food system.

Objective

This sub-study is nestled within the larger Baltimore Urban food Distribution (BUD) Study¹² with the goal of enhancing the information gathering and building of community engagement and equity in the COVID-19-stricken Baltimore City food system. The present objective was to collect qualitative data from corner store owners and consumers who participate in the BUD trial regarding COVID-19 adaptations and changes in consumer demand in response to COVID-19.

Significance for public health

The stocking of healthy, affordable foods and beverages in urban corner stores is impeded largely in part by: (1) lack of an adequate distribution network for healthier foods,^{13–15} and (2) weak consumer-store-supplier engagement. To address these public health challenges, we received funding to develop, pilot, and evaluate the Baltimore Urban food Distribution (BUD) mobile application (app) to affordably move healthy foods from local producers and wholesalers to corner store owners using collective purchasing and shared delivery features.¹² Corner store owners report a perceived lack of interest in purchasing and eating healthy foods among consumers, although our previous studies indicate otherwise.^{16–19} With more individuals experiencing food insecurity for the first time since the COVID-19 pandemic outbreak, there is a need for enhanced outreach and support to better understand how corner store owners and consumers have been impacted, especially in an under-resourced urban setting where chronic disease rates are high and affordable healthy food is scarce.²⁰

Methods

Overview

The BUD Study is divided into three main phases, the first of which is formative research comprising of the present sub-study. A full study protocol, including detailed inclusion criteria and recruitment strategies, can be found in Gittelsohn et al.¹²

Analytic approach

Data collection and analyses are organized across three phases: (1) asking corner store owners and consumers who

have agreed to participate in the BUD trial to participate in a researcher-led in-depth interview; (2) conducting detailed case studies (direct observation, series of in-depth interviews) of a subset of corner store owners regarding the decisional processes behind stocking and selling of products in their stores post-COVID-19 outbreak; and (3) analyzing quantitative data and qualitative data for key findings and themes.

Information gathering and findings

Researcher-led visits to Baltimore City corner stores began in April 2022 and have included both in-depth interviews and unstructured discussions with store owners ($n=9$). BUD-participating corner stores are primarily located in East Baltimore, with some in West Baltimore, and are run by store owners of varying ethnic backgrounds (Korean, Chinese, Middle Eastern, Hispanic, African American).

During interviews, store owners are asked two open-ended questions (with probes):

1. Can you tell me a bit about how your role as a corner store owner changed during the COVID-19 pandemic? What did you do or sell differently?
2. How have your customer's food shopping needs changed or adapted in response to the COVID-19 pandemic, and how have you met those needs? How have other stores or retailers in your community met those needs?

Researcher-led interviews with consumers ($n=3$) have occurred in a private office in the Johns Hopkins Bloomberg School of Public Health as well as in community locations convenient for participants. Interviewed consumers were two-thirds female, two-thirds African American, and ranged in age from 33 to 56 years old.

During interviews, consumers are asked two open-ended questions (with probes):

1. In a few sentences, can you tell us about how the COVID-19 pandemic has impacted how and where you food shop? What foods do you shop for?
2. In a few sentences, do you think the COVID-19 pandemic has changed how people in your community shop for food? What about how stores in your community sell food?

Research staff were trained in qualitative methods in order to be able to appropriately determine when to employ the use of probing. Probing was used to guide participants' descriptions or to provide an elaboration.

Results

Overall, interviewed store owners have reported experiencing decreased traffic and sales since the onset of COVID-19. Of those who were interviewed in-depth, several store owners reported having to minimize the number and variety of food items offered in their stores, largely due to challenges with procurement as well as consumer foot traffic and demand:

I had to shut down the deli section of my store once COVID hit because no one was going out to corner stores. I used to sell breakfast sandwiches every morning and I had customers coming in every morning for my sandwiches and coffee.

One store owner shared that during the initial COVID-19 outbreak, he had to close his store 30% of its normal operating hours because he:

Couldn't get food . . . no stuff in (a local wholesaler) and companies just don't deliver. Prices also changed which makes food non-profitable.

Another store owner who primarily shopped at a local wholesaler to stock his corner store prior to the pandemic shared that after the COVID-19 outbreak:

Wholesalers . . . offered less diversity of foods. Before the pandemic there were at least 20 different flavors of Gatorade, but now there were only 4 or 5 flavors. And there were always delays in delivery during the pandemic.

Others mentioned less ability to stock healthy and nutritious items in their stores:

I was not approved for EBT and food stamps so without that, fruits and vegetables do not sell. I want items with long-shelf life, so I don't worry about it going bad.

Common sentiments were shared about consumer demand for less healthy items:

[Lately] my customers want the sodas, chips, and candies.

Finally, some store owners discussed having to resort to using fewer vendors to stock their stores:

"usually only go to (a local wholesaler) or other places to buy certain products because large distributors don't deliver to

smaller stores, and they usually sell too much food where we won't be able to sell it fast enough.

Interestingly, when interviewed, one store owner seemed to fixate on concerns with contracting COVID-19 for his customers and staff, but did not feel he had needed to make many changes to his store besides requiring that masks be worn inside.

My customers became more cautious and alert during the pandemic because of the fear of being infected. Customers started to care about whether [I] had COVID and their possibility of being exposed by coming to the store.

In addition, store owners were asked to free-list the top three foods and/or beverages they would like to see available on the BUD mobile application (an app is being designed for selling and purchasing of foods among local wholesalers, producers, and corner store owners as part of the larger BUD Study) for stocking or purchasing based on the above stated challenges. Free-listing is a technique that allows individuals to list all possible items within a specific domain, and was used successfully in a previous study in Baltimore to assess preferred foods. During their in-depth interview, BUD-participating store owners are asked to answer the following question off the top of their head, "What are the top five food/beverage items you'd like to see available on the BUD app for your store?" followed by probing. A complementary free-listing question will also be asked of consumers during in-depth interviews, which will involve being asked to answer the following question off the top of their head, "What are 5 foods that you would prefer to have available in the corner store you regularly go to?" followed by probing.

As of January 2023, all interviewed store owners identified fresh fruits/vegetables as a primary preferred food to be made available to them on the BUD app, likely due to exacerbated challenges with procurement of these items during COVID-19. Other items have included staples such as soft drinks, snack items, and dairy, which is in line with previous literature wherein store owners expressed a desire for accessing the items they would normally stock in their stores via the BUD app in order to make purchasing through the app worthwhile. Saliency analyses will be conducted once the remaining interviews have been completed.

In regard to consumers, most of those who have been in-depth interviewed thus far have reported notable increases in prices of staple foods (especially milk, bread, and meat) and have mentioned having to change what they purchase and where they shop for foods in their neighborhoods due to these price increases. Quantity and quality of foods were

mentioned, particularly the need to buy less, and the decreased quality of foods available to consumers in their local stores. Only one consumer did not report COVID-19 as significantly impacting the way they shop for or purchase food, but it is important to note that this consumer was of a higher socioeconomic status than the other two consumers interviewed, and reported tending to shop in more upscale food retail establishments on a regular basis.

One consumer who had expressed concern for feeding themselves and their pet following COVID-19 stated that:

Food became expensive . . . money don't go as far as it used to.

Another consumer who participates in the Supplemental Nutrition Assistance Program (SNAP) mentioned that:

SNAP benefits are insufficient these days.

Shared sentiments by other residents may be echoed in future community workshops and meetings, of which have begun to populate in the city under the guidance of the Baltimore City Department of Planning (see Table 1).

Key findings

Table 1. Key findings from our initial sample of respondents ($n = 12$).

Respondent	Key findings	Takeaways
Store owners ($n = 9$)	<ul style="list-style-type: none"> Challenges with procurement of staple items due to COVID-19 impacts on the food distribution system Decreased customer foot traffic Lowered ability to access healthier items, coupled with low perceived demand for these items Having to change or lessen the use of vendors to acquire items for stocking Less variety available at previously used wholesalers and distributors Lack of delivery to stores and decreased profitability of items that used to be more profitable Concerns about exposure to COVID-19 for customers and staff 	<ul style="list-style-type: none"> Solutions are needed to fill the gaps in the food distribution system that have historically existed in Baltimore City and have been further exacerbated by COVID-19 Relationship building should be encouraged among store owners and their customers to promote accurate perceptions of demand for certain products (i.e., affordable and high-quality healthier items) Marketing and other strategies should be tested to help improve store traffic and increase sales for small food retail stores following the decline due to COVID-19
Consumers ($n = 3$)	<ul style="list-style-type: none"> Increased prices of staple goods (bread, meat, dairy) SNAP benefits no longer sufficient to cover needs following COVID-19 and related price inflations Having to change where they shop at, and what they shop for Having to lower the number of foods purchased Decreased quality of healthier items when available in local stores 	<ul style="list-style-type: none"> Measures should be taken to ensure equitable access to affordable, high-quality fresh foods COVID-19 has exacerbated inequalities related to food access, and particularly healthy food access

Discussion

We believe this sub-study is the first of its kind to utilize storytelling as part of a larger food systems intervention for the development of community-informed approaches within the context of COVID-19. Therefore, the takeaways we have learned thus far will help to enhance the BUD parent study so that challenges and issues identified by store owners and consumers may be adequately addressed in a culturally-appropriate and sustainable manner. A few worth noting include the need for solutions to fill gaps in the food distribution system that have historically existed in Baltimore City and are further exacerbated by COVID-19. Additionally, the importance of relationship building among store owners and their customers to promote accurate perceptions of demand for certain products—which we anticipate can occur over time with sustained use of the BUD app. Finally, that marketing and promotion of certain items should be tested to help store owners improve customer traffic and sales following declines due to COVID-19—which is something we anticipate can be achieved within the scope of the larger funded BUD study as well.

Limitations

It is important to note the limitations of this sub-study. First, the sample size reported on in the present paper is small, partly because of research constraints and overall hesitancy to participate in in-person interviews by

community members due to the COVID-19 pandemic. However, we anticipate collecting more of these data as the BUD parent project moves forward. Final analyses will be reported on in subsequent papers associated with the BUD project. Second, this sub-study relied on a convenience sample of corner store owners and consumers who had already agreed to participate in the larger BUD project. Despite this sampling method having its limitations, we believe the sample reported on in the present paper is representative of our target population for which this work is intended to impact. Finally, there may be concerns with generalizability of these findings outside of Baltimore, but previous research demonstrates similarities in the food sourcing and shopping experiences of other under-resourced urban minority communities in United States cities, and we plan to assess feasibility of scale-up of BUD to other settings as part of our current funding mechanism.

Future implications and next steps

This sub-study adds to our knowledge base and will help to inform the creation of a contextually-appropriate positive feedback loop between consumers, retailers, and suppliers within an urban food system, particularly one susceptible to events such as the COVID-19 pandemic. This work ultimately has the potential to strengthen current policy and program initiatives in Baltimore regarding emergency food access, as well as inform new policies and programs for the future. Although this sub-study experienced major delays in recruitment and data collection due to challenges within the parent project, our established partnerships with local organizations and national programs remain strong and will help to provide collaborative support and input towards achieving the common goal of improving disadvantaged urban food systems and increasing food equity and access to promote better health and wellbeing, in the context of the COVID-19 pandemic.

Next steps include completing data collection and disseminating findings from the parent BUD study, refining the design of the BUD app and intervention components, and finally, piloting, evaluating, and expanding the BUD study in Baltimore and other urban settings across the state of Maryland and the United States.

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Author contributions

ECL helped design the study, carried out fieldwork, analyzed data, and drafted the manuscript. PP helped design the study, carried out fieldwork, analyzed data, and edited the manuscript. JG oversaw design of the study and reviewed the manuscript.

Availability of data and material

Data and materials are available upon request.

Declaration of conflicting interests

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Ethical approval

This study was conducted as part of a larger study approved by the Institutional Review Board of Johns Hopkins Bloomberg School of Public Health (protocol code 00017307, approved on 27 October 2021).

ORCID iDs

Emma C Lewis  <https://orcid.org/0000-0001-7360-396X>

Penny Pei  <https://orcid.org/0009-0003-9840-6243>

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