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RESEARCH ARTICLE



The WIC Shopping Experience: A Qualitative Study Examining Retail-based Strategies to Increase WIC Retention and Redemption Rates

Lucia Leone^a, Lindsey Haynes-Maslow^b, Christina Kasprzak^a, Samina Raja^c, and Leonard H. Epstein^d

^aCommunity Health and Health Behavior, School of Public Health and Health Professions, University at Buffalo, Buffalo, New York, USA; ^bAgricultural and Human Sciences, College of Agriculture and Life Sciences, North Carolina State University, Raleigh, North Carolina, USA; ^cUrban and Regional Planning, School of Architecture and Planning, University at Buffalo, Buffalo, New York, USA; ^dSUNY Distinguished Professor of Paediatrics, Division of Behavioral Medicine, University at Buffalo Jacobs School of Medicine and Biomedical Sciences, Buffalo, New York, USA

ABSTRACT

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) successfully improves participant nutrition, but program effectiveness is threatened by retail shopping challenges, which may reduce benefit redemption and participant retention. Focus groups with WIC participants examined barriers to using WIC benefits and potential strategies to improve redemption. The analysis included a three-pass qualitative process using deductive and inductive thematic analysis. Barriers included confusion over finding eligible products, difficulty checking out, and perceived stigma. Strategies included promotion and strategic placement of approved items and better customer service. Retailer practices and regional policy amendments are potential strategies for improving the WIC shopping experience and program effectiveness.

KEYWORDS

WIC; grocery shopping; retail interventions; behavioral economics; qualitative research; US food policy; food access; low-income

Introduction

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides supplemental foods, nutrition education, and referrals to health care and other social services to low-income pregnant and postpartum women, and infants and children up to 5 years of age whose household incomes are below state-defined thresholds and are found to be at nutritional risk.¹ WIC is a vital nutrition assistance program that improves the health and well-being of its participants. WIC food packages are associated with overall improved dietary quality, healthier food purchases, and higher consumption of fruits, vegetables, whole grains, and lower-fat milk.²

CONTACT Lucia Leone  lucialeo@buffalo.edu  Community Health and Health Behavior, School of Public Health and Health Professions, University at Buffalo, 333 Kimball Tower, 3435 Main Street, Buffalo, NY 14214-8028. LAL, LHM, LHE, and SR designed the study; LAL conducted the focus groups and oversaw recruitment and data collection; LAL, LHM, and CK analyzed the data; LAL and LHM drafted the manuscript; all authors reviewed and edited the manuscript.

Additionally, research shows that the WIC food packages are associated with obesity prevention among young children.³⁻⁵

One of the biggest threats to WIC effectiveness is the ability to recruit and retain participants.⁶ Although estimates vary, reports indicate that as few as 73% of infants, 38% of children, and 67% of pregnant and postpartum women who are eligible for WIC actually participate.⁷ Low participation rates may reflect a failure of eligible caregivers to sign-up initially or a decision not to re-certify after participating. Many participants are lost when families transition from the infant food package to the child food package.⁶ Major reasons recipients fail to re-enroll include WIC office-level barriers (e.g., wait times and limited activities for children at WIC offices) and shopping barriers (e.g., difficulty identifying the correct size and type products).⁸ Limitations on WIC product eligibility may lead to limited product selection for recipients and difficulties identifying eligible products.^{9,10} These challenges may result in negative shopping experiences, reduced redemption of WIC benefits and ultimately discourage re-enrollment.^{11,12}

Although nutrition standards for WIC foods are set at the federal level, WIC state agencies determine the types, brands, and sizes of foods that recipients may purchase with WIC benefits. While decisions about eligible food products are made with the goal of balancing program participation and cost containment,¹¹ limitations on food eligibility may inadvertently reduce program access, satisfaction, or redemption of WIC benefits. Recognizing the shopping-related challenges faced by WIC recipients, the New York (NY) WIC state agency pilot-tested strategies for improving the WIC shopping experience including an orientation to shopping using WIC benefits, pictorial food cards, and guided shopping tours. Although these strategies increased WIC voucher redemption rates in some areas, 1-year retention rates decreased in others.¹³ The study authors concluded that while the guided shopping tours were potentially useful, they placed a high burden on WIC's coordinators and that WIC agency capacity for this type of intervention was limited. Findings from this study underscore the fact that addressing the WIC shopping experience has the potential to address retention and redemption, but strategies are needed that limit the burden on WIC staff.

Retail-based strategies and interventions may be an alternative approach for improving the WIC shopping experience; however, there is currently no research available on the role of retailer interventions in improving WIC redemption and/or retention rates. As a first step toward designing retail-based interventions, the present study uses qualitative methods to understand how the WIC shopping experience can be improved using retail-based strategies. The main goal of this paper is to understand barriers experienced by WIC recipients while shopping in retail stores. Potential store-level interventions and policies that could improve the shopping experience of WIC recipients will also be identified.

Methods

This study uses qualitative data generated through focus groups with WIC participants about their WIC-related shopping experience. This research was part of a study supported by the Duke-UNC USDA BECR Center for Behavioral Economics and Healthy Food Choice Research¹¹ to identify retail-based interventions that could benefit stores and improve WIC customer retention and/or check redemption without administrative or economic burden for the WIC program. The study was determined to be exempt by the Institutional Review Board. The research was also approved by the NY State WIC program.

Focus Group Recruitment and Procedures

Eight focus groups were conducted within two counties in Western NY (Erie and Niagara) between June and July 2015, prior to WIC's switch from paper vouchers to Electronic Benefit Transfer (EBT) cards. The local WIC administration assisted with recruitment and focus groups took place in WIC offices within the counties. Focus groups were offered at all WIC locations in the target counties that were approved by the local WIC director. Although data saturation was reached prior to the completion of all focus groups, previously scheduled focus groups were completed in order to maintain partner and participant relationships. WIC recipients were recruited via flyer and/or text messages sent by local WIC coordinators asking interested women to contact the research team. Focus groups were held at six different WIC offices and one meetup group for WIC moms (Baby Café located within an outreach center). Focus group participants were recruited in the order they responded to the ads until 10 people were scheduled at each location.

Focus groups were led by the principal investigator (a researcher with experience conducting qualitative studies with lower-income populations) and the project manager who was trained by the principal investigator. Each focus group lasted 60 to 90 minutes. Prior to starting the focus group, participants were asked to complete a short anonymous demographic survey (see [Table 1](#)), the moderator also asked for verbal consent from all participants and offered women the opportunity to use a pseudonym to maintain anonymity. At the end of the focus group, each participant received a 25 USD gift card.

Focus Group Discussion

Focus groups followed a semi-structured guide that was developed by the research team based on the Stimulus-Response Model of Consumer Behavior,¹⁴ commonly referred to as the 4 Ps of Marketing Mix (Promotion,

Table 1. Demographic characteristics of 63 New York WIC recipients participating in a focus group on barriers and facilitators to using WIC benefits in grocery stores (2015).

Demographics Characteristics	
Characteristic	Percent
Age, mean (SD)	29.8 (7.0)
Education, %	6 (9.5)
Some high school	17 (27.0)
High school or GED	4 (6.3)
Trade or beauty school	14 (22.2)
Some college	16 (25.4)
College graduate	6 (9.5)
More than college	
Marital Status, %	32 (50.8)
Never been married	26 (41.2)
Married/Living with partner	5 (7.9)
Divorced/Separated	
Household Income, %	26 (41.3)
<\$10,000	12 (19.0)
\$10,000–\$19,999	13 (20.6)
\$20,000–\$29,999	9 (14.3)
\$30,000–\$49,999	3 (4.8)
>\$50,000	
Race/Ethnicity, %	25 (39.7)
Black or African American	24 (38.1)
White/European American (not Hispanic or Latino)	5 (7.9)
Hispanic/Latino	2 (3.2)
Native American	2 (3.2)
Asian/Pacific Islander	2 (3.2)
Multi-racial	1 (1.5)
Other	2 (3.2)
Did not answer	
Primary Food Shopper for Household, %	56 (88.9)
Receive SNAP Benefits, %	46 (73.0)

WIC: The Women, Infants, and Children's Supplemental Nutrition Assistance Program.

SNAP: The Supplemental Nutrition Assistance Program, formerly known as "Food Stamps."

Pricing, Placement, and Product),¹⁵ and feedback from the BECR center, the NY State WIC office, WIC coordinators, and several WIC researchers. Focus groups started with a discussion on how hard or easy it was to use WIC benefits at the stores where participants generally shopped. Additional questions, based on the stimulus-response model, probed how within-store placement and promotion of products influenced the WIC products they purchased.

To guide future intervention development, participants were asked how stores could make shopping with their WIC benefits easier. Probing focused on one possible intervention idea known as bundling, which encourages the purchase of certain food items by selling them together as one package.^{16,17} Bundling is based on the behavioral economic principle of default bias and uses "choice architecture" to create a more favorable shopping environment.¹⁸ Bundling was described as follows: "stores would choose several WIC-approved items and sell them together as a bundle at a reduced cost [to]

help customers identify WIC-approved items easily. The bundle would also include many lower-cost items such as store brands so that the WIC program could save money alongside WIC participants.”

Data Analysis

Summary statistics were tabulated for the pre-focus group survey using Excel to indicate the number and percentage of participants who selected a given response. Focus groups were audio-recorded, transcribed, and checked for accuracy by a second listener. The analysis was completed using a qualitative software program (ATLAS.ti 7.0). First, a research assistant completed a round of deductive coding, which consisted of identifying and grouping together discussions related to a particular question. Next, an inductive process was used to create a codebook. The principal investigator and one of the co-investigators each reviewed all quotes within a topic and engaged in open coding. After the initial codes were identified, the two coders met to combine similar codes and create a codebook.

For the third round, the same two coders each independently revisited all eight of the focus groups transcripts using the codebook to code all quotes within each topic. They then met to compare results to ensure agreement on all codes; any discrepancies were addressed by discussion and agreement on the appropriate code(s) to assign. When the final round of coding was completed, code frequencies were calculated to ensuring that a code that was mentioned by the same participant more than once was only counted once. Codes were then grouped into themes focused under the general framework of barriers and facilitators. Themes included those that were both derived from our theoretical model (i.e., promotion, placement, product) and emerged from the data (i.e., customer service, stigma). Memos were written summarizing themes and sub-themes and identifying representative quotes.

Results

Eight focus groups were completed. The demographic characteristics of the 63 women who participated in the focus groups are listed in [Table 1](#). The average age of participants was 29.8 years. The most frequently reported racial group was African American (39.7%) and the most common annual household income was less than 10,000 USD (41.3%). Educational attainment ranged from some high school to graduate degree with 34.9% of women having a college degree or higher. The majority of women reported being the primary food shopper for the household (88.9%), never being married (50.8%), and receiving SNAP benefits in addition to WIC (73.0%). During the focus group discussion, most women reported doing the majority of their shopping at large supermarkets or supercenters. Women who shopped at discount grocery

stores, which do not accept WIC, described having to go to additional stores to get their WIC items:

[Discount store 1] doesn't take them . . . [Discount Store 2] doesn't take 'em. And that's a little difficult for us because we have to travel to like different stores just to get the WIC, and then at times, we're too tired to get other things because we have all the kids. And then whining and they're crying.

Barriers to Shopping with WIC in a Retail Environment

Barriers to shopping generally fell into four themes: 1) confusion over WIC product eligibility; 2) difficulty finding products in the stores; 3) difficulty checking out using their WIC vouchers; and 4) perceived stigma. Sub-themes are noted in parentheses. See [Table 2](#) for a summary of themes, frequencies, and illustrative quotes.

Confusion over WIC Product Eligibility

Women expressed frustration with identifying WIC products within eligible categories (Product Identification). Confusion often arose from difficulty determining which sizes, flavors, or versions (e.g., low-fat, low-sodium) of a product were eligible. This problem was confounded by WIC regulations changing several times in recent years, which left women unsure what they could purchase and may have resulted in store signage or computers not being fully updated. A few women reported that they could buy a product using WIC at one store or with a certain cashier, but not in another store or with a different cashier in the same store (Discrepancies between Stores). Inconsistency between stores, combined with frequently changing regulations, led to women reporting frequent arguments with store staff over whether or not a product was eligible (Customer-Store Disagreement) as was described by one participant:

And they were really giving me a hard time, and then she said, she was like well I'm going to override it this one time. I'm like, "No you need to find out why it's not in your computer, because this is a brand new [WIC] book.

Difficulty Finding WIC Items in Stores

Even if the guidelines around product eligibility were clear, women still reported difficulty finding eligible items within a given store. A major complaint was that there was no label designating a product as WIC eligible (Lack of Labeling), but women also faced additional challenges when familiar products were out-of-stock (Missing Stock) or the store did not offer many options within a given category, usually cereals (Lack of Variety). Together, these problems led to increased time spent finding eligible products (Search Time) both within and across stores.

Table 2. WIC shopping barriers uncovered during focus groups with 63 New York WIC recipients (2015): themes, frequencies, and illustrative quotes.

Theme/Sub-Theme	Definition	Frequency	Illustrative Quote
Confusion over WIC Product Identification	Product Eligibility Difficulty identifying the correct product from within eligible categories	14	Well, I have to, because it's like I get frustrated quickly and I just leave that stuff like there . . . because we don't have time for that, you know, trying to figure out what cereal to get, what milk to get, you know, if this is a WIC item milk. It's crazy. I think, think what they need to do is set a ground – this is what's on WIC. This is what it's going to be, and not change it. Don't change the cereals every five minutes or this or that every five minutes. We're the ones who have to go by the book and everything else because otherwise, like we said, we're going and running back and forth, back and forth.
Changing WIC regulations	Frequent changing of which products are WIC-eligible	13	I think it also might depend on the cashier or whatever, because sometimes . . . they're really, being really stern about what products like you can get, 'cause I even have my receipts where it'll show like I've been getting this and then now on this one person, this new person is here and they're like, no, this – I know this stuff and they're looking at every little item and they're like, oh, you can't get this, you can't get that.
Customer-Store Disagreement	Disagreements between WIC recipients and store staff about the eligibility of products for the WIC program	17	I get Lactaid milk for my daughter and [store 2] gave me a real hard time with which one I could buy and they told me, the one that like I can get it at [store 3] the same one, they told [store 2] that I couldn't get it.
Discrepancies Between Stores	Discrepancies between stores on what products are allowed to be purchased with WIC vouchers	4	And that's a little difficult for us because we have to travel to like different stores just to get the WIC, and then at times, we're too tired to get other things because we have all the kids. And then whining and they're crying.
Difficulty Finding WIC Search Time	Items in the Stores Time spent searching for WIC eligible products including time spent traveling to multiple stores	13	Because they're not labeled, so I don't know what is what anymore. I'm walking through the store like you know. Familiarity was the name of the game at one point in time. You grabbed the stuff that you're familiar with that you know was once labeled WIC. If it's not anymore then I'm like okay.
Lack of Labeling	Products not designated as WIC-eligible	17	They have like this one section that has like wheat cereal that's never restocked, it's always empty . . . it's supposed to have everything that we're supposed to get . . . It has nothing usually.
Missing Stock	Store runs out of a WIC-eligible product	9	He made me get some lame cereal. Like, uh, it was only like, one option, like one thing to choose from, so that's the only thing that I could get. It was like either get this cereal or go all the way across town and burn up a, burn up my gas.
Lack of Variety	Limited breadth of stock for WIC-eligible items	6	
Difficulty with the Check-out Process			

(Continued)



Table 2. (Continued).

Theme/Sub-Theme	Definition	Frequency	Illustrative Quote
Poor Training	Lack of cashier knowledge of WIC regulations and generally poor customer service	19	[Store 1], like you said that they don't call the manager over so a lot of times cashiers don't necessarily know ... And sometimes they ... don't want to look like they don't know what they're doing so they just let it go.
Check-out Time	Annoyance over the amount of time it takes to check-out at the register with WIC	14	If you got like ten different checks, I mean you have to come back like so many different times and it's, I don't know ... One milk on one check so you have to go through the whole process for one milk.
Item Replacement	Need to replace ineligible WIC items for eligible items during check-out	7	And she said, oh, it's not a WIC item so I have to go back to go exchange it. So to me, I just did this like inconvenience and you can tell that people get irritated because they're like behind you in the line.
Voucher Fulfillment	Need to find all the products listed on a given voucher before that voucher can be redeemed	6	You have to get everything exactly on the check and then, you know, there's so many times that I'll go there and get stuff and then I'll have to run back or someone else will have to run back, and then people just, you know, get mad at you.
Stigma against WIC Recipients			
Stigma	Perceived stigma from other customers. Includes worry about how people would react and negative comment or avoidance	14	And, and I would say, I don't know if any of the other mothers experienced it, but the mentality, the way people treat you when you have WIC. It, it's just been out of this world. Like I, I do social work for a living and so for someone to treat someone using WIC to feed their family, like, oh, you, you get WIC? I mean, I had someone, I had a, you know, this like a handbag or whatever, and she's behind me, and I'm at [store 1] doing the WIC, and so she's like talks to oh, you know, she's got, she's got a handbag but she's using WIC? And it's just like, am I not entitled to have a handbag to carry my, my stuff?
Cashier Negative Attitudes	Perceived stigma from cashiers	25	People, cashiers, they give you a look when they see that you're walking up with your WIC folder.

Tables include all codes that appeared two or more times.

WIC: The Women, Infants, and Children's Supplemental Nutrition Assistance Program.

Difficulty with the Check-out Process

Many participants reported that it took an excessive amount of time to complete transactions at the store register using their WIC vouchers (Check-Out Time). Women reported check-out times ranging from 20 to 45 minutes. They attributed the longer check-out time to needing to separate WIC-eligible from non-WIC-eligible items, assuring the cashier the foods were WIC-eligible, and needing to separate multiple WIC transactions from each other based on how items are listed on the vouchers. This was because WIC recipients received several vouchers for WIC food items each month with each voucher having two to three items included on it. In addition, if a chosen item was deemed WIC-ineligible, additional time was used to return and replace it with a WIC-eligible item (Item Replacement). Another check-out concern related to needing to have all the WIC items listed on a given voucher; if one item was missing, they had to go back and find it before they could redeem the voucher (Voucher Fulfillment). Poor store staff training or store policies also contributed to slow check-out time (Poor Training); in many cases, a manager needed to assist with the transaction because the cashier was having difficulty with processing the WIC check.

Stigma against WIC Recipients

Women perceived that other customers and cashiers stigmatized them for using WIC. Women expressed worry about how other customer perceived them, but reported few cases of negative comments from other customers, which can be considered stigma. Across all focus groups, the most frequently mentioned barrier to shopping with WIC was negative attitudes espoused by cashiers (Negative Attitudes of Cashiers). Women perceived negative attitudes of cashiers as related to stigma against people who received WIC, the extra time it would take for a cashier to check-out a customer using WIC, and/or disagreements between the cashier and customer over which items qualified for WIC. Frustration was often compounded by limited cashier training on how to redeem WIC vouchers. As an example, one participant stated:

You know I feel bad, and but a lot of times with the cashiers you get attitude. I had one girl that sucked her teeth at me, and I called the manager over, and I said, 'You have got to get a new cashier.'

Potential Strategies for Improving the WIC Shopping Experience

Women identified several strategies that stores used to facilitate the WIC shopping experience; these strategies were grouped into themes relating to increased promotion and improved placement following our theoretical model. An additional emergent theme related to better customer service. See [Table 3](#) for a summary of themes, frequencies, and illustrative quotes.

Table 3. Potential strategies for improving the WIC shopping experience uncovered during focus groups with 63 New York WIC recipients (2015): themes, frequencies, and illustrative quotes.

Theme	Definition	Frequency	Illustrative Quote
Increased Promotion of WIC Items Shelf Talkers	Preference for stores that easily identify WIC-eligible products using signage	10	They used to have that at the [Store 2] that I went to. It would have like a sticker that said WIC, and then you can pick it. But then they took it out, so now I have no idea.
Improved Placement of WIC Items WIC-Only Sections	Interest or preference in stores having a WIC-only section	10	If they have their own little section for everything that is WIC-approved, that would be making it so much easier because I mean, I have one child who wants to run through the store and another child who is bad and he wants to eat and I'm not – it's hard to like hold him and breastfeed while I'm trying to grab things off the shelves and push a cart by myself.
Convenient Placement	Interest or preference in stores placing products conveniently together or near the register	6	[Store 2] said that they try to put all the stuff in the front, too, for people that are crunched for time. Like most of the stuff is up there besides like the eggs, milk, and cheese. Most of the stuff is up there.
Better Customer Service Store Staff Training	Preference for staff that are knowledgeable about the WIC program and know how to complete a WIC check-out	13	They don't give you such a hard time about it. They try to help you, like if you try to find somebody, they'll try to help you. And when you go to cash out, they actually turn the light off. That way no one is standing behind you. Because they know it's going to take a while.
Manager Assistance	Preference for stores that designate trained staff or managers for WIC check-out	8	Like as far as WIC stuff . . . I always preferred going to [Store 1] over [Store 2] because [Store 1] has the manager come and do it.

Tables include all codes that appeared two or more times.

WIC: The Women, Infants, and Children's Supplemental Nutrition Assistance Program.

Increased Promotion of WIC Products

Women discussed their appreciation of shelf-talkers, a printed sign attached to a store shelf to let them know a particular product was WIC-eligible. Signs reduced search time and alleviated confusion at the check-out line. They discussed how several stores had stopped using shelf-talkers and wanted to see them used again.

Improved Placement of WIC Products

Many women discussed preferring when WIC-eligible products were grouped together in convenient locations (Convenient Placement). One woman commented that it would be helpful to have WIC-eligible items near the front by the cash registers “*so if you don’t get something that you’re supposed to, you can pick something up there [at the cash register] instead of having to get all of that together.*” Women also discussed the idea of having a WIC-only section where all or most eligible items being placed in one designated area this would reduce search time and confusion over WIC-eligible items (WIC-Only Sections). Women said that when they are just “running in” to the store, it would be helpful to know exactly where to go for WIC-eligible items; some women indicated that a local store was already doing this.

Women were asked to provide feedback on the idea of bundling several WIC-eligible items that were sold together for a reduced cost. Women recognized the potential convenience of the option and felt that if all the items in the bundle were co-located in the store that it could reduce the burden of searching for WIC-eligible items. Participants stated that they would be interested in bundles that mostly consisted of products that they normally buy, but that they would like it to include some new WIC items, so they could learn about other WIC-eligible products. The biggest concern that women had about bundling was that the items in the bundle might not match up with their checks. One participant notes the potential convenience and benefits of bundles as follows:

If [bundles] could make it a little easier instead of like searching, depending on like which brand or however they decided to put together, I think that would make [shopping with WIC] less of a hassle because sometimes . . . I really don’t like going just to get WIC stuff, because you have to search and it’s just annoying.

Better Customer Service

Many of the women preferred stores where staff were trained on how to assist WIC customers (Store Staff Training). Women described trained staff as individuals who help shoppers identify WIC-eligible products, who are familiar with the process of redeeming WIC vouchers, and who practice good customer service. In addition to having adequately trained staff working the floor, store managers were also reported to have an important role in WIC shoppers’ experiences. The presence of trained managers who could help

cashiers check-out WIC customers was a key sub-theme of the data (Manager Assistance). Participants reported that some stores required managers to be present when WIC customers checked-out. Most women preferred having a trained manager assist them, rather than a cashier. While some disliked the extra attention created when the manager was called over, the benefits of this practice generally outweighed the concerns. Additional strategies mentioned by some women included having a WIC product guide (i.e., a list of all WIC eligible products offered by the store) available in the stores and allowing for self-checkout when using WIC benefits (currently not allowed under WIC regulations).

Discussion

This is one of the first studies that examines both barriers and possible facilitators to using WIC in a retail setting. Previous research has uncovered the shopping experience as a barrier to WIC redemption,^{8,19} but did not explore solutions. This study revealed that adequate training for store staff on which items are WIC-eligible and how to process WIC transactions was important to WIC recipients and that stores with the best-trained staff may be more likely to attract more WIC customers. The present study is in line with another recent qualitative study conducted across multiple states that found similar themes related to difficulty identifying WIC-eligible items and stigma.¹⁹ Our study adds to the literature by exploring strategies for improving the WIC shopping experience. Possible strategies uncovered include convenient product placement, shelf-talkers to identify WIC-eligible items, WIC-only sections, or bundling WIC products.

Any strategy designed to improve the WIC shopping experience would have to be acceptable to both stores and customers. Based on related research with WIC store managers,²⁰ the strategies uncovered in our focus groups could have varying levels of acceptance among vendors, depending on store type. Although improved staff training was the most frequently mentioned strategy for improving the shopping experience among customers, this approach would likely work better in larger stores with more training capacity, but could be difficult in stores that have higher staff turnover. One potential solution is to follow a model, similar to one regional supermarket chain described in our study, where only managers can check-out WIC customers. While this approach was seen as favorable by many focus group participants and has the potential to reduce check-out time, it could also draw unneeded attention and stigma (from other customers) to WIC recipients and smaller stores may not have the resources to always have a manager present.

Store managers²⁰ and customers both expressed interest in designing cues that could help customers more easily identify WIC-eligible products.

Shelf-talkers were highly endorsed by customers and could address both confusion over WIC product eligibility and search time in stores; however, due to New York state-specific WIC regulatory issues, most WIC retailers have chosen to remove these from their stores. This approach would be effective in states where regulations make the approach more feasible. WIC-only sections or bundles with convenient product placement also have support from both retailers and customers. These strategies address barriers related to difficulty determining product eligibility and could significantly reduce search and check-out time. Many retail stores already use bundles for other products and research has shown that consumers are motivated to purchase bundles when they perceive it reduces the total cost of goods and/or reduces search costs.²¹⁻²³ In this study, one store that was frequented by participants capitalized on product placement by locating a WIC-only section near the front of the store. This made it convenient for customers to quickly find items and/or replace ineligible items for WIC-eligible items at the check-out. Product placement is a commonly used strategy for changing the food environment.^{24,25}

One limitation to these product placements and promotion solutions is that current regulations do not allow stores to differentially promote one WIC-eligible product over another or market directly to WIC recipients,²⁶ so bundles or WIC-only sections would have to be available to all shoppers. Changes to this policy may be possible given the USDA's support for behavioral economic approaches and bundling within its nutrition assistance programs.^{27,11} This research is also limited in that it is located within the context of one state. The findings may have been different in states with different WIC retailer rules and regulations. Given that this data was collected in 2015 prior to all states switching to EBT, the voucher fulfillment barrier would likely no longer exist but search time would likely still be a barrier.

This research identifies potential areas of intervention that could be explored by researchers or state-level WIC agencies looking to increase WIC re-enrollment and redemption. By working with stores to improve trainings and customer service and/or product placement and promotion for WIC items, retail-based interventions may be designed to help WIC recipients maximize their benefits. Retailers may be enticed to implement strategies to improve the WIC shopping experience if it attracts more customers or encourages WIC shoppers to purchase non-WIC items in their stores. Retailers are also driven by a desire to meet customers' needs and provide an important service for the community.²⁸ The findings may also be more broadly applied to retail-based interventions that are commonly used to increase healthy food choices.^{29,30} Displaying target foods in separate sections or grouping them in bundles for easy purchase may prove an effective strategy. Pilot testing of suggested strategies is needed to better understand the

likelihood of store uptake and their effects on store profits, recipient satisfaction, and WIC expenditures.

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