

Barriers to WIC Benefits Redemption among Participants in Washington State

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Abstract

Barriers to WIC Benefits Redemption among Participants in Washington State

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Objective: To generate knowledge about the experience of using Special Supplemental Nutrition Program for Women Infants and Children (WIC) checks to improve WIC check redemption rates.

Design: Qualitative analysis of focus group discussions.

Setting: Two WIC clinics in areas that have high redemption rates for WIC checks and one clinic in an area with low redemption rates in Washington State.

Participants: Twenty three WIC participants in five focus groups.

Phenomenon of interest: Barriers and enhancers of WIC check redemption, especially the cash value voucher (CVV) for fruits and vegetables.

Analysis: Transcriptions were coded; coded statements were organized into major themes across a socioecologic framework. Coding structures and analysis were strengthened by iterative interactions between researchers.

Results: Barriers to redemption arise from multiple sociological levels, but benefits and positive factors, as well as solutions participants use, may lessen the effects of barriers. Factors

negatively impacting the WIC shopping experience included food package policies, grocery store experiences, and personal misunderstanding and embarrassment; positive factors included helpful vendors and both vendor and participant understandings about the use of CVV.

Conclusions and Implications: WIC check redemption may be improved by state and local actions to educate participants and vendors and improve the shopping experience.

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Introduction

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a federal program administered by the states to improve nutritional status through the provision of supplemental food packages, nutrition and breastfeeding education, and referrals to related services (1). WIC eligibility is based on income and risk (1). Preliminary data for the 2012 Fiscal Year show that the WIC program served over 8.9 million people, with almost 195,000 of these participants living in Washington State (2).

WIC began as a pilot program in 1972 and has expanded since then to the program it is today (3). Research over many decades reveals WIC participants experience more positive health outcomes than their non-WIC peers, including higher birth weight (3-5), increased length of pregnancy (4-6), decreased fetal death (4), increased infant length and weight (7), and decreased iron-deficiency anemia (3, 5). Some research also shows that WIC promotes behavior change through nutrition education and provision of the food package (8-10).

In 2007, the United States Department of Agriculture (USDA) changed the WIC food package regulations based on Institute of Medicine (IOM) recommendations to align the food package with the Dietary Guidelines for Americans, to increase the flexibility of the package, and to appeal to the growing number of cultural groups served (3, 11, 12). These changes were subsequently implemented in 2009 (3). One important change was the addition of a cash value voucher (CVV) for the purchase of fruits and vegetables (11, 12). The voucher has an associated dollar amount that can be redeemed for a variety of fruits and vegetables (12).

The food package changes have increased the nutritional quality of foods available to WIC participants and other grocery shoppers (13, 14), and the nutritional quality of food consumed by WIC participants has improved (8, 10, 15). However, if WIC participants do not fully redeem their food benefits (i.e., purchase all items in full quantities assigned), they may be

missing out on some of the nutritional benefits the program is designed to provide. WIC foods have been shown to replace less healthful foods in the diet (16), but low-income shoppers may not be likely to purchase WIC-approved foods without receiving WIC benefits, due to the perceived barrier of cost (17). Unfortunately, incomplete redemption is not a hypothetical issue. Benefit redemption rates vary across geographical areas of the USA, and the average monthly redemption rate for all WIC checks issued in Washington State is 77% (unpublished data set, WA State WIC office).

Nationally, many barriers to redemption have been identified, with more barriers to use associated with decreased likelihood for the participant to obtain or redeem their benefit checks (18, 19). Barriers include difficulty finding reimbursable foods in the store (18, 19), difficulty in using the vouchers to pay for food (18), lack of understanding of how the vouchers are used (18), and lack of childcare resulting in children coming to the store with the participant (18, 19). In addition, participants report not redeeming all of the jarred baby food vouchers because they already have more than they need, due to the amount provided by each voucher (18).

The majority of studies exploring barriers to redemption were completed prior to the food package changes. Since each state has freedom to determine their own rules for certain aspects of the program (12), the legislative context in which previous research has been conducted also varies. Additionally, although some identified themes may be generalizable, there is a chance that available information may not apply to locations other than the study area, due to the context-specific qualitative nature of the existing research (20, 21). Barriers to full redemption and the current reasons for low redemption rates in Washington State are unknown.

The purpose of this study is to generate knowledge to support appropriate improvements to WIC service delivery across socioecological levels; specifically:

1. Describe the barriers to shopping with WIC checks in WA state
2. Compare characteristics and experiences of groups from high and low redemption areas

Methods

This is an in-depth analysis of data from discussion groups conducted to explore use of WIC cash value vouchers (CVV) in Washington. A previous report used only field notes and answered only specific questions (Johnson, Podrabsky, Swanson, 2012, unpublished report). The study includes five discussion groups from three locations in Washington State. WIC clinics were purposely invited to participate based on high (>85%) or low (<71%) CVV redemption rates; four discussion groups were conducted in two separate high redemption areas and one was in a low redemption area. A total of 23 WIC participants at least 18 years of age were recruited through flyers. Group demographics are presented in Table 1. Discussion group interview guides were drafted by the researchers, reviewed by WIC staff, and pilot tested with WIC participants in two discussion group settings not included in this analysis. The discussion groups were audio recorded, and participants received a \$25 gift card for participation. Three discussion groups were conducted in English and two in Spanish with the use of interpreters; recruitment flyers and project information sheets were available in both languages. The project had an exemption request approved from the Washington State Institutional Review Board (WSIRB), which also covers the current analysis.

The current study used methods modified from those outlined by Halcomb & Davidson (22). This researcher listened to the audio recordings from the original study, wrote detailed field notes to record memorable quotes and observations, and created journal memos to record

thoughts, biases, and initial reactions. The audio was then transcribed word-for-word into Microsoft Word 2010, and a Spanish-speaking reviewer was used to verify interpretations and to transcribe any unclear portions of Spanish language conversation. Each audio recording was 20-30 minutes, for a total of 1.9 hours. The recordings and the electronic version of the field notes taken during the discussions in the original study were reviewed several times to verify accuracy of transcription. This review also served to increase familiarity and closeness with the discussion group context (23).

Coding the transcripts was an iterative process. A preliminary coding scheme was created based on themes found in previous research and the familiarity with the text gained through transcription (24). A second coder, who was involved with the original study and was present in the discussion groups, was asked to provide initial thoughts on the coding scheme, as well as code a selection of the transcript to establish intercoder reliability. Using the preliminary coding scheme, both coders independently coded the same transcript by hand, and then discussed the coding until consensus was reached and the coding scheme was revised. The first transcript was coded individually a second time, using the new coding scheme, and again discussed to consensus. Two more transcripts were coded and discussed to consensus in this manner, without additional major revisions to the coding scheme, and the remaining two transcripts were coded by this researcher independently.

Codes were then expanded into themes, which were summarized by five categories (24, 25). Themes and categories were verified through discussion with the researchers from the original project. Research memos were written throughout the process to note methods and to recognize and comment on thoughts, feelings, and reactions to the data, process, and results.

Analysis included demographic description, analysis of categories of themes using the socioecological model as an analytic framework, qualitative comparison of categories and themes emerging from the high and low redemption discussion groups, and comparisons to existing research gathered in other states. The socioecological model has been used to describe the context in which people make health decisions and behaviors (15, 26). It was applied in the current analysis as a framework to compare barriers between studies and to draw out implications of identified themes to determine whether WIC interventions would best be targeted at the local, state, or federal levels.

Descriptions of Identified Themes

Through the discussion groups, themes were identified and sorted into five major categories: barriers leading to decreased redemption, other barriers and factors negatively impacting experience, benefits and factors positively impacting experience, methods participants use to overcome barriers, and improvements suggested by participants. They are listed in Table 2. Some of these themes fell into more than one category based on the experiences participants shared.

Barriers leading to decreased redemption

While many barriers emerged from the discussions, only some of them were explained explicitly as leading to decreased benefit redemption. These were mainly in the individual and physical environment levels of the socioecological model (see Figure), and included the store's stock, participant needs and preferences, time constraints, and the helpfulness of the cashier. Several groups mentioned an item on the check not being in stock, which is a barrier to full redemption because WIC checks are only redeemable for the food items printed on each check. Specific items that were mentioned included baby food, certain types of baby formula, and juice.

Furthermore, even if the store had the item, needs and preferences influence redemption.

Participants said they sometimes chose not to redeem parts of the checks because they or their family do not eat that item in the quantities issued. For example, one participant said she usually does not redeem the peanut butter, because she says, “we don’t eat a lot of peanut butter.” In addition, sometimes the food is something the family usually eats but did not need at the time of redemption. WIC checks are printed with multiple foods on each check, and the entire check must be redeemed at once. One participant shared that she wished the items on her checks were more separated, so that when she needed to buy milk, she did not also have to decide whether to buy cereal despite not needing it, or to forfeit the option to buy it for the month.

Other participants sometimes chose not to redeem the full check during checkout, due to the amount of time it would take to get a WIC-approved item from the shelves once they were already at the checkout. This was a barrier if they originally brought the incorrect food item to the cashier and were given the option to exchange it for the approved item, or if the cashier noticed the participant forgot to get an item listed on their check. One participant said she sometimes forgets items, and as the cashier checks the groceries against the WIC checks, they notice something is missing, and ask her if she wants to quickly go and get it. She says, “...and then, oh man, I got to run back and grab it, and sometimes I’m like, ‘No, I’m in a hurry, don’t worry about it.’”

Sometimes the cashier influenced a participant’s willingness to go back to get the WIC-approved food. A participant in one Spanish-speaking discussion group, when describing why they like a certain store more than the others, said, “If you get something that’s not correct on the check, they will go with you and help you change it. And in the other store... they will say, ‘Do you want to go change it?’ And well, you’re like, ‘No I just won’t take it.’”

Other than these examples, the majority of the barriers did not lead to reduced benefit redemption. Also, most participants said they use their WIC benefits, especially the CVV. One participant said the only reason he might not redeem the CVV was if he forgot to do so, and another participant mentioned she may only leave a few cents unredeemed: “I don’t even want to deal with going back, so I just let it go.” A third participant, however, said she knows people who choose not to redeem their CVV at all because eating organic produce is important to them, and they had incorrectly been told they could not use it for organic produce.

Other barriers and factors negatively impacting experience

Participants using WIC faced additional barriers at all four levels of the socioecological model (see Figure). These were not mentioned as reducing redemption, but were discussed as factors negatively affecting the WIC redemption experience. These negative factors included misunderstandings, some cashier interactions, the cost of produce, and unfamiliarity with certain fruits and vegetables. Most of these involved the issue of inconvenience to the participant.

Misunderstanding and confusion was common in the discussion groups. Points of confusion included the ability to purchase organic produce, not knowing that the number of checks could be increased, and lack of familiarity with WIC benefits and approved foods. Additionally, inconsistencies across stores added to the confusion. One discussion group was misinformed about whether they could use the CVV to buy organic produce. Washington State allows participants to use the CVV to purchase both organic and conventionally-grown produce, but participants had been told otherwise, particularly at the local co-op store. One participant said the co-op allows participants to use the other WIC checks but does not allow the use of the CVV for organic produce.

Participants also did not know that they could ask for the number of checks to be increased, which would result in fewer food items on each check (the total food package remains the same). In addition to forfeiting food items such as cereal, this issue also emerged regarding infant formula. One family described a problem they faced:

“They might want to... instead of giving us one check for ten cans of formula, give us two for five cans each. ‘Cause... last weekend when she went to get it, the store didn’t have it, and it was kind of our fault, but we had a little paper that said I owe you the store writes you for not having it, but we lost it... but if we would have just got five...”

One breastfeeding client said she had stopped receiving the CVV and “I don’t know how it happened.” She was not quite familiar enough with the benefits packages to know for sure that she should be receiving them, and explained, “they changed my checks, and it was just kind of like, I don’t have that anymore, it’s the first thing I actually noticed... I didn’t ask, I just assumed it was my regular checks until I walked out of the office and I realized it was no longer there.” At the time of the discussion, she had not yet contacted the office to find out what had occurred.

Unfamiliarity with rules of the food allowed for purchase with the CVV came up a few times. One example was regarding the phrase “whole grain choices.” A family had recently moved from Las Vegas, NV and thought Washington did not provide bread, because they were unaware that the “whole grain choices” listed on the check could be used to purchase 100% whole wheat bread. During the discussion group, other participants helped them understand that whole wheat bread was an option. Another example involves foods not allowed for purchase with the CVV in Washington because they are classified by state WIC rules as herbs or decorative items. Not all participants were aware of this rule, and they mentioned trying to buy cilantro (herb) and serrano chilies (decorative), before being told that these were not allowed.

There was confusion about the reasoning behind the allowed and disallowed produce items, especially with regard to potatoes, which were mentioned in two groups. In one of these

groups, a participant said, “it makes sense to me as far as the other checks where you can’t buy sugary cereal, that makes sense to me, but for them to have limitations on certain fruits and vegetables, that doesn’t make sense to me.” When she guessed that it might be due to the starch content, another participant said “You can get corn, corn on the cob, so why can’t you get other starches?” They both agreed that potatoes are cheap and would be a good use of the limited amount on the CVV.

Additionally, there were several women who mentioned confusion or frustration about the inability to use the checks for cut fruits and vegetables. The Washington WIC rules say that while party trays are not allowed, whole and cut fruit is allowed. In some cases, it was unclear whether the confusion was at the store level (store policy or cashier interpretation) or at the participant level; in other situations it was clear. Examples of items people tried to buy with their CVV include vegetable trays (baby carrots and cut celery), halved watermelon (was allowed in some stores and not in others), cut pineapple, “cups of cut-up watermelon that the store makes,” and “Any kind of bagged vegetable... already precut in a bag.”

As with the halved watermelon, participant misunderstanding and confusion about what was allowed and disallowed on WIC was in part affected by the inconsistency across stores. Some of the other foods participants mentioned having problems with were tortillas and milk. One store marked certain brands of these foods as WIC-approved but another store marked different brands, leading participants who usually shop in the first store to be confused when shopping at the second. Another example involved cereal box sizes. Washington State allows participants to get approved breakfast cereals in package sizes of 11 to 36 ounces, for a total of up to 36 ounces. It seems as if confusion occurs at the individual and store levels. Participants were confused about the total number of boxes they were allowed to buy, and said their ability to

buy a variety of sizes varied from store to store, depending on what was in stock and whether the cashier allowed the purchase.

Additional variables across stores included the quality of produce, cashier ability and knowledge about processing WIC checks, and the store's checkout procedures. Participants said it took much longer to check out at some stores than at others:

“Especially if you get someone who knows what they're doing, because they look at every item to make sure it's on your list, they check it off one at a time, and a lot of times, here at [this store], I guess their system's different because they can just scan all your items and then put your check in, but, like, at [another store], if you get someone that doesn't know what they're doing, they start scanning, ‘Oh, I'm sorry, I'm supposed to enter your check first.’ They go back and delete the stuff they scanned, enter your check, and then look at everything, check it off, scan it, check it off, scan it, and then, of course, if they mess something up, they have to go back and redo the whole thing, and then they have to run the check through.”

Although cashier unfamiliarity with WIC procedures was mentioned by participants as time-consuming, a cashier “who knows what they're doing,” considered desirable by program standards, was *also* presented as a negative experience by the participants in one discussion group, because it led to stricter rule enforcement, which takes more time. In other situations, the cashier experience was discussed as negative, for more expected reasons. For example, some cashiers did not allow participants to purchase WIC-approved foods such as mangos or corn, and did not allow participants to use Supplemental Nutrition Assistance Program (SNAP) funds in the split-tender option (the option to pay the difference in price between the total produce bill and the value of their CVV with an alternate payment method).

Few participants in the discussion groups used SNAP funds in the split-tender option. For some, it was an issue of not knowing the option existed; for others, it was not being enrolled in SNAP. Of those enrolled in SNAP, some participants used SNAP benefits at certain stores and not at others, because either the cashiers or store policy did not allow it. Another participant

received SNAP benefits but did not to use them in the split-tender option because she said she did not receive enough benefits to use them for produce. Instead, participants pay the difference with cash or debit cards, and reported no problems doing this.

Since the CVV is a cash amount, participants said the cost of produce affected their purchasing behavior, especially when considering organic produce, food waste due to spoilage, and unfamiliar foods. Participants in every group said they searched for “whatever’s cheapest.” One participant said fresh “fruits and vegetables tend to be more expensive than canned or frozen, so you’re kind of limited to how many fruits and vegetables you can get.” Four groups said organic produce was not worth buying, because “it costs more” and “I don’t think they taste any different.” Even participants who said they prefer organic foods mentioned the additional cost was a deterrent. However, one person said she sometimes uses her CVV to buy organic fruits such as blueberries and strawberries.

Past experiences with wasted money due to spoilage led participants to adjust their current purchases. Some participants said they did not use all the produce purchased with the CVV before it spoiled and they threw it away. The inability to use the CVV in multiple shopping trips was a barrier that some participants said contributed to food waste. One participant said, “every month, we’ll throw vegetables out and stuff, just because a head of lettuce, you can only eat so much lettuce... It doesn’t last that long.” Participants also usually chose not to purchase unfamiliar fruits and vegetables, because they did not know how to prepare them or what they might taste like, and they did not want to waste money. One participant said she was willing to buy unfamiliar produce sometimes, but then she also said, “I’ll get it, and I’ll put it in my refrigerator and I’ll forget about it, and it will go bad.” The other participants did not want to

take a chance on something unknown, especially with more expensive fruits such as melons that they said they would want to taste before buying.

The cost of produce and the limited amount on the CVV also led many participants to feel like they needed to calculate the cost of their fruit and vegetable purchases. However, several participants seemed to view this as a barrier, mentioning they did not estimate the cost every time they went shopping, saying things such as “it’s hard,” “If they’re going to give you six dollars, most of the time I spend more because I’m not going to sit there and weigh out every single thing,” and “I can’t really calculate the weight sometimes, I’m just like, throwing it in there.”

Participants described the WIC experience as annoying, aggravating, requiring patience, and taking a long time. In addition to some of the participants being limited in the amount of time they could spend grocery shopping, taking a long time was a source of embarrassment because participants felt as though they were holding up the line. Embarrassment was the most reported social environment level barrier. Participants also expressed that they felt embarrassed when the cashier marked each item off the check, if they had to return to get more produce to meet the CVV limit, if they had to exchange a bulk produce item that was larger (and thus more expensive) than expected, or if they had to exchange an incorrect food for the WIC-approved equivalent. One participant shared her husband’s frustration with the checkout process:

“My husband won’t stand in line with me when I use them... And I don’t know if he’s embarrassed or he just gets aggravated... he gets really aggravated of those people, you know, his name’s not on our WIC checks because he won’t go and use them, because he’s like ‘I hate going up there, and I don’t know what they’re doing, and then I got to turn around, and I got to go back, and the people behind me are looking at me like “What in the world are you doing?”’ So he, I don’t know if it’s about him being embarrassed or if... he has a low patience level with these people, but it doesn’t bother me any, but it does bother him.”

Benefits and factors positively impacting experience

In addition to these many barriers, participants also discussed some benefits of the WIC food package. Similar to the barriers negatively affecting the WIC redemption experience, benefits and positive factors emerged mainly in the individual and physical environment levels of the socioecological model (Figure). One of the benefits participants listed was being able to buy foods they would not otherwise be able to afford, particularly fresh fruits and vegetables. Several participants talked about how they enjoyed the produce, and a few families also talked about how they were grateful because their children love to eat fruits. Participants also shared comments such as, “It helps us to get healthier food for our families,” and talked about specific items they could afford with the checks, such as strawberries and bananas.

Participants also liked the flexibility to choose which fresh fruits and vegetables they wanted or needed to buy instead of being assigned certain foods. One participant said, “you can just get a variety of different fruits and vegetables, I also like that we can get the bagged salads, cause that’s what we usually make, I really like those, instead of just getting a head of lettuce... it will have a mixture in it.” In addition, one participant was happy about receiving fresh fruits and vegetables because choosing fresh over canned produce was more convenient: “I like that it gives us an option to buy the fresh fruits instead of canned peaches and stuff and you got to look at the can to make sure that it’s in juice and not syrup... and so it’s better to go buy the fresh ones.” Participants also mentioned buying “the ones that look fresh” because they want produce that will last as long as possible at home. In three of the five groups, participants also said they chose items based on what fruits and vegetables they need. One participant said, “We normally plan out... the meals we’re going to make... and so then we go and kind of get what we need.”

Another positive factor participants discussed was a helpful cashier, as in the situations mentioned earlier with the cashiers who told them they were missing an item or had not redeemed the full amount of their CVV. In addition, one participant shared a story of a cashier who expressed appreciation for the participant's actions: "one of the cashiers at Walmart thanked me for separating everything out because... I use three checks at once, and I separate everything in the right order of check." Several times, participants mentioned stores' actions and their efforts to better the WIC user experience. Other than the story of cashiers who go with participants to help them get the correct items, stores were also mentioned to have changed their stock to include items specifically for customers using WIC checks, such as baby food in glass containers and liquid infant formula.

Convenience is also an issue. While some participants said using WIC is inconvenient, others actually said WIC is convenient. One participant said the CVV is convenient because it guaranteed she had a check to buy produce, whereas she was never able to get in line in time for the WIC Farmers Market Nutrition Program (WIC FMNP) checks, which are only given out once a year and can only be used at farmers markets. She said, "I never got fruits and vegetables before, and I absolutely love how I get them now, 'cause if they're in a check, I'll get it, because I have it and I can get it at any grocery store." Other participants said they like the split-tender option, instead of being limited to purchasing fruits and vegetables in the exact amount of the check. Paying the difference is more convenient and allows participants to keep all the items they chose, instead of having to put something back.

Methods participants use to overcome barriers

In the face of the many barriers, participants came up with methods for decreasing the impact that these barriers and negative factors had on their ability to use their benefits. Some

adaptations were expected based on program design, such as the use of the “Washington WIC-approved” signs to identify eligible food. Other methods include doing the calculations to estimate produce cost and prioritizing purchases based on sales (both anticipated by the state WIC office upon the addition of the CVV).

Methods of responding to the issues of convenience and the emotional experience of using WIC were less expected. Two examples of this were such as sorting items by order listed on the checks to make the checkout process faster, and intentionally buying more produce than the value of the CVV. The latter was one of the most common methods to decrease the need to estimate cost and prevent the embarrassment of having to go back to get more produce. Participants said, “You don’t get money back on it, so there’s no reason to waste it,” and they would “rather be over than going under and go walking all over the store.” Participants said they decreased the feeling of embarrassment of using WIC by remembering the benefits, qualification criteria, or prevalence in the community:

“I think sometimes, like when I first got WIC it was a little embarrassing, because I felt like people were always constantly staring at me, like why are you on WIC, but not anymore, I really don’t care what they think anymore ‘cause it’s really benefitting me and my family”

“Anybody can be on WIC... Families can make like three or four thousand dollars a month and still get WIC, so... I don’t feel like it’s embarrassing.”

“It doesn’t embarrass me because everybody, you know, almost all women with children that are around here are on WIC.”

Additional but less commonly mentioned methods to overcome barriers included shopping only at certain stores and using the Internet. If a store had produce of uncertain quality from week to week, participants said they would shop at another store with more consistent quality instead of waiting to redeem the CVV until they find quality produce at the first store. Participants also said they like to shop at the same store to avoid confusion about what stores

allow, because of the inconsistency across stores. Several groups also mentioned that some stores had changed their stock to carry specific WIC-approved foods. It was unclear if participants had asked for them to stock these items or if the store decided to change the stock on their own, but participants said that they shop at these stores more than others because they have the items they need. Lastly, the few participants who were interested in buying unfamiliar produce used the Internet to find recipes to reduce the barrier of unfamiliarity.

Improvements suggested by participants

In addition to ideas participants were already using to improve their WIC experience, participants offered several suggestions to improve WIC overall. Many participants wanted an electronic benefits card to increase flexibility and convenience while decreasing the embarrassment associated with the cashier marking the checks, having to sort purchases, or taking a long time during checkout.

Another suggestion to increase flexibility without requiring an electronic card was to allow the amount of the CVV to be printed on multiple checks, similar to how the number of the other WIC checks can be increased, reducing the number of foods printed on each check. Participants who had produce spoil each month suggested using multiple smaller CVV checks, but many other participants said the current CVV amount was so small that the ability to split the check would not matter unless the CVV increased in value, at which point they would want multiple checks.

The small amount of the CVV was mentioned in every group, and all participants wished they could increase the value of the CVV. In addition, one participant said, “I think that there should be some leeway” in the enforcement of the CVV, so that she would not have to go back and exchange the bulk produce if she did not have cash and it weighed more than expected,

exceeding her estimated cost and the CVV amount. Other food package suggestions were to allow potatoes and to increase the quantity of juice.

Comparison by rate of redemption

The themes arising from the group in the low redemption area differed from the themes from the groups in the two high redemption areas. The low redemption group did not specifically mention cashier experience, but did mention being unable to buy potatoes (because of WIC program rules; only one of the other four groups mentioned potatoes) and organic foods (because of confusion about whether it was allowed; only group to mention). While this group mentioned shopping at specific stores, they did not mention inconsistencies between stores, as the other groups did. However, the group in the low redemption area had one dominant speaker, who was unsatisfied with her WIC experience, so the themes from this discussion could have been more representative of the experience of this one participant, rather than of the group as a whole.

Comparison by racial and language demographics

There were two Spanish-speaking groups (both in high redeeming areas) in which all participants reported they were Hispanic. These two groups had similarities to each other and differences from the other three groups. One of the differences was that all participants in these groups said they never had any spoilage of the food they bought with the CVV, while participants in two of the English-speaking groups said they always had something spoil because they did not eat that many fruits and vegetables. The third English-speaking group (high redeeming area), composed predominantly of Hispanic participants, also said they did not have any spoilage. There were three other differences the Spanish-speaking groups had from all of the English-speaking groups. They never mentioned the issue of stores not having an item in stock, never said they were unwilling to do the calculations required to use the CVV, and although

there were some instances of confusion because of the signs, they said the “WIC-approved” signs were generally helpful in identifying WIC-approved food.

Discussion

In this study, barriers and enhancers of WIC check redemption were found at all levels of the socioecological model. The barriers and benefits found in previous studies were mostly in the individual and physical environment levels of the socioecological model. The following barriers identified in previous studies were mentioned several times in this study as well: negative cashier experiences, misunderstandings about the WIC checks, the calculations required to use the CVV, inconsistencies between stores, and embarrassment (18, 19).

Barriers from previous studies that were mentioned less frequently in this study include difficulty finding foods listed on the checks and unclear store labeling of WIC-approved food (18, 19). In this study, although some participants in this study had difficulty in certain stores, participants noted that the barrier had been lessened in other stores that used the “WIC-Approved” signs correctly. Other previously mentioned barriers that emerged in this study are inadequate stock, lack of child care, and being distracted by children in the store (18, 19). Experiencing problems with the split tender option was a barrier found in previous research (18) but was only mentioned regarding specific circumstances by participants in this study; in particular, only when participants tried to use it with SNAP benefits, and only when doing so at certain stores.

On the other hand, several barriers found in previous studies were only brought up once in this study. These included forgetting the checks, offering too little juice or too much peanut butter, difficulty finding parking, and not knowing how to prepare WIC foods (18, 19). In this study, participants mentioned not knowing how to use some produce, but it did not seem to

reduce their CVV redemption, since they just chose to buy foods with which they were familiar. No one in this study mentioned losing the checks, having too much baby food, or being offered too much WIC food overall, problems that were found in previous research (18).

Although some participants had trouble with the split tender option for the CVV, previous research has revealed that participants usually spend the full amount of the CVV and that they often buy more fruits and vegetables than the amount allows, opting to pay the difference (18). This study has similar findings and also adds the information that many participants list the split-tender option as one of the features they like about the WIC checks. Other benefits that participants appreciated in this study and in previous studies were the opportunity to buy more foods and the perceived nutritional value of those foods (18, 19).

The effects of the barriers in this study may have been reduced by the benefits participants discussed. The balance of barriers and benefits is often discussed in public health, and it is generally accepted that the perceived benefits of a situation must outweigh the perceived barriers to motivate a person to perform a health-related behavior (27). Both benefits and barriers emerged in all levels of the socioecological model, and despite the numerous barriers, few were mentioned as decreasing redemption; perhaps there is a balancing effect occurring. On the other hand, as with any qualitative analysis where the researcher does not become a member of the group studied, it is possible that the researcher's perception of the situation differs from the way a participant observer would perceive them (28). Situations identified as barriers and negative factors in this study may not be considered as such by participants, possibly explaining why many of the barriers were not described as strong enough to impact redemption. However, there may also be a combined effect in which one barrier is often not mentioned as affecting redemption, but the combination of various barriers experienced by a single participant may

decrease their redemption (19). Still, this is uncertain as the discussion groups were not designed to provide this information.

Other limitations include those affecting all secondary analysis studies using transcriptions. As with any transcription, the transcription process was not infallible. In addition to the usual potential for errors due to word substitution, mishearing, and inaudibility, the transcription was not done by the original researchers (29). This means the visual context of the conversation was missing, and culturally specific words and slang could have been misunderstood (29). Because the original researchers and this current researcher are limited in Spanish understanding, Spanish-language portions of audio were much more difficult to transcribe. To reduce the occurrence of transcription and language errors, one of the original researchers reviewed and coded a subset of the transcriptions, which were also compared to the original field notes created during the discussion groups, and a second Spanish interpreter was consulted to clarify Spanish-language audio and verify the interpretation in the recordings. In addition, each audio recording was reviewed multiple times to increase accuracy and closeness with the text.

This study is also a secondary analysis, which by nature has limitations, such as the inability to ask follow up questions and being unable to recruit additional participants (23). The original research was conducted around the issue of CVV redemption, so the questions mainly were about that portion of the food benefits; however, there were many participants who discussed other aspects of the WIC food package, and the researchers did ask one question specifically about whether they had feedback about the other components of WIC. In the present study, as in a 2004 study on a different topic by Europe and Tyni-Lenne, “When the interviews

were analyzed, the narrative in each interview was allowed to speak for itself and was not guided by the questions made” (24).

Despite these limitations, this study has several strengths, including the comparison to the socioecological model used frequently in public health. This study uses the socioecological model to explain the implications of the findings and to suggest multi-level interventions. It has also contributed to the knowledge about WIC benefits redemption in Washington State. There are only a few studies that explore the issue of barriers to WIC benefits redemption, and none have been done in Washington. Furthermore, although all the discussion groups took place in rural areas (30), barriers found in this study were similar to research from other states where the sample represented both rural and urban areas, so results may still be transferable to other areas of Washington. Lastly, the approach to collecting the data was strong because it was developed using established qualitative methodology in both the original discussion groups and in this secondary analysis.

Implications and Conclusion

Based on this study, vendor training and monitoring, WIC staff training, and enhanced WIC participant education about shopping with checks might increase redemption and reduce barriers. This could decrease misunderstanding and improve interactions at the individual, social, and physical environment levels. Participants and WIC staff would also benefit from increased training about the ability to increase the number of checks (which would decrease forfeited foods) and the purpose of WIC as a supplemental program designed to provide nutritious foods. The latter could decrease frustration regarding macro level rules about disallowed foods like potatoes, and additional tips, like recommendations for which approved foods might be acceptable to substitute for foods like potatoes or chilies, could increase satisfaction and

encourage consumption of a wider variety of fruits and vegetables. To decrease spoilage, participant education should include information about fruits and vegetables that have a long shelf life, storage tips for different types of produce, and ideas and recipes for using fruits and vegetables. Education would take place at the state and local levels of WIC, but since previous research has also shown related problems, there should be a national emphasis on this intervention.

Another state level intervention would be to continue plans to transition to an electronic benefits card system like that used for SNAP benefits. This would be a macro level change that would affect all areas of the socioecological model. It would allow the CVV amount to be used across multiple visits, decreasing spoilage, and would allow participants to redeem the other food in any order, instead of having to either redeem each check in full, or forfeit the unredeemed foods on that check. It would decrease the physical environment barriers of negative cashier experiences and inconvenience at checkout, and would lessen the social level barrier of embarrassment due to the use of the checks and the time spent during checkout.

A third intervention targeting the physical environment level would be to provide more vendor training around the importance and effectiveness of the “WIC-Approved” signs, which are provided free-of-charge to participating stores. This would be directed by the state but implemented at the local levels, and may need additional research to inform the changes. Future research could include a store audit to determine whether the signs are in use and are applied correctly, as well as a survey of WIC participants to determine awareness, use, and effectiveness of the signs.

Additional research is needed to fully understand the barriers and enhancers of WIC check redemption. Future studies should focus on the full WIC food package, especially if the

use of the electronic benefits card goes statewide. Participants should be deliberately sampled from geographically and racially diverse areas, as previous research has examples of redemption rates and satisfaction with benefits varying by racial groups and language (18, 31, 32). A quantitative survey could also be conducted to sample more people and to determine the prevalence of the barriers identified in this and similar studies.

Overall, this study showed that the many barriers and negative factors to full redemption arise from multiple areas of the WIC food purchasing environment, but the benefits and positive factors, as well as the solutions that participants are using, may lessen the effects of these barriers.

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Table 1: Demographic Information for the 23 Participants by Discussion Group. Information from demographics information form distributed to discussion group participants during original study. *One participant in the low redemption group arrived partway through the discussion and did not complete demographics form; missing data was filled in as “Unknown.” **Average monthly redemption rate for all WIC checks issued for town where discussion group was held; for comparison, statewide average is 77% (unpublished data set, WA State WIC office).

	High 1 Group 1 (N = 6)	High 1 Group 2 (N = 3)	High 2 Group 1 (N = 6)	High 2 Group 2 (N = 4)	Low 1 Group 1 (N = 4)*	All Groups (N = 23)*
Redemption Rate (%) **	88	88	86	86	67	N/A
Age						
18-24	1	0	2	3	1	7
25-29	3	0	2	0	1	6
30-34	0	1	1	1	1	4
35+	2	2	1	0	0	5
Unknown	0	0	0	0	1	1
Ethnicity						
American Indian/ Alaska Native	0	0	0	1	0	1
Hispanic or Latino	2	3	6	3	0	14
White	4	0	0	0	3	7
Unknown	0	0	0	0	1	1
WIC Participant Category						
Pregnant (≤6 wks PP)	1	1	0	1	0	3
Breastfeeding (≤12 mos PP)	0	0	1	1	1	3
Postpartum (≤6 mos PP)	0	1	1	1	0	3
Infant (birth to 1 yr)	0	0	1	1	1	3
Child (1-5 yrs)	4	1	5	4	1	15
Unknown	1	0	0	0	1	2
Language	English	Spanish	Spanish	English	English	N/A

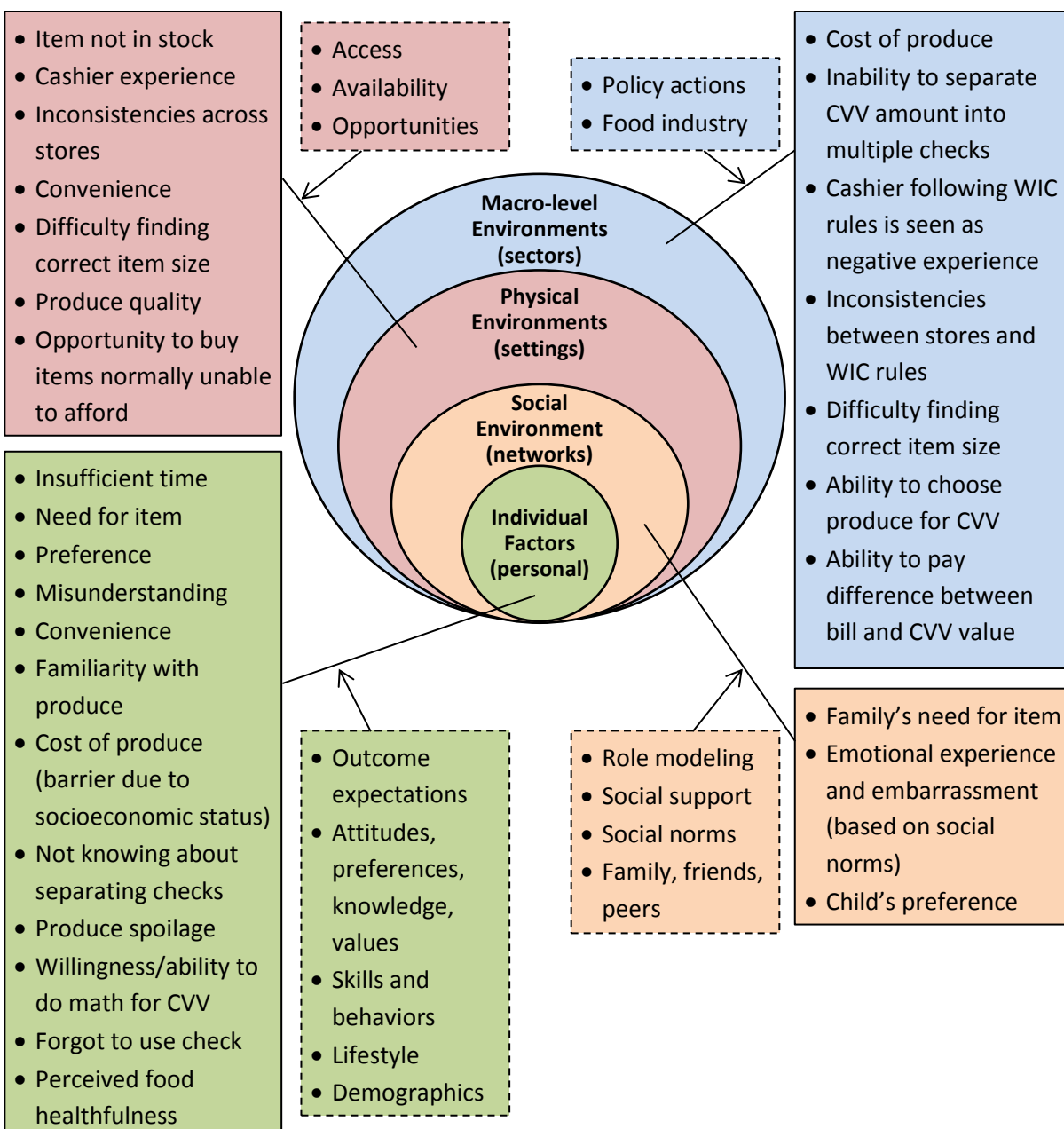


Figure: Socioecological Model to Describe Barriers, Benefits, and Other Factors Positively and Negatively Affecting the WIC Redemption Experience. Adapted from model in Story, et al, 2008 (26).

Table 2: Themes Identified during Analysis, Sorted by Category

Barriers leading to decreased redemption
Item not in stock Not enough time to get WIC-approved item or to get more produce for full CVV redemption Item not needed Dislike item Negative cashier experience Misunderstanding or confusion about items on checks Forgot to use check
Other barriers/factors negatively impacting experience
Misunderstanding or confusion about items and rules Inconsistencies across stores Emotional experience/embarrassment regarding using WIC checks Inconvenience Cost (especially for organic) Inconsistencies between stores and WIC rules Not knowing about ability to request increase in number of WIC checks printed Inability to separate CVV into multiple checks Produce spoils at home Children do not like items Difficulty finding item in correct size Unfamiliarity with fruits and vegetables Poor quality of produce in stock Participants do not always want to do calculations required for CVV
Benefits/factors positively impacting experience
Healthfulness of produce Ability to purchase items unable to otherwise afford Good quality of produce Positive cashier experience Children like items Ability to choose produce (vs. having assigned foods) Ability to pay difference between CVV value and total bill (split-tender option) Convenience
Methods participants use to overcome barriers
Prioritize lower-priced items (sales) Do the calculations required for CVV Sort foods by order listed on checks Find recipes online for unfamiliar foods Shop at stores with more consistent quality produce Shop at familiar stores to reduce confusion Use “WIC-Approved” signs to identify approved foods Buy alternate items (bell peppers in place of serrano chilies) Think of benefits to avoid feeling embarrassment
Improvements suggested by participants
Implement electronic benefits card Split CVV into multiple checks Change benefits package (increase CVV amount, allow potatoes, increase quantity of juice) Allow “leeway” for slightly exceeding CVV amount