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# Health and Wellness Photovoice Project: Engaging Consumers With Serious Mental Illness in Health Care Interventions

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## Abstract

People with serious mental illnesses (SMI) are at increased risk for cardiovascular disease and premature mortality. We used photovoice in two supportive housing agencies to engage consumers with SMI to inform the implementation of health care interventions. Sixteen consumers participated in six weekly sessions in which they took photographs about their health and discussed the meanings of these photographs in individual interviews and group sessions. We identified several implementation themes related to consumers' preferences. Peer-based approaches were preferred more than clinician-driven models. Participants expressed a desire to learn practical skills through hands-on activities to modify health behaviors. Consumers expressed a desire to increase their physical activity. Participants revealed in their photographs and narratives the important role that communities' food environments play in shaping eating habits. In this article, we show how photovoice can generate valuable community knowledge to inform the translation of health care interventions in supportive housing agencies.

## Keywords

health and well-being; illness and disease; chronic; mental health and illness; participatory action research (PAR); photography / photovoice

Community-based participatory research (CBPR) has emerged as a transformative research paradigm that can help bridge the gap between science and practice by increasing community engagement and social action in the development, planning, and implementation of health care interventions to address health inequities (Wallerstein & Duran, 2010). In contrast to other translational approaches, researchers and community members in CBPR projects come together as equal contributors to create and share knowledge, engender ownership, and build mutual capacities to address a shared health concern and develop

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sustainable solutions (Minkler & Wallerstein, 2008). In this article, we present how we used photovoice, a participatory research method commonly used in CBPR (Wang & Burris, 1997), to engage racially and ethnically diverse consumers diagnosed with serious mental illness (SMI; e.g., schizophrenia) in informing the planning and implementation of health care interventions in two supportive housing agencies.

People with SMI, particularly those who have been homeless and have a history of substance abuse, are at elevated risk for premature mortality and for receiving poor quality medical care (Colton & Manderscheid, 2006; Institute of Medicine, 2006). Compared to Whites with SMI, African Americans and Latinos with SMI are at higher risk of suffering from obesity and diabetes, placing them at elevated risk for cardiovascular disease (CVD; Cabassa et al., 2011; Dixon et al., 2000; Henderson et al., 2005; Lambert, Chou, Chang, Tafesse, & Carson, 2005). A bio-psycho-social framework can help explain why the presence of psychiatric disorders might increase racial and ethnic minorities' risk for CVD.

At a biological level, high baseline rates of obesity and insulin resistance among African Americans and Hispanics have been found to increase their susceptibility to experiencing negative metabolic alterations (e.g., weight gain, high cholesterol levels) associated with antipsychotic medications (e.g., clozapine). These metabolic issues increase their risk for developing chronic medical conditions (e.g., diabetes) linked to CVD (e.g., Ader et al., 2008; Krakowski, Czobor, & Citrome, 2009). At a psychological level, the cognitive and social deficits common among psychiatric conditions can exacerbate the communication barriers racial and ethnic minorities face in the medical encounter (IOM, 2003), compromising their ability to express their health needs and engage in medical care. At a social level, racial and ethnic minorities with mental disorders are more likely to receive care from fragmented health care systems where gaps in care coordination and poor quality of care are common and contribute to health inequities (IOM, 2003). Regardless of the mechanisms that contribute to these health disparities, the presence of these inequities justifies the need to accelerate the development and implementation of effective health care interventions for these underserved populations.

Limited attention has been paid to the implementation of promising health care interventions (e.g., lifestyle interventions) to benefit racially and ethnically diverse consumers with SMI in community settings (e.g., supportive housing agencies). For example, lifestyle interventions that focus on weight management and increasing physical activity have shown promising results in helping people with SMI lose weight and reduce their risk for CVD (Gabriele, Dubbert, & Reeves, 2009). These interventions have rarely been implemented in community agencies. This limits their reach and impact in communities that would benefit most from such evidence-based approaches. Supportive housing agencies provide essential services (e.g., case management) that contribute to the recovery and well-being of people with SMI. These agencies serve as an important link for consumers to engage in medical and mental health care. Improving the transportability and access of health care interventions in housing agencies can help reduce the excess morbidity and mortality that people with SMI face because of preventable medical conditions.

The use of CBPR approaches can help address the gap between research and practice. The heart of this research paradigm is the development of synergistic collaborations between researchers and community members that capitalize on their shared knowledge and wisdom. These collaborations can produce a deeper understanding of the root causes of health inequities and help identify community assets and strengths that can contribute to the development of sustainable solutions to address health disparities (Minkler & Wallerstein, 2008). CBPR contributes to translational and implementation science in multiple ways by: (a) contextualizing interventions to specific settings and communities; (b) integrating sociocultural values, perspectives, and preferences into intervention technologies and content to enhance their relevance, acceptability, and effectiveness; and (c) strengthening the capacity of community members and researchers to engage in applied community-based research (Jones & Wells, 2007; Minkler & Salvatore, 2012; Wallerstein & Duran, 2010).

As part of an ongoing community-academic partnership between the New York State Center of Excellence for Cultural Competence (CECC) at the New York State Psychiatric Institute and two supportive housing agencies in Northern Manhattan, New York City - Site A and Site B – we conducted the Health and Wellness Photovoice Project. Photovoice is a participatory research method in which researchers entrust participants with cameras to document their lives and inform social action (Wang & Burris, 1997). It draws from critical consciousness theory, feminist theory, and documentary photography (Wang & Burris, 1997). Through the use of photovoice methods, researchers enable community members to use the power of visual images and narratives to communicate their life experiences, engage in a critical reflection of community issues, and begin the process of formulating solutions to promote positive changes in their community (Minkler & Wallerstein, 2008).

Photovoice can be a powerful method to inform intervention planning and implementation. Researchers, program staff, and community members that come together in a photovoice project are exposed to a social and dialogical process that facilitates their emotional engagement and collective introspection in the co-creation of knowledge and ideas to understand community realities and inform social action (Carlson, Engebretson, & Chamberlain, 2006). The use of photographs, stories, and dialogues democratizes the knowledge-generation process, because it provides multiple mediums and opportunities for project participants to express themselves, represent their points of view, and communicate their ideas and reflections within a supportive environment.

The goal of our photovoice project was to engage residents at supportive housing agencies in a dialogue about their physical health to generate community-based knowledge and strategies to inform the development and implementation of health care interventions that can be effectively introduced into these agencies. In this article, we illustrate how photovoice can be used as a participatory process that enables consumers to represent through images and narratives their views and preferences for health care interventions and contribute valuable knowledge for informing social action to address their health needs.

## Methods

### Settings

This study took place in two supportive housing agencies - Site A and Site B - located in Northern Manhattan communities in New York City that have high concentrations of Latinos and African Americans. Compared to New York City-wide estimates, residents in these communities disproportionately live below the poverty level, have limited access to primary care physicians, are at high risk for cardiovascular disease because of high rates of obesity and diabetes, and report high rates of psychological distress (New York City Department of Health and Mental Hygiene, 2006).

### Position of the Community-Academic Partnership

This project is part of an ongoing community-academic partnership dedicated to improving the physical health of people with SMI in supportive housing agencies. The partnership includes two supportive housing agencies (Sites A and B) and a research center (CECC). Both housing agencies have pioneered innovative programs to redress homelessness and poverty in New York City for more than two decades. Site A utilizes a scattered site housing model where consumers live in independent apartments rented from landlords throughout the community and receive home visits from Assertive Community Treatment (ACT) or Intensive Care Management (ICM) teams located offsite. Site B follows a congregate housing model with offsite services (e.g., case management).

Each agency has a distinct philosophy on the relationship between housing services and mental health care. Site A pioneered the *Housing First* approach in which consumers are offered an apartment of their own without requiring them to participate in psychiatric treatment or sobriety as condition of receiving housing (Tsemberis, Gulcur, & Nakae, 2004). All of Site A’s consumers have a history of homelessness and a diagnosis of SMI and/or a co-occurring substance use disorder. In contrast, Site B houses tenants with and without SMI alongside one another in the same building and extends their on-site case management services to the surrounding neighborhood. Both sites are committed to improving and supporting the physical, mental health, and economic wellness of their tenants. Our intent of partnering with these two housing agencies was not to compare findings across sites but to achieve a better representation of our inquiry by exploring health and wellness issues across two dominant approaches (single site and scattered site) of supported housing programs for people with SMI.

The CECC as the academic partner brings expertise and resources to conduct CBPR. We have a multidisciplinary staff at the CECC, including people with backgrounds in social work, public health, counseling, anthropology, and psychiatry. The CECC’s mission is to conduct health services research on the cultural and linguistic competence of health and mental health care services to improve the availability and quality of care for underserved populations in New York State.

## Sampling

The appropriate institutional review boards approved all study procedures. We used a purposive sample of 16 adult tenants, eight from each agency. Recruitment for this study occurred between September and October 2010. At each agency, staff was asked to nominate between eight to 10 current residents who were 18 years of age or older, English-speaking, capable of providing informed consent, and interested in participating in a six week program in which they would learn to take photographs in their communities and discuss issues of health and wellness in their everyday lives. Through discussions with agency staff, we came to an agreement that participants should also be participating in the agency’s wellness programs (e.g., nutrition group) and/or have expressed interest in issues of health and wellness. These criteria were chosen to recruit a select group of tenants who were outspoken about health issues and could draw from their own personal experiences coping with medical conditions.

A list of potential participants was then provided to the research staff. Each interested participant was contacted via telephone by the research staff to explain the project. All 16 participants contacted agreed to participate. Individual face-to-face meetings between potential participants and the research staff were scheduled at the participants’ respective agencies to explain the project, assess participants’ capacity to consent using the Capacity-to-Consent Questionnaire (Zayas, Cabassa, & Pérez, 2005) and obtain written informed consent. All consented participants then received an invitation card for the first photovoice meeting and a reminder call several days prior to the first session.

## Photovoice Method

We conducted two photovoice groups, one at each agency. Each group had eight tenants and met for six consecutive weeks. Each weekly photovoice session lasted 90 minutes. We served healthy refreshments at each session and compensated participants for each session they attended with $25 and a metro card. At the end of the project, participants kept their digital cameras. The participants were informed that, as part of the photovoice project, their photos could be used in research publications. All participants gave their permission for the use of their photos in research publications.

During session one, tenants completed a brief survey that collected demographic information (e.g., age, race/ethnicity, income, level of education) and participants' health conditions and psychiatric diagnoses. We then conducted an interactive session using PowerPoint slides and group exercises to present the photovoice methodology and discuss ethics and safety issues regarding how to take photographs in the community. Participants learned how to use a permission form (available from the authors on request) should they want to take an identifiable photograph of a community member. Following the instructions in this form, participants explain to the community member the purpose of the project, how the photograph would be used, and to ask the community member to sign the permission form prior to having their photograph taken. Copies of this form were then given to the community member and signed copies were returned to the research staff. During the last part of session one, participants received a digital camera and were shown the basic camera functions. They also had an opportunity to practice taking photographs to become familiar with the camera. At the end of session one, we instructed participants to take photographs for the following session about what they did to stay healthy.

Sessions two to five consisted of brief individual photo-elicitation interviews followed by a group dialogue. During these sessions, research staff set up two work stations with a laptop computer and a portable photo-printer. As participants arrived, they were directed to sit with the research staff at these stations to download the pictures they had taken for that session, pick one photograph that best represented the theme for that week, print the photo, and participate in a brief photo-elicitation interview to discuss the meaning of the chosen photo. We used an interview guide with open-ended questions (e.g., Why do you want to share this photo? What's the story this photo tells?) in these interviews. At the end of the interview, each participant provided a title for the chosen photograph and received a printed copy of the photo.

Once every participant had been interviewed, we convened a group dialogue to discuss everyone's photos. We use the S-H-O-W-E-D questions to guide the group dialogues, which included: "(1) What do you SEE in this photograph? (2) What's HAPPENING in this photograph? (3) How does this relate to OUR lives? (4) WHY do these issues exist? (5) How can we become more EMPOWERED or ACTIVE by understanding this issue?, and (6) What can we DO to address this issue?" (Wallerstein & Bernstein, 1988, p. 386). At each agency, members of our research staff and a peer leader co-facilitated the group interactions. During the last 10 minutes of the group's dialogues, we summarized the main topics discussed and through a group consensus process participants voted and chose the theme for next week's photo-assignment.

To minimize participants' challenges using digital cameras and completing weekly photo-assignments, research staff members made weekly calls to each participant to remind them of the time and location of the weekly sessions and troubleshoot any issues they might have with their cameras and the assignments. We allotted time at the end of the sessions to help participants with any issues they might have with their cameras. Agency staff was also trained on basic camera functions and were available between sessions to help participants with the use of their cameras and troubleshoot issues that might have come up (e.g., flash not working, not enough memory space). Participants did not report any problems using the cameras and taking photographs in their communities. They also expressed appreciation for getting the weekly calls and extra support from research and agency staff. In all, we found that these strategies kept participants engaged in the project, and provided them with more opportunities to ask questions and receive help when needed.

## Data Analysis

We used frequencies, percentages, and means to describe sample characteristics. An analytical working group composed of three team members – a Masters-level social worker, a Ph.D.-level social work researcher, and a community organizer employed by our center - conducted all qualitative data analyses for this project. Because the purpose of our analysis was to describe and identify participants' preferences for health interventions in their housing agencies, we used a descriptive qualitative research approach that included pile sorting techniques (Bernard, 2002) and the constant comparative method derived from grounded theory (Strauss & Corbin, 1998). Our use of both approaches helped us develop an integrated coding structure for the narrative and visual data.

We use simple pile sorting procedures to develop codes for the individual photo-elicitation interviews which contained a chosen photograph and its corresponding narrative. First, each team member was given a pile of documents that contained the individual photo-elicitation materials (i.e., an individual photograph and a transcript of the elicitation interview). Second, team members independently reviewed each document and sorted them into piles "that made the most sense to them" following three simple rules: (a) all documents cannot be put into a single pile, (b) all documents cannot be put into their own separate piles, and (c) each document can only be placed in one pile. For each pile, team members provided a descriptive name. We then met to present and discuss our respective piles and come to a consensus on the most appropriate piles for each photo and its respective narrative. This list of codes was then included in our code book. Examples of codes generated from the pile sorting procedures included: views about exercise and physical activities, strategies to promote health, and peer support, among others.

To analyze the group dialogue transcripts and field notes, we used open-coding procedures and the constant comparative method of grounded theory (Strauss & Corbin, 1998). Each team member independently reviewed and open-coded these materials to develop a general understanding of its content and generate preliminary codes. During this process, we drafted descriptive memos to develop an initial code list describing the definitions and parameters of each code using examples from the data. We then met on a weekly basis for approximately two months to present and discuss our respective codes, interpretation of the data, and analytical questions. The decisions that we made during these analytical meetings and our meeting notes were used to add codes into our code book. Examples of codes generated from this process included: barriers to healthy eating, social support, and benefits of participating in a photovoice project, among others.

All textual and visual data were entered into Atlas.ti (Muhr, 2004) and codes were applied to transcripts and photographs. We then used the constant comparative method to cluster codes into categories and derive themes (Strauss & Corbin, 1998). This process involved generating queries and reports in Atlas.ti on major codes, exploring discernable patterns in our data, and developing analytical memos describing the emergence of themes and subthemes. For this article, we present five implementation themes related to consumers' preferences for health intervention formats, content, and methods.

Due to funding limitations, we were prevented from fully involving participants (e.g., compensating participants to read transcripts or attend analytical meetings) in the coding and analysis of the data as is done in other CBPR projects (Lopez, Eng, Randall-David, & Robinson, 2005; Minkler & Wallesrstein, 2008). We were able however to conduct several member-checking activities, such as presentations to the staff, consumers, and executive boards at each agency, community photo-exhibits, and small group discussions with participants, to review emerging themes, receive feedback on our interpretations of results, and validate our findings. We also used the following strategies to ensure the trustworthiness and rigor of our analysis: generation of an audit trail consisting of analytical memos and meeting notes, prolonged engagement with participants, triangulation of visual and narrative data, and peer-debriefing sessions (Padgett, 1998).

## Results

### Sample Characteristics

In table one, we present sample characteristics by study site. Consumers in this study were mostly men (56%) and either African American or Hispanic (87.5%). By self-report, the majority (88%) had SMI (schizophrenia, bipolar disorder, or depressive disorder), and more than half had a history of substance use disorder (56%). The most common health conditions reported by these consumers included hypertension, diabetes, and high cholesterol. The majority of tenants (94%) attended more than half of the weekly sessions. Twelve attended (75%) all photo-elicitation interviews and 11 (69%) attended all group discussions.

### Implementation Themes

In the following sections, we present five implementation themes related to tenants' preferences for the format, content, and methods of health interventions (see Table 2). We illustrate how participants through their photographs and narratives generate valuable community-grounded knowledge that can shape the translation of health interventions in supportive housing agencies.

**Preference for peer-based approaches—**The majority of participants from both agencies reported a preference for having health care interventions delivered or co-facilitated by peers. Peers were seen as a trusted and credible resource that can motivate consumers to engage in healthy behaviors by putting things in perspective and encouraging consumers to make healthy lifestyle changes. Most participants viewed peers as a source of inspiration and mutual support as exemplified by the comments from this African American man:

> The best weapon for a recovering addict is another recovering addict, that's fact; so for a peer to stand in front of a client and state to the client that I'm just like you. I'm bipolar, schizophrenic, whatever. I've been sitting in the same seat you're in, lying in the same bed …, and I've made my way out (Group Dialogue).

Peers were also seen as possessing a high level of credibility and trust that distinguished them from mental health professionals and primary care providers. In the photo-elicitation interviews and group dialogues, participants described peers as people who "have been there,""have walked in the same path," and have "street knowledge." Finally, working with peers was considered a good strategy to prevent relapse and depression, because peers provided opportunities for socialization, friendship, and developing informal support networks, all of which were considered essential for improving physical health and wellness.

**Help developing skills to change eating habits—**There was a consensus across sites that eating healthy foods (e.g., vegetables, fruits) was essential for achieving a healthy lifestyle and for preventing or managing chronic health conditions, such as diabetes. The comments from this African American woman with a history of substance abuse and diabetes as she talked about a photo she titled "*A collage of healthy foods*" (see Figure 1) illustrate the saliency of changing eating habits for many of our participants:

> I have to start eating more healthy, you know eating more things to make me stronger and maybe one day I won't have to take the medications that I use now … There's always hope, so that's a start and now I know I need food for nourishment and if I want my organs to keep functioning, I have to eat well (Photo-elicitation Interview).

Participants' desire to change their eating habits was hampered by a confluence of factors, including lack of motivation, depression, difficulties following and sustaining dietary recommendations from their medical providers, weight gained from taking antipsychotic medications, and lack of time to cook and prepare healthy meals because of multiple demands (e.g., jobs, family responsibilities). These difficulties often occurred within challenging food environments that had limited availability of affordable healthy foods and abundant availability of fast food restaurants (see food environment section).

To facilitate changes in eating behaviors, most participants wanted not only to increase their knowledge of healthy eating practices, but also to acquire practical skills that could help them translate such knowledge into improved dietary habits. For example, many wanted help on how to make better choices based on foods that were available in their neighborhoods, as expressed by comments from these African American and Hispanic men, respectively: "I'm a junk food specialist … show me how to start eating healthy" (Group Dialogue)." "I love French fries, I love donuts, I love junk food … help me kick aside the fast food, say no to junk food, gotta eat healthy (Photo-elicitation Interview)."

Another useful skill desired by some participants was to learn how to cook efficiently for one person. This concern was best captured by this African American man:

> It is really hard to cook for one … For most of my life, I cooked for a family. I think that's why I'm having such a hard time now because I live alone now. And I haven't gotten that trick with just cooking for myself (Group Dialogue).

Not being able to prepare a meal for one person, as well as eating alone deterred many from cooking because they ended up throwing away food or overeating. In all, the majority of participants expressed a strong desire for programs that enabled them to learn practical skills to improve their eating habits.

**Learn by doing—**Another common sentiment we observed at both sites was a desire for health interventions that encouraged hands-on activities which were educational and enjoyable. The following field note by one of our group facilitators illustrates this sentiment:

> Most group members, at one point or another, have talked about the health and wellness groups at Site A, and the benefits that they get from attending these groups. It seems that participants enjoy these groups as they learn about diet, nutrition, and how to cook healthy foods. These groups are well received and accepted by participants, and they have expressed that they like and respect the Site A staff that facilitates these groups. They have also talked about liking the cooking demonstrations and working as a group to prepare a meal with the fresh vegetables and fruits from their garden. These cooking demonstrations seem to provide participants hands-on experiences, and many group members talked about having fun cooking with other consumers and learning how to prepare healthy meals (Field Note).

The following quotations from these Hispanic and African American men, respectively, are emblematic of the desire to learn by doing: "We like the wellness group, we pick the food in the garden, and we cook it …we learn how to prepare healthy food (Group Dialogue)." "This weight wasn't put on in one day and you're not going to take it off in one day. You need help to chart a course … to set up means of doing it a step at a time (Photo-elicitation Interview).” Most participants, as presented in these extracts, preferred hands-on activities that provide an opportunity to acquire practical skills to improve their health.

**Desire to increase physical activity—**Participants in both groups discussed the importance of engaging in physical activity for achieving a healthy lifestyle. Examples of physical activities mentioned by participants included: walking, bicycling, swimming, doing yoga, and lifting weights, among others. Below is an extract from a photo-elicitation interview where an African American man discussed the benefits he attributes to engaging in physical activity while discussing a photo he titled, “*For your health and self-defense*” (see Figure 2): “I play videos … I lift weights to do exercise, that’s what I do for my blood pressure …. When you exercise the darkness goes away, you feel good (Photo-elicitation Interview). Engaging in physical activity was viewed by many participants as producing physical and mental health benefits.

Although there was a genuine desire to engage in physical activity, many talked about the difficulties they faced in getting motivated to accomplish this important goal. The following quote from an African American woman when discussing a photo she titled “*My old self back*” (see Figure 3) exemplifies a common sentiment expressed by many participants who are trying to lose the weight they gained from years of taking psychotropic medications, living a sedentary life, and struggling with chronic medical conditions:

> My weight is well beyond, and I will like to get my shape back … my health back … I’m not riding any bike now but that’s my main goal to get back on a bike. It’s not easy to pick yourself up … but if you start little by little you can get to where you want to be (Photo-elicitation Interview).

Most participants talked about welcoming programs and activities at their housing agencies that provided opportunities to exercise on a regular basis. They discussed making exercise programs fun and social, such as having dancing or aerobic classes, getting groups of tenants to use local gyms (e.g., YMCA) and creating exercise groups. At Site B, the discussions about exercise programs motivated participants to organize and start their own weekly walking group.

**Attention to food environment—**Participants’ photographs and narratives also provided a window into their communities’ food environments and how these contextual factors played a central role in their health and wellness. A common theme at both sites was the availability and convenience of fast food restaurants in participants’ communities. As discussed in the following exchange between the group facilitator and two men participants (Hispanic and an African American, respectively), participants’ dietary choices were often driven by what was most available:

> Group facilitator: So having the availability of junk food all over the place.
>
> Participant: Yeah, will stop you from eating your food. Let’s say, if you stuff yourself with junk food, you won’t eat the healthy stuff because you’re full of junk food.
>
> Participant: And you build habits (Group Dialogue).

The lack of availability and affordability of fresh fruits and vegetables in participants’ communities was also a common concern. Most participants were well aware that not all communities have the same types and quality of foods, and that the racial, ethnic, and socioeconomic composition of neighborhoods contributed to these inequities. The following comments from this African American woman, when discussing the availability of fruit cart vendors in different neighborhoods, capture this view:

> Participant: You go in those neighborhoods and you walk a couple of blocks, on the side streets, they have fruits and vegetables that look like this [pointing to her photo of a fruit cart with fresh fruits].
>
> Group Facilitator: Let me ask you… who is in those neighborhoods?
>
> Participant: Mostly, it's not mixed. I'll put it that way, it's not mixed… But up in our neighborhood, you very rarely find it [referring to fruits and vegetables]…. That's not in our community. I wish they have more of them in our community (Group Dialogue).

The low quality of food available in participants' local grocery stores was another example of food environment characteristics that restricted participants' dietary choices. A common sentiment was that, if the food does not look fresh and appealing, many will not buy and eat it. As a sign that participants' community food environments were in flux, several participants indicated that the opening of a large supermarket in their neighborhood was a welcome change because it helped improve the quality and affordability of fresh foods. One African American woman captures this feeling when discussing a photograph she took of her local supermarket:

> What I mean is without Pathmark [local supermarket] a lot of people won't be able to eat because then there is only a few grocery stores that they be able to go to and they don't hold sales the way Pathmark does… so it's very important to have Pathmark (Photo-elicitation Interview).

As can be seen from the previous extracts, attention to the food environment is essential for understanding contextual factors that influence participants' dietary choices and habits.

## Discussion

In this article, we illustrate how engaging consumers through photovoice can produce useful information to facilitate the implementation of health care interventions in supportive housing agencies. Through the use of this participatory approach, we provided a space for our participants to illustrate and voice their preferences for health interventions and to critically discuss what matters most to them in relation to their physical health and wellness. Participant-generated photographs in qualitative and CBPR studies provide an avenue for participants to communicate, through images and the stories behind these images, different dimensions of their everyday lives not easily accessible to researchers and service providers (Clark-Ibáñez, 2004). It also provides a tangible stimulus that can facilitate the collaboration and relationship between participants and researchers in understanding the meaning of images and what these images represent (Harper, 2002). We found that consumers can produce photographic and narrative data to create valuable insights into their preferences for health care interventions' formats, methods, and content. Future studies are needed to replicate the use of photovoice with diverse consumers with SMI and examine the processes by which this participatory approach enhances consumers' engagement and contributions to the development and implementation of health care interventions.

Participants in our study expressed a strong preference for using peer-based approaches to deliver health interventions in their housing agencies. There is increasing evidence that peer-based programs when compared or added to traditional mental health services result in substantial benefits (e.g., fewer hospitalizations, increased employment; Davidson, Chinman, Sells, & Rowe, 2006; Felton et al., 1995). In health care interventions, the use of peers or community health workers has also been found to improve health outcomes, particularly among racial and ethnic minority populations (Ayala, Vaz, Earp, Elder, & Cherrington, 2010; Lorig, Ritter, Villa, & Armas, 2009).

Housing agencies are beginning to integrate healthcare services into their operations (Henwood, Weinstein, & Tsemberis, 2011) and many already use peers to deliver an array of social, mental health, and health services. Peer-based services in housing agencies can facilitate the implementation of health care interventions. Peers provide valuable input on the daily context of health and illness, unique insights into consumers' history and relationships with the health care system, and valuable information on how to address medical issues during consumers' transition from homelessness to stable housing. Peers can also tap into their own experiences to provide fellow tenants with instrumental, informational, and emotional support, help translate the intervention into tenants' daily activities on ecological and cultural terms, and become trusted coaches who motivate tenants to engage in healthy lifestyle changes (Rosenthal et al., 2010). More studies are needed to test the implementation, effectiveness, and sustainability of peer-based approaches for delivering health care interventions in supportive housing agencies serving people with complex medical, psychiatric, and substance abuse conditions.

There is growing interest in the use of lifestyle interventions that focus on weight loss, physical activity, and health-promoting behaviors to help people with SMI reduce their risk for CVD and other chronic medical illnesses (Allison et al., 2009). Several literature reviews indicate that lifestyle interventions show promise in helping people with SMI reduce their weight and risks for cardiometabolic conditions (Cabassa, Ezell, & Lewis-Fernández, 2010; Gabriele et al., 2009). Modifications to these interventions to address the unique needs of people with SMI (e.g., neurocognitive deficits), particularly those with a history of homelessness and complex medical issues, are necessary to enhance the relevance, acceptability, and effectiveness of these interventions.

Our findings contribute to this literature by revealing important insights about what consumers in housing agencies prefer and find most helpful about these interventions. We found a consensus among our participants for the desire to learn practical everyday skills to help people modify their health behaviors (e.g., eating habits), and a preference for intervention formats that enable them to learn and acquire practical skills by engaging in hands-on activities. Our findings suggest strategies that can be used to adapt lifestyle interventions to consumers' preferences and, at the same time, take into consideration the neurocognitive and motivational deficits that often exist with these mental disorders. For example, behavioral strategies, such as goal setting, problem solving, and graded-task assignment, can be used with people with SMI to acquire the necessary skills to break down the process of losing weight into manageable steps (McKibbin et al., 2006).

Moreover, a rich literature of psychosocial treatments for people with schizophrenia and other serious mental disorders, such as social skills training, indicates that the application of social learning theory through modeling, behavioral demonstrations, shaping, and in-vivo training can be used to improve functioning and recovery (Kern, Glynn, Horan, & Marder, 2009). The application of experiential learning methods to facilitate the transferring of skills into consumers' everyday lives is an extension of this work that can inform lifestyle interventions and fit consumers' desire "to learn by doing." For instance, cooking demonstrations at consumers' apartments can be used to help consumers learn how to use everyday ingredients to produce healthy meals. Similarly, group activities out in the community, such as taking consumers to a fast-food restaurant, can be used to help them apply the skills learned about how to make healthy food choices and practice portion control. We found that consumers would welcome these activities.

Consistent with previous studies of people with SMI, our participants recognized the importance of physical activity in improving their physical health and expressed a strong desire to increase their physical activity (Shiner, Whitley, Van Citters, Pratt, & Bartels, 2008; Ussher, Stanbury, Cheeseman, & Faulkner, 2007). The lack of motivation associated with their mental disorders and not having access to organized exercise programs prevented many from engaging in regular physical activities. Innovative interventions that can be delivered in housing agencies are needed to help consumers develop a more active lifestyle. For instance, a recent pilot study showed that an individualized and community-integrated health promotion program that consisted of exercise and dietary modifications delivered in the community using health mentors was feasible and resulted in significant health and mental health benefits for people with SMI (e.g., increased exercise, reduced waist circumference, improved mental health functioning; Van Citters et al., 2010).

We found that tenants would welcome the opportunity to participate in such programs at their housing agency, particularly if it helps them “chart a course” for managing their weight and increasing their involvement in physical activity. Moreover, supportive housing agencies can also develop home-grown exercise programs (e.g., dancing classes, walking groups) that are fun, social and enhance tenants’ opportunities to participate in health promotion activities in their communities. Future research in this area is greatly needed to examine the outcome of exercise programs in supportive housing agencies and identify promising strategies to help tenants increase and sustain their involvement in physical activity.

Moving beyond individual health factors, we found participants’ photos and discussions revealed the important role that community factors, in particular the food environment, plays in shaping their health and wellness. The food environment of a community is “the structure, type, density, and proximity of food outlets” and is a contextual element that can contribute to health disparities (Cannuscio, Weiss, & Asch, 2010, p 382). Similar to previous studies in low-income urban settings (Horowitz, Colson, Hebert, & Lancaster, 2004; Kaufman & Karpati, 2007; Moore, Diez Roux, Nettleton, & Jacobs, 2008), our participants documented living in a food environment that contributed to poor health because of the high density of fast-food restaurants, and the lack of availability and affordability of fresh fruits and vegetables. They also discussed how these environmental characteristics influenced their dietary choices.

Our findings support the growing attention to the social and environmental determinants of health, and the importance of using multilevel interventions to improve health outcomes, particularly in vulnerable populations (Braveman, Egerter, & Williams, 2011; Liburd, Jack, Williams, & Tucker, 2005). Supportive housing agencies can contribute to changing these contextual determinants of health by building environments for their tenants conducive of a healthy lifestyle. For instance, Sites A and B are actively involved in improving consumers’ food environments through community gardens and local agricultural programs that help bring affordable fresh fruits and vegetables to their tenants. Supportive housing agencies can also partner with community organizations to advocate for policies to increase the accessibility of healthy food outlets in tenants’ communities. Given the complexity of factors that contribute to the poor health of people with SMI, research and the implementation of health interventions in supportive housing agencies need a balanced and integrative approach that examines and supports changes to individual health behaviors and environmental factors. This approach can help deepen our understanding of how to create environments that promote health and wellness where people with SMI live, work, and play.

Our study findings need to be interpreted in light of several limitations. First, our project was constrained to two housing agencies in a large metropolitan area in the East coast of the United States. Our results might not be generalizable to other housing agencies in other settings and countries. Second, our non-random, purposive sample might not reflect the preferences and views of other tenants in these agencies. Our sample did not have equal representation of men and women. We might not have captured all gender issues, particularly those of women, in our study. However, the reactions and comments we received from agencies' providers and tenants to our member-checking activities (i.e., presentations of study results, photo exhibits) indicate that we captured the common sentiments and needs of many consumers, regardless of gender, in these supportive housing agencies. Third, the analysis of qualitative data is inherently subjective. To reduce bias, we used multiple strategies (e.g., audit trail, triangulation of visual and narrative data, member-checking activities) to enhance the trustworthiness and rigor of our interpretations (Padgett, 1998). Last, we excluded people with limited English proficiency, which could have contributed to the low number of Hispanics who participated in the study. These consumers might have different health concerns and treatment preferences because they face a number of language and structural barriers in accessing and using medical services in their communities. Future studies should consider the unique needs of consumers with limited English proficiency.

In all, we illustrate the value that a participatory research method like photovoice has in engaging consumers with SMI in implementation research by facilitating the generation and communication of their preferences for the format, content, and methods of health interventions. Researchers can use photovoice methods as a catalyst that enables consumers to represent and communicate through images and narratives their views of important implementation outcomes (e.g., acceptability, appropriateness) and engage in a critical process for informing social action. To advance the use and application of CBPR approaches in intervention and translational research aimed at eliminating health disparities, more studies are needed to understand how the participatory process of photovoice contributes to community engagement in intervention development and implementation. Studies are also needed to examine how this dialogical process enriches and facilitates the co-creation of interventions that are community based and sustainable. Participatory research methods, like photovoice, provide a viable avenue that can foster community engagement and social action among vulnerable and often overlooked populations by providing the space and tools for community members to actively contribute to the generation of knowledge and wisdom essential for reducing the gap between science and practice.

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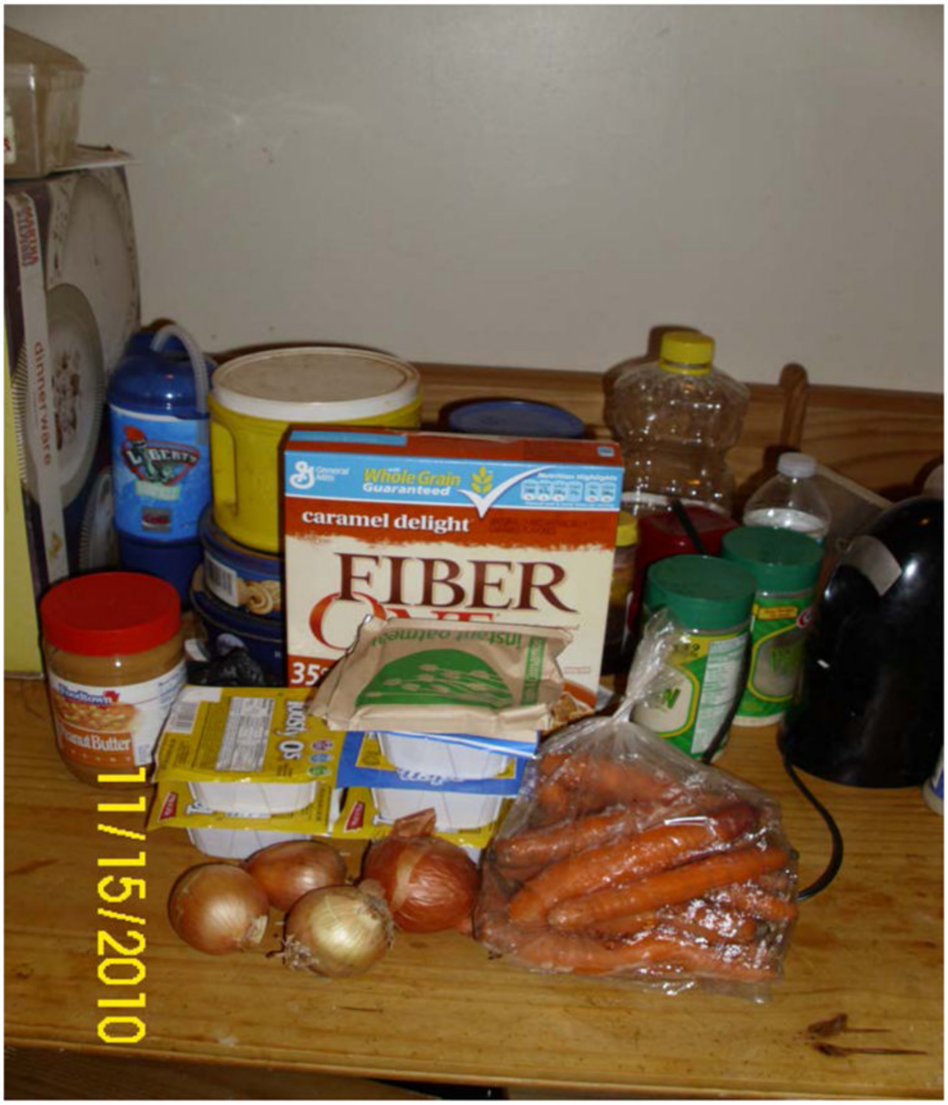

**Figure 1.**
A collage of healthy foods

**Figure 2.**
For your health and self-defense

**Figure 3.**

My old self back

## Table I

Sample Characteristics

| Characteristics | Site A (n = 8) | Site B (n = 8) | Total (n = 16) |
|---|---|---|---|
| Mean Age (SD) | 52 (9.5) | 60 (14.3) | 56 (12) |
| Female | 37.5% (3) | 50.0% (4) | 43.8% (7) |
| Race/ethnicity | | | |
| Non-Hispanic White | 12.5% (1) | 12.5% (1) | 12.5% (2) |
| African American | 75.0% (6) | 62.5% (5) | 68.8% (11) |
| Hispanic | 12.5% (1) | 25.0% (2) | 18.7% (3) |
| Employed | 12.5% (1) | 50.0% (4) | 31.3% (5) |
| Mental Disorders[a] | | | |
| Depression | 50.0% (4) | 12.5% (1) | 31.3% (5) |
| Schizophrenia | 50.0% (4) | 12.5% (1) | 31.3% (5) |
| Bipolar disorder | 50.0% (4) | 12.5% (1) | 31.3% (5) |
| Substance use disorder | 75% (6) | 37.5% (3) | 56.3% (9) |
| Health Conditions[a] | | | |
| Hypertension | 37.5% (3) | 62.5% (5) | 50.0% (8) |
| Diabetes | 37.5% (3) | 50% (4) | 43.8% (7) |
| High Cholesterol | 25% (2) | 25% (2) | 25% (4) |
| Asthma | 12.5% (1) | 12.5% (1) | 12.5% (2) |
| Cancer | 0% (0) | 25% (2) | 12.5% (2) |

[a] By patient self-report

## Table 2

Summary of Implementation Themes

| Implementation theme | Summary of results | Intervention dimension |
|---|---|---|
| Preference for peer-based services | Peers as a source of inspiration and mutual support.<br>Peers seen as trusted and credible.<br>Peer provides opportunities for socialization, friendships and informal support. | Format and method |
| Help developing skills to change eating habits | Eating healthy as essential for a healthy lifestyle.<br>Confluence of internal and external factors shape eating habits.<br>Help make better choices with what's around.<br>Learn to cook for one. | Content |
| Learn by doing | Prefer hands-on activities (e.g., cooking demonstrations).<br>Prefer experiential teaching methods. | Method |
| Desire to increase physical activity | Exercise is good for health and mental health.<br>Help in losing and managing weight.<br>Welcome weight loss program at housing agency. | Content |
| Attention to food environment | Availability and affordability of fast food influence dietary choices.<br>Lack of fresh fruits and vegetables in participants' communities.<br>Food environments are in flux. | Content and contextual factors |